

THE ROLE OF ORGANIZATIONAL CULTURE IN CONSTRUCTION PARTNERING TO PRODUCE INNOVATION

Faizatul A. Abdul Nifa¹ and Vian Ahmed

School of Built Environment, University of Salford, Salford M4 5WT, UK

Construction firms are faced with problems with learning curve in projects, dissimilarities in organizational culture and business practices with other firms in temporary organizations and distrust in the traditional bidding process. The partnering strategy is being advocated by many literatures as the solution to the many problems in the construction industry. Various studies have collectively added to the current knowledge of known partnering factor, frameworks, possible outcomes and barriers to partnering. Several studies indicate the need for similar organizational culture for partnering organizations to ensure partnering success. This need can be heightened when partnering occurs between firms of varying sizes. However, there seem to be little effort on formulating an organizational cultural based framework for partnering. Apart from that, measure of success is rarely included within these frameworks. The measure is critical as to give the partnering firms an indication whether the partnering venture is succeeding or not, after all guidelines in the framework had been applied. This paper is based on the literature review for a research which aims to develop a new framework that meets the needs of organizational culture in partnering firms which would improve innovation, as a measure of partnering success. This paper proposes that when the elements of organizational culture are present and similar in partnering firms, the partnering effort have a greater chance of succeeding and producing improvements such as innovation in the construction industry. Accordingly, this paper gives a synthesis of literature review on the overview of partnering, the role of organizational culture and how it can help improve innovation in the construction industry. A review of available frameworks for partnering is also included, indicating the lack of focus on the element of organizational culture. By providing an in-depth understanding of the research area, this paper will be adding a significant knowledge to current partnering practices within the construction industry.

Keywords: innovation, organizational culture, partnering.

INTRODUCTION

The construction industry is commonly being cited as a multifaceted industry, of many adversarial relationships due to different parties collaborating in temporary organizations working together towards completing a project. The industry is also widely being cited as being the least susceptible to innovation, as compared to manufacturing and other service industries. The construction industry delivers its product to its client base by way of a stream of generally single and unique projects. These projects typically draw together a significant number of diverse small and large construction firms with varying collaborations (Sexton and Barret 2003).

¹ f.a.abdulnifa@pgr.salford.ac.uk

The nature of construction industry is being an industry whose firms come together as temporary organizations to deliver the construction projects (or products). The success of projects relied heavily on smooth coordination among the member firms in temporary organizations. The projects are also subjected to dispute and misunderstanding risks among member firms, which in turn could cause potentially beneficial relationships turn into relationships that are more adversarial in nature.

The partnering strategy in construction industry made its debut in the last decade and since then has been implemented successfully in the UK, USA, Australia and Japan. These countries have been made the main point of reference due to their success in establishing suitable procedures for the selection of subcontractors in public sector contracts (Naoum 2003). The adoption of partnering into the construction industry in these countries can be attributed to the fact that the relationships in these industries were commonly lacking trust, respect and honesty between clients, main contractors and subcontractors (Humphreys *et al.* 2003). In the UK, the partnering strategy had started to be implemented more widely since the recommendations in the Latham Report in 1994 and the Rethinking Construction report in 1998 (Kumaraswamy and Matthews 2000, Cox and Ireland 2002, Mason 2007, and Jones and Kaluarachchi 2008). Although there is still no concrete evidence to show the tangible benefits of partnering in the construction industry, some literatures (Beach *et al.* 2005, Naoum 2003) reported that organizations already in the partnering relationship will continue to be in it for its many perceived future benefits. This will imply that the trend of partnering with less organization evident in other industries such as automobile and manufacturing will be imminent in the construction industry. Organizations which refuse to adapt to this trend will find themselves with less business than before.

