UNDERSTANDING 'CULTURE' IN AN INTERNATIONAL CONSTRUCTION CONTEXT

Vasantha Abeysekera

Senior Lecturer, UNITEC Institute of Technology, Auckland, New Zealand

Praveen Lata

UNITEC Institute of Technology, Auckland, New Zealand

ABSTRACT

Culture has long been recognised as an issue that impacts on business success. Despite its importance there has been little attention to understanding it in a construction context. Consequently construction contractors have faced many problems when working with other cultures. Thus the aims of this study were (a) to understand the nature of culture as applied in a construction context (b) to develop a framework to further this understanding, and (c) to identify suitable examples and methods to illustrate this understanding with reference to international construction. The framework developed incorporated two key concepts of culture viz. 'categories' and 'components'. The sub-framework comprising of technological, sociological, and ideological 'components' was useful to explore further understanding; the technological component was as useful as the other two. The concept of 'cultural polarity' with its accompanying measures may be used as an early warning system for detecting and dealing with cultural issues that may otherwise lead to significant problems; there is scope for further development of this system. This study was also useful for establishing areas of construction that may have potential links with 'categories' of culture; these links could be explored further to understand the impact of culture on international construction.

KEYWORDS

Construction, Culture, Cultural Polarity, International Construction, Technology

1. INTRODUCTION

Simply, culture is 'what we are and what we do as a society' (Barthorpe, Duncan and Miller, 2000). According to Hoecklin (1995), 'It is about the way people understand their world and make sense of it. It is only when these taken for granted assumptions are challenged that people realize that they even exist'. However, culture is not about, right or wrong, or inherited (Bodley, 2001), or about individual behaviour (Hoecklin, 1995). A plethora of definitions and explanations extends our understanding of what 'culture' is (see, Miraglia, Law, and Collins, 2002)! It is an evolving concept, used across industries, used in organisations, in diverse situations from projects to processes.

By and large, it is possible to view culture as being homogenous to the extent that it is possible to identify a national culture. However, differences arise due to differences in the culture of organisations, professionals, projects, processes and the like. To that extent it is heterogeneous - there is diversity. However, in comparison with situations where organisations venture across national boundaries and are confronted with completely different national cultures - as when Americans companies venture into China, or when Japanese venture into India, one could comprehend the reasons for viewing national culture as being homogeneous. Diversity is then about differences in

national cultures and the organisations, types of projects, processes, and the like. Indeed, it has been pointed out that difficulties of managing culture is heightened by cross-cultural issues that arise in international context so much so that managing 'cultural diversity' is now considered to be a major issue in the new millennium (Baba, 1996; Barthorpe *et al*, 2000). Indeed, instead of cultures converging due to globalisation, they seem to cling on to their values, beliefs and practices more strongly than ever before.

With a significant increase in global commerce during the last two decades, there has been much interest in 'culture' as an issue that impacts business success. However, this has not been the case within construction despite many long years of international involvement. Experience reveals that construction contractors have faced many problems working internationally due to conflicts, confrontations, misunderstandings, wrong doings and the like arising out of the differences in the ways of thinking, working, and doing business with other cultures. Often these problems have been shelved, disregarded or covered up. Additionally, there has been little attention to learn from mistakes: 'Ignoring or mishandling differences can mean inability to retain and motivate employees, misreading the potential of cross-border alliances, ... failure to build sustainable sources of competitive advantages. Mismanaging cultural differences can render otherwise successful managers and organisations ineffective and frustrated when working across cultures' (Hoecklin, 1995).

Recent publications (Lee and Wang, 1994; Pheng and Leong, 2000) have highlighted problems of cross-cultural project management. Others (Loosemore and Chau, 2002) have concluded that there has been a lack of attention to harness the positive attributes of multiculturalism when dealing with construction operatives in the Australian construction industry. Some others have pointed out that in a world where knowledge of cultures and languages has become commercially essential, ignoring skilled immigrants is a big mistake (Parker, 2002). Clearly, there is growing concern over how 'culture' should be managed both within and across borders.

