

An exploratory study of Hofstede's cross-cultural dimensions in construction projects

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Keywords

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Abstract

Singaporean construction firms have increasingly invested in China in recent years. It is, therefore, important for Singaporean construction firms as well as their Chinese counterparts to appreciate and understand each other's cultural differences/similarities. Although Singapore culture appears to be one based predominately on Chinese culture, there remain differences between the two, which, if not properly understood, can lead to ineffectiveness and misunderstandings. Using the four dimensions of a national culture established by Hofstede, this exploratory study examines what constitute Singapore culture and Chinese culture. Through a survey of Singaporean and Chinese respondents working in China and an analysis of Hofstede's four dimensions of a national culture, the study extrapolates the cross-cultural dimensions brought about by the two cultures within the context of construction projects.

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Introduction

All social behavior is embedded in a particular context and is connected to other deeply held values and beliefs. This means that the stakes are high for mismanaging cultural differences. Ignoring or mishandling differences can mean an inability to retain and motivate employees, misreading the potential of cross-border alliances, marketing and advertising blunders, and failure to build sustainable sources of competitive advantage. Mismanaging cultural differences can render otherwise successful managers and organizations ineffective and frustrated when working across cultures. When successfully managed, however, differences in the culture can lead to innovative business practices, faster and better learning within the organization, and sustainable sources of competitive advantage (Hoecklin, 1996).

Construction projects, as a business practice, internationalize step by step. From this point of view, any company who wants to carry out or manage a construction project successfully in another country should understand the culture of the host country clearly. Even if they do not know what the similarities between the two countries are, they should at least know the differences. In this context, Singaporean construction companies who operate in China must clearly appreciate that the Singapore culture and the Chinese culture are different although both the two cultures appear to be in the same cultural region (Shi, 2001). As Low (1997) pointed out, "while the Chinese construction market will continue to be an attractive one in the foreseeable future, it is important for international construction firms to take note of the deeply rooted cultural practices and beliefs of their Chinese associates" (Low, 1997, p. 105).

From the research carried out by Shenkar and Ronen (1987), one can clearly discern that

Singapore culture and Chinese culture are different in some aspects, but similar in others. There are too many definitions of culture in different research fields. This limits one's understanding of a culture because the very same aspect of a culture can be many different things to different people in different research fields at the same time. According to Evans *et al.* (1991), in very general terms, cross-cultural studies are concerned with differences in factors such as educational background, beliefs, art, morals, customs, laws, economic and political frameworks, etc. Indeed, there is no reason why the complex whole of "culture" should not also include history, economics and politics. This statement in fact shows the problem of culture definition in cross-cultural studies. Because a culture is a complex system, cross-cultural studies need a systems approach. As Hofstede (1980, p. 32) posits:

Cross-cultural studies presuppose a systems approach, by which I mean that any element of the total system called "culture" should be eligible for analysis, regardless of the discipline that usually deals with such elements. At the level of (national) cultures, these are phenomena on all levels: individuals, groups, organizations, or society as a whole may be relevant. There is no excuse for overlooking any vital factor because it is usually treated in someone else's department at the university.

Hofstede (1980) continues to add that reference is to be made to cross-cultural or cross-national studies from the disciplines of psychology (and, in particular, cross-cultural psychology), sociology (particularly organization sociology), anthropology, political science, economics, geography, history, comparative law, comparative medicine, and international market research.

Using the four dimensions of a national culture established by Hofstede (1980), the objective of this exploratory study is to examine what constitute Singapore culture and Chinese culture. Through a survey of

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Singaporean and Chinese respondents working in China and analysis within the context of Hofstede's (1980) four dimensions of a national culture, the study explores the cross-cultural influences brought about by the two cultures within the context of construction projects in China.

Culture

A short review of cross-cultural studies in construction project management is presented below. Baba (1996) reports that in transferring and utilizing the systems and methods developed in the field of construction management in some advanced Western countries to suit Asian countries' needs, strong resistance and conflicts come mainly from the differences in cultures. Baba (1996) classifies these differences in cultures into three categories:

- 1 traditional organization structure;
- 2 managerial differences; and
- 3 differences in fundamental concept and philosophy which contracts and laws are based on.