Therefore, in order to reap the many benefits of partnering in construction, it is critical to identify the specific factors that enable successful partnering in construction, as well as the possible barriers to successful partnering. The literature review has brought together some of the factors which enable partnering to function successfully. These factors include commitment, collaboration, communication, tools, policies, procurement, trust and culture. Each of these factors are as equally important as the other, however there seem to be lack of attention to the role of organizational culture in promoting partnering success. It should be acknowledged that different cultures exist in different organizations. The issue of organizational culture is even more critical when partnering occurs between firms of different sizes. Accordingly, this paper proposes that when the elements of organizational culture are present and similar in partnering firms, the partnering effort have a greater chance of succeeding and producing improvements such as innovation in the construction industry. This is in line with the findings of Ivory (2005) where culture is emphasized as an integral variable in relationship creation and network formation such in a partnering relationship that improves trust between partners, which in turn will assist the learning process and knowledge sharing that is crucial to producing innovations within the industry.

Henceforth, to answer these issues, this paper will begin by identifying briefly the concept of construction partnering, which will include its definition and enabling factors. Secondly, this paper will discuss the shared enabling factors of partnering and innovation, enforcing the relationship between both concepts. Next, the role of organizational culture in partnering will be discussed, highlighting the lack of attention to organizational culture in partnering frameworks in current literatures.

Finally this paper shall describe the way forward for this proposition, and what implication it has for this study.

Definition of partnering

Partnering can be defined in many ways. It generally describes a set of behaviours among firms with shared resources and responsibilities to achieve mutual objectives and perceived benefits. Barlow *et al.* (1997) observed that partnering can be defined either as a tool, or as a process. Earlier on, Crowley and Karim (1995) had identified that partnering is typically defined in one of two ways. Firstly, by its attributes such as trust, shared vision, and long term commitment; or secondly by the process where partnering continues to be seen as a verb, such as developing a mission statement, agreeing on goals and conducting partnering workshops. This format of defining the term partnering in the construction industry can be seen up to the present moment.

One of the definitions of construction partnering that falls into the first category are the one that is provided by Lu and Yan (2006) whom defined construction partnering as a working relationship between stakeholders based on respect, trust, teamwork, commitment and shared goals. The definition provided by Naoum (2003) perfectly fits into the second category. Naoum (2003) defines partnering as a concept which provides a framework for the establishment of mutual objectives among the building team with an attempt to reach an agreed dispute resolution procedure as well as encouraging the principle of continuous improvement. A key definition of partnering, which is commonly cited by many partnering literatures is provided by Bennett and Jayes (1998) whom defined partnering as a set of strategic actions which embody the mutual objectives of a number of firms, which are achieved by cooperative decision making aimed at using feedback to continuously improve joint performance. This definition by Bennett and Jayes (1998) has been adopted as the key definition within the context of this paper, mainly because it has described partnering as an intentional act to achieve certain objectives, and also because it incorporates the use of feedback to improve the performance of parties involved. The term strategic refers to a certain time expectations, which in this case it refers to the long term relations between parties who are prepared to work together over long periods of time (Peace 2008). By this stage, the parties involved are in tune with each other's expertise and knowledge, could possibly share similar working cultures which will result in maximizing the effectiveness of each other's business.

Shared factors of partnering and innovation

There are massive amount of literature on construction partnering, and most have attempted to identify the critical factors for effective and successful partnering. These factors include culture, collaboration and cooperation, commitment, communication, tools, policies, procurement, and trust. Another initial understanding gained from partnering literature search is that innovation is most likely a by-product of many successful partnering outcomes. One of the business strategies that can lead to innovation among construction firm is participating in partnering and alliances in construction projects (Manley *et al.* 2008). Therefore, the factors that commonly shared by partnering and innovation will be discussed in this section.

Collaboration and cooperation (relational)

In order to overcome the problem of adverse relationships in construction industry, partnering is advocated as the best solution which will enhance collaboration and cooperation for better relationships. This is supported by Bayliss *et al.* (2003) and Nystrom (2008) which identified partnering could potentially remedy the negative

attitude of construction participants from confrontational to cooperative. Likewise, Kumaraswamy *et al.* (2005) in their study highlighted how the traditional adversarial attitude needs to be transformed into more positive and collaborative thinking to propel the construction industry forwards.