2. AIMS AND OBJECTIVES

Thus, one of the aims of this exploratory study was to understand the nature of culture within the context of the construction industry with special reference to international construction. It was also envisaged to develop a framework that would assist in furthering this understanding. Additionally, it sought to identify suitable examples and methods to illustrate this understanding with reference to international construction. In order to achieve the above-mentioned objectives, following a literature survey a semi-structured interview survey was undertaken. Seven large construction companies in New Zealand that had worked overseas were selected for this purpose. Assistance was first sought from senior management to identify a person(s) who has had substantial experience working overseas and knowledgeable on this subject. A questionnaire was developed and posted to respondents prior to the interview. The questionnaire had three parts, viz. a section with broad – more general questions, a section with 'quotations' to evoke responses to specific issues, and finally a third section to ascertain the five main strategies for effectively managing cultural diversity. However, only a selected few questions have been analysed for the purpose of this paper.

3. UNDERSTANDING 'CULTURE' IN A CONSTRUCTION CONTEXT

3.1 'Culture' of Construction

In order to understand what strategies could be adopted to manage culture in an international context it is useful to understand what culture means from a construction perspective. According to the respondents, it is about the 'characteristics of the industry, approaches to construction, competence of craftsman and people' who work in industry; it is also about 'goals, values, and strategies of organisations' they work in. These responses appear to be all-inclusive from what is done in the construction industry, how and when they are done, who is involved, and about why certain things are done in the way they are done.

3.2 Two Trilogies of Culture

What have others said about 'culture'? According to Bodley (1994), culture involves at least three components: what people do, the material products they produce, and what they think. The survey responses fit well with this explanation. Accordingly, diversity arises through the differences in the component parts of this trilogy. In an international context these differences magnify due to the polarity between cultures across national borders. Lewis (1982) as quoted in Barthorpe et al (2000) provides another trilogy. According to him, culture has three fundamental

features: technological (concerned with materials, tool, techniques, machines), sociological (relationships into which people enter), and ideological (beliefs, rituals, ethics, religious practices, myths). As before, this trilogy too fits well with the explanation given by the respondents. These two trilogies put together form a quite useful framework for understanding 'culture' especially from a construction context, as seen later. (See Figure 1 for diagrammatic representation).

3.3 Categories of Culture vis-à-vis Dimensions of Culture

Where does the pioneering work of Hofstede fit in with the two trilogies mentioned in he preceding paragraphs? The original Hofstede study based on 117,000 managers, supervisors, and employees at IBM in different countries yielded four dimensions of national culture viz. individualism/collectivism, masculinity/femininity or assertiveness, uncertainty avoidance, and power distance. These characteristics were measured using indices and were useful in identifying the central tendencies of national cultures. Many authors have elaborated on the significance of these findings to business.

To elaborate on the above-mentioned categories (dimensions) of culture, it is said that people in 'individualistic' cultures (as opposed to 'collectivist' cultures) have a greater propensity for individual needs and achievements as against group needs and benefits. They believe in individual decisions against group decisions. Employees are expected to defend their interests. Given that teams play an important role in construction, there is a greater need for training people from such cultures on 'effective teamwork'. They also believe in having a private life. As such, discussing construction matters after work would be taboo. Working long hours and over weekends would not come naturally to them in comparison with 'collectivist' cultures. As for 'masculine' cultures (the second category of culture), they are assertive - there is insistence upon rights as against tacit agreements. Hence there is greater opportunity for conflict. Moreover, jobs are differentiated with respect to gender; certain jobs would be considered better for men than for women. They would also believe that 'organisational interests are a legitimate reason for interfering with people's private lives' (Hoecklin, 1995). The third category of culture relates to 'uncertainty avoidance'. Cultures displaying this dimension would not embrace conflict, change, and risk. Ambiguity is not tolerated - there is a desire for stability. There is less risk taking and may impact on the types of markets such cultures wish to operate in, and on types of entry strategies they may wish to adopt (Fisher and Ranasinghe, 2001). In the same token one may hypothesis that there is opportunity for less construction accidents – and that they work more safely. Rules are expected to be followed. Loyalty to employer is seen as a virtue. Managers are expected to be experts in their own fields. In contrast, low uncertainty cultures tolerate change, ambiguity, and risk, Likewise conflict is seen as a normal and not as immensely disturbing. Work is delegated without hesitation. The fourth and the final dimension is 'power distance'. Cultures displaying high 'power distance', hierarchy in organisational relationships is accepted. Superiors hold more privileges and status. Subordinates expect to be told what they need to do. In this respect there is a need for greater supervision in construction work. A worker would not inspect his or her own work for quality and be a judge of it. There is less participatory decision-making - in fact, decision-making by subordinates may be seen as a threat to hierarchy. People assigned as 'Engineer's Representatives' on construction projects may not have commensurate authority; neither would they wish to do so. In contrast when there is less power distance, class differences are not considered as good. 'A boss may supervise the work but is not better than anyone else and has no particular difference outside of the immediate work area' (Johnson and Cullen, 2002).