He (1995) reports cross-cultural influence from another angle – risk management. He (1995) identifies that the risk factors at national or regional level in an overseas construction project can be classified into three categories:

- 1 political situation;
- 2 economic and financial situation; and
- 3 social environment.

He (1995) maintains that the social environment problems are most likely to be caused by cultural differences, such as the language barrier, religious inconsistency, differences in traditions, and so on. Moreover, He (1995) points out that these risk factors are beyond the control of companies, but they can be managed, and are comparatively predictable and measurable by adequate statistics.

Ngowi's (1997) paper reports a study undertaken in Botswana to determine the impact of cultural background on construction project team members concerning innovation in the procurement systems adopted. It was found that in the construction projects in which team members were from different cultural background, there were inhibitions to innovation compared to the ones in which the team members had similar cultural background. Ngowi (1997) concludes that the cultural background of project team members should be taken into consideration

in project management to create a conducive environment for innovation.

Chan (1997) also demonstrates cross-cultural influence on construction project management through the identification of cultural influence on the resolution of foreign-related construction disputes in China. Chan (1997) maintains that the cause of these disputes is closely related to the culture of a society and that the different methods for resolving disputes are also social phenomena closely associated with a society's unique culture.

Low's (1995, 1997) view on cross-cultural influence is macroscopic in nature. Low (1995, 1997) analyzed some important cultural phenomena and concluded how an understanding of these phenomena can help international corporations from the West market their services more effectively as well as enhance their ability to manage adversities.

To study the cultural influence on societies, one needs typologies (Schein, 1985) or dimensions (Hofstede, 1980) for analyzing the behaviors, the actions and the values of their members. According to Ogbor (1990), the frameworks used to describe the assumptions that a particular cultural society may have about reality, may be grouped into three categories as cultural dimensions (Hofstede, 1980, 1984, 1985), cultural paradigms (Schein, 1985), cultural patterns (Geertz, 1973) or pattern variables (Parsons and Shils, 1952). The next section will briefly examine one of the most widely quoted frameworks – cultural dimensions – as espoused by Hofstede (1980) and which will be adopted as the conceptual paradigm for analysis in this study.

Four dimensions of a national culture

Hofstede (1980) argues that people carry "mental programs" that are developed and reinforced through their experience, and that these "mental programs" contain a component of national culture. After analyzing the data from more than 40 countries, Hofstede (1980) concludes that these mental programs denote the existence of four underlying value dimensions along which these countries could be positioned into culture areas (Hofstede, 1980). These four dimensions are (Hofstede, 1980, 1983, 1984, 1985):

- 1 *power distance*, i.e. the extent of power inequality among members of an organizational society;

- 2 *uncertainty avoidance*, i.e. the extent to which members of an organizational society feel threatened by and try to avoid future uncertainty or ambiguous situations;
- 3 *individualism and collectivism*, which describes the relationship between the individual and the collectivity that is reflected in the way people live together; and
- 4 *masculinity and femininity*, i.e. the extent of roles division between sexes to which people in a society put different emphasis on work goals and assertiveness as opposed to personal goals and nurturance.

These four dimensions are based on four fundamental issues in human societies within which every society has to find its particular answers. According to Hofstede (1980), they represent the basic elements of common structure in the cultural systems of the countries. Thus, they provide an important framework not only for analyzing national culture, but also for considering the effects of cultural differences on management and organization. This framework is especially useful for understanding people's conceptions of an organization, the mechanisms that are considered appropriate in controlling and coordinating the activities within it, and the roles and relations of its members (Hoecklin, 1996).

Research methodology

This paper compares Chinese culture and Singapore culture in detail by analyzing the data obtained from the fieldwork. The two cultures are compared following the four dimensions of Hofstede's (1980) mentioned earlier, i.e. power distance, uncertainty avoidance, individualism/collectivism and masculinity/femininity. The comparisons provide an insightful view of the differences and similarities of the two cultures. The consequences of the differences between Singapore culture and Chinese culture are then explored from an organizational point of view.