Consequently, collaborative working and cooperation among construction parties can create a much more pleasant environment when working towards completing a project. This pleasant working environment is much more conducive to increased knowledge sharing, continuous learning and possibly ideas for innovation (Eriksson *et al.* 2007, Stewart and Fenn 2006, Khalfan and McDermott 2006). Drejer and Vinding (2006) identified that innovative activity is supported by the use of specific ways of handling external partners, such as building up closer relationship through the use of partnering, combined with the use of internal evaluation and knowledge anchoring. For this reason, it is clear to justify that innovation is also enabled by collaboration and cooperation.

Procurement

One of the main strength of partnering lies in its procurement systems, where contractors are included in the design stage much earlier in order to come up with the best solution and higher quality standards in the construction project without compensating their profit margin. This is confirmed by Black *et al.* (2000) in a study of partnering success factors in the UK, identifying that partnering procurement methods aims to eliminate adversarial relationships between client and contractor by encouraging the parties to work together towards shared objectives and achieve a win-win outcome. A more recent study findings by Pesamaa *et al.* (2008) indicated that partnering procurement procedures enhances cooperation between clients and contractors. Through partnering, some adjustments in procurement methods have been implemented.

Over the years, the conventional bid and tender system had contributed to the negative competitiveness in the construction industry. Firms compete against each other to submit the lowest price for tenders, which could potentially cause some aspects of quality and innovative solutions to be forsaken to make way for massive cost savings. In completing a construction project, the methods that were initially agreed upon during the tendering stage may prove to be not feasible during construction projects. Conventional procurement methods to some extent may restrict adoption of new methods, which are not mentioned in the contract document. This may cause the lack of innovativeness in the construction industry. However, in partnering relationships, flexible procurement is the norm and partners share not only profits and cost savings but also risks that may arise during the construction process (Naoum 2002, Sorell 2003 and Hunt 2008). It is only natural in partnering relationships where parties involved worked together to come up with the best solution that is in everyone's best interest and share whatever risk that is brought upon by the solution. The acceptance of risks through partnering procurement methods will make innovations much more likely to be devised.

Trust

The degree of trust affects the success of a partnering relationship. A positive atmosphere based on trust between all parties involved is required to engage in a partnering relationship (Crespin-Mazet and Ghauri 2006). It entails to what extent the partners are willing to share their knowledge and resources (Yiu and Cheung 2007); and in some cases possibly sensitive information that may jeopardize an

organization's competitiveness in the industry, but essential to the partnering success. The issue of trust in partnering has been widely researched, and is commonly cited as one of the most important critical success factors to successful partnering (Akintoye *et al.* 2000, Kwan and Ofori 2000, Drexler and Larson 2000, Olsson and Epsling 2004, Beach *et al.* 2005, and Chan *et al.* 2005). Kumaraswamy *et al.* (2005) found that the trust levels in the construction industry are still considerably low, in contrast to the widespread acceptance and appreciation of the need for collaborative working approaches such as construction partnering. The element of trust in partnering enhances working relationships and could solve some issues that may arise with collaborative working. With the aid of trust; disputes, misjudgements and unanticipated needs can be effectively managed and dealt with in a way that can benefit all parties involved (Matthews *et al.* 2000, and Olsson and Epsling 2004).

As partnering promotes long-term relationships, the firms involved will have less to worry when sharing their expertise, and to some extent, their sensitive information that give them their competitive advantage. When knowledge and expertise are shared with minimal restraint, trust is engendered and a non-adverse working environment is developed. As a result, partners will then have more potential to develop new ideas based on mutual experiences and provide the best innovative solution in project delivery. This is in line with the findings in a study by Sorell (2003) that partnering offers increased opportunities for innovation through communication, trust and mutual learning which also implies that trust is an enabling factor of innovation.

Similarly, culture is perceived as an enabling factor for both partnering and innovation. The next section will highlight the brief concept of organizational culture in construction partnering, and how it helps in building the effectiveness of a partnering venture, as well as innovation.

