

Exploring the Applicability of Construction Partnering in Mainland China: A Qualitative Study

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Abstract

Purpose – This paper aims to explore the applicability of construction partnering in Mainland China, and to provide useful suggestions and possible implications for decision-makers to adopt this collaborative approach to project procurement.

Design/methodology/approach – Document analysis was first employed to identify the favourable conditions and potential difficulties in partnering application in Mainland China. A series of face-to-face semi-structured interviews targeting on academic experts and industrial practitioners were undertaken to solicit their perceptions on the benefits and difficulties of implementing partnering in Mainland China, coupled with their overall assessment of the applicability of and suggestions for partnering implementation in the region.

Findings – The results of document analysis indicated that the cultural roots of co-operation and mutual trust, together with the increasing needs for improving the current state of project performance in Mainland China, underpin the application of partnering in the construction market although its application and generalisation still encounter some significant difficulties. The perceived benefits, potential barriers and effective strategies for partnering application in Mainland China were determined from the interviewees. The interview results further supported the applicability of construction partnering and provided constructive and practical suggestions for possible implementation in the Mainland Chinese construction industry. The partnering approach has been evaluated as practicable and appropriate in this study for the construction industry of Mainland China.

Research limitations/implications – Although it is essential to base the analysis of partnering applicability on a qualitative study, an empirical quantitative investigation of the benefits and difficulties of partnering application could further reinforce the quality of analysis. Future research could look into the project-based assessment of partnering application in terms of the perceived benefits and potential difficulties of, and success factors for partnering implementation in Mainland China.

Practical implications – Policy-makers aiming for the introduction of the partnering approach could be equipped with stronger confidence from the favourable cultural environment and industrial needs. Restrictions to partnering application underlying in the current working culture could be mitigated when appropriate strategies are taken by the initiators of the partnering approach.

Originality/value – The increased worldwide attention to construction partnering has shed light on the construction industry of Mainland China to achieve better value for money in project procurement and management. This paper has provided valuable reference for decision-makers to consider the adoption of partnering based on the qualitative analysis of the applicability of partnering in the construction industry of Mainland China.

Keywords: Partnering, Applicability, Construction industry, Mainland China, Culture

Paper type: Research

1 Introduction

The international construction industry of the past two decades has been marked by the increased attention to construction partnering. In many countries or regions such as the United Kingdom (Reading Construction Forum, 1995 & 1998; Green, 1999; Wood and Ellis, 2005), the United States (Weston and Gibson, 1993; Larson, 1995), Australia (Walker *et al.*, 1999), Hong Kong (Chan *et al.*, 2003a & 2008), South Africa (Allen *et al.*, 1999) etc, the vast practices of construction projects have evidenced the substantial benefits reaped through the application of partnering concepts.

However, industrial application and generalisation of construction partnering in Mainland China is still in its infancy. There are plenty of research studies asserting that there is no project clearly labelled as partnering projects in Mainland China, although the key elements of partnering can be observed in many projects (Zhang and Cao, 2005). Specific questionnaire surveys conducted by researchers in the Chinese Mainland also indicated that the past recent years recorded no construction projects implemented with the “partnering mode” (Zhao, 2005; Jiang, 2008).

Meanwhile, although many aspects of the study of project partnering and strategic alliancing in developed construction markets have been reported, there has been limited research on these areas in the Chinese construction sector (Lu and Yan, 2007a). Since there seems no evidence from the literature indicating that partnering is a management approach suitable for some countries but not the others (Koraltan and Dikbas, 2002), identifying the suitability of partnering application in Mainland China is conducive and essential in unveiling the understanding about the potential of construction partnering in the region.

Although the term “partnering” is relatively new to the construction industry of Mainland China, there exist many project practices having embraced partnering philosophy, which usually refers to commitment, mutual trust and good faith between contracting parties (Lu and Yan, 2007b). Some partnering tools (e.g. team building sessions and review meetings) have also been used to promote co-operation between project parties (Lu and Yan, 2007a). By means of two case studies, Jin and Ling (2005) developed a holistic framework for building up relationships and mutual trust in project organisations, which concurrently promotes partnering application in construction projects. These studies pertaining to partnering in China revealed that the application of partnering in the Chinese construction sector has been emerging.

2 Scope of study

Although the definitions of partnering in construction vary from one study to another, there exists a common consensus on the key elements of partnering through co-operation and teamwork: commitment, mutual trust and respect, communication, equity, responsiveness to problems, continuous evaluation, common goals and joint problem resolution (Cook and Hancher, 1990; Construction Industry Institute, 1991; Ng *et al.*, 2002; Chan *et al.*, 2003b). To crystallise the research scope, the definition of construction partnering given by the Construction Industry Board (1997) based in the United Kingdom was adopted in this study. The Construction Industry Board (1997) defined partnering to be:

“A structured management approach to facilitate team working across contractual boundaries..... it should not be confused with other good project management practice, or with long-standing relationships, negotiated contracts, or preferred supplier arrangement, all of which lack the structure and objective measures that must support a partnering relationship.”

Under such definition, construction partnering is a structured management approach with the objective project performance measures, usually denoted by signing on a partnering charter, launching regular partnering workshops, developing a partnering performance monitoring matrix and establishing an agreed issue resolution mechanism, etc.

In line with the current status of partnering application in the construction industry of Mainland China, this study, rather than vaguely looking at basic relational elements in a contractual relationship, centres on the application of construction partnering under the structured partnering process. In fact, the reported partnering practices in Mainland China within the literature fall exclusively under the category of ‘informal partnering’ projects, deviating more or less from those under the structured partnering process.

Through exploration into the State Procurement Law (SPL), new developments in Turkey, anticipated changes and the public construction process, Koraltan and Dikbas (2002) assessed the applicability of partnering in the Turkish construction sector. Lu and Yan (2007b) proposed a framework for assessing the applicability of partnering, where management mechanism, organisations involved and project dimensions can be evaluated for determining partnering use. It should be noted that these three constructs for the assessment of partnering applicability focus on the organisational/project level and stand on no empirical validation. To date, there has been a conspicuous lack of research studies on systematically exploring, at the national level, the applicability of construction partnering in Mainland China.

This study aims to bridge this research gap through desktop literature review and expert interviews. It is also dedicated to provide clear answers to the questions in relation to partnering application in Mainland China as adapted from those raised by Zhang and Cao (2005), including:

- (1) Can formal partnering procedures and tools be applied in the Mainland Chinese construction industry?
- (2) What favour and underpin the implementation of partnering in the current context of Mainland China?
- (3) What are needed to promote the implementation of formal partnering?
- (4) Are there any obstacles of partnering implementation?
- (5) If prospective clients and the government take the initiative to embrace partnering and implement it, what is the most appropriate way to adopt this approach?

Partnering, as an innovative procurement approach, is perceived to be analogous to “technology”, which shapes the global affairs and itself is shaped by global economy, politics and culture (Fritsch, 2011). To assess the applicability of construction partnering in Mainland China, this study therefore initially extends the analytical contexts of Koraltan and Dikbas (2002) to these three dimensions, reflected as political law, culture and economy in construction. Since the archival research indicates that the national laws/regulations have no ordinances conducive to partnering implementation in the building and construction sectors, culture and economic needs are mainly introduced, explored and summarised to elaborate on the favourable contexts for partnering implementation in Mainland China.

This paper reviews partnering related articles since it was introduced to the international construction industry in the 1980s. Based on an extensive desktop review of prevailing partnering literature, document analysis of national culture, economic development in construction, and possible barriers to partnering implementation, coupled with expert interviews in Mainland China, this paper reviews, assesses and facilitates the applicability and adaptability of construction partnering in the construction industry of Mainland China.

3 Research methodology

This study, employing the approaches of archival research and face-to-face semi-structured interviews, is basically qualitative by nature for obtaining general perceptions on the applicability of construction partnering in Mainland China. The filtering and sorting of recorded archives of the Chinese culture in business and economic developments and demands in the construction and building sectors enable a clear and substantiated picture of the adaptability of construction partnering to a certain extent. While the semi-structured interviews are intended to further consolidate the analysis purely based on the existing literature, which may help trigger a comprehensive image of the issue pertaining to the feasibility and adaptability of partnering in the Chinese construction industry.

Two major dimensions of national characteristics, i.e. national culture and economic needs, were initially resorted to for verifying the favourable contexts for partnering application in Mainland China. The document analysis also encompasses the investigation of potential barriers to partnering implementation from four distinct perspectives, being cultural, juristical, economic, and technical barriers, which are perceived as inclusive of essential contexts for overall assessment. An analytical framework can be visualised in the model presented in Figure 1.

Figure 1 gives a preliminary analysis of the favourable contexts and potential impediments of partnering application in Mainland China which may infer the general feasibility and suitability of partnering implementation in the region. If it is perceived and determined from the analysis that partnering is not applicable in the current context, the key barriers to partnering implementation will be traced and possible effective measures for mitigating/avoiding the barriers will be recommended in order to improve the applicability of construction partnering for future practice. The introduction of partnering in construction projects will, in turn, affect and ameliorate the organisational culture of the industry, demonstrate its perceived benefits in practice and improve the existing market demand.