Other researchers have identified other dimensions of culture. Of these there are three dimensions introduced by Fons Trompenaars that are particularly useful to construction, i.e. universalism versus particularism, specific versus diffuse, and neutral versus affective. Universalism suggests that there are acceptable ways of doing things that should hold good in all situations. The focus is on rules than the relationships. Legal contracts are readily drawn up and become an important tool in relationships. However, in particularistic cultures 'rules may be in place and fully recognized but exceptions can always be made to friends, family, etc. Exceptions are not only tolerated and accepted, but to no small extent, expected. The focus is on situation-to-situation judgements and the exceptional nature of circumstances as they change' (Johnson and Cullen, 2002). Thus relationships evolve; a 'trustworthy person is one who honours changing circumstances' (Hoecklin, 1995). Naturally, legal contracts are readily modified. Focus is more on relationships than rules. These indicate opportunities for good business deals through relationship building. Additionally, there is greater opportunity for repeat orders, partnering type approaches etc. to flourish. However, such particularistic orientations may also mean bribery and corruption is readily accepted. The second dimension of the three aforementioned dimensions is, 'specific versus diffuse'. It deals with the extent to which a person is involved with their business relationships. In a diffuse culture, relationships are not strictly limited to the contract or the tasks connected with its administration; parties come to know each other very well both with

respect to work and private life. It may appear to be more time consuming. There is an inclination to build relationships by 'getting to know a person better'. Therefore, probes into one's private life should not be misunderstood. The third and the last dimension that is useful in a construction context is 'neutral versus affective'. It concerns the acceptability of emotions. Neutral cultures consider showing anger, delight, laughter, gestures, and a range of emotional outbursts as unprofessional; objectives are achieved without showing emotion. Such cultures may not readily express what they think or feel. On the other hand affective cultures are at ease with physical contact, raising voice, or with expressive face and body signals. Thus, cultures that are polarised with respect to this dimension may have difficulties of working together especially if you have a mixed workforce. Thus understanding the impact of these dimensions would no doubt assist contractors to manage projects successfully without letting conflict, confrontation, and misunderstandings etc. result in adverse consequences. However, it is seen that these dimensions do not assist in gaining an understanding about characteristics related to the 'technological' component of culture referred to by Lewis (1982). This is indeed a component that cannot be ignored as explained later; indeed, it is of much interest to the construction industry.

Any industry, be it construction or otherwise, consists of organisations that are run by people. Their values, beliefs, ethics are brought to bear on how these organisations operate. Sociological and technological issues impact as well and the result is a unique 'organisational culture'. People are expected to follow laid down rules when working in organisations. These rules then become the 'components' of organisational culture. For example, according to Hoecklin (1995) in PepsiCo, successful employees must demonstrate 'cheerful, positive, enthusiastic, committed optimism. In Ford they must show self-confidence, assertiveness and machismo'. However, 'dimensions' of organisational culture are different. For example, Hoecklin (1995, p. 146) identified six dimensions of organisational culture, viz. motivation (activities vs. outputs), relationships (job vs. person), identity (corporate vs. professional), communication (open vs. closed), control (tight vs. loose), and conduct (conventional vs. pragmatic). Thus, employees, especially foreign employees when they are recruited must be inducted in 'components' and 'dimensions' of organisational culture if they are to be effectively integrated. If not, there is bound to be confusion and disagreement especially if their national culture is different to the culture of the organisation. Finally, it must be pointed that the 'national culture' is learnt everyday in life. It is deeply entrenched. Consequently, it is more difficult to change. In contrast, organisational culture changes with change of organisational goals, change of leaders, etc. Such changes would be opposed by employees if changes contradict the national culture. However, when organisational culture is weak, workplace values would reflect the national culture; culture is transmitted; it is learned; it is shared too to the extent that groups see the same thing in the same way.