ORGANIZATIONAL CULTURE IN CONSTRUCTION PARTNERING

Schein (1986) has defined culture as a pattern of basic assumptions which could be invented, discovered, or developed by a given group as it learns to cope with its problem of external adaptation and internal integrations. Therefore, organizational culture serves the leader of an organization through nurturing the value system created by him to both serving and incoming members. Within the construction industry itself, culture is considered to be about the characteristics of the industry, approaches to construction, competence of craftsmen and people who work in the industry and the strategies, goals and values of the organizations within which they work (Ankrah *et al.* 2009). A culture emerges from basic tacit assumptions about how the world operates and what a group of people share that determines their perceptions, feelings and behaviour in adapting to the world around them.

Culture is a vital element of construction partnering as it affects the way partners behave around each other. The criticality of culture in partnering relationships can be best described by the findings of Bresnen and Marshall (2000) in their study on partnering in construction. Partnering requires a sensitivity to the underlying factors that influence specific ways of working; an understanding of the possible impact on individuals and group motivations and interest; and a full appreciation of the complex dynamic of implementation process. Moreover, sharing culture by partners in an alliance made it easier for them to trust each other and allow them to progress further to building the alliance faster (Ngowi and Pienaar 2005). This is confirmed by Fletcher and Fang (2006) who stated that a key element in successful partnering is the

need for executives to understand the impact of culture on the relationships they create and the networks they form. In addition, Chan *et al.* (2005) had further exhibit the importance of culture in partnering by indicating that the most advantageous stage is when cultural capability is achieved by partners, which will encourage them not to find compromises on cultural differences but to find synergy through combining the best characteristics and attributes on any cultural dimension. This is particularly critical in trans-national partnering projects. Therefore, it can be justified that culture is an important variable in relationship creation and network formation such as in partnering.

Table 1: Partnering frameworks in current literatures

Source of framework/model	Partnering aspects						Innovation, Performance & Outcome
	Relational	Cultural	Component & Factors	Procurement	Trust	Stages	
Cheng & Li (2001)	X						
Nyström (2005)			X				
Ngoyi & Etenaar (2005)	X				X		
Chan <i>et al.</i> (2005)			X				
Cheng & Li (2002)	X					X	
Cheng <i>et al.</i> (2001)							X
Lu & Yan (2007)			X				
Chan <i>et al.</i> (2005)			X				
Craspin-Mazat & Ghauri (2006)				X			
Pasamaa <i>et al.</i> (2008)				X			
Palanesswaran <i>et al.</i> (2003)	X						X
Cheng & Li (2005)	X					X	
Yju & Cheng (2007)	X						
Li <i>et al.</i> (2002)	X						
Love <i>et al.</i> (2002)	X						
Karlson <i>et al.</i> (2008)	X				X		
Olsson & Epsling (2004)			X				
Jacobson & Sang (2008)			X				
Sidwell & Budiswan (2001)				X			
Barlow & Kobesle-Gaiser (2008)				X			
Kumaraswamy & Dulaimi (2001)							X
Ng <i>et al.</i> (2002)			X				
Gullisk <i>et al.</i> (2007)			X				
Mason (2007)			X				
Yaung <i>et al.</i> (2007)a							X
Chen & Chen (2007)			X			X	
Bischoff & Benade (2008)							X
Manley <i>et al.</i> (2008)							X
Anderson <i>et al.</i> (2006)			X				
Franco <i>et al.</i> (2004)							X

Culture is also critical in determining project delivery outcomes. This is noted by Ankrah *et al.* (2009) which study concluded that different cultural orientation may influence project delivery and eventual performance outcomes. Therefore it is important the parties involved in partnering relationships are familiar with the culture of their partners to ensure success in the project. This supports the findings of Eaton *et al.* (2007), which implies the appreciation of cultural similarities and differences, will have positive implications for the effective project delivery of future PPP projects. This implies that culture enables improvement in project delivery outcomes.

Similarly, the contribution of culture towards innovation was also noted in the literature. Ivory (2005) emphasized culture as an integral variable in relationship creation and network formation such in a partnering relationship. Partnering improves trust between partners, which assist the learning process and knowledge sharing that is crucial to producing innovations within the industry. Therefore it can be justified that culture enables innovation as an outcome of successful partnering.