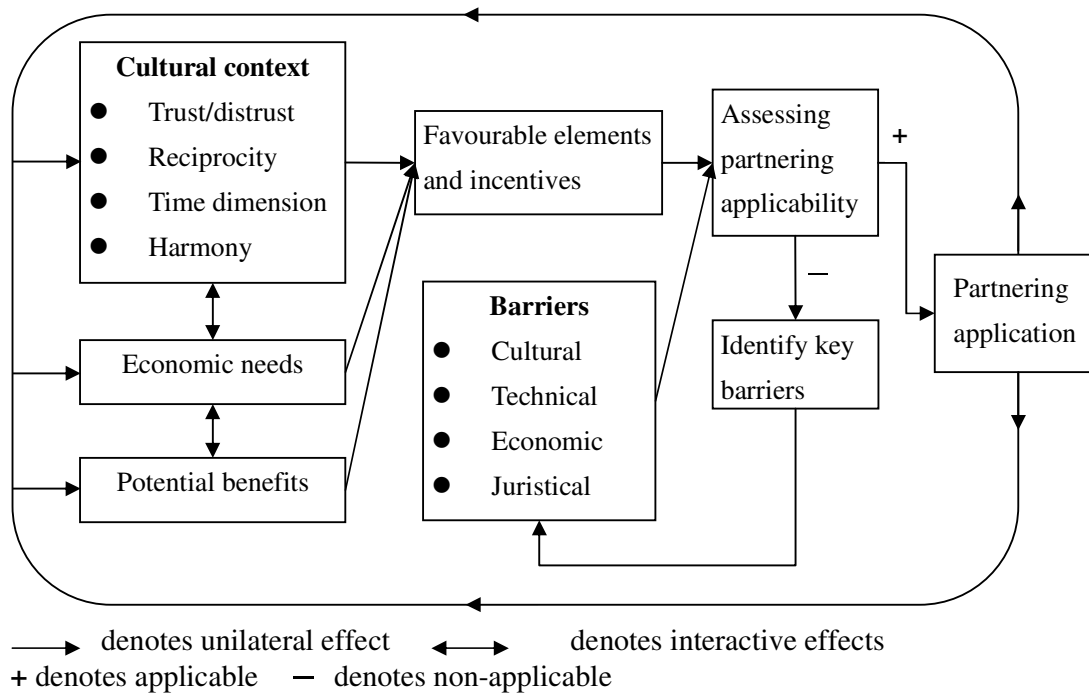


Figure 1. Framework for document analysis of partnering applicability in Mainland China

Pursuant to the document analysis of favourable elements of and potential barriers to partnering implementation, the study further launched a series of in-depth semi-structured interviews (each lasting for about one hour) to identify the major barriers and effective strategies for partnering implementation in the Chinese construction industry. In consideration of the specific regional characteristics of Mainland China, five well-experienced academic experts in the field of project procurement and construction partnering from Mainland China were interviewed for soliciting their perceptions on the potential barriers to partnering implementation and generalisation in Mainland China. In addition to the analysis of the barriers to practical implementation, they were further invited to evaluate the feasibility of partnering in general and to provide constructive suggestions for application in particular. Subsequently, a senior industrial representative was targeted for verifying and substantiating the perceptions and suggestions as provided by the interviewed experts from the academic sector. Interviews are regarded as a useful method for collecting in-depth data and insightful opinions from a small sample of representative experts, as previously applied by the research team on investigating the application of target cost contracts in Hong Kong (Chan *et al.*, 2007) and on identifying the key risk factors and risk mitigation measures for target cost contracts in Hong Kong (Chan *et al.*, 2010). Furthermore, in terms of the number of interviews required, previous research studies have demonstrated that a sample of six interviews may have been sufficient to enable the development of meaningful themes and useful interpretations (Guest *et al.*, 2006).

The six interviewees (as shown in Table 1) represent a combination of the academics and practitioners in the construction field of Mainland China. All of them have known well about the partnering concepts and implementation process, and were thus able to provide valid and reliable comments on the prospect of partnering implementation in Mainland China. Amongst the six selected interviewees, three are academics researched and had several publications on construction partnering in Mainland China, two are well-experienced and representative experts in the field of construction engineering and management, and one has gained direct hands-on experience in construction projects where relational agreements between the client and the contractor had been formed.

A total of nine open-ended questions were asked during the interview to convey general ideas of the information solicited, while the interviewees were encouraged to express freely on the subject, without being restrained by the preset questions related to the topic. Details of the questions are listed in Appendix A for reference. The questions were designed in close match with the literature on assessing the partnering applicability in construction. The initial two questions are to examine the current status and potential benefits of partnering implementation in Mainland China. The succeeding five questions are compiled for investigating the potential barriers to partnering application from four macroscopic perspectives, whilst the future prospect of partnering application in Mainland China could be captured from the last two questions.

The answers acquired from the interviewees were first audio-recorded in Chinese and later transcribed into written dialogues in English. A systematic account of information obtained from in-depth interviews was archived for subsequent analysis using the content analysis technique, as previously adopted by Chan *et al.* (2007) and Chan *et al.* (2011). Outcomes derived from the analysis of interviews were cross-referenced to the opinions and observations solicited from various interviewees in order to identify any consensuses and divergences.

In accordance with the document analysis of partnering applicability in Mainland China, a schematic flowchart for assessing the applicability of construction partnering, based on the semi-structured interview results, is proposed in Figure 2. With an overall assessment of the benefits of partnering practices and potential costs on mitigating/eliminating the impeditive effects to partnering implementation, the general viewpoint on the applicability of partnering could be generalised. Costs may be incurred from the necessary actions to improve the industrial understanding of the partnering approach, adaptive measures to mitigate/avoid confrontation with the prevailing construction regulations, and expenses on the essential procedures of partnering practice, e.g. launch of partnering workshops and appointment of partnering facilitators.

4 Favourable conditions for partnering implementation in Mainland China

4.1 Cultural context

Amongst many variables impacting on the procurement-related decisions taken, one of the most influential and all-pervading variables is culture (Liu and Fellows, 1999).

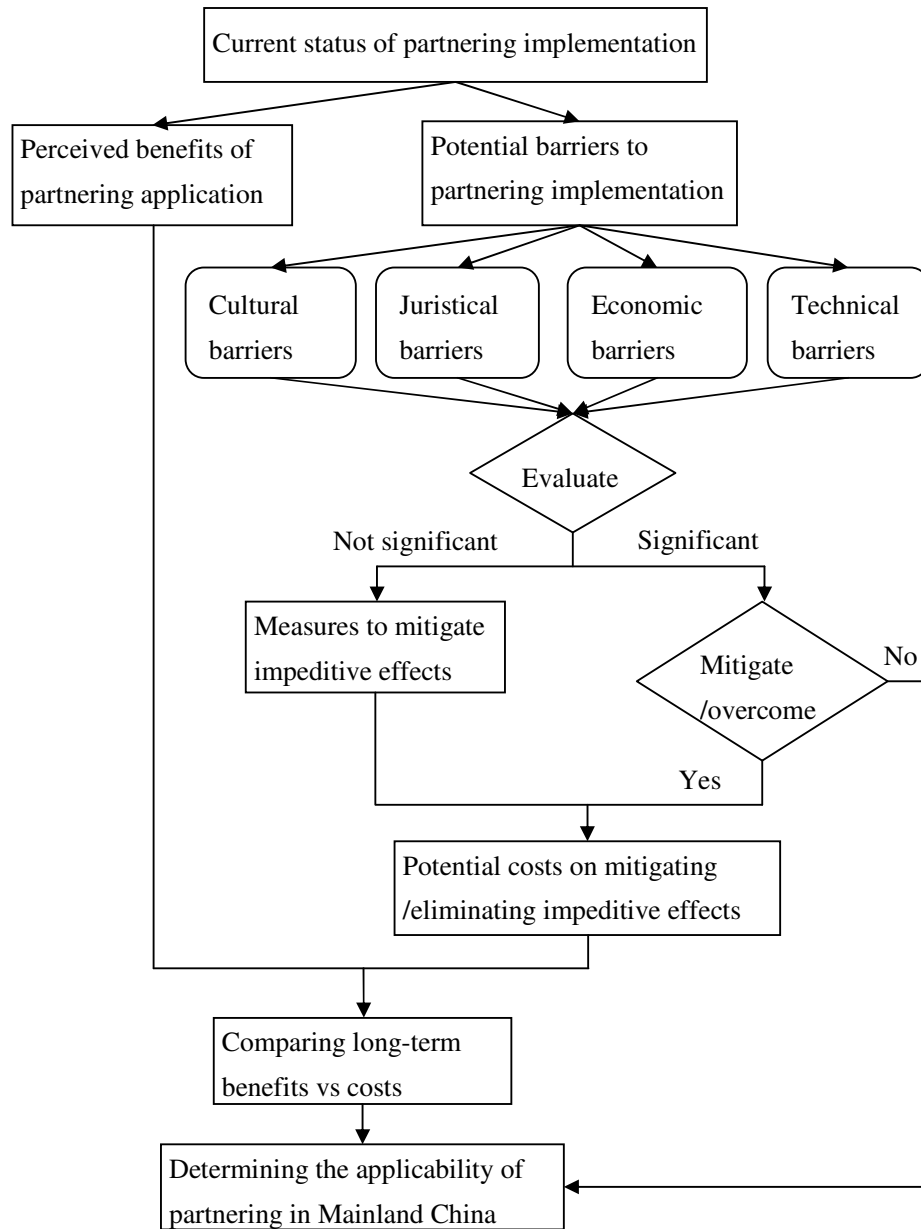


Figure 2. Schematic flowchart for assessing the applicability of construction partnering in Mainland China

In consideration of the cultural perspective which may favour the adoption and implementation of partnering in Mainland China, “culture” here refers to the national culture rather than those of any other types (e.g. organisational culture, corporate culture, etc) (Yeung *et al.*, 2012). The national culture, based on the physical boundaries of the nation state, is a geographical distinction, whereas industry culture, occupational culture, corporate culture, and organisational structure and managerial practices form distinctive patterns of behaviour of a social unit (Pizam, 1993).

