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ARTICLE

**NATIONAL CULTURE AND BUSINESS RESILIENCE:
AN EXPLORATORY STUDY OF TWO CHINESE CONSTRUCTION
FIRMS OPERATING IN SINGAPORE**

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Abstract

The study of national culture focuses on differences in values and beliefs among people of different nationalities. With the increasing globalization of economies around the world, the construction industry is inherently exposed to risk at an unprecedented level. This is particularly true for Chinese construction firms, which are aggressively setting up subsidiaries and branches all around the world as they partake in large-scale complex projects overseas. With the liberal foreign trade policies adopted by China after its reforms, domestic construction firms in China also face immense pressure from the international players that are now able to enter the Chinese construction market as a result of the lowered barriers to entry. Business resilience is the ability or capacity of an organization to adapt to crises and major disruptions that arise during business operation. It might explain why certain organizations can emerge from a crisis relatively unscathed, or even stronger. This exploratory study aims to fulfil two objectives. First, to discover if cultural dimensions have impact on the process of business resilience. Second, to understand the business resilience of Chinese construction firms from the perspective of national culture. With empirical data and data from the IMD World Competitiveness Yearbook and Hofstede's cultural dimensions, national culture appears to significantly impact business resilience. Multiple regression models reveal that the avoidance of uncertainty and the power distance of a culture seem to be the main predictors of business resilience, with limited effects also traceable from masculinity affecting the adaptability of government policy. The case studies support the exploratory findings on the negative relationship between PDI and UAI and business resilience, and that they are likely to be justified as being the largest predictor of adaptability, particularly at the organizational level of Chinese construction firms in Singapore.

Keywords: National culture; business resilience; construction industry; international construction business; China

Introduction

Construction companies are like many other companies, but differ largely in the fact that they require numerous other stakeholders in order to conduct their business and to meet

the unique requirements of each project. Although some firms are large in size, they are often vulnerable in nature. The external environment, be it financial crisis (such as Lehman Brothers' financial collapse, the European financial crisis, etc.), environmental "mega-events" (such as hurricanes, tsunamis, earthquakes, etc.), or issues related to government (such as the sudden Indonesian ban on exporting sand to Singapore in 2007) can affect the construction business. Many construction companies have suffered losses, or worse, have been forced to wind up their businesses, due to their unpreparedness for such crises. There have been several recommendations to improve the resilience of business operations, but few have looked at this issue from a cultural perspective. The purpose of this study is to examine business resilience using the four culture dimensions of Hofstede's (1983, 2001) model. This issue is interesting, as it deals with a problem that most construction firms will face in this highly networked global economy, namely the crisis. Two research questions are correspondingly formulated:

- (1) Does national culture plays a significant role in determining the business resilience of construction companies?
- (2) How do Chinese construction companies perform in terms of business resilience in Singapore and in China?

Literature review

Management of culture

National culture and its dimensions

There have been several attempts to define and measure culture. G. H. Hofstede (2001) describes culture as the collective programming of the mind, which distinguishes the members of one group from those of another. Culture was defined by Geertz (1973) as the fabric of meaning through which people interpret events around them. The most important aggregate of culture is national culture. This is because it represents the shared values and norms and mutually reinforcing patterns of behaviour found in a certain national environment (Anwar & Jabnoun, 2006). To measure national culture, surveys of values, personality preferences, and work attitudes have been carried out in a variety of countries. Haire, Ghiselli, and Porter (1966) were probably the first to perform a survey of more than 3000 managers in 14 countries with regard to their work goals, using differential rating scales. It was not till the 1980s, when G. Hofstede (1983) analysed an extensive number of responses from a single US multinational corporation (MNC) that spanned over 66 countries, assessing employees' personal goals and beliefs, that this study was brought to a truly international level. The sheer size of the samples allowed G. Hofstede (1983) to carry out quantitative techniques that included averaging scores and regression analysis. After that, G. Hofstede (1983) proposed a four-dimension model of cultural patterns as a systematic approach to understanding the difference in society's norms and values. The G. Hofstede (1983) model includes four cultural dimensions, namely the Power Distance Index (PDI), Individualism/Collectivism (IDV), Masculinity/Femininity (MAS), and the Uncertainty Avoidance Index (UAI).

- **Power distance:** the extent to which the less powerful members of institutions within a country expect and accept that power is distributed unequally, which can also be summarized as the "dependence relationship within a country" (G. Hofstede & Hofstede, 2005, p. 45). It was found that PDI affects large multinational companies in their overall strategies and decision making (Hennart & Larimo, 1998; Newbury & Yakova, 2006; Tse, Lee, Vertinsky, & Wehrung, 1988). Generally, in high PDI countries, managers are more autocratic and reluctant to delegate their decision-making power to others, especially subordinates.
- **Individualism/Collectivism:** the relative importance of individual goals compared with group or collective goals. Independence and personal achievements are valued more

before group interests for high IDV countries, while the opposite, interdependence and group interests beyond personal achievements, holds for low IDV countries. China is a country with low IDV. This is probably because the Confucian traditions emphasized the need for people to overcome their individual preferences in lieu of maintaining a harmonious atmosphere (Li & Li, 2009).