Table 1 indicates a summary of available frameworks for partnering in construction from current literatures. It should be highlighted that, little attention has been given to developing framework focusing on the cultural aspect of partnering.

Akintoye *et al.* (2000) had described that the biggest issue with collaborative working within the supply chain is the inappropriate culture that is inherent in the construction

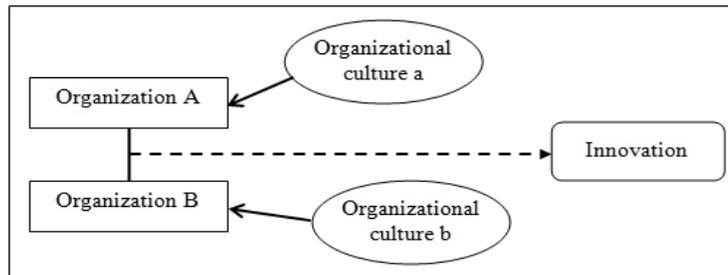


Figure 1: The relationship of partnering-organizational culture-innovation trio

industry. It supports the premise that culture is a major success factor for partnering in construction, which is supported by the findings of a study on housing partnering projects conducted by Packham *et al.*(2005). They identified that while partnering culture takes time to be established, the success of partnering relies heavily on the cultural change in the construction industry. Continuous partnership relationships established in the construction industry can change the culture in the construction industry over a period of time (Wood and Ellis 2005). Manley *et al.* (2007) stated that partnering suggest a change to a culture in which a person’s word is her or his bond, where people understand and fully aware of how their responsibilities affect others and the success of the projects.

The way forward

As mentioned previously, this paper proposes that when the elements of organizational culture are present and similar in partnering firms, the partnering effort have a greater chance of succeeding and producing output such as innovation in the construction industry. A contrasting scenario to this statement would be where dissimilar organizational culture exists among the partnering firms and the partnering effort may not yield innovation. In essence, some ‘marriages’ of organizational culture may produce innovation in a partnering venture, and some ‘marriages’ may not.

Figure 1 depicts the relationship of the concept of partnering, organizational culture and innovation. The line between organizational A and organizational B indicates a partnering relationship, and each organization has a specific organizational culture present, which contributes to the ways of working in each organization. The dashed arrow towards innovation exhibits a possibility of innovation as a by product of a successful partnering. At present, this study will proceed with testing the dimensions of organizational culture in selected partnering cases, and identify which of the dimensions are most helpful in producing innovations. In order to fully dissect the contribution of culture towards construction partnering success, the dimensions of organizational culture in the construction industry setting should be identified. Table 2

Table 2: Past research findings on organizational culture dimension

Organizational culture dimensions	Tsui et al (2002)	Ankrah et al (2009)	Cheng et al (2010)
Client orientation	X	X	X
Workforce orientation	X	X	X
Leadership/management	X	X	X
Outcome/performance orientation	X	X	X
Reward orientation			X
Innovation	X		X
Teamwork		X	X

indicates the dimension that has been identified in several past studies by Tsui *et al.* (2002) study (as cited in Tsui *et al.* 2005), Ankrah *et al.* (2009) and Cheng *et al.* (2010). For the purpose of this research, the dimensions found by Cheng *et al.* (2010) shall be tested.

CONCLUSION

This paper has identified the basic idea of partnering, and what shared factors it has with innovation. Literature review of this paper has revealed that collaboration, culture, procurement and trust are the common shared factors between partnering and innovation, which may indicate improving the success of partnering could improve the chance of innovation as an output of partnering. Organizational culture has been identified to play a role in the success of partnering. However, based on the literature review, little attention has been given to formulating partnering frameworks focusing on the organizational culture of a partnering firm. This paper concludes that organizational cultures of partnering parties need to be similar and suitable before the partnering relationship can be deemed successful to yield improvements such as innovation. An implication of this is the need to further investigate the inherent organizational culture dimensions in partnering firms and the impact it has on innovation as a partnering outcome. This paper will serve as the basis for future studies and further research needs to be done to establish the role of organizational culture in partnering firms and the impact it has on innovation as a partnering outcome.