The Chinese culture has evolved for more than 5,000 years and is influenced by three moulding forces: Confucianism, Taoism and Buddhism. All of these three forces act together to produce a culture of humanism, making the Chinese way of life intensely practical and philosophical (Sheh, 1995; Haley *et al.*, 1998; Kwan and Ofori, 2001).

Amongst the three moulding forces, Confucianism has significantly influenced the Chinese way of life. Its influence covers ‘humanity’ (*ren*), personality and character, education, ‘familism’, rites and music, as well as how to govern the country (Kwan and Ofori, 2001). Confucianism regards *ren*, based on ‘mutual trust’, as the binding force of society (Chao, 1994; Low, 1998).

With reference to Hofstede’s (1980) five dimensions of national culture, this study follows Wu’s (2000) identification of key Chinese cultural values, which include: trust (Redding, 1990; Wong, 1995), reciprocity (Redding, 1990; Kirkbride *et al.*, 1991), face (Yau, 1994; Lockett, 1988; Kirkbride *et al.*, 1991; Redding, 1990), time dimension (Yau, 1994; Kirkbride *et al.*, 1991), harmony (Yau, 1988 & 1994; Kirkbride *et al.*, 1991), hierarchy and power-distance (Kirkbride *et al.*, 1991; Lockett, 1988; Yau, 1988 & 1994) and long-term orientation (Bond, 1987). These Chinese cultural values are mostly in line with the seven core rituals of Confucianism: Benevolence, Harmony, Midway, Forbearance, Filial Piety, Trust and Cautious Words (Li and Wu, 1996).

Mutual trust

Mutual trust is built on personal relationships and understanding of the parties’ needs. Williamson (1983) advocated that exchange relationships based on personal trust will survive greater stress and display greater adaptability, while Thorelli (1986) observed that trust in Oriental culture may even take the place of contractual arrangements.

Under the Chinese culture, personal relationships form the basis of social order and correct behaviour (Butterfield *et al.*, 1983; Pernet and Zhao, 1992). Trustworthiness or ‘*xinyong*’ is also a predominant feature of Chinese–Chinese business transactions (Kwan and Ofori, 2001).

Trust, also identified as one of the key elements and success factors of construction partnering (Bresnen and Marshall, 2000; Cook and Hancher, 1990; Chan *et al.*, 2004; Naoum, 2003), is indispensable in developing the partnering agreement. Trust is also generally seen as the cornerstone of the successful partnering relationship (Hellard, 1995). The common values of Chinese culture stress the importance and necessity of trust within business deals amongst all parties involved, which highly underpins the adoption and implementation of construction partnering in Mainland China.

Reciprocity

Reciprocity is one of the hostages which sustain a network relationship (Wu, 2000). As indicated by Kirkbride *et al.* (1991), the principle of reciprocity is universal but the concepts have particular salience in the Chinese case. For most of the Chinese, a transaction or an exchange will only take place when there are mutual benefits for both parties involved. In fact, Lazar (1997) categorised the partnering relationship into two groups—trust-based and reciprocal-based. In the reciprocity-governed relationship under partnering, failure to

reciprocate in a timely or proportional manner, can quickly damage the relationship from apparent trust to aggressively hostile, particularly when there is a pattern of non-reciprocation (Friedland, 1990; Lazar, 1997). The underlying value of reciprocity in China equips the adoption of partnering approach with favourable prerequisite where mutual benefits are achieved through partnering practice, incentivises the adoption of partnering and in turn realises the principle of reciprocity in benefiting each other.

Face, Hierarchy and Power-Distance

Face is a concept of central importance because of its pervasive influence on interpersonal relations amongst the Chinese (Yau, 1988). Face is directly involved with personal prestige and reputation which are achieved through getting on in life, through success and ostentation (Hu, 1944). By taking account of personal reputation, the Chinese people may feel a loss of face when peers no longer have confidence in him/her in any business networks. The conception of face and prestige is deeply rooted in most Chinese mind such that they may not risk loss of their faces in most occasions.

This dimension of culture value is in line with the element of commitment within the partnering relationship as a lack of commitment from one party may cause disrespect from his business partners, in which case face may lose consequently. It has also been shown that the Chinese cultural values such as face, hierarchy, and power-distance are closely related to the creation and development of business network (Wu, 2000), and are thus facilitative to the implementation of construction partnering in Mainland China.

Time dimension/Long-term orientation

The time dimension, as suggested by Yau (1994), has two orientations: past time orientation and continuity. The continuity indicates that the Chinese are long-term oriented. Emphasis on long-term relationships is exhibited amongst the Chinese through reciprocating benefits. Kirkbride *et al.* (1991) indicated that compromise is found to be the preferred solution by the Chinese to an unsettled conflict. Partnering process runs through the whole life-cycle of a construction project which may last for some years (e.g. project partnering) and even spread to a series of projects in a long-term strategic relationship (e.g. strategic partnering). In view of the importance of long-term relationship perceived by the Chinese, partnering has seamless connection with the Chinese cultural value in terms of the time dimension.

Harmony

It has been found that traditional Chinese cultural values and cognitive orientations have influenced the Chinese to preserve overt harmony by avoiding confrontation and to adopt a non-assertive approach to conflict resolution (Kirkbride *et al.*, 1991).

In the context of partnering, co-operation rather than confrontation is emphasised (Smith, 2008). As evidenced in practical cases, partnering is an effective technique for placing responsibility for anticipating problems early and on those best equipped to effect their resolution (Smith, 2008). Hence, with respect to the avoidance of confrontations and conflicts amongst project participants, partnering substantially fulfills the requirement of the culture value of harmony.

All of the above identified Chinese cultural values, to a certain degree, favour and facilitate the adoption and implementation of partnering in Mainland China. A research study conducted by Kwan and Ofori (2001) also indicated that the intrinsic values of the Chinese culture facilitate the partnering implementation because of their emphasis on “*guan xi*”, mutuality and respect, trust and friendship, and maintaining harmony, which are critical success factors for partnering implementation.

4.2 Economic needs

The Chinese construction industry has witnessed the remarkable development and prosperity in the past decade. After entry into the 21st Century, the gross output values of construction enterprises have increased from RMB 1,249.760 billion in 2000 to RMB 6,203.681 billion in 2008, indicating an average annual increasing rate of 22.17%. The number of construction enterprises in China has increased in parallel from 47,518 in 2000 to 71,095 in 2008, with an annual average increasing rate of 5.17%.

While the construction market in China has enormous demands, high levels of project performance and project success are rarely seen (Lu and Yan, 2007a). The construction industry is considered a weak sector of the economy by international standards, which is largely attributed to the backwardness of the Chinese construction industry as compared to that of the developed countries in terms of the legal framework and institutional mechanism, industrial structure, technology, and international market share (Xu *et al.*, 2005). The problems rooted in the Chinese construction industry were highlighted by Xu *et al.* (2005) as: inadequate legal framework and mechanism, low productivity level and lack of competition within the industry, relatively unsophisticated construction equipment and technologies, coupled with low international construction market share.

A research study conducted by Wang *et al.* (2006) revealed that the clients in China try to take advantage of the buyers’ market and the poorly developed market mechanisms to increase their own benefits at the expense of construction firms. All prevailing problems besetting the construction industry has resulted in a lower profit margin than that of typical market economies, particularly in Mainland China.

Amongst the various strategies proposed to develop the competitive construction industry, the adoption of multi-procurement routes is one of the key recommendations suggested by Xu *et al.* (2005). Partnering, as an innovative procurement approach since the 1980s, has proved its concerted effort in improving project performance and industrial efficiency through a rich body of project practices.