- **Masculinity/Femininity:** measured in terms of how distinctive emotional gender roles are. Men are expected to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life. In China, whereby high MAS dominated the society, it was found that recognition was given when it is due and men are expected to be more focused on high earnings, thereby pushing the society for higher economic growth.
- **Uncertainty avoidance:** the extent to which a society feels threatened by ambiguous or unknown situations and tries to avoid such situations by providing for predictability through both written and unwritten rules formation. These are often found in rules, regulations, requirements and religion codes (G. Hofstede & Hofstede, 2005). Nations whose culture is highly embedded in strong UAI typically depict higher level of stress, necessity for consensus, hard work and conflict avoidance, while weak UAI nations show a greater willingness to take risks with lesser rules and move along without a need for total consent (Newburry & Yakova, 2006).

Interaction effects of national and organization culture

Organizational culture refers to the basic values, norms, beliefs, and practices that illustrate the operation of a particular institution. Once established, an organization's culture could easily endure and survive through reorganizations and even the departure of key personnel (Martin, 2002; Park & Ungson, 1997). The relationship between national culture and organization culture is similarly to how a body works. The former can be seen like the skeletal frame that holds the central principles of employees' comprehension of their job scope, the method towards performing their job, as well as the response and feedback they expect during the job. The latter are like the muscles that are attached to the skeletal frame and are the actual actuators for desirable outcomes. When the muscles built are not properly aligned to match the skeletal frame, the whole body's functions will be inefficient or even possibly fail. Several studies pointed out that organization culture directly impact practices that can be defined as rules, procedures, and norms of an organization, and can be either formal or informal (Lau & Ngo, 1996; Weeks & Benade).

Management of culture in China's construction industry

Successful management of culture has become a crucial part of running a business, especially for multinational companies dealing with international business (Bhawuk & Brislin, 2000; Landis, Bennett, & Bennett, 2004). In fact, it is well known that, as projects become more complex, culture can have a greater impact on successful collaboration (Hastings, 1995; Jaafari, 2003; The Chinese Culture Connection, 1987). In the Chinese construction sector, a key change in projects lies with the industry's size. Investments in fixed assets, construction market GDP, and the added value of the construction market in China have more than doubled between 2006 and 2010 (National Bureau of Statistics of China, 2012). Moreover, in terms of global construction spending, China became the largest construction market since 2010 (Davis Langdon, 2012). The level of economic risk faced by international companies operating in the Chinese construction market is high, but the rewards are equally as significant (Ling & Lim, 2007). Foreign entities that are looking to enter the lucrative Chinese construction market need to be able to adapt to Chinese culture when doing business in China, as cultural differences can, if not well managed, lead to a significant

impact on the success of projects in China (Li & Li, 2009). It is apparent that Chinese culture is not only dominant within China, but is also significant in Chinese firms overseas. This is synonymous with an earlier observation that Chinese firms are typically entrenched deeply in the traditional values that drive their managerial behaviours and organizational performance (Lau, 1993). It has been found that the construction sector's organizational culture may also be dependent on the host country's culture (S. O. Cheung, Wong, & Wu, 2011). This suggests that the practices in the construction sector could be affected by a combination of the host nation and the home nation of the respective organizations and subsidiaries, particularly in the case of the popular joint-venture mode of foreign entry (Child, Boisot, Ireland, Li, & Watts, 1990; Quer, Claver, & Rienda, 2007).

Business resilience

The concept of resilience

The word “resilience” can be derived from the Latin *resilere*, which means to “jump back” (Klein, Nicholls, & Thomalla, 2003). This refers to the ability to return to a previous state. However, the concept of “jumping back” cannot be enough to describe economic resilience, because it can be irreparable for organizations that suffered from disruptions and crises to go back to its original state. A more apt definition would be the policy-induced ability of an economy to recover from, or adjust to, the negative impacts of adverse exogenous shocks, and to benefit from positive shocks (Briguglio, Cordina, Farrugia, & Vella, 2008). Briguglio et al. (2008) used four variables to describe economic resilience: macroeconomic stability, microeconomic market efficiency, good governance, and social development. In recent years, the economic resilience concept has received increasing attention, especially with the recent subprime mortgage crisis that started in the US. Obviously, such a crisis has a large and direct impact on organizations, but its indirect impact on an organization's bottom line is also worth considering. For the construction industry, the organizational behaviours of construction firms during a crisis also go through a series of changes, as in the case of other types of firm. Construction firms are more sensitive to financial instability due to the nature of projects and contractual arrangements (Ling & Lim, 2007; Loosemore, 1998).

Business resilience refers to the capacity of the people and systems that drive organizational performance to tap into their resources and competencies to manage demands, challenges, and changes encountered, while still maintaining functional status, even in the presence of significant disruptions (Paton & Hill, 2006). Comfort (1994) described business resilience as a form of capacity to reorganize resources and action so as to respond to actual danger after it occurs. Generally, the main challenges to companies venturing overseas (such as construction firms undertaking international projects outside their home country) in terms of business resilience lie in globalization and the inconsistency of government policies. Firstly, globalization has been increasingly reliant on firms for foreign suppliers, partners, manpower, and capital. For example, with construction firms' entry into foreign markets, the entrant firm must, at least, establish new networks of suppliers and partners to allow them to take up new projects in the market. Thus, such interdependent risk exposure increases even further, which may lead to an inability to take on larger projects, or worse, to catastrophic damage from disruptions when a risk materializes during a project. Secondly, the inconsistency of government policies also causes exposure to an elevated level of economic risk (Zhi, 1995). For construction projects, cost escalations and overruns on large overseas projects are typically associated with macroeconomic aspects of the host country, for example, fluctuations in inflation, interest, and currency-exchange rates. Fluctuations may have a considerable impact on international construction projects, as such macro-level risks would simply increase with project size (Flanagan & Normal, 1993; Zhi, 1995). Given that project sizes in China are tending towards those of megaprojects (Bruzelius, Flyvbjerg, & Rothengatter, 2002; Van Marrewijk, Clegg, Pitsis, & Veenswijk, 2008), the uncertainties