3.4 Other Categories of Culture: Monochronic vs. Polychronic

Interestingly, these two categories of culture relate to how people value 'time'. It is said that the culture of activities during the industrial revolution was such that time was of essence. For example, the labour force had to be sharp on time in order to effectively meet demands of production. Apparently this culture had been transmitted from generation to generation and learnt by people to the extent that the behaviour of certain cultures is built around 'promptness in meeting obligations and appointments' (Hall and Hall, 1990). In contrast, polychronic cultures are just the opposite in that human relationships and interactions take precedence over considerations of time. For example, 'two polychronic Latins conversing on a street corner would likely opt to be late for their next appointment rather than abruptly terminate the conversation before its natural conclusion' (Hall and Hall, 1990). Thus, in polychronic cultures, time schedules are not valued over human relationships. Whilst Asians are generally considered to be polychronic, Americans and Germans are considered to be monochronic. Clearly, when people from opposing cultures have to work together there are bound to be problems if such differences are not understood and managed.

3.5 A Framework for Exploring 'Construction Culture'

Discussions in the preceding sections can now be pulled together to provide a framework to understand 'culture' in a construction setting. Fig. 1 shows this framework in a diagrammatic form. Diversity can now be described as the diversity of these components and dimensions of culture. Given this picture, it appears a daunting task to come up with a universal set of strategies for managing cultural diversity.

Clearly, contractors who venture outside their national boundaries have to deal with groups of people who have different ideological, social, and technological values. Would they impose their 'home' culture (which may meet with resistance), or have a compromised and integrated approach, or accommodate the cultural values and practices

of the host country (and possibly risk a backlash at home if accommodation goes too far or is not well justified)? How should these issues be dealt with? These are some questions contractors need to find answers to.

4. EXPLORING THE FRAMEWORK

As mentioned before, the focus of this study is on contractors who venture out without entering into any joint venture agreements or similar arrangements. The respondents were requested to specify five strategies that they considered were essential to deal with the cultural differences when working internationally. These responses are tabulated and categorised into five broad headings as shown in Appendix 1. All but one respondent specified the need to understand the foreign 'culture' as being paramount. This comes as no surprise and justifies the need to further understanding. Yet, experience shows that many contractors don't pay enough attention to this aspect. As pointed out by Hoecklin (1995), it is only when 'taken for granted assumptions are questioned [i.e. on culture] that people realize that they even exist'. Understanding the implications of culture is foremost and fundamental; the framework shown in Fig. 1 aids this process.

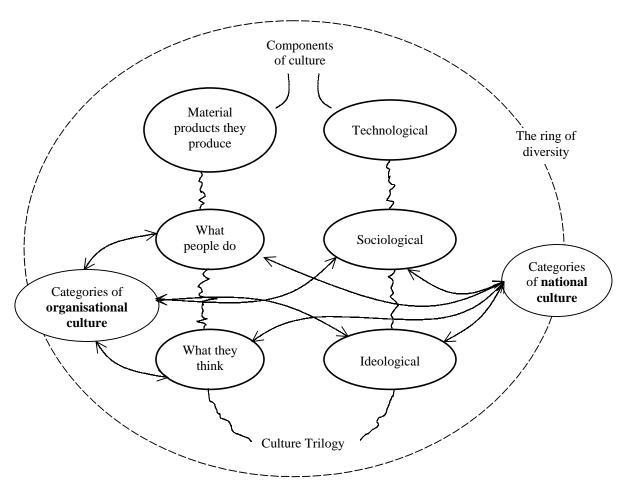


Figure 1: Understanding Culture in a Construction Context: A simplified framework

4.1 Exploring the Technological Component

As mentioned before the 'technological' component of the culture-trilogy is concerned with materials, tool and techniques, plant and equipment, and the like and appears to have received little attention in the literature. Before elaborating on 'hard' issues, it is useful to examine some 'soft' issues.