In fact, as indicated in the study of Wang *et al.* (2006), other than the competitive bidding approach, the relationship with client and assignment of project by the government are the other two channels for the contractors to obtain construction contracts. Table 1 shows that awarding contracts based on a relationship (*guan xi*) approach takes a considerable proportion of the total construction contracts awarded in China.

Table 1. Methods to obtain construction contracts (adapted from Wang *et al.*, 2006)

Methods	State-owned enterprises (%)	Urban collective-owned enterprises (%)	Share-holding (%)	Private (%)
Competitive bidding	95.59	100.00	95.65	100.00
Relationship (<i>guan xi</i>)	35.29	11.11	26.07	20.00
Assignment by government	7.35	0.00	6.52	0.00

The relationship-based contract awarding approach provides a substantial basis for partnering adoption in the Chinese construction industry since it is on the basis of stable relationship, mutual trust and commitment amongst the project stakeholders that partnering can run the projects more smoothly and successfully. In light of the characteristics of the current construction industry in Mainland China, it is anticipated that partnering has great potential and prospect to be adopted and it can assist in improving the efficiency and effectiveness of the industry as a whole.

5 Barriers to partnering application in Mainland China

In Mainland China, some legal restrictions (particularly in the public sector) limit alternatives for contractor selection. The contemporary construction law, except for exceptional cases, requires fair and transparent compulsory competitive tendering (CCT) for public procurement. The partnering process can be implemented only after the contract is awarded but again with certain restrictions.

An extensive review of the literature unfolds the different categorisations of the significant barriers to successful partnering under different major themes. Larson and Drexler (1997) identified five major themes of barriers to successful partnering, covering adherence to the key elements of partnering, perceptions, knowledge and skills of partnering approach, and the nature and structure of partnering projects.

Lazar (1997) examined the organisational barriers to partnering: the external barriers and the internal barriers. Within Lazar (1997)'s study, the external barriers arise from the politics while the internal barriers are grouped into 3 sub-categories: organisational culture, climate and structure.

Some other researchers (Eriksson *et al.*, 2008a & 2008b) grouped the barriers to partnering into cultural, organisational and industrial barriers by jointly referring to the barriers to the change in a firm for sustainable development (Post and Altman, 1994) and the barriers to supply chain information inflow (Childerhouse *et al.*, 2003). Scrutiny into the reported literature indicates that although several research studies have been dedicated to the exploration into the barriers to partnering success (Larson and Drexler, 1997; Eriksson *et al.*, 2008a & 2008b), limited research has been conducted on identifying and screening out the barriers to the adoption of construction partnering.

This study, based on the major themes of barriers identified from the literature, attempts to find out the restrictions inherent in the construction sector which impede the adoption of construction partnering. To look into the more detailed and tangible restrictions, four major themes are investigated: (1) juristical; (2) economic; (3) cultural; and (4) technical aspects.

The juristical barriers can be viewed as in line with the industrial barriers as identified in the previous studies (Eriksson and Nilsson, 2008a), while the economic and technical barriers can be perceived as inherent in the organisations.

5.1 Cultural barriers

Culture issue of changing the way a company is operated can also be seen as important (Matthews, 1999). At the project level, Newcombe (1997) defined the 'project culture' as 'the shared values, beliefs and assumptions of stakeholders involved in a project'. Liu and Fellows (1999) further pointed out that where there is a strong 'project culture', project participants will look forward to the cultural paradigm or ideology for guidance when facing difficult decisions.

Naaranoja *et al.* (2008) advocated that the practitioners are not able to change their perceptions easily and may prevent fast changes. With the support from six studies, Matthews (1999) also indicated that a start may be made under the partnering philosophy but this may change back to a traditional mode of philosophy.

In the contemporary Chinese construction industry, adversarial ways amongst the contracting parties exist extensively and are hard to change within a short period of time. Past studies (Xu *et al.*, 2005; Ling *et al.*, 2007) manifested that while the Chinese are known to stress collectivism, face and harmony (Yuen, 1992), the Chinese contractors have strong claims culture as their usual practice is to bid low and later claim for variations.

5.2 Juristical barriers

The current regulatory system on project procurement and management in the Chinese construction industry is formed by three major construction related laws: (1) Construction Law (revised and effective on 1 July 2011); (2) Tendering and Bidding Law (adopted on 30 August 1999); and (3) Contract Law (adopted on 15 March 1999). The major restriction to partnering application from these construction related laws stems from the compulsory requirement of applying the competitive tendering strategy in procuring most types of the construction projects, e.g. projects with the investment budget of over RMB 30 million. This requirement, to a certain extent, limits the client from selecting the main contractor on a relational basis, although past studies have identified that there exist other approaches apart from the competitive tendering for the contractors to obtain construction contracts, such as the relationship (*guan xi*) and government assignment (Wang *et al.*, 2006).

Meanwhile, it is widely recognized that the Construction Law in China is too sketchy and too narrow to regulate various actors in the construction market (Sha 2004), where the harmful trends continue as many law-breaking activities are not punished promptly. The imperfect legal environment may dampen the practitioners' confidence towards a successful partnering relationship without a strict and effective legal engagement.

5.3 Economic barriers

The current competitive tendering strategy for procuring construction projects in Mainland China has been mature as compared with other procurement strategies because the contracting parties have been accustomed to it for long. A pilot use of partnering approach would engender unprecedented costs relating to the facilitation of partnering workshops,

partnering performance monitoring activities, etc. Although it has been evidenced that partnering can largely save cost, reduce time and improve project quality, it is understandable that the industrial practitioners shall concern significantly the costs arising from the implementation of partnering before the benefits are reaped through its practice. If proceeded inappropriately, adoption of barely practiced procurement strategies (e.g. partnering) may engender conflicts of interest amongst contracting parties as a result of the disruption of the prevailing gain-share /pain-share mechanism.

5.4 Technical barriers

This branch of barriers mainly refers to a lack of understanding of partnering concepts and process within the construction industry. As the past research indicates that no partnering project has been recorded in the Chinese construction industry (Zhao *et al.*, 2005; Jiang, 2008), the concepts of partnering may be relatively novel to the industrial practitioners although some introduction of the partnering philosophy and its basic framework have been provided in the academic field by the domestic researchers since the new millennium of 2000. When introducing the term “partnering”, the industrial practitioners in Mainland China may view it just as simple partnership with other contracting parties while not fully understanding the essential elements and standard procedures of the partnering approach.

In view of the current status of infertile practice of partnering in Mainland China, it could be easily perceived that a lack of understanding of partnering concepts and process could be a critical problem impeding its adoption within the industry. In addition, for some reasons, a lack of credit is perceived to be normal in the Chinese construction industry. The government and corporations in construction care little about the concepts and awareness of individual and organisational credibility, which render it difficult for the industry to form relationship-based partnership with other stakeholders.

Above all, partnering requires for many a mindset change for it to be successfully utilised (Matthews, 1999). Dozens of issues arise in addressing the aforementioned barriers for facilitating the trial use of partnering in the Chinese construction industry.

6 Perceptions of interviewees on partnering implementation in Mainland China

In this section, perceptions gleaned from the interviewees are presented in adherence to the interview questions raised. A total of nine open-ended interview questions enable to solicit the experts’ perceptions on current status of partnering application, potential benefits of and barriers to the adoption of partnering approach, as well as the prospect/likelihood of generalising construction partnering in the future construction industry of Mainland China (see Appendix A).

6.1 Current status of partnering application

In response to examining the current status of partnering application in construction in Mainland China, three of the six interviewed academics/professionals with deep understanding of the current status of the Chinese construction industry, confirmed that there were no recorded construction projects implemented with standard partnering process (i.e. with regular partnering workshops, partnering charter, partnering performance monitoring matrix, establishment of issue resolution mechanism, etc), whilst two other experts, though non-confirmative in their perceptions, also stated that very few projects, if any, may be

undertaken under partnering agreement. The interview findings are overall in line with the previous survey results on partnering application conducted in Mainland China (Zhao, 2005; Jiang, 2008).

With respect to partnering philosophy, such as trust building, co-operation, and commitment, all of the interviewees, based on their hands-on experiences of construction projects, assured that several key elements of partnering (such as teamwork, collaboration, mutual trust, etc) have been well embodied in many projects in the Chinese construction sector. As revealed from the interviewees' opinions, the Chinese construction industry, though without publicised and well-documented records of the application of structured partnering approach, is on the emergence of adopting relationship-based contracting approach for project procurement and management.

All of the interviewees indicated that the Chinese construction industry has applied the concepts of partnering and witnessed corresponding strategies for fostering relationship amongst the key stakeholders in construction projects, in many of which satisfactions of main stakeholders have been recorded. To a large extent, the practitioners in Mainland China began to realise the importance and effectiveness of co-operation and collaboration amongst various parties in the project, which is one of the key principles and elements of construction partnering.

It was specifically indicated that the clients, especially some large-scale real estate or property developers in Mainland China, have been searching for long-term strategic partnership with some leading main contractors for continuous collaboration in launching and developing building projects. This may lie in the premise that the clients are recognising the substantial benefits and working efficiency achieved through long-term co-operation with those main contractors.