involved at many stages (such as the pre-contracting stage) naturally require new entrants to take on larger risks. This means that organizations that might not be accustomed to such exposure to risk are more likely to make mistakes that will drag their organization into unfavourable positions. Moreover, many of the risky elements are well beyond the control of contractors (Zhi, 1995).

Business resilience in China

A research that was performed by KPMG (Zarella & Wright, 2009) on business resilience in China found that the concept of business resilience started to take off in the recent years, and was linked to the critical events of the 2008 Sichuan earthquake and the heavy snowstorm across the central and southern region of China. The high profile event of the Olympic Games in Beijing also seemed to contribute to the need for better business resilience and business continuity. From the report by KPMG (Zarella & Wright, 2009), almost 37% of the respondent companies had a Business Continuity Management (BCM) programme in operation, while another 21% were in the process of developing one. However, many of the respondents reported that their staff were not receiving adequate training with regard to business resilience and continuity issues. This meant that despite having some of the fundamental business resilience and continuity systems in place, many staff would be unable to respond appropriately if a crisis were to strike. Many of such systems were confined to IT and disaster recovery of hardwares, and did not cater to business planning and management tools that can refine their decision making processes. This would be extremely critical as the Executive Board was identified as the primary owner of BCM programmes to drive business resilience and yet, the higher management do not appreciate the usage of such critical planning tools designed for building business resilience within the organization. Granted, 30% mentioned that their BCM programmes were only operational for less than two years and another 29% just started it less than one year ago, so this scenario could still be understandable in China.

RESEARCH DESIGN AND METHODOLOGY

Research strategy

A literature review was conducted on national cultures, built around Hofstede's (1983) cultural dimensions and also on the business resilience of organizations, in order to provide a theoretical background to the study. Data sets were merged from the IMD World Competitiveness Yearbooks (hereafter WCY), 2001–2011 (International Institute for Management Development, 2011) and Hofstede's (1983) cultural dimensions research in order to achieve the aims of this study. Subsequently, correlation and regression techniques were carried out on the combined data to understand the relationship between them, and models were generated. The findings and models were then verified using two case studies of Chinese construction firms operating in Singapore.

Data sources and variables

The research uses both primary and secondary data. It began with collection of the secondary data from public sources, mainly the IMD World Competitiveness Yearbooks. The WCYs are considered to be among the most thorough surveys (International Institute for Management Development, 2011), consisting of four main factors and further divided into 5 sub-factors, consisting of 331 criteria. In addition, primary data, which in this study refers to the case studies, were carried out in Singapore.

Dependent variables

The dependent variable in this study is the data from four business resilience factors obtained from the WCY. Four economic factors that could reflect directly on the economic business resilience were selected:

- (1) Resilience of the economy (RE): the national level or macroeconomic aggregate of the business resilience
- (2) Adaptability of government policy (AP): the institutional level or governmental influence on business resilience. The capability of the government to quickly adapt is a key asset in maintaining competitiveness. According to the WCY, smaller nations often have an advantage here over larger nations.
- (3) Adaptability of companies (AC): the organization level of business resilience, where a strong sense of purpose and direction must be complemented by a high degree of flexibility and responsiveness to the business environment.
- (4) Flexibility and adaptability of employees (FA): the individual level of business resilience.

Independent variables

The independent variables include key parameters from Hofstede's (1983) cultural dimensions of power distance index (PDI), individualism/collectivism (IDV), masculinity/femininity (MAS), and uncertainty avoidance index (UAI). The PDI, IDV, MAS, and UAI cultural dimensions are all measured in terms of a country-based score computed from an attitudinal survey of IBM employees. The data set on the fifth (long-term orientation) and sixth (indulgence versus restraint) dimensions was limited and fragmented, so both were omitted in this current study. Other culture researchers have also left these dimensions out, on account of the relatively sparse data collected till date (Taras, Steel, & Kirkman, 2012).

Sample size

The WCYs included a list of 59 economies for the dataset between 2007 and 2011, and were matched to the 73 countries' data of Hofstede's (2001) study. After some elaborate matching, 46 countries were retained as the final sample size for this study (see Appendix 1 for a list of 46 countries). This calibration is considered appropriated and was used by H. Y. Cheung and Chan (2010) to match the WCY against Hofstede's cultural dimensions so as to analyse the way nations respond to the changing education needs of a competitive economy.

Case studies

The purpose of case study aims to clarify some of the findings on business resilience and the impact of national culture in their business operations. Two companies from those shortlisted agreed to be interviewed as many other companies declined, quoting the sensitive nature of their crisis management issues. A semi-structured interview was adopted to allow the interviewer to adjust to the interviewee's pertinent knowledge of business resilience and national culture and also to keep the interview relevant to the topic as much as possible.