REFERENCES

- Akintoye, A, McIntosh, G and Fitzgerald, E (2000) A survey of supply chain collaboration and management in the UK construction industry. *European Journal of Purchasing and Supply Management*, **6**, 159-168.
- Ankrah, N A, Proverbs, D and Debrah, Y (2008) Factors influencing the culture of a construction project organization: an empirical investigation. *Engineering, Construction and Architectural Management*, **16**(1), 26-47.
- Barlow, J, Jashapara, M, Cohen, M and Simpson, Y (1997) *Towards Positive Partnering, Revealing the Realities in the Construction Industry*. Bristol: Policy Press.
- Bayliss, R, Cheung S O, Suen H C H and Wong S P (2004) Effective partnering tools in construction: a case study on MTRC TKE contract 604 in Hong Kong. *International Journal of Project Management*, **22**, 253-263.
- Beach, R, Webster, M and Campbell, K M (2005) An evaluation of partnership development in the construction industry. *International Journal of Project Management*, **23**, 611-621.
- Black, C, Akintoye, A and Fitzgerald, E (2000) An analysis of success factors and benefits of partnering in construction. *International Journal of Project Management*, **18**, 423-434.
- Bennett, J and Jayes, S (1998) *The Seven Pillars of Partnering*. Reading: Reading Construction Forum.
- Bresnen, M and Marshall, N (2000) Partnering in construction: a critical review of issues, problems and dilemmas. *Construction Management and Economics*, **18**, 229-237.
- Chan, A P C, Chan, D W M, Fan, L C N, Lam, P T I and Yeung J F Y (2006) Partnering for construction excellence. *Building and Environment*, **41**, 1924-1933.

- Cheung, S O, Wong, P S P, and Wu, A W Y (2010) Towards an organizational culture framework in construction. *International Journal of Project Management*, doi:10.1016/j.ijproman.2010.01.014
- Cox, A and Ireland, P (2002) Managing construction supply chains: the common sense approach. *Engineering, Construction and Architectural Management*, **9**(5/6), 409-418.
- Crespin-Mazet, F and Ghauri, P (2006) Co-development as a marketing strategy in the construction industry. *Industrial Marketing Management*, **36**, 158-172.
- Crowley, L G and Karim, M A (1995) Conceptual model of partnering. *Journal of Management in Engineering*, **11**(5), 33-39.
- Drejer, I and Vinding, A L (2006) Organization, ‘anchoring’ of knowledge and innovative activity in construction. *Construction Management and Economics*, **24**, 921-931.
- Drexler, J A and Larson, E W (2000) Partnering: why project owner-relationships change. *Journal of Construction Engineering and Management*, **126**(4) 293-297.
- Eaton, D, Akbiyikli, R, de Lemos, T, Gunnigan, L, Kutanis, R O, Casensky, M, Ladra, J and El Sawalhi, N (2007) An examination of the suitability of a UK PFI model within the Czech Republic, the Republic of Ireland, Palestine (Gaza-West Bank), Portugal and Turkey. *Construction Innovation*, **7**, 122-142.
- Eriksson, P E, Dickinson, M and Khalfan, M A (2007) The influence of partnering and procurement on subcontractor involvement and innovation. *Facilities*, **25**(5/6), 203-214.
- Fletcher, R and Fang, T (2006) Assessing the impact of culture on relationship creation and network formation in emerging Asian markets. *European Journal of Marketing*, **40**(3/4), 430-446.
- Humphreys, P, Matthews, J and Kumaraswamy, M (2003) Pre-construction project partnering: from adversarial to collaborative relationships. *Supply Chain Management: An International Journal*, **8**(2), 166-178.
- Hunt, M (2008) User involvement in the Open University library building project. *New Library World*, **109**(3/4), 166-172.
- Ivory, C (2005) The cult of customer responsiveness: is design innovation the price of a client-focused construction industry? *Construction Management and Economics*, **23**, 861-870.
- Jones, K and Kaluararchchi, Y (2008) Performance measurement and benchmarking of a major innovation programme. *Benchmarking: An International Journal*, **15**(2), 124-136.
- Khalfan, M M A and McDermott, P (2006) Innovating for supply chain integration within construction. *Construction Innovation*, **6**, 143-157.
- Kumaraswamy, M M and Matthews, J D (2000) Improved subcontractor selection employing partnering practices. *Journal of Management in Engineering*, **16**(3), 47-57.
- Kumaraswamy, M M, Yean, F Y L, Rahman, M M, Phng, S T (2005) Constructing relationally integrated teams. *Journal of Construction Engineering and Management*, **131**(10), 1076-1086.
- Kwan, A Y and Ofori, G (2001) Chinese culture and successful implementation of partnering in Singapore’s construction industry. *Construction Management and Economics*, **19**, 619-632.
- Lu, S and Yan, H (2007) A model for evaluating the applicability of partnering in construction. *International Journal of Project Management*, **25**, 164-170.