The data for this study are obtained through two questionnaire survey forms (English and Chinese versions). Some of the questions are modified from the value survey module in English developed by Hofstede (1980). The items included in the questionnaire for this study are shown in the Appendix, which also highlights items that were additional to Hofstede's (1980) value survey module. This value survey module was recommended by Hofstede (1980) for future cross-cultural survey studies. The original value survey module was in English.

Because Singapore is predominately an English-speaking country while China is predominately a Chinese-speaking country, two different sets of questionnaire were prepared for this purpose. The English version and Chinese version of the questionnaire were used for the Singaporean and Chinese respondents respectively. Back translation was adopted in preparing these two sets of questionnaire to ensure that translation problems concerning measurement scales are avoided. The English version of the questionnaire was first prepared, followed by the Chinese version. The second author first translated the questionnaire into Chinese, and then discussed the Chinese version with the first author who is effectively bilingual. After revising the Chinese version according to the first author's suggestions, the second author tested it on those colleagues in the university who are research scholars like him. Most of them had working experience in construction management and are bilingual. The second author further revised the survey module following their evaluation. The revised Chinese version of the questionnaire was then translated back into English and compared with the English version of the questionnaire that was completed earlier. Slight modifications to the two sets of questionnaire were then undertaken to ensure that their measurement scales were comparable. After further discussions with the first author, the two sets of questionnaire were finally completed. Details concerning the preparation of the questionnaires are explained elsewhere (Shi, 2001). Through the above procedures, it is believed that the final version of the survey form is satisfactory in terms of similarity to the original version advocated by Hofstede (1980).

A total of 84 respondents from Guangzhou and Wuhan in China were selected to take part in the survey in early 2000. They were involved with the Guangzhou Master Golf Yard Project and the Wuhan Yangtze Plaza Project respectively. Based on convenience sampling, these two projects were chosen because of the contacts of both the authors in Singapore and China. The two projects were undertaken by a Singapore-based construction firm (ST Construction Private Ltd) which the second author has had the opportunity to work with earlier while in China. Of the respondents, 43 were Chinese; while the other 41 respondents were Singaporeans. All the respondents were construction professionals with tertiary education (at least a diploma) and have had site experience. Table I shows the detailed information of their gender and age.

Table I
Profile of survey respondents

	China	Singapore
Number of respondents	43	41
Sex		
Male	32	29
Female	11	12
Age (years)		
21-30	26	33
31-40	9	6
41-50	2	2
> 50	6	-

Respondents from China were surveyed using the Chinese version of the questionnaire, and respondents from Singapore were surveyed using the English version of the questionnaire.

The survey was administered by the second author in China where the questionnaires were handed to all the respondents personally. The questionnaires were collected back immediately after the respondents had completed them. This ensured that all the questionnaires were fully completed with no invalid responses.

Data analysis and findings

Most questions in the questionnaire use the five-point answer scales (Hofstede, 1980). A majority use the ordinal scale, which means that the answer categories show natural and unambiguous rank order from less important (unsatisfactory) to more important (satisfactory). A few questions do not have ordinal scales but only nominal scales (no natural rank order for all answers).

According to Hofstede (1980), for further processing of the information contained in the frequency distributions, it is often necessary to reduce the information to a single number per frequency distribution. This can be done by dichotomizing or by using a measure of central tendency. Following this direction, in the analysis of the data, the median as a measure of central tendency for the questions with ordinal scales will be used. In the case of questions with different scales, the frequency distributions at the most meaningful point will be dichotomized.

The next section presents how the indices for the four dimensions postulated by Hofstede (1980) are calculated.

1. Calculation of power distance index

Hofstede's (1980) definition of the power distance is "the power distance between a boss B and a subordinate S in a hierarchy is the difference between the extent to which B

can determine the behavior of S and to which S can determine the behavior of B".