Data analysis and results

Correlation

The correlation matrix in Table 1 shows the relationships between each of the four business resilience parameters of 2007, 2009, 2011, and Hofstede's four cultural dimensions. 2007, 2009, and 2011 were chosen because:

- 2007 marked the year prior to the recent subprime mortgage crisis;
- 2009 was the year when the crisis had escalated to its full scale; and
- 2011 is when the crisis became somewhat controlled, with many nations' economies entering their recovery phases.

Table 1 shows the correlation amongst the variables, with PDI and UAI being significantly correlated with the business resilience variables at 0.01 levels. However, the coefficients are negative. On the other hand, IDV and MAS are not significantly correlated with most business resilience variables over the different years. There are several exceptions to this: for example, in 2007, two variables—namely resilience of the economy and adaptability of the companies—demonstrated significant collation with the IDV dimension of culture. While the variable of adaptability of government policy, in 2011 and 2007 respectively, was significantly related to MAS.

Table 1: Correlation matrix

| (N = 46) | Power Distance Index (PDI) | Individualism / Collectivism | Masculinity / Femininity | Uncertainty Avoidance Index (UAI) |
|---|----------------------------|------------------------------|--------------------------|-----------------------------------|
| (1) Resilience of Economy (2011) | -0.22 | 0.13 | -0.22 | -.44** |
| (2) Adaptability of Government Policy (2011) | -0.26 | 0.14 | -0.30* | -0.62** |
| (3) Adaptability of Companies (2011) | -0.45** | 0.19 | -0.07 | -0.49** |
| (4) Flexibility & Adaptability of Employees (2011) | -0.16 | 0.03 | -0.04 | -0.42** |
| (5) Resilience of Economy (2009) | -0.20 | 0.08 | -0.23 | -0.43** |
| (6) Adaptability of Government Policy (2009) | -0.25 | 0.16 | -0.34* | -0.68** |
| (7) Adaptability of Companies (2009) | -0.36* | 0.12 | -0.08 | -0.54** |
| (8) Flexibility & Adaptability of Employees (2009) | -0.24 | 0.14 | -0.03 | -0.54** |
| (9) Resilience of Economy (2007) | -0.45** | 0.32* | -0.12 | -0.53** |
| (10) Adaptability of Government Policy (2007) | -0.35* | 0.12 | -0.15 | -0.58** |
| (11) Adaptability of Companies (2007) | -0.49** | 0.29* | 0.00 | -0.56** |
| (12) Flexibility & Adaptability of Employees (2007) | -0.30* | 0.12 | -0.04 | -0.50** |

Note:

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Regression

To understand the relative importance of the different elements of culture for business resilience, regression models were also run. There were four models for each year, beginning from 2007 and running until 2011. For the purpose of analysis and discussion, only the key years of 2007, 2009 and 2011 are presented. For the results in Tables 2, 3, 4, and 5, the independent variables of IDV, UAI, MAS, and PDI were entered into the models. Each table is divided into three parts (a, b, and c), which represent the key years of 2007, 2009 and 2011. For example, in Table 3, the cultural dimensions were used in (a), (b), and (c) to predict the adaptability of government policy in 2007, 2009, and 2011, respectively. Overall, the resilience of the economy (RE), the adaptability of government policy (AP), the adaptability of companies (AC), and the flexibility and adaptability of employees (FA) (2007, 2009, and 2011) are shown in Tables 2–5.

Table 2: Linear regression analysis of Resilience of Economy by cultural dimensions (2007, 2009, and 2011)

| Independent variable | <i>B</i> | S.D. | <i>Beta</i> | t-value | Sig. |
|--|----------|------|-------------|---------|------|
| (a) Resilience of economy (2007) ^a | | | | | |
| UAI | -.023 | .006 | -.467 | -4.038 | .000 |
| PDI | -.019 | .006 | -.376 | -3.255 | .002 |
| (b) Resilience of economy (2009) ^b | | | | | |
| UAI | -.020 | .006 | -.431 | -3.243 | .002 |
| (c) Resilience of economy (2011) ^c | | | | | |
| UAI | -.028 | .009 | -.436 | -3.284 | .002 |

Note:

^aR² = .414, adjusted R² = .388, F = 10.594

^bR² = .186, adjusted R² = .168, F = 10.517

^cR² = .190, adjusted R² = .172, F = 10.784

Table 3: Linear regression analysis of adaptability of government policy by cultural dimensions (2007, 2009, and 2011)

| Independent variable | <i>B</i> | S.D. | <i>Beta</i> | t-value | Sig. |
|---|----------|------|-------------|---------|------|
| (a) Adaptability of government policy(2007) ^a | | | | | |
| UAI | -.035 | .007 | -.583 | -4.872 | .000 |
| (b) Adaptability of government policy(2009) ^b | | | | | |
| UAI | -.040 | .006 | -.660 | -6.605 | .000 |
| MAS | -.021 | .007 | -.308 | -3.081 | .004 |
| (c) Adaptability of government policy(2011) ^c | | | | | |
| UAI | -.043 | .008 | -.618 | -5.337 | .000 |

Note:

^aR² = .34, adjusted R² = .326, F = 23.736

^bR² = .551, adjusted R² = .531, F = 9.494

^cR² = .382, adjusted R² = .369, F = 28.486

Table 4: Linear regression analysis of adaptability of companies (Management Practices) by cultural dimensions (2007, 2009, and 2011)

| Independent variable | <i>B</i> | S.D. | <i>Beta</i> | t-value | Sig. |
|----------------------|----------|------|-------------|---------|------|
|----------------------|----------|------|-------------|---------|------|

| (a) Adaptability of companies (2007) ^a | | | | | |
|---|--------|------|-------|--------|------|
| UAI | -0.022 | .005 | -.495 | -4.526 | .000 |
| PDI | -.018 | .005 | -.408 | -3.731 | .001 |
| (b) Adaptability of companies (2009) ^b | | | | | |
| UAI | -.025 | .006 | -.543 | -4.391 | .000 |
| (c) Adaptability of companies (2011) ^c | | | | | |
| UAI | -.020 | .005 | -.435 | -3.674 | .001 |
| PDI | -.018 | .006 | -.381 | -3.219 | .002 |

Note:

^aR² = .475, adjusted R² = .451, F = 13.919

^bR² = .295, adjusted R² = .280, F = 19.281

^cR² = .385, adjusted R² = .385, F = 10.359

Table 5: Linear regression analysis of flexibility and adaptability of employees by cultural dimensions (2007, 2009, and 2011)

| Independent variable | <i>B</i> | S.D. | <i>Beta</i> | t-value | Sig. |
|---|----------|------|-------------|---------|------|
| (a) Flexibility and adaptability of employees (2007) ^a | | | | | |
| UAI | -.022 | .006 | -.504 | -3.960 | .000 |
| (b) Flexibility and adaptability of employees (2009) ^b | | | | | |
| UAI | -.025 | .006 | -.542 | -4.369 | .000 |
| (c) Flexibility and adaptability of employees (2011) ^c | | | | | |
| UAI | -.020 | .006 | -.421 | -3.145 | .003 |

Note:

^aR² = .254, adjusted R² = .238, F = 15.685

^bR² = .293, adjusted R² = .278, F = 19.084

^cR² = .177, adjusted R² = .159, F = 9.890

The first of the dependent variables to be examined was resilience of economy (RE), shown in Table 2. Here, 41.4%, 18.6%, and 19.0% of the variance in 2007, 2009 and 2011, respectively, were predicted by both UAI and PDI (2007), and UAI alone (2009 and 2011). Next, in Table 3, 34.0%, 55.1%, and 38.2% of the variance in the adaptability of government policy (AP) in 2007, 2009, and 2011 were predicted respectively by UAI (2007 and 2011), and both UAI and MAS (2009). Table 4 shows that 47.5%, 29.5%, and 38.5% of the variance in the adaptability of companies (AC) in 2007, 2009, and 2011, were predicted respectively

by both UAI and PDI (2007 and 2011), and UAI alone (2009). Lastly, Table 5 shows 25.4%, 29.3%, and 17.7% of the variance in the flexibility and adaptability of employees (FA) in 2007, 2009, and 2011 being predicted respectively by UAI (2007, 2009, and 2011). Table 6 summarizes the findings of the factors that had the most impact on each of the four business-resilience parameters.

Table 6: Summary of cultural factors selected by linear regression analysis

| Year | RE | AP | AC | FA |
|------|-----------|-----------|-----------|-----|
| 2007 | UAI + PDI | UAI | UAI + PDI | UAI |
| 2009 | UAI | UAI + MAS | UAI | UAI |
| 2011 | UAI | UAI | UAI + PDI | UAI |

Note: RE: Resilience of economy. AP: Adaptability of government policy. AC: Adaptability of companies. FA: Flexibility and Adaptability of employees.

Discussion

Prediction by UAI

From the four cultural dimensions shown in Table 6, it would be apparent that UAI played the most critical role in business resilience over the various years. The relationships between UAI and the four business resilience variables were significantly negative, as is shown in Table 1, which suggest that low UAI cultures would score high in resilience in economy, adaptability of government, adaptability of companies, and flexibility and adaptability of employees. This seems to go in line with the study by Taras, Kirkman, and Steel (2010), who found that UAI appears to be the main driver of economic and business resilience across the various tiers of measures. To probe further, this can be attributed to the fact that, in low UAI cultures, societal members tend to feel comfortable dealing with uncertainty, and are more tolerant of different ideas, approaches, and concepts (G. Hofstede & Hofstede, 2005). This could also mean that they expect the unexpected in their daily lives and might carry that attitude to the workplace. Furthermore, during a crisis, when norms often cease to function, organizations frequently need quick and innovative solutions to minimize damage. Hence, low UAI cultures are generally less averse to novelty, and more likely to experiment with unproven solutions. Executives in such cultural settings are more open to different policies as well, which is necessary for business recovery during a crisis (Hambrick & Brandon, 1988). In addition, societies characterized by low UAI have stronger focus on the decision process, and will often favour speed of decision over the contents of the decision. Large companies often suffer from a lack of agility and innovation in formulating solutions (Paton & Hill, 2006). For example, construction companies that venture overseas are typically large, and larger companies are inherently slower at making decisions than smaller companies. Yet, according to G. Hofstede (1983), larger companies in UAI cultures do not necessarily suffer from the same drawback. This may be because in low UAI cultures, leaders normally have the courage and are willing to break rules and go against the norm. Thus, construction business from low UAI cultures will be more likely to obtain a clear advantage in speed of decision making, which is critical for business resilience.