- Manley, K, McFallan, S, Swainston, M and Kajewski, S (2008) Assessing the value of different business strategies to innovation by firms in the construction industry. In: *Proceedings of the 2008 IEEE ICMT*, 1-2 July 2008, Zurich, Switzerland. Institute of Electrical and Electronic Engineers, 588-593.
- Manley, T R, Shaw, W H, Manley, R C (2007) Project Partnering: A medium for private and public sector collaboration. *Engineering Management Journal*, **19**(2), 3-11.
- Mason, J R (2007) The views and experiences of specialist contractors on partnering in the UK. *Construction Management and Economics*, **25**, 519-527.
- Matthews, J, Pellew, L, Phua, F and Rowlinson, S (2000) Quality relationships: partnering in the construction supply chain. *International Journal of Quality and Reliability Management*, **17**(4/5), 493-510.
- Naoum, S (2003) An overview into the concept of partnering. *International Journal of Project Management*, **21**, 71-76.
- Ngowi, A B and Pienaar, E (2005) Trust factor in construction alliances. *Building Research and Information*, **33**(3), 267-278.
- Nystrom, J (2008) A quasi-experimental evaluation of partnering. *Construction Management and Economics*, **26**, 531-541.
- Olsson, U and Espling, U (2004) A framework of partnering for infrastructure maintenance. *Journal of Quality in Maintenance Engineering*, **10**(4), 234-247.
- Packham, G, Thomas, B and Miller, C (2003) Partnering in the house building sector: a subcontractor's view. *International Journal of Project Management*, **21**, 327-332.
- Peace, S (2008) *Partnering in construction*. Salford: Construction Managers' Library, Leonardo da Vinci: PL/06/B/F/PP/174014.
- Pesamaa, O, Eriksson, P E and Hair, J F (2009) Validating a model of cooperative procurement in the construction industry. *International Journal of Project Management*, **27**, 552-559.
- Schein, E H (1986) *Organizational Culture and Leadership*. San Francisco: Jossey-Bass.
- Sexton, M and Barrett, P (2003) A literature synthesis of innovation in small construction firms: insights, ambiguities and questions. *Construction Management and Economics*, **21**, 613-622.
- Sorrell, S (2003) Making the link: climate policy and the reform of the UK construction industry. *Energy Policy*, **31**, 865-878.
- Stewart, I and Fenn, P (2006) Strategy: the motivation for innovation. *Construction Innovation*, **6**, 173-185.
- Tsui, A S, Zhang, Z X, Wang, H, Xin, K R and Wu, J B (2006) Unpacking the relationship between CEO leadership behaviour and organizational culture. *The Leadership Quarterly*, **17**, 113-137.
- Wood, G D, and Ellis, R C T (2005) Main contractor experiences of partnering relationships on UK construction projects. *Construction Management and Economics*, **23**, 317-325.
- Yiu, K T W and Cheung, S O (2007) A study of construction mediator tactics: Part II: The contingent use of tactics. *Building and Environment*, **42**, 762-69.