According to Hofstede (1980), the power distance norm can be used for characterizing cultures. Hofstede (1980) computed the power distance index (PDI) on the basis of the country mean scores for the three questions:

- 1 Non-managerial employees' perception that employees are afraid to disagree with their managers.
- 2 Subordinates' perception that their boss tends to take decisions in an autocratic (1) or persuasive/paternalistic (2) way.
- 3 Subordinates' preference for anything but a consultative (3) style of decision-making in their boss: that is for an autocratic (1), a persuasive/paternalistic (2), or a democratic (4) style.

The formula Hofstede (1980) used to compute the country's PDI is given below:

$$\text{PDI} = 135 - 25 \times (\text{mean score employ afraid}) \\ + (\% \text{ perceived manager 1} + 2) \\ - (\% \text{ preferred manager 3}).$$

It uses mean scores on a five-point scale (1 = very frequently, 5 = very seldom) for question (1) and percentage values for questions (2) and (3). In this research, the PDI values for Singapore and China are computed by using the above formula. The resulting values are shown in Table II.

The values in Table II show that the culture of Singapore has a larger power distance than the culture of China. This means in Singapore, superiors and subordinates consider each other as unequal; the hierarchical system is felt to be based on some existential inequality; power is the basic fact of society that antedates good or evil and where its legitimacy is irrelevant; indigenous organizations centralize power more and subordinates are expected to be told what to do; and superiors are believed to be entitled to privileges in Singapore.

2. Calculation of uncertainty avoidance index

The second dimension of national culture espoused by Hofstede (1980) is uncertainty avoidance. According to Hofstede (1980), uncertainty avoidance measures the extent to which members of an organizational society feel threatened by and try to avoid future uncertainty or ambiguous situations. Hofstede (1980) points out that the uncertainty avoidance index (UAI) can be

Table II
Power distance index (PDI) values by country

Country	PDI
Singapore	114
China	64

computed on the basis of the country mean scores for the following three questions:

- 1 *Rule orientation*. Agreement with the statement "Company rules should not be broken – even when the employee thinks it is the company's best interest".
- 2 *Employment stability*. Employee's statement that they intend to continue with the company (1) for two years at most, (2) from two to five years.
- 3 *Stress*. As expressed in the mean answer to the question "How often do you feel nervous or tense at work?"

The formula Hofstede (1980) used to compute the country's UAI is given below:

$$\begin{aligned} \text{UAI} = & 300 - 30 \times (\text{mean score rule} \\ & \text{orientation}) \\ & - (\% \text{ intending to stay less than five} \\ & \text{years}) \\ & - 40 \times (\text{mean stress score}). \end{aligned}$$

In this research, the UAI values for Singapore and China are computed by using the above formula. The resulting values are shown in Table III.

The values in Table III show that Singapore has a low index value and China has a high index value. This means that in Singapore, people feel less threatened by ambiguous situations. Emotions are shown less in public. Younger people are trustworthy. People are willing to take risks in life. The authorities are there to serve the citizens. Conflicts and competition can be contained on the level of fair play and are used constructively.

3. Calculation of individualism index (IDV) and masculinity index (MAS)

The other two dimensions of national culture espoused by Hofstede (1980) are individualism and masculinity. According to Hofstede (1980), individualism describes the relationship between the individual and the collectivity which prevails in a given society. Masculinity describes the extent of roles division between sexes to which people in a society put different emphasis on work goals and assertiveness as opposed to personal goals and nurturance. Unlike the PDI and uncertainty avoidance index, the IDV and MAS were arrived at in a different way (Hofstede, 1980). The PDI and uncertainty avoidance index were each based on the country means for three questions respectively. The IDV and MAS were

computed based on the standardized scores of the 15 work goal questions as shown in Table IV. Through a factor analysis, Hofstede (1980) found that almost one-half of the variance in country mean scores on the 15 questions could be accounted for by just two factors. Hofstede (1980) labeled the first of these factors as "individual-collective", and the second as "masculinity-femininity". The "individual-collective" is mainly composed of the following six work goals:

- 1 personal time;
- 2 freedom;
- 3 challenge;
- 4 use of skills;
- 5 physical conditions; and
- 6 training.