With regard to the flexibility and adaptability of employees (FA), the role of national culture in terms of the individual employee was ascertained by Jacobs (2003), whose research showed that national culture can be as strong a determinant of individual behaviour as organizational culture is. Thus, it is logical to assume that the benefits of low UAI at the

organizational level would also be found at the individual level of employees. G. Hofstede and Hofstede (2005) found that, even though low UAI cultures have fewer rules, they are often followed better. This might suggest another reason to explain why, during unavoidable crises, low UAI cultures' organizations can adapt and follow through on their solutions better, leading to better business resilience in the long term.

Prediction by PDI

PDI was observed to be the second most critical cultural dimension in affecting business resilience variables. This is particularly the case for the adaptability of companies (AC), which accounts for business resilience at the organizational level. As shown in Tables 2 and 4, PDI followed a negative correlation with the resilience of the economy (RE) and the adaptability of companies (AC), with PDI explaining more of the variance in adaptability of companies (AC) than in resilience of economy (RE). Such negative correlations between PDI and AC and RE suggest that lower PDI cultures are more likely to achieve better business resilience at the organizational level and at the nationally aggregated level of the market.

In the workplace, low PDI cultures are differentiated from their high PDI counterparts by their highly decentralized organizational structure with flatter hierarchical pyramids and lesser supervisory personnel (G. Hofstede, 1983). However, the key benefits that low PDI brings to higher AC ought to be the fact that the hierarchical system and designated roles are merely established. This translates into more fluid expectations of roles, which might cater for better job and task mobility within the organization. During a crisis, such mobility and flexibility will be incredibly valuable, as illustrated by the organizations that went through the pandemic episode of SARS in 2002–2003, whereby staff had to be quarantined and zoned according to their business needs. This placed a lot of strain on organizations that used more specialists and that had the mindset that people should carry out their own individual roles. On the contrary, organizations that had low PDI will more likely to be prepared for such situations, as they might be more comfortable accepting greater responsibility and autonomy during times where human resources are tight (Newbury & Yakova, 2006). Furthermore, they are typically more cross-trained than in the case of organizations that exhibit high PDI culture (Geletkanycz, 1997).

Other advantages that low PDI cultures have over their high PDI counterparts might include superiors who are expected to be accessible to subordinates, and managers who rely on their experience and on subordinates more than superiors and formal rules. Tighter bonds are forged between the managers and their subordinates as a result of working closer together. This should allow the communication channels to be both direct and open for subordinates to report what they observe at the operational level, and subsequently lead to a better decision being made by higher management to tackle the crisis. Furthermore, the study of Bond (1988) of students in 23 countries showed that students low in power distance also prioritized adaptability and prudence (carefulness) as particularly important attributes. These qualities are beneficial to enhancing business resilience at the organizational level, and hence highlight the potential predictive power of PDI for business resilience (Bond, 1988; G. Hofstede & Hofstede, 2005).

Prediction by MAS

As shown in Table 3, MAS is observed to have a limited effect on the adaptability of government policy (AP) for business resilience at the institutional level in 2009, when the crises hit economies hard. However, even in 2009, MAS contributed only a small percentage to the total 53.1% of the variance explained by both UAI and MAS on adaptability of government policy. In another words, UAI alone explained close to half of the variance in the adaptability of government policy in 2009. The correlation coefficient generated by the

regression model denotes a negative relationship with the adaptability of government policy. Low MAS has traditionally been linked to more feminine cultures, often represented the ideal of the welfare society that emphasizes people, the quality of life, helping others, preserving the environment, and not drawing attention to oneself. The low masculinity that possibly leads to better adaptability of government policy (AP) is the creation of a supportive climate. This is because during a crisis firms tend to look to the government to alter certain policies, such as interest rates or currency exchange rates, to help businesses through critical events.

Case studies: two Chinese construction firms

Background

The Singapore branches of two Chinese construction companies' were approached for case studies, aimed at verifying the findings on business resilience and the impact of national culture on their business operations. In particular, the findings from the interviews sought to justify the negative correlations shown in the multiple regression models shown in Tables 2-5. The companies' backgrounds, as well as their operations in Singapore and in China, are briefly outlined in Table 7.

Table 7: Background of two case companies X and Y

| | Case company X | Case company Y |
|------------------------------------|---|--|
| Headquarter location | Jiangsu, China | Beijing, China |
| Grade and nature of parent company | Premier, SOE | Grade I, SOE |
| Mode of entering Singapore | Joint-venture | Directly as an independent firm |
| Year of entry | 2000 | Early 2000 |
| Grade in Singapore context | A2 for CW02 (Civil Engineering) B1 for CW01 (General Building) | B1 for CW01 (performing construction works worth S\$40 million or less) |
| Certification | ISO 9001:2000, ISO 14001:2004, and OHSAS 18001:2007 | Not mentioned |
| Operations (scope of works) | Start as a subcontractor; Mainly RC work | Mainly for public sector projects; works that ranged from retrofitting and upgrading of existing infrastructures to building new infrastructures |

Note: Both companies are China's State-Owned Enterprises (SOEs).