Management relies heavily on the use of various management tools and techniques to achieve project goals such as those related to time, cost, quality, etc. Often, it is taken for granted that a technique that is particularly successful in the host country would also work well in a foreign country. This appears to be very much the case if the impact of

culture is ignored: In an interesting study by Ngowi (2000) on the application of Total Quality Management (TQM) in Botswana's construction industry, he concluded that if TQM is to be successful in a particular cultural setting, then it has to 'take on some of the host cultural values'. In other words, what may be inferred from this study is that when the 'culture of origin' of a technique is different to the 'culture of a nation' in which the particular technique is to be applied, then there are bound be to problems of implementation. This is an issue that relates to the 'soft' side of the 'technological' component.

To illustrate the point about 'hard' issues related to the 'technological' component a comment by one of the respondents will suffice. According to him "to get the best out of construction, it is first necessary to understand the differences people have in order to put them to good use. Certainly, there are areas of expertise that some cultures have that others don't. A good example is Australia. They do a lot of their reinforced concrete slab work with in-situ post-tensioned systems and that's because they have a workforce good in form-working. Whereas over here (i.e. in New Zealand), we tend to do more pre-casting and that's because of how our industry is set up and also because of the mix of people we use. So, the methodology used should suit the culture. For example in Guam, you need to have a different construction method because they are a different people. They do not have a strong physique and you need to make things to a size that is easier to handle in order to get the best out of them". Understanding this diversity is important for achieving project goals.

Yet another example would be useful to illustrate these points further and relates to a situation in Sri Lanka where a Chinese contractor undertook the construction of a large factory complex. Burnt clay bricks were to be used extensively and they were freely available. Sri Lankans have used bricks for many centuries and not surprisingly, brickwork is a well-established trade. However, what is surprising is that despite the existence of a Sri Lankan Standard for burnt clay bricks for well over 4 decades, it is impossible to find a brick that conforms with this Standard or for that matter any other standard! To make matters worse, sizes of bricks vary significantly from region to region and within a region as well. Though Sri Lankan bricklayers lay bricks similar to their Chinese counterparts, they use an innovative technology to cope with this wide variation in sizes (Abeysekera, 1997). However, the Chinese contractor saw this technology as inferior. Moreover, they reasoned that they were required to use standard size bricks (according to their contract) and if so there wasn't a need to adopt the technology used by Sri Lankan bricklayers. However, the Chinese soon realised that they had hit a 'brick wall' in that it was almost impossible to purchase standard size bricks or for that matter to find a manufacturer who was prepared to manufacture such bricks. The problem was not that of lack of know-how but the lack of interest shown by domestic brick manufacturers given the extensive demand for local, non-standard bricks. Eventually, the Chinese contemplated to import bricks but decided against it as they opted to get these bricks manufactured locally. Given the large volume of bricks needed at high rates of utilisation, production could not meet demand. Consequently, there were considerable delays in getting bricks on site. Unfortunately, what the Chinese contractor failed to realise was that the types of bricks that were available locally were 'good' (and strong enough) and the methods used by Sri Lankan bricklayers were widely accepted by Sri Lankan clients and consultants. This lack of understanding of the 'culture' of the Sri Lankan construction industry resulted in enormous costs, delays, and problems to the Chinese – a case that confirms the wisdom of the familiar adage: "When in Rome, do as the Romans do"!

4.2 Exploring Sociological and Ideological Components

An essential, if not a fundamentally important part of a contractor's work, is to deal with society – be it with government officials, clients, subcontractors, its employees, or the general public. Underlying all these dealings is a 'relationship' – a state of being connected, be it psychological or otherwise. These relationships would be more successful if values, beliefs, religious inclinations and the like of the people with whom contractors interface are understood. The greater the difference in culture, the greater is the need for understanding these differences to avoid adversarial relationships.

Cultural polarity

One way of examining these differences would be through dimensions of culture. For example, Table 1 shows the relative rank of different countries with respect to the alignment with a particular dimension. A value of 1 against 'individualism' indicates high alignment whilst a value of 5 indicates alignment with its antithesis (i.e. collectivism). In contrast, information in Table 2 attempts to provide an indication of the overall polarity of the cultures compared with a given country using the difference in rank of individual dimensions as an indication of polarity. Accordingly, these tables could be used to identify significant polarities

- (a) from an overall perspective;
- (b) with respect to a particular category of culture; and
- (c) with respect to the combined effect of two or more categories of culture.

Such observations could be developed further to serve as an effective early warning system when contractors work across cultures.