The "masculinity-femininity" is composed of the following work goals: manager, cooperation, desirable area, employment security, challenge, advancement, recognition and earnings. Hofstede (1980) has used the country factor scores on "individual-collective" as a basis for computing the IDV and the country factor scores on "masculinity-femininity" as a basis for computing the MAS.

However, in this exploratory research, the IDV values for Singapore and China cannot be computed by using the above method. This is because there are only two cases (countries) in this research and to do a factor analysis on such a small number of cases is untenable (Shi, 2001).

To compute the IDV and MAS values, the study first standardized the scores of these work goals according to what Hofstede (1980) has done. Then, the study built two multiple linear regression models by using the data presented by Hofstede (1980) through SPSS. Finally, the study computed the IDV and MAS values of Singapore and China on the basis of these two multiple linear regression models by using the standardized scores listed in Table V.

4. Standardizing the scores of the work goals

To standardize the mean scores for each country across the 21 goals, the research follows the methods used by Hofstede (1980). The formula used to standardize the raw mean scores is shown below:

$$\begin{aligned} \text{standardized score} = & 500 - 100 \\ & \times (\text{observation} \\ & - \text{mean}) / \text{standard} \\ & \text{deviation} \end{aligned} \quad (1)$$

where observation, mean, standard deviation denote, respectively, the raw mean score of a particular work goal of a country, the overall mean of raw mean scores across the 21 goals

Table III

Uncertainty avoidance index (UAI) values by country

Country	UAI
Singapore	24
China	35

Table IV
Work goals

Number	Short name	Full questionnaire wording
D1 ^a	Personal time	Have sufficient time left for your personal or family life
D2 ^a	Challenge	Have challenging tasks to do, from which you can get a personal sense of accomplishment
D3	No stress	Have little tension and stress on the job
D4 ^a	Physical conditions	Have good physical working conditions (good ventilation and lighting, adequate work space, etc.)
D5 ^a	Manager (superior)	Have a good working relationship with your direct superior
D6 ^a	Employment security	Have security of employment
D7 ^a	Freedom	Have considerable freedom to adopt your own approach to the job
D8 ^a	Cooperation	Work with people who cooperate well with one another
D9	Be consulted	Be consulted by your direct superior in his/her decisions
D10 ^a	Contribution	Make a real contribution to the success of your company or organization
D11 ^a	Earnings	Have an opportunity for higher earnings
D12 ^a	Desirable area	Live in an area desirable to you and your family
D13 ^a	Promotion (advancement)	Have an opportunity for advancement to high-level jobs
D14	Variety	Have an element of variety and adventure in the job
D15	Company	Work in a prestigious, successful company or organization
D16	Help others	Have an opportunity for helping other people
D17	Clear requirements	Work in a well-defined job situation where the requirements are clear
D18 ^a	Benefits	Have good fringe benefits
D19 ^a	Use of skills	Fully use your skills and abilities on the job
D20 ^a	Recognition	Get the recognition you deserve when you do a good job
D21 ^a	Training	Have training opportunity to improve your skills and knowledge or to learn new skills and knowledge

Note: ^a Questions used by Hofstede (1980)

Table V

Country raw mean scores of work goals

Number	Work goals	China	Singapore
D1	Personal time	2.6512	2.0000
D2	Challenge	2.2558	2.2927
D3	No stress	3.3023	2.7561
D4	Physical conditions	2.2791	2.2195
D5	Manager (superior)	1.7674	1.5122
D6	Employment security	1.8372	1.9024
D7	Freedom	2.0233	1.9756
D8	Cooperation	2.0698	1.7073
D9	Be consulted	2.4884	2.2195
D10	Contribution	2.0000	2.1951
D11	Earnings	1.7907	1.8780
D12	Desirable area	2.1163	2.1463
D13	Promotion (advancement)	2.2558	1.8049
D14	Variety	3.1628	2.1463
D15	Company	1.8372	2.4146
D16	Help others	2.3488	2.6585
D17	Clear requirements	1.6977	2.3659
D18	Benefits	2.2326	2.2927
D19	Use of skills	1.6744	2.0976
D20	Recognition	1.7907	1.9512
D21	Training	1.8372	2.0488
Mean		2.1628	2.1231
Standard deviation		0.4459	0.2952

Note: Lower scores signify more important work goals

of a country, and the standard deviation of raw mean scores across the 21 goals of a country.