6.2 Potential benefits of and barriers to partnering implementation

Interview questions (2-7) concern the potential benefits of and barriers to partnering application. The benefits reaped through partnering (including informal partnering approach), as perceived by the interviewees, encompass cost and time savings, quality improvement, closer relationship, reduced litigation and more efficient problem solving.

It is noticed that when indicating the potential benefits of partnering, the interviewees perceived more direct (hard) benefits while hardly referring to some invisible (soft) effects of partnering, e.g. site safety, overall environmental performance, technology innovation and other long-term advantages acquired from the use of partnering. This may be attributable to the fact that partnering practice in Mainland China is still in its infancy as the extended benefits of partnering are not so much visible with limited cases of evidence from construction projects.

In line with the four aforementioned dimensions of barriers, the interviews further investigated the barriers to partnering implementation based on the experts' opinions. To this end, the semi-structured interviews include some pertinent questions as listed below:

Cultural barriers: nature of the construction industry in China (harmonious or competitive)

Juristical barriers: restrictions from government regulations in construction

Economic barriers: conflicts of interest amongst project participants

Technical barriers: understanding of partnering concepts and process

All of the interviewees admitted that the construction industry in China is at large competitive by nature, while the 'casting couch' of the industry plays an important role in awarding the building contracts. The contemporary competitive culture between the client and contractor arises from the conflicts in the shared benefits. Resultant from the competitive project culture is the poor project performance and ultimately low productivity of the industry.

The interview results also unfolded that collaboration between the client and contractor is weakened or even damaged as a result of the prevalent competitive tendering policy in project procurement, which may form as one critical barrier to partnering implementation in the Chinese Mainland. Without the government support and associated policies, efforts in attempting to introduce the partnering approach may be wasted and may even end up in vain.

Although the benefits of partnering have been evidenced in practices since its introduction into the construction industry, the gain-share/pain-share mechanism developed amongst the contracting parties involved in construction projects may be influenced or damaged by the adoption of partnering as it would be difficult for the practitioners to adapt to the new way of project procurement within a short period of time. Even if the interview results in general support that such influence should not be significant in impeding the application of partnering in Mainland China, some interviewees did confirm that changing the existing profit-sharing mechanism amongst project participants promptly essentially causes some difficulties, although the negative impacts of partnering on the profitability of the contracting parties may be mitigated and even fade away in the long-run.

On top of the aforementioned barriers, the industrial understanding of partnering concepts and process was also investigated through the interviews. Concurrence has been achieved on the perception that a lack of full understanding of partnering concepts and process is detrimental to the initial trial use of the partnering approach. But there is no consensus on the significance of such barrier to future partnering application, which implies that a lack of theoretical knowledge about partnering may be alleviated through some effective strategies, e.g. launch of partnering seminars, conferences, training workshops and promotional pamphlets, together with documentary evidence of research reports and journal articles for dissemination within the construction industry.

It is perceived by the interviewees that the potential barriers to partnering implementation in Mainland China can be attenuated and overcome in the current context of Chinese construction industry. The inter-firm competitive culture can be mitigated if one or two parties take the initiative to inject a collaborative relationship. Impeditive effects arising from juristical restrictions may also be neutralised through the introduction of post-contract award partnering, which could be implemented after a building contract has been awarded to the winning contractor. Effective training and education on the partnering approach could help disseminate partnering concepts within the industry and convince practitioners of the substantial benefits of partnering during implementation.

6.3 Future prospect of partnering development

The interview results indicated that the Chinese construction industry is heading towards a more regulated construction industry, where the traditional adversarial relationship amongst contracting parties is now changing. Though it is admitted that it is a long-term task to overcome the identified barriers to partnering implementation, the substantial benefits

resulting from the use of partnering substantially outweigh the potential costs for adoption and generalisation of this approach.

Past research studies asserted that partnering could be used together with any forms of contract (e.g. Main Roads Project Delivery System, Australia, 2005; Chan *et al.*, 2009). The most feasible approach to the introduction of partnering in the Chinese construction industry, as perceived by the interviewees, is to initiate it in parallel with the use of other contemporary procurement systems and management strategies (e.g. design-bid-build, design-build, target cost contracting, build-operate-transfer, value management, etc). It could be discerned that the overall future prospect of the development and application of construction partnering is promising at large.

7 Recommendations from interviewees on partnering implementation in Mainland China

7.1 Initialisation of partnering with unstructured approach

When implementing partnering, there are both structured and unstructured approaches (Chan *et al.*, 2009). As mentioned before, the “structured” partnering approach involves a number of partnering workshops, encompassing the initial workshop with an established partnering charter, interim workshops and a final wrap-up workshop. In contrast, the “unstructured” approach only contains the partnering spirit within the project team in a construction project without any workshops. As there is dearth of understanding of structured partnering concepts and process within the industry, it would be more acceptable for the industrial practitioners to adopt the “unstructured” partnering approach at the initial stage. The interviewees suggested that the unstructured partnering process, compared to a formal partnering approach, could lower the threshold and burden for the practitioners to practise partnering when launching a construction project due to fewer possible restrictions and standards posed to the contracting parties.

In whatever type of approach it is implemented, partnering is a process beyond the contract to align the common goals and objectives of the parties to the contract and to facilitate effective communications, integrated teamwork and joint problem solving (Chan *et al.*, 2009).

7.2 Client’s initiative to adopt partnering approach

Almost all of the interviewees stated that the client is decisive in deciding whether to adopt partnering or not, which echoed the findings of previous studies indicating that clients are in a key position of influence in the selection of an appropriate project procurement method (Black *et al.*, 2000). The client’s initiative to adopt the partnering approach is beneficial and critical to the implementation of partnering in the Chinese construction industry.

In view of the clients’ decisive role in selecting a suitable procurement strategy, it is also recommended that some large-scale real estate or property developers could be targeted for launching pilot construction projects to adopt partnering approach as the owner’s representatives familiar with partnering principles will help in applying an informal form of partnering (Conley and Gregory, 1999).

On the other hand, there seems a necessity that collaboration should be established between academics with substantial knowledge and full understanding of partnering concepts and major property clients (e.g. large-scale real estate developers) during the project pre-procurement period. Such academia-industry collaboration is perceived to be highly essential in promoting the adoption of partnering. As also suggested by the interviewed experts, publicising partnering concepts and its associated benefits towards the industry, together with the provision of training programmes on construction partnering to the industrial practitioners, as launched by domestic professional bodies and academic institutions, are conducive and essential to attempting partnering practice at the initial stage.

7.3 Combined use with other contemporary procurement strategies

With respect to the strategy for adopting the partnering model in the Chinese construction industry, the interviewees also advocated that improvement on the practicality and feasibility of partnering could be attained through the combined use of partnering approach with other contemporary project management strategies which are relatively mature in the construction industry of Mainland China.

The interview results also suggested targeting some large-scale and specific types of construction projects to implement partnering in Mainland China wherever mutual and long-term collaboration amongst project participants is essential in achieving win-win outcomes for the contracting parties.

The possible strategies for facilitating partnering implementation in Mainland China are generalised as follows for reference.

- Initiation of partnering implementation by virtue of practising unstructured partnering process where collaborative partnership exists amongst project participants.
- Motivation of the client's intent to adopt the partnering approach.
- Collaboration between academics with substantial knowledge of partnering and large-scale real estate developers during project pre-qualification period.
- Start with large-scale and specific types of construction projects to implement and generalise partnering in Mainland China.
- Combined use of partnering with other contemporary project procurement strategies (e.g. design-bid-build, design-build, target cost contracting, build-operate-transfer, value management, etc) which are relatively mature in the construction industry of Mainland China.
- Effective propaganda and specific training on partnering implementation and introduction of its potential benefits to domestic industrial associations.

As generally viewed by the representative experts, the Chinese building and construction sectors have been developing towards a more regulatory and collaborative industry. The fragmented and highly dynamic nature of the industry lasting for decades is encountering transfer or change and amelioration with more systematic regulatory system, as well as more focus and reliance on long-term collaboration amongst business partners. With substantiated evidence from previous industrial practices, partnering undoubtedly meets the market orientations, and thus is perceived to be promising in the future Chinese construction industry.

8 Discussions and implications for the construction industry of Mainland China

Though faced with difficulties ranging from the organisational/industrial culture to the national regulations, partnering application and generalisation in Mainland China is still brilliant at large. The major impediments of partnering practice in Mainland China predominantly lie in the poor recognition of partnering implementation model and process, a lack of government initiative to promote the use of the partnering approach in construction projects and the existing non-cooperative working relationship amongst the major contracting parties whilst the restrictions to partnering implementation arising from the project procurement regulations could be mitigated by some effective measures introduced from the client side.

