

# Investigating the Adaptability of Relational Contracting (RC) Practices – The Sri Lankan Context

Gunatilake, S.

University of Central Lancashire  
(email: SVGunathilake@uclan.ac.uk)

Liyanage, C.

University of Central Lancashire  
(email: CLLiyanage@uclan.ac.uk)

Jayasena, H. M.

University of Moratuwa  
(email: suranga@becon.mrt.ac.lk)

## Abstract

Despite the plethora of research and industry reports promoting the use of relationship-based procurement approaches, the Sri Lankan construction industry still remains dominated by traditional procurement and contracting strategies. The industry suffers from the numerous drawbacks inherent to the traditional procurement environments. Research elsewhere suggests that adaptation of relationship-based procurement approaches could help uplift the industry performance drastically. This research examines the adaptability of relational contracting (RC) practices (e.g. partnering and alliances) to the Sri Lankan construction industry. The findings of the paper are mainly based on a questionnaire survey. Data gathered were subjected to quantitative analysis. Overall, the research suggests that there is a facilitating environment to RC within the Sri Lankan construction industry. Findings of the research also reveal that the contractors in general were more supportive towards adaptation of RC approaches than the consultants. Furthermore, the level of existence of facilitators to RC (and hence, the adaptability of RC) appears to have a positive co-relation with the level of integration in project teams.

**Keywords:** facilitators, integrated procurement environments, quantitative analysis, relational contracting (RC), Sri Lankan construction industry.

# 1. Introduction

The construction industry of Sri Lanka, to-date, remains clearly dominated by traditional procurement systems (Rameezdeen 2007). These traditional procurement environments are generally criticised for their characteristic adversarial relationships, unhealthy competition, purely price-based selections, numerous change orders and improper risk transfer tactics (Palaneeswaran et al. 2003). Poor levels of trust, co-operation and communication are common amongst parties of these projects. As a developing country, in Sri Lanka, these challenges are heightened by the presence of a general situation of socio-economic stress, resource shortages and institutional weaknesses (Ofori 2000). All these contribute to unsatisfactory project performance ultimately resulting in under-performance of the construction industry as a whole. Given the increased efficiencies and performance levels that the construction demands of the country are likely to require (especially with the large scale post-war reconstruction projects been undertaken) business-as-usual in the traditional procurement frameworks seems no longer an option for the Sri Lankan construction industry. Initiatives around the world for uplifting the construction industry performance have highlighted the need for more effective team working (Kumaraswamy et al. 2005) within project teams. This, therefore, has created a growing interest on “relational contracting (RC)” practices (such as, partnering, alliances and joint ventures). These practices are now proliferating into construction industries around the world following their successful implementation in various countries, including USA, UK and Australia.

The following sections of the paper provide an insight to the concept and benefits of RC. A comprehensive review of the available literature revealed that the majority of the research in relation to relational contracting has been done for the context of developed countries. There is little to no research available exploring the adaptability of these practices in developing countries (especially for the Sri Lankan context). This research sort to address this void by exploring the adaptability of RC practices in the Sri Lankan construction industry. It is hoped that fulfilling this aim would provide a basis for future considerations in creating relationship-based procurement approaches in the Sri Lankan context.

## 2. Relational Contracting (RC)

The phrase 'relational contracting' (RC) is used to describe a spectrum of project delivery methods that focus upon the relationship between parties to a construction project (Aglionby and Georgiou 2004). In contrast to the traditional forms of construction contracts, relational contracts are flexible in nature. They sought to establish working relationships between the parties through a mutually developed, formal strategy of commitment and communication, aimed at win-win outcomes for all (Kumaraswamy et al. 2005). RC principles provide the foundation for a variety of practices such as, partnering, alliances, joint ventures and other forms of collaborative working.

Many research studies have established numerous benefits of RC practices to the construction industry. For instance, adopting RC has been found to significantly increase project performance in terms of cost, time, buildability of design, and fitness-for-use (Bennet and Jayes 1998; Chan et al.