The raw mean scores of these work goals of Singapore and China are listed in Table V. The resulting standardized scores are listed in Table VI. In Table V, lower scores signify more important work goals. However, in Table VI, lower standardized scores signify less important work goals.

5. Building two multiple linear regression models

As mentioned before, according to Hofstede (1980), the “individual-collective” dimension is mainly composed of the following six work goals:

- 1 personal time;
- 2 freedom;
- 3 challenge;
- 4 use of skills;
- 5 physical conditions; and
- 6 training.

The “masculinity-femininity” dimension is composed of the following work goals: manager, cooperation, desirable area, employment security, challenge, advancement, recognition and earnings. Based on the above facts, the present study

built two multiple linear regression models that can be used to compute the IDV and MAS values: IDV multiple linear regression model and MAS multiple linear regression model.

IDV multiple linear regression model

To generate a regression model that can be used to compute the IDV values, the study uses personal time, freedom, challenge, use of skills, physical conditions and training as independent variables and IDV as dependent variable. An analysis using the SPSS shows that the independent variables are more or less linearly related to the dependent variable. This means that these variables can be used in a multiple linear regression model. Through SPSS, an IDV multiple linear regression model was generated as shown in equation (2).

$$\begin{aligned}
 \text{IDV} = & 78.921 + 0.071 \times \text{Challenge} \\
 & - 0.134 \times \text{Training} \\
 & + 0.089 \times \text{Freedom} \\
 & - 0.126 \times \text{Physical conditions} \\
 & - 0.093 \times \text{Use of skills} \\
 & + 0.13 \times \text{Personal time}
 \end{aligned} \tag{2}$$

MAS multiple linear regression model

To generate a regression model that can be used to compute the MAS values, the study used manager, cooperation, desirable area, employment security, challenge, advancement, recognition and earnings as independent variables and MAS as dependent variable. An analysis using the SPSS shows that the independent variables

are more or less linearly related to the dependent variable. This means that these variables can be used in a multiple linear regression model. Through SPSS, a MAS multiple linear regression model was generated as shown in equation (3).

$$\begin{aligned}
 \text{MAS} = & 64.318 - 0.067 \times \text{Cooperation} \\
 & - 0.065 \times \text{Desirable area} \\
 & - 0.029 \times \text{Employment security} \\
 & + 0.091 \times \text{Challenge} \\
 & + 0.056 \times \text{Promotion} \\
 & - 0.182 \times \text{Manager} \\
 & + 0.097 \times \text{Earnings} \\
 & + 0.056 \times \text{Recognition}
 \end{aligned} \tag{3}$$

6. IDV and MAS values of Singapore and China

By putting the standardized scores of work goals into equations (2) and (3), the IDV and MAS values of Singapore and China were obtained. The resulting IDV and MAS values are listed in Table VII.

The IDV of Singapore is higher than that of China. This means people in Singapore tend to think of themselves as "I" and tend to classify themselves and each other by individual characteristics, rather than by group membership.

The MAS of Singapore is lower than that of China which means in Singapore, people show more concerns to personal goals (friendly atmosphere, getting along well with the boss and others, etc.).