In retrospect to the process for assessing the applicability of construction partnering in Mainland China as shown in Figure 2, the impeditive effects on partnering practice in Mainland China are perceived as insignificant and could be mitigated or even evaded through some effective measures. Furthermore, the costs associated with the promotion of partnering application in Mainland China are viewed as short-term oriented, which could be counterbalanced by the potential benefits reaped through partnering practice within a short period of time. Hence, it is discerned that partnering is applicable and appropriate in the construction industry of Mainland China for achieving better value for money in the long run.

In consideration of the potential impediments to partnering implementation in Mainland China, appropriate training on and due recognition of partnering concepts and its associated benefits is the first and foremost step because a change in people's mindset is critical in facilitating the acceptance of new things. With respect to the initiative of government agencies in facilitating partnering practice, Hong Kong, as the neighbouring region of Mainland China, can provide valuable experience for future partnering practice in Mainland China. As recorded within the Hong Kong construction industry, the earliest formal partnering arrangements were exclusively applied to hospital projects in 1994 (Skues, 1996), with the two pioneering proponents, the Hospital Authority and Hsin Chong Construction Co Ltd, a Hong Kong based leading contractor. As the largest public housing provider, the Hong Kong Housing Authority (HKHA) is by far the leading government organisation having extensively adopted partnering practice (Chan *et al.*, 2002). The active support from the HKHA has widened the coverage of project partnering in the construction industry of Hong Kong (Chan *et al.*, 2002).

Partnering is best when led by the client organisation and it has a better feel to it (Mason, 2008), indicating that the client is seen as pivotal in bringing partnering into practice. Targeting on typical clients (e.g. real estate or property developers) can provide an effective source to initiate and facilitate partnering implementation within the construction industry. In view of the client's role in facilitating partnering practice, it is recommended and practicable to stipulate the use and experience of partnering as one of the key criteria for selecting project partners, i.e. major contractors, at the stage of tender invitation.

The European Construction Institute (1997) categorised partnering types as including post-award project-specific partnering (PAPSP), besides project partnering and strategic partnering. In this type of partnering arrangement, the contract is subject to a normal competitive process, and partnering starts after the contract has been awarded. Post-award project-specific partnering is a variation of project partnering that is more suited to the public

sector (Koraltan and Dikbas, 2000). As also initiated by the Arizona Department of Transportation (ADOT), the post-award project-specific partnering approach can be resorted to for collaboration under the partnering relationship. After taking account of the requirements of public competitive tendering in the current construction industry of Mainland China, this type of partnering approach is deemed to be most suitable for those industrial practitioners to implement partnering after awarding the project contract to the winning contractor.

As advocated by Lenard *et al.* (1997), experimental partnering may be another alternative. Project participants adopt this approach either because they are uncertain of the partnering process, or they are cautious about their dealings with other project stakeholders (Lenard *et al.*, 1997). In view of the suitability for testing the partnering process (and their potential partners) under this approach, it is recommendable for the practitioners in the Chinese construction industry to adopt experimental partnering first such that a trial run of partnering could be conducted without entering into long-term commitments.

By referring to the suggestions of Smith (2008) on the most appropriate project types for launching partnering, it is generalised that partnering is likely to be adopted in the following circumstances:

- On complex projects where user requirements are difficult to specify;
- For organisations requiring similar facilities repeated over time, giving scope for continuous improvements in cost and quality;
- For projects where construction conditions are uncertain, solutions are difficult to foresee and joint problem solving is necessary, for example, where the land is contaminated; and
- For individual projects or a series of projects where there are known opportunities to eliminate waste and inefficiency from the construction process.

Moreover, several research studies undertaken by the Chinese academics proposed to initiate the adoption of partnering in some specific types of projects, as the outset to underpin more extensive applications within the construction industry. Those types of projects may be of high quality, complicated design, great significance or potential for long-term collaboration between the client and the contractor. Despite the challenges inherent in the local construction industry, potential for partnering application has been demonstrated in virtue of the favourable context and witnessed by the representative experts in Mainland China.

9 Concluding remarks

Judged from the cultural, economic, juristical and technical perspectives, this study has systematically elaborated on the current practices of partnering (both formal and informal types), potential barriers to and effective strategies for the implementation and generalisation of the structured (formal) partnering approach in Mainland China. The archival research findings echoed and supported the expert interview results, which implies that there is a great potential for partnering application in the Chinese construction industry. The study unfolded a series of endeavours essential for the development and application of partnering, which are underpinned by the stimulation of client's interest and government support of the partnering approach either during or after project procurement stage. The favourable background in terms of cultural and economic needs has paved the way for the adoption of partnering whilst the perceived impediments for application could be alleviated, even evaded through a series of effective strategies such as frequent training, industry-wide promotion of partnering

concepts, process and its associated benefits. In general, the partnering approach is regarded as applicable and suitable for the construction industry of Mainland China.

The research findings has provided a solid platform for the industrial practitioners, with the initiative to adopt the partnering approach, to recognise, identify and overcome possible impediments to partnering application and success. It has also set the scene for future empirical studies to determine and analyse the perceived benefits of and barriers to partnering success based in the construction industry of Mainland China. Ultimately, better overall project performance is anticipated to be achieved through the successful implementation of partnering in both the West and the East.

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11 References

- Allen S., Matthews. J., Towlison, G. and McDermott. P. (1999), "A review of partnering drawing upon experiences from the United Kingdom, Hong Kong and South Africa", In: *Customer Satisfaction: a focus for research and practice in construction* (Bowen, P.A. and Hindle, R.D. eds.), Proceedings of CIB Joint Triennial Symposium. Volume 3, pp. 1229-1239.
- Black, C., Akintoye, A. and Fitzgerald, E. (2000), "An analysis of success factors and benefits of partnering in construction", *International Journal of Project Management*, Vol. 18 No. 6, pp. 423-434.
- Bond, M. (1987), "Chinese values and the search for culture-free dimensions of culture: The Chinese culture connection", *Journal of Cross-cultural Psychology*, Vol. 18 No. 2, pp. 143-164.
- Bresnen, M. and Marshall, N. (2000), "Partnering in construction: a critical review of issues, problems and dilemmas", *Construction Management and Economics*, Vol. 18 No. 2, pp. 229-237.
- Butterfield, F. (1983), *China: Alive in the Bitter Sea*, Bantam, New York.
- Chan, A.P.C., Chan, D.W.M. and Ho, K.S.K. (2002), *An Analysis of Project Partnering in Hong Kong*, Research Monograph, Department of Building and Real Estate, The Hong Kong Polytechnic University, Hong Kong, October.
- Chan, A.P.C., Chan, D.W.M. and Ho, K.S.K. (2003a), "Partnering in construction: critical study of problems for implementation", *Journal of Management in Engineering, ASCE*, Vol. 19 No. 3, pp. 126-135.
- Chan, A.P.C., Chan, D.W.M., and Ho, K.S.K. (2003b), "An empirical study of the benefits of construction partnering in Hong Kong", *Construction Management and Economics*, Vol 21 No. 5, pp. 523-533.

- Chan, A.P.C., Chan, D.W.M., Chiang, Y.H., Tang, B.S., Chan, E.H.W. and Ho, K.S.K. (2004), "Exploring critical success factors for partnering in construction projects", *Journal of Construction Engineering and Management, ASCE*, Vol. 130 No. 2, pp. 188-198.
- Chan, A.P.C., Chan, D.W.M., Fan, L.C.N., Lam, P.T.I. and Yeung, J.F.Y. (2008), "Achieving partnering success through an incentive agreement: lessons learned from an underground railway extension project in Hong Kong", *Journal of Management in Engineering, ASCE*, Vol. 24 No. 3, pp. 128-137.
- Chan, A.P.C., Chan, D.W.M. and Yeung, J.F.Y. (2009), *Relational Contracting for Construction Excellence – Principles, Practices and Case Studies*, Spon Press of the Taylor & Francis Group: United Kingdom, 338 pages, ISBN 978-0-415-46669-1 (URL: <http://www.routledge.com/books/details/9780415466691>).
- Chan, D.W.M., Chan, A.P.C., Lam, P.T.I., Lam, E.W.M. and Wong, J.M.W. (2007), "Evaluating guaranteed maximum price and target cost contracting strategies in Hong Kong construction industry", *Journal of Financial Management of Property and Construction*, Vol. 12 No. 3, pp. 139-149.
- Chan, D.W.M., Chan, A.P.C., Lam, P.T.I. and Chan, J.H.L. (2010), "Exploring the key risks and risk mitigation measures for guaranteed maximum price and target cost contracts in construction", *Construction Law Journal*, Vol. 26 No. 5, pp. 364-378.
- Chan, J.H.L., Chan, D.W.M. and Lord, W.E. (2011), "Key risk factors and risk mitigation measures for target cost contracts in construction - a comparison between the west and the east", *Construction Law Journal*, Vol. 27 No. 6, pp. 441-458.
- Chao, Y.T. (1994), "Culture and work organization: the Chinese case", In *Effective Organizations and Social Values* (Kao, H.S.R., et al. eds.), Sage, New Delhi, pp. 28-36.
- Childerhouse, P., Hermiz, R., Mason-Jones, R., Popp, A. and Towill, D. (2003), "Information flow in automotive supply chains - identifying and learning to overcome barriers to change", *Industrial Management and Data Systems*, Vol. 103 No. 7, pp. 491-502.
- Chinese Construction Market Analysis and Investment Consultation Report (2010-2015), Industry Research Institute, Chinese Investment Consulting, China, 2010.
- Conley, M.A. and Gregory, R.A. (1999), "Partnering on small construction projects", *Journal of Construction Engineering and Management, ASCE*, Vol. 121 No. 5, pp. 320-324.
- Construction Industry Board (CIB). (1997), *Partnering in the team: A report by the Working Group 12 of the Construction Industry Board*, UK, Thomas Telford, London.
- Construction Industry Institute (CII) (1991). *In search of partnering excellence*. Publication no. 17-1, Report CII, Austin, Texas, USA.
- Cook, E.L. and Hancher, D.E. (1990), "Partnering: contracting for the future", *Journal of Management in Engineering, ASCE*, Vol. 6 No. 4, pp. 431-446.
- Eriksson, P.E. and Nilsson, T. (2008a), "Client perceptions of barriers to partnering", *Engineering, Construction and Architectural Management*, Vol. 15 No. 6, pp. 527-539.
- Eriksson, P.E. and Nilsson, T. (2008b), "Partnering the construction of a Swedish pharmaceutical plant: Case study", *Journal of Management in Engineering, ASCE*, Vol. 24 No. 4, pp. 227-233.
- European Construction Institute (1997), *Partnering in the Public Construction Sector*, European Construction Institute, Loughborough, England.
- Flanagan, R. and Li, S.R. (1997), *International Construction: A Perspective of China*, Chartered Institute of Building, KingsRide, U.K.
- Friedland, N. (1990), "Attribution of control as a determinant of cooperation in exchange interactions", *Journal of Applied Social Psychology*, Vol. 20 No. 4, pp. 303-320.