Given the fierce competition in China from both international and domestic competitors, SOEs like Companies X and Y are under immense pressure to meet their bottom lines, as their profit margins have shrunk due to competition. The interviews took place in their offices in Singapore. There are several personnel from both companies that participated in the interviews, with two key personnel, namely Interviewee A and Interviewee B, being quite active. The former is a Safety Manager, who also doubles up as the HR and Administration Manager for Company X. Such an arrangement is only due to the shortage of managerial manpower in the Singapore subsidiary. The latter is the manager of the Singapore branch office of Company Y. Interviewee B is the overall person in-charge, and all management decisions for Company Y in Singapore go through him. Since 2006, interviewee B has become the highest decision maker within the branch office in Singapore. Before his transfer to Singapore, he was with the parent company in Beijing for more than 20 years. His role shifted from low-level operational staff to the middle-high management position today,

and he was expected to be able to garner a good understanding of the cultural and business resilience environments in China and Singapore.

Relationship between power distance and business resilience

The presence of high PDI that was reported to be characteristically Chinese was justified during the interviews. For example, interviewee Ain describing their organization system explained that:

“Basically, we do anything that our Chinese HQ requests of us... we have a clear delegation of work as the responsibilities of each differ and need to be clear on who is dealing with what... We believe in clear delegation of duties and we generally do not cross each other's scope of work and managers and seniors are responsible for their workers under them... clearer on who is to report to whom.”

In a similar vein, interviewee B pointed out how the hierarchy system is critical to their company in Singapore, and pointed out that:

“...we need the people higher in the hierarchy system to support us. I may be a Branch manager and highest in-charge here, but I can be described as someone that merely carries out the instructions from the HQ.”

From the interviews, it seemed apparent that the high PDI of China's national culture had manifested itself within the organization level. Thus, the presence of national culture can be observed within China's organization culture in their companies, regardless of their location in Singapore or China. In terms of the relationship between PDI and business resilience, the regression results suggest that an organization from a low PDI national culture will most likely be associated with high business resilience, particularly in the adaptability of companies at the organization level. This coincides with the observation of Bell (2002), who claimed that when a network of empowered and connected employees is available, which is highly accountable and committed to what has to be done regardless of hierarchical status, then it can become a truly resilient organization. Trust is deemed to be pivotal for building a culture of resiliency between employees, management, suppliers, and partners (Ring, 1996). This is even more crucial when entering a new market that is culturally different from the home nation. The interview responses reflect the fact that trust is not presently in place. For example, this was mentioned by an interviewee from Company Y, who explained that:

“...I feel that solutions can sometimes be not as comprehensive. Not necessarily the best solution to the problem. Maybe as operational staff, we can sometimes see things better.”

This seems to reflect how a high PDI could bring about a less comprehensive solution that resolves the crisis at hand, as managers might not trust (or even rely on) the operational staff during a crisis. This supports our proposition that a low PDI would be ideal for providing culture and practices of business resilience within the organization. Indeed, low PDI can create a sense of openness within the organization, where subordinates feel more at ease to share their feedback with their superiors. This means that operational level staff could reduce the risk, or possibly provide a quick fix, to the issues faced during a crisis. Generally, in order to achieve a resilient culture, there is a need for a climate in which people do not fear failures or the act of challenging assumptions. In the business world, corporate assumptions are often laid down by higher authorities and management, so this appears to support the findings that, in a low PDI environment, it would be much more conducive for employees and managers to challenge existing norms that have underlying operational risks.

Similar to Nakata and Sivakumar's (1996) study, which found that both ends of power distance seem to support new production development, the interview findings also suggest that a high PDI could also contribute to a strong environment of business resilience, because of the effectiveness and efficiency that high PDI could provide. One interviewee from Company Y reflected that:

"...back in the 1980s, when there was a financial recession happening everywhere, I personally was a low-level employee, and honestly, I did not feel that there was much of a crisis... This is because most of the crisis-related issues were resolved at the highest management level, and they were not up to us to solve. We just executed the instructions and that probably helped solve problems faster. We were less democratic during a crisis, but it worked."

The initial response to a crisis can often make the difference between the organizations involved and the level of damage suffered by them. A businessresilient culture would ideally allow for rapid decision making to occur, with a high PDI allowing for management to make decisions faster and execute them more smoothly and with less resistance.

Altogether, the findings about the effect of PDI on business resilience seem contradictory. On one hand, the regression results suggest that an organization from a low PDI national culture promotes business resilience; on the other hand, so does a high PDI culture. To reconcile the contradiction, the answer lies in the capability of top management as well as the stage of crisis. In the early stage of crisis, top management should be capable of making decisions faster so that execution can be done quickly to minimize the impact of crisis. Thus, the high PDI culture may facilitate the initial stage of business resilience. When the crisis is under control, it might require the constructive feedback from the lower-level employees. Thus, low power distance is perhaps more effective by then.

Relationship between uncertainty avoidance culture and business resilience

As shown in Table 6, UAI acted as the best predictor of business resilience for all four businessresilience variables, across the different levels of business resilience, across all years. This finding was supported by the interviewees. Statements that justify this include an explanation from an interviewee from Company X:

"The formality is crucial, but urgent things can happen, and when that happens, we will do away with the formality and solve the problem first... it can be attributable to our Chinese HQ being daring enough to take on risks during uncertain times. This is seen as good leadership, since workers' morale is lower during uncertain times."