Table VI

Country standardized scores of work goals

Number	Work goals	China	Singapore
D1	Personal time	390	542
D2	Challenge	479	443
D3	No stress	244	286
D4	Physical conditions	474	467
D5	Manager (superior)	589	707
D6	Employment security	573	575
D7	Freedom	531	550
D8	Cooperation	521	641
D9	Be consulted	427	467
D10	Contribution	537	476
D11	Earnings	583	583
D12	Desirable area	510	492
D13	Promotion (advancement)	479	608
D14	Variety	276	492
D15	Company	573	410
D16	Help others	458	319
D17	Clear requirements	604	418
D18	Benefits	484	443
D19	Use of skills	610	509
D20	Recognition	583	558
D21	Training	573	525

Note: Lower scores signify less important work goals

Conclusion

Through the above statistical analysis and mathematical computing, the index values of the four cultural dimensions of Singapore culture and Chinese culture were obtained. These are summarized in Table VIII and discussed below. According to Hofstede's (1980) research and the cultural dimension indices computed above, the consequences of national differences for organizations are summarized in Table IX. This shows the differences between organizations from Singapore and China and provides a guide for managers to analyze cross-cultural influences within the context of construction projects in China. Managers should take

Table VII

IDV and MAS values by country

Country	IDV	MAS
Singapore	53	6
China	18	34

Table VIII
 Four index values by country

Country	PDI	UAI	IDV	MAS
Singapore	114	24	53	6
China	64	35	18	34

these differences into consideration when managing construction projects in China.

Power distance

The PDI of Singapore is higher than that of China. In Singapore, superiors and subordinates consider each other as unequal; the hierarchical system is felt to be based on some existential inequality; power is the basic fact of society that antedates good or evil and where its legitimacy is irrelevant.

Indigenous organizations centralize power more and subordinates are expected to be told what to do. Superiors are believed to be entitled to privileges.

However, in China, subordinates and superiors consider each other as more equal; the hierarchical system is just an inequality of roles, established for convenience and which may change depending on the circumstances. Organizations have a tendency to become decentralized, with flatter hierarchies and a limited number of supervisory personnel. Privileges for the top ranks are essentially undesirable, and superiors are expected to be accessible to their subordinates.

Table IX
 Consequences of national differences for organizations by country

Singapore	Consequences for organizations China
Consequences of power distance index	
Greater centralization	Less centralization
Tall organization pyramids	Flatter organization pyramids
Large proportion of supervisory personnel	Smaller proportion of supervisory personnel
Large wage differential	Smaller wage differential
Low qualification of lower strata	High qualification of lower strata
White-collar jobs valued more than blue-collar jobs	Manual work same status as clerical work
Consequences of uncertainty avoidance index	
Managers more involved in strategy	Managers less involved in strategy
Managers more interpersonal oriented and flexible in their style	Managers more task-oriented and consistent in their style
Managers more willing to make individual and risky decisions	Managers less willing to make individual and risky decisions
High labor turnover	Lower labor turnover
More ambitious employees	Less ambitious employees
Lower satisfaction scores	Higher satisfaction scores
Less power through control of uncertainty	More power through control of uncertainty
Consequences of individualism index	
Involvement of individual with organizations primarily calculative	Involvement of individuals with organizations primarily moral
Organizations are not expected to look after employees from the cradle to the grave	Employees expect organizations to look after them like a family – and can become very alienated if organization dissatisfies them
Organization has moderate influence on member's well-being	Organization has great influence on member's well-being
Employees are expected to defend their own interests	Employees expect organization to defend their interests
Policies and practices should allow individual initiative	Policies and practices based on loyalty and sense of duty
Promotion from inside and outside	Promotion from inside
Promotion on market value	Promotion on seniority
Managers try to be up-to-date and endorse modern management ideas	Less concern with fashion in managerial ideas
Policies and practices apply to all	Policies and practices vary according to relations
Consequences of masculinity index	
Organizations should not interfere with people's private lives	Organizational interests are a legitimate reason for interfering with people's private lives
Lower job stress	Higher job stress
Appeal of job restructuring permitting group integration	Appeal of restructuring permitting individual achievement

Uncertainty avoidance

On uncertainty avoidance, Singapore has a low index value and China has a high index value. In Singapore, people feel less threatened by ambiguous situations.