Table 1: Characteristic of National Cultures: Ranked on a 1 to 5 Scale

Category	Japan	China	India	Indonesia	NZ	Germany	UK	USA
Individualism	2	4	2	5	1	2	1	1
Masculinity	1	?	2	3	2	1	1	2
Uncertainty avoidance	1	?	5	4	4	3	5	4
Power distance	3	?	1	1	5	4	4	4
Universalism	3	4	?	5	?	1	1	1
Specific	3	5	?	4	?	3	1	1
Neutral	1	5	?	2	?	3	1	3
Monochronic/Polychronic	(Unknown whether there had been any attempts to measure)							

Source of data: Hoecklin (1995); '?' – Information not available

Table 2: Polarity with USA Culture

Category	USA	Japan	Indonesia	Germany	UK	China	India	NZ
1. Individualism		1	4	1	0	3	1	0
2. Masculinity		1	1	1	1	?	0	0
3. Uncertainty avoidance		3	0	1	1	?	1	0
4. Power distance	Base	1	3	0	0	?	3	1
5. Universalism		2	4	0	0	3	?	?
6. Specific		2	3	2	0	4	?	?
7. Neutral		2	1	0	2	2	?	?
Cultural Polarity		12	16	5	4	12+	5+	1+
Polarity index		43%	57%	18%	14%	43%+	18%+	4%+
Polarity index based on 1,5,6,7		44%	75%	19%	13%	75%	6%	6%

Polarity index = $\{\text{Sum total of ranks}/(4 \text{ x no. of dimensions})\} \text{ x } 100$

Categories of Culture and Potential Links to Construction

Another way of looking at categories of culture is to examine their link with specific areas of construction. Discussion in section 3 provides evidence to suggest the existence of links shown in Table 3. These may be explored further for greater understanding.

Table 3: Categories of Culture and Links to Construction

Categories	tegories Area/Issue			
Individualism	Teamwork, construction claims, disputes over rights	Collectivism		
Masculinity	Conflicts/dispute resolution, human resource management	Femininity		
Uncertainty avoidance	Occupational health and safety, market entry strategy,	Uncertainty avoidance		
	change management			
Power distance	Supervision, quality management	Power proximity		
Universalism	r			
Specific	bribery and corruption Relationships, time management, information management	Diffuse		
<u> </u>				
Neutral	Communications	Affective		
Monochronic	Planning and scheduling, time management, relationships	Polychronic		

5. CONCLUSIONS

One of the aims of this exploratory study was to understand the nature of culture as applied in international construction. A framework was developed to assist understanding, which was useful for further elaboration. It incorporated two key concepts of culture viz. 'categories' and 'components'. Though simple, it was a useful approach to understand the impact of various cultural factors. The sub-framework comprising technological, sociological, and ideological 'components' was found to be useful for further understanding. It was pointed out that the concept of the 'technological component' was particularly useful from a construction context, whilst not discounting the importance of the other two components. Further exploration and analysis lead to the establishment of a concept referred to as 'cultural polarity'. With its accompanying measures, it may be used as an early warning system for detecting and dealing with cultural issues that may lead to potential problems, and the concepts embodied therein could be developed further for greater use. The understanding gained in this study was also useful for identifying areas of construction that may have potential links with categories of culture. It is suggested that these links be explored further to understand the impact of culture on construction.

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APPENDIX 1: Strategies for Managing Cultural Diversity

Re	spondent	1	2	3	4	5	6	7	Broad class of strategy
Understand culture		√	1	1	✓	✓		√	Understand culture
Do not expect the culture to change.			✓						
Be sympathetic to the culture.									Leave each culture alone
Take things quietly when you go overseas		✓	\						
Do no expect culture to change too soon.			/						
Effective communication		✓		✓				✓	
Interface with the culture					✓				
Use an interface-agent/external expertise						✓		✓	Effective communication
Honesty			✓						
Market relationship				/		✓			
Clear employment/exit strategy				✓					Establish policies for dealing
Manage people based on abilities							✓		with human resources
Assess abilities of people to work in teams							✓,		
A determination to succeed							'		
Uphold values of the company when working over	rseas								Build a strong corporate
							✓		culture overseas

Note: Not all respondents gave five strategies.