- Fritsch, S. (2011), "Technology and Global Affairs", *International Studies Perspectives*, Vol. 12 No. 1, pp. 27-45.
- Green, S.D. (1999), "Partnering: the propaganda of corporatism." In: *Profitable Partnering in Construction Procurement* (Ogunlana, S.O. eds.), CIB W92 and CIB TG23 Joint Symposium, E&FN Spon, London, U.K.
- Guest, G., Bunce, A. and Johnson, L. (2006), "How many interviews are enough? An experiment with data saturation and variability", *Field Methods*, Vol. 18 No. 1, pp. 59-82.
- Haley, G.T., Tan, C.T. and Haley, U.C.V. (1998), *New Asian Emperors: The Overseas Chinese, Their Strategies and Competitive Advantages*, Butterworth-Heinemann, Oxford.
- Hellard, R.B. (1995). *Project Partnering: Principles and Practice*, Thomas Telford, London.
- Hofstede, G. (1980), "Culture's Consequences: International Differences in Work-Related Values", Beverly Hills CA: Sage Publications.
- Hu, H.C. (1944), "Chinese concept of face", *American Anthropologies*, Vol. 46, pp. 45-64.
- Jiang, B.P. (2008). "The research of partnering model in the field of engineering construction of China", unpublished PhD thesis, Tongji University, China.
- Jin, X. H. and Ling, L.L.F. (2005), "Constructing a framework for building relationships and trust in project organizations: two case studies of building projects in China", *Construction Management and Economics*, Vol. 23 No. 7, pp. 685-696.
- Kirkbride, P.S., Sara, F.Y.T. and Robert, I.W. (1991), "Chinese conflict preferences and negotiating behavior: Cultural and psychological influence", *Organization Studies*, Vol. 12 No. 3, pp. 365-386.
- Koraltan, S.B. and Dikbas, A. (2002), "An assessment of the applicability of partnering in the Turkish construction sector", *Construction Management and Economics*, Vol. 20 No. 4, pp. 315-321.
- Kwan, A.Y. and Ofori, G. (2001), "Chinese culture and successful implementation of partnering in Singapore's construction industry", *Construction Management and Economics*, Vol. 19 No. 6, pp. 619-632.
- Larson, E. (1995), "Project partnering: results of study of 280 construction projects", *Journal of Management in Engineering*, ASCE, Vol. 11 No. 2, pp. 30-35.
- Larson, E. and Drexler, J.A. (1997), "Barriers to project partnering: report from the firing line", *Project Management Journal*, Vol. 28 No. 1, pp. 46-52.
- Lazar, F.D. (1997), "Partnering—new benefits from peering inside the black box", *Journal of Management in Engineering*, ASCE, Vol. 13 No. 6, pp. 75-83.
- Lenard, D.J., Bowen-James, A. Thompson, M. and Anderson, L. (1996), *Partnering: Model for Success*, A research report to Construction Industry Institute, Australia.
- Li, X.D. and Wu, Q.H. (1996), "Theoretical chapter on guanxinology", In *Guanxinology in China* (in Chinese) (Zheng, C.Y. and Wen Z.F. eds.).
- Ling, F.Y.Y., Ang, A.M.H. and Lim, S.S.Y. (2007), "Encounters between foreigners and Chinese: perception and management of cultural differences", *Engineering, Construction and Architectural Management*, Vol. 14 No. 6, pp. 501-518.
- Liu, A.M.M. and Fellows, R.F. (1999), "Culture: the impact of culture on project goals", In: *Profitable Partnering in Construction Procurement* (Ogunlana, S.O. eds.), CIB W92 and CIB TG23 Joint Symposium, E&FN Spon, London, U.K.
- Lockett, M. (1988), "Culture and the problems of Chinese management", *Organization Studies*, Vol. 9 No. 4, pp. 475-496.
- Low, S.P. (1998), "Cultural influence on construction marketing and management in China", In *Proceedings of the First Leeds International Construction Marketing Conference: Research into Practice*, 26–27 August, Leeds, pp. 1-12.

- Lu, S.K. and Yan, H. (2007a), "An empirical study on incentives of strategic partnering in China: views from construction companies", *International Journal of Project Management*, Vol. 25 No. 3, pp. 241-249.
- Lu, S.K. and Yan, H. (2007b), "A model for evaluating the applicability of partnering in construction", *International Journal of Project management*, Vol. 25 No. 2, pp. 164-187.
- Main Roads Project Delivery System. (2005), *Selection of Delivery Options (Volume One)*, Capability and Delivery Division Road System and Engineering, Department of Main Roads, Brisbane, Australia.
- Mason, J. (2008), "Specialist contractors and partnering", In Smyth and Pryke (eds), *Collaborative Relationships in Construction: Developing Frameworks and Networks*, Wiley-Blackwell Publishing.
- Matthews, J. (1999), "Applying partnering in the supply chain", In Rowlinson, S. and McDermott, P. (eds), *Procurement Systems: A Guide to Best Practice in Construction*, E&FN Spon, London, pp. 252-275.
- Naaranoja M., Haapalainen, P. and Lonka, H. (2008), "Knowledge management supports clients driving innovation: two cases studies", In *Clients Driving Innovation* (Brandon, P. and Lu, S.L. eds.). Wiley-Blackwell, pp. 177-189.
- Naoum, S. (2003), "An overview into the concept of partnering", *International Journal of Project Management*, Vol. 21 No. 1, pp. 71-76.
- National Construction Law (2011), China's State Council, 2011.
- Newcombe, R. (1997), "Procurement paths: a cultural/political perspective", In Davidson, C.H. and Meguid, T.A.A. (eds.), *Procurement: A Key to Innovation*, I.F. Research Corporation, Montreal, pp. 523-534.
- Ng, S.T., Rose, T.M., Mak, M., and Chen, S.E. (2002). "Problematic issues associated with project partnering — the contractor perspective", *International Journal of Project Management*, Vol. 20 No. 6, pp. 437-449.
- Pennett, B.J. and Zhao Y. (1992). "Confucianism, needs and organizational preferences: an examination of management trainees in China". In Williams, C. W. (eds.), *Advances in Chinese Industrial Studies*, Vol. 3, JAI Press, London, pp. 77-93.
- Pizam, A. (1993), "Managing cross-cultural hospitality enterprises", In: *The International Hospitality Industry* (Jones, P. and Pizam, A. eds.), London: Pitman Publishing.
- Post, J. and Altman, B. (1994), "Managing the environmental change process: barriers and opportunities", *Journal of Organizational Change*, Vol. 7 No. 4, pp. 64-81.
- Reading Construction Forum (1995), *Trusting the Team: The Best Practice Guide to Partnering in Construction*, Centre for Strategic Studies in Construction, Reading, England.
- Reading Construction Forum (1998), *The Seven Pillars of Partnering: A Guide to Second Generation Partnering*, Centre for Strategic Studies in Construction, Reading, England.
- Redding, S.G. (1990), *The Spirit of Chinese Capitalism*, Berlin: de Gruyter.
- Shao, K.X. (2004). "Construction business system in China: an institutional transformation perspective", *Building Research and Information*, Vol. 32 No. 6, pp. 529-537.
- Sheh, S.W. (1995), *Chinese Management*, MPH Distributions, Kuala Lumpur, Malaysia.
- Skues, D. (1996), *Partnering and its Relevance to Hong Kong*, Crow Maunsell Management Consultants, Hong Kong.
- Smith, N.J. (2008), *Engineering Project Management*, Blackwell Publishing, Oxford.
- Thorelli, H.B. (1986), "Networks: between markets and hierarchies", *Strategic Management Journal*, Vol. 7, pp. 37-51.