Emotions are shown less in public. Younger people are trustworthy. People are willing to take risks in life. The authorities are there to serve the citizens. Conflicts and competition can be contained on the level of fair play and are used constructively.

In China, people tend to establish more formal rules, reject deviant ideas and behavior, accept the possibility of absolute truths and the attainment of unchallengeable expertise. Younger people are looked upon suspiciously. People are concerned with security in life. Ordinary citizens are incompetent, unlike the authorities. Conflict and competition can unleash aggression and should therefore be avoided.

Individualism/collectivism

The IDV of Singapore is higher than that of China. This means people in Singapore tend to think of themselves as "I" and tend to classify themselves and each other by individual characteristics, rather than by group membership. In China, people are less focused on differentiating the individual from the group and therefore, put less emphasis on self-actualization.

Masculinity/femininity

The MAS of Singapore is lower than that of China which means in China, people tend to put more emphasis on work goals (earnings, advancement) and assertiveness. However, in Singapore, people show more concerns to personal goals (friendly atmosphere, getting along well with the boss and others, etc.).

The consequences of different national indices from an organizational point of view are now apparent. Although the consequences of different national indices are vast, only those consequences for organizations are shown because this study is about cultural influences within the context of construction projects in China.

There are, however, some limitations to this exploratory study. First, the sample size of 84 respondents used in the study may not be entirely representative of all cross-cultural influences throughout a country that is as vast and as populated as China. Second, because convenience sampling was adopted, the 84 Singaporean and Chinese respondents were concentrated only in Guangzhou and Wuhan. Hence, it is difficult to draw conclusions about China's national culture being homogenous within her national boundaries. This is particularly so

in Guangzhou, which because of its close proximity to Hong Kong, is arguably one of the most cosmopolitan parts of China long influenced by the western world. Intra-cultural differences are bound to exist in a country as vast and as diverse as China in terms of ethnicities. These two limitations should be taken into account when considering the findings of this study. It is hoped that a more extensive study covering a much larger sample size could be conducted in the near future.

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Appendix. Items included in questionnaire

Table A1

Dimensions	Items
Power distance index	Non-managerial employees' perception that employees are afraid to disagree with their managers ^a Subordinates' perception that their boss tends to take decisions in an autocratic or persuasive/paternalistic way ^a Subordinates' preference for anything but a consultative style of decision-making in their boss: that is for an autocratic, a persuasive/paternalistic, or a democratic style ^a
Uncertainty avoidance index	Rule orientation: agreement with the statement that "company rules should not be broken even when the employee thinks it is in the company's best interest" ^a Employment stability: employee's statement that they intend to continue with the company for two years at most or from two to five years ^a Stress as expressed in the mean answer to the question, "how often do you feel nervous or tense at work?" ^a
Individualism index and masculinity index	Have sufficient time left for your personal or family life ^a Have challenging tasks to do, from which you can get a personal sense of accomplishment Have little tension and stress on the job Have good physical working conditions (good ventilation and lighting, adequate working space, etc.) ^a Have a good working relationship with your direct superior ^a Have security of employment ^a Have considerable freedom to adopt your own approach to the job ^a Work with people who cooperate well with one another ^a Be consulted by your direct superior in his/her decisions Make a real contribution to the success of your company or organization ^a Have an opportunity for higher earnings ^a Live in an area desirable to you and your family ^a Have an opportunity for advancement to high-level jobs ^a Have an element of variety and adventure in the job Work in a prestigious, successful company or organization Have an opportunity to help others Work in a well-defined job situation where the requirements are clear Have good fringe benefits ^a Fully use your skills and abilities on the job ^a Get the recognition you deserve when you do a good job ^a Have training opportunity to improve your skills and knowledge or to learn new skills and knowledge ^a

Note: ^a Indicates questions used by Hofstede (1980)

Application questions

- 1 How do cross-cultural differences affect international construction projects?
- 2 What cultural dimensions should businesses take into consideration in the growing China market?
- 3 How are cultural differences between China and Singapore quantified?