Managers from low UAI cultures take ambiguities as they come, and do not respond to them with fear. Instead, they see them as opportunities. China, being a low UAI nation, does seem to benefit from such a national cultural characteristic. It was observed by Interviewee B of Company Y that:

"...during the SARS crisis, I was in the Chinese HQ as a middle level manager. I could often see that even higher management sometimes did not have information they needed. But I think one advantage we have as Chinese is probably that we dare to take risks. We are risk-takers who dare to make that kind of calculated move... it is in all of us Chinese, and gives us the advantage of speed and efficiency during a crisis. We take risk and the people below us execute without a second thought."

It is apparent that low UAI managers brought that value into the organizational setting, and that high PDI could bring the risk-taking attitude to a whole new level, whereby high PDI does not deter, but in fact helps, with the low UAI. In addition, the findings show that low UAI cultures give rise to better overall resilience, since the act of embracing the risk of failure is simply the act of accepting ambiguity as the result of an action. Managers from low UAI cultures embraced the fact that things inevitably change and they tended to find less purpose in trying to maintain the status quo. In this context, Interviewee A added that:

“There was some wondering about the status quo of the company... during the 2009 recession period, we had workers who were shifted back by HQ, and our workforce dropped from over 300 to just over 100 workers.”

This is in line with Hofstede’s (2001) finding that the low UAI of Chinese people means that they have fewer concerns about shorter service periods at an organization. This is not necessary a negative trait for business resilience. In fact, a prolonged duration of relative stability and routine activity could lead to a false sense of security and relaxed vigilance, which may result in the inability to perceive and adapt to challenges that are approaching.

Moreover, according to G. Hofstede and Hofstede (2005), low UAI is often associated with less focusing on decision contents and more focus on the decision process itself. This seems to be one of the key factors driving the negative correlation between UAI and business resilience variables. This sentiment was voiced by one interviewee from Company X who noted that:


“...strategy requires adaptation to changes and the environment and acceptance that things will not go as planned. We live with the consequences and adapt... I feel that the decision making process tends to be fast, and we adjust the contents of the decision to the crisis on the fly.”

Chinese construction firms might thus be able to focus on strategic planning, without becoming too obsessed with the rigid planning typical of low UAI cultures. This will speed up decision-making processes. Interviewee A reinforced this idea by noting that:

“For things that are beyond the organization’s control, like a global recession, we will still want to plan for it, to strategize for it... but we know the Chinese saying that goes ‘Adaptability prevails over planning’.”

Conclusion

Within management studies, culture is often listed as the key determinant of how managers and staff members react in climates of uncertainty and unpredictability (Weeks & Benade), or of how culture remains as the driver of or obstacle to success (Cyert & March, 1963; Earley, 1989). Newbury and Yakova (2006) established in their study of international public relations firms that employees from high power-distance and high uncertainty-avoidance backgrounds preferred a higher level of standardization, and conversely, lower power distance and lower uncertainty avoidance drive adaptability higher (Newbury & Yakova, 2006). This exploratory study provides an understanding of the impact of national culture on business resilience, with the inputs of both quantitative and qualitative techniques. The findings of this study are derived from multiple regression models that correspond to the four economic business resilience parameters, and further refined using the qualitative data - mainly interviews carried out with two Chinese construction firms operating in Singapore. The findings of the study indicate that there are correlations between the dimensions of national cultures and economic business resilience, although this applies mainly to UAI. PDI and MAS have limited application to certain layers of business resilience. UAI and PDI showed negative correlations in the various models, while MAS showed positive correlation in one of the models of the adaptability of government policy (AP) in 2009. Moreover, findings from the regression model and the two case studies clearly support the exploratory

findings on the negative correlations of PDI and UAI, and that they are likely to be justified as being the largest predictor of adaptability, particularly at the organizational level of Chinese construction firms in Singapore. This study has several limitations. Firstly, the results may only be considered as exploratory, since they were not validated beyond Chinese construction firms in Singapore. As such, they might not fully explain the case of China, given that other non-cultural factors, such as political and legal systems, might have affected the results. Secondly, the number of case studies performed was affected by the confidential nature of this research area. Thirdly, the existence of subcultures within the nation or within an organization is conceivable, and can limit the external validity of the findings. Subcultures can form and spread through the “grapevine,” and should not be underestimated in terms of their impact on organizational culture and practices (Deal & Kennedy, 1988). In terms of future research, attempts should especially be made to overcome the third limitation: it would be valuable to investigate the effects of subcultures on national culture and their consequent effects on business resilience. 

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Appendix 1: A list of 46 countries used as the final sample size for this study

| | |
|------------------|----------------|
| Argentina | Israel |
| Australia | Italy |
| Austria | Japan |
| Belgium | Malaysia |
| Brazil | Mexico |
| Canada | Netherlands |
| Chile | New Zealand |
| China (Mainland) | Norway |
| Colombia | Philippines |
| Croatia | Poland |
| Czech Republic | Portugal |
| Denmark | Singapore |
| Estonia | South Africa |
| Finland | South Korean |
| France | Spain |
| Germany | Sweden |
| Greece | Switzerland |
| Hong Kong | Taiwan |
| Hungary | Thailand |
| Iceland | Turkey |
| India | United Kingdom |
| Indonesia | USA |
| Ireland | Venezuela |