- Walker, D.H.T., Hampson, K.D. and Peters, R.J. (2002), "Project alliancing vs project partnering: a case study of the Australian National Museum project", *Supply Chain Management: An International Journal*, Vol. 7 No. 2, pp. 83-91.
- Wang, D.S., Hadavi, A. and Krizek, R.J. (2006), "Chinese construction firms in reform", *Construction Management and Economics*, Vol. 24 No. 5, pp. 509-519.
- Weston, D.C. and Gibson, G.E. (1993), "Partnering-project performance in U.S. Army Corps of Engineers", *Journal of Management in Engineering, ASCE*, Vol. 9 No. 4, pp. 410-425.
- Williamson, O.E. (1983), "Credible commitments: using hostages to support exchange", *American Economic Review*, Vol. 73, pp. 519-540.
- Wong, S.L. (1995), "Business networks, cultural values and the state in Hong Kong and Singapore", In *Chinese Business Enterprises in Asia* (Rajeswary A. B. eds.), London and New York: Routledge.
- Wood, G.D. and Ellis, R.C.T. (2005), "Main contractor experiences of partnering relationships on UK construction projects", *Construction Management and Economics*, Vol. 23 No. 3, pp. 317-325.
- Wu, W.P. (2000). "Transaction Cost, Cultural Values and Chinese Business Networks: An Integrated Approach", In *Chinese Business Networks: State, Economy and Culture* (Chan, K.W. eds.), Prentice-Hall, Singapore, pp. 35-56.
- Xu, T., Tiong, R.L.K., Chew, D.A.S. and Smith, N.J. (2005), "Development model for competitive construction industry in the People's Republic of China", *Journal of Construction Engineering and Management, ASCE*, Vol. 131 No. 7, pp. 844-853.
- Yau, O.H.M. (1988), "Chinese cultural values: their dimensions and marketing implications", *European Journal of Marketing*, Vol. 22 No. 5, pp. 44-57.
- Yau, O.H.M. (1994), *Consumer Behaviour in China: Customer Satisfaction and Cultural Values*, London: Routledge.
- Yeung, J.F.Y., Chan, A.P.C., and Lam, P.T.I. (2012), "Evaluating national culture from Eastern and Western perspectives in the context of construction", *International Journal of Project Organization and Management*, Manuscript No. IJPOM_17919 (in press)
- Yuen, E. (1992), "Conflict-handling process", In *Organisational Behaviour Southeast Asian Perspective* (In Westwood, R.I. eds.), Longman, pp. 362-379.
- Zhang, J. and Cao, S.H. (2005), "A study on partnering and its relevance in China's construction industry", *Proceedings of the 9th Pacific Association of Quantity Surveyors Congress*, pp. 360-369.
- Zhao, Z.Y., Liu, Y.S. and Wu, Y.N. (2005), "A study on partnering in construction project management", *China Civil Engineering Journal, China*, Vol. 38 No. 8, pp. 123-127.

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Table 1. Background of interviewees for assessing the applicability of construction partnering in Mainland China

Interviewee	Nature of profession	Years of working experience	Number of publications on partnering research	Number of projects with partnering relationship involved
Interviewee 1	Academia	5	3	N/A
Interviewee 2	Academia	3	3	N/A
Interviewee 3	Academia	24	0	N/A
Interviewee 4	Academia	27	0	N/A
Interviewee 5	Industry and Academia	19	3	N/A
Interviewee 6	Industry	8	0	3

Table 2. Perceptions on the applicability of construction partnering from expert interviewees in Mainland China

Particulars consulted	Perceptions from academic experts					
	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Interviewee 6
Status of communication and collaboration amongst project participants in Mainland China	1. Client taking control of the communication process 2. Lacking mutual trust amongst project parties 3. Communicating under informal and nonstandard approaches	Communicating under informal/private approaches (e.g. dinner talk) with few written documents	Communicating mostly under informal approaches and procedures, with very little written and standard documents	1. Mostly informal and nonstandard communication, far from the written level 2. Very little comprehensive and in-depth communication	The level and extent of communication and collaboration differ from project to project	Communicating informally with little written documents while focusing mainly on personal benefits and profits
Amount of projects implemented with structured partnering process	Very few	None	None	Very few	None	Very few
A large number of projects embracing partnering philosophy?	Yes	Yes	Yes	Yes	Yes	Yes
Barriers to adoption of partnering-restriction from government regulations in construction	The contemporary construction policy of bidding for launching a construction project damages the long-term collaborative relationship between the client and contractor)	Collaboration among client and contractor and subcontractors is restricted and damaged by the prevailing strategy of low bidding price winning the bidding in many projects	Long-term collaboration between the client and contractor is damaged as a result of the competitive tendering policy	Existing but not significant	Quotation rules and bid evaluating issues in the contemporary bidding system strictly pose restrictions on partnering implementation	Regulations are in favour of government-invested construction projects/not critical

Barriers to adoption of partnering-conflict of interest amongst project participants	Not significant in the long-run	Not significant and will decrease and die away in the long-run	Not applicable	Not significant	Existing and significant	The existing profit-sharing mechanism among project participants is hard to change in a short period of time
Barriers to adoption- lack of understanding of partnering concepts and process	Existing/non-significant	Existing and significant	Existing/non-significant	Existing/non-significant	Existing/significant	Existing and the actual profits shall be perceived through practical cases first before adoption
Barriers to adoption of partnering-nature of the construction industry in China (harmonious or competitive)	Competitive in general	Competitive in general	Competitive in general	Hard to summarize	Competitive in general	Competitive in general
Future prospect of partnering implementation in Mainland China	Promising	Highly promising	Promising but a long-run task	Promising on the premise that efforts are made to tackle relevant problems	Promising and only lacking the facilitator.	Promising with the development of a more and more regulated construction industry

Table 3. Suggestions on partnering implementation from expert interviewees in Mainland China

Suggestions from expert interviewees	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Interviewee 5	Interviewee 6
Introducing partnering to construction practitioners with the broadened definition and key philosophy of partnering, e.g. form of collaborative partnership amongst construction participants	√					
Motivation of the client's initiative to adopt the partnering approach	√	√	√		√	√
Collaboration between academics with substantial knowledge about partnering and large-scale property developers (e.g. real estate developers) during project pre-qualification period	√	√				
Starting with some large-scale and specific types of projects to implement partnering in Mainland China			√	√	√	
Combined use of partnering with other contemporary procurement systems and project management strategies (e.g. design-bid-build, design-build, target cost contracting, build-operate-transfer, value management, etc) which are relatively mature in the construction industry of Mainland China					√	
Effective propaganda and training on partnering implementation and introduction of its potential benefits to domestic professional bodies and academic institutions					√	√

Appendix A. List of interview questions for exploring the applicability of construction partnering in Mainland China

No.	List of Interview Questions
1	Are there any projects implemented with the partnering model (with structured partnering process)? Are there any projects embracing some key elements of partnering philosophy such as efficient communication and co-ordination, mutual trust, effective conflict resolution, teamwork culture, among construction participants (especially between the client and the contractor)? Please list and brief introduce some examples.
2	What are the major benefits from the employment of relationship-based contracting approaches like partnering?
3	Is there any kind of pressure or restriction to partnering from the macro/micro control measures and regulations of local government?
4	The construction laws and regulations in Mainland China regulate some specific types of projects for adopting tendering and bidding as a project procurement strategy. Do you think if there is any substantial restriction to adopting partnering under the existing construction laws and regulations?
5	Will the application of partnering influence or impair the established and stable system of gaining and sharing benefits among the business partners? Is such consideration a critical factor impeding the adoption of partnering from the viewpoint of the clients and contractors?
6	As partnering is relatively a new concept to the Mainland Chinese construction industry, is the lack of background knowledge about partnering a major barrier for the construction participants to adopt the partnering approach?
7	Does the Chinese culture in general support the philosophy of partnering and facilitates the progress of the implementation of partnering in China? Or does the competitive environment seem to be the main theme of current construction industry development in China?
8	What is the future prospect of implementation and future development of such kind of project procurement and management mode within the construction industry of Mainland China?
9	Will the traditional construction procurement and management mode (such as Design-Bid-Build, BOT, etc) still dominate the construction industry for a long-term period or will some new construction procurement forms and management modes (such as partnering, PPP, etc) emerge to take the place of those traditional approaches in the future in the construction industry of Mainland China? If partnering emerges, How will it be developed in Mainland China? Will it be implemented with the combination of the traditional modes or will it independently survive with the gradual extinction of the traditional modes?