2004). Many government organisations in the UK that have adopted partnering have documented a decrease in litigation (Thompson and Sanders 1998). Furthermore, RC is also found to provide an opportunity for innovation, especially with respect to value engineering changes, constructability improvements, providing a platform to develop sustainability strategies (Abudayyeh 1994). Other than these measurable benefits, improvements in subjective areas such as, worker morale (Thompson and Sanders 1998), team working and effective collaboration have also been attributed to RC.

## **2.1 The Sri Lankan Context**

The aforementioned realised benefits and success stories of RC practices have encouraged a considerable number of clients and contracting organisations around the world to adopt RC practices in delivering construction projects. The Sri Lankan construction industry, however, is still lagging behind in this context. According to Rameezdeen (2007), the only type of RC practices currently adopted in Sri Lanka are joint ventures (JV). These are also mainly attributed to the involvement of international contractors. The joint venture projects in Sri Lanka account for about 1-3% of all construction projects undertaken thus far. However, as mentioned earlier, with the spur of development programmes underway the scale and complexity of construction projects and the expectations of clients continue to rise in Sri Lanka. Accordingly, there is a growing need to shift towards project delivery processes that encourage cooperation and collaboration within project teams, thereby resulting in higher levels of industry performance. Thus, development of RC cultures in project delivery teams appears to be a viable option for the Sri Lankan construction industry. However, as Kumaraswamy et al. (2005) states, “RC is not a one-size-fits-all guaranteed fix, but rather a philosophy that must be tailored for each situation for which it is applied. Although, many countries around the world are quite advanced in the practice of RC approaches, it remains an unexplored area for research in the Sri Lankan context. Therefore, before any recommendations to adopt these practices could be put forward, it is necessary to investigate the adaptability of RC to the local construction industry.

## **3. Facilitators to RC**

In order to achieve the aforementioned aim, it was necessary to first identify the factors that facilitate the development of RC. These factors were identified using a comprehensive literature review. They are summarised and presented under three main categories (i.e. client related, organisational related and project related) as follows.

### **3.1 Client related factors**

Rahman and Kumaraswamy (2002), state that any arrangement for collaborative teamwork should be client-led. It is the client that prepares the contract conditions and selects the other team members. Thus, initiative, support and knowledge about project processes of clients are essential in facilitating the implementation of RC.

## **3.2 Organisational related factors**

These include commitment from the top management, empowering decision making at the lowest possible level, trust between different divisions and hierarchical levels in organisations (vertical intra-organisational trust), possession of adequate resources and competency to perform of organisations. The support and commitment of top management is essential in implementing any new approach, including RC. In addition, it is also necessary for sharing of inter-organisational resources, such as knowledge and information, which is a key feature of RC approaches (Chan et al. 2004).

Possessing a good competency to perform and adequate resources implies that an organisation is not only able to make, but is actually competent to deliver on promises based on trust (Das and Teng 1998). This helps build mutual trust among parties. An organisation's competency to perform could be improved by empowering decision making at lower levels and building vertical intra-organisational trust.

## **3.3 Project related factors**

The project related factors can be again sub divided into six sub sections as follows.

### **3.3.1 Trust, communication and team working**

Mutual trust is fundamental to the implementation of RC. According to Bidault and Castello (2009) there is an optimum level of mutual trust between partners that maximise their joint creativity and innovativeness. Efficient and effective communication within the project team helps improve understanding and build trust and therefore, reduce claims and change orders (Tang et al. 2006). RC practices in general could be viewed as effective approaches to team working (Chan et al. 2004; Rahman and Kumaraswamy 2008). Effective coordination, which reflects the expectations of each party from the other parties in fulfilling a set of tasks (Mohr and Spekman 1994), is essential to achieve good team working.

### **3.3.2 Mutual goals/ objectives**

It is a conventional view in the construction industry that the client and contractor's respective objectives are in conflict. For the client the priority is the economic delivery of the project, while for the contractors it is the commercial imperative of making profits (Wong et al. 2008; Wood and Ellis 2005). Implementation of RC requires aligning commercial as well as project objectives of all parties. Mutual objectives may include achieving value engineering savings, meeting the financial goals of each party, and early completion. Jin and Ling (2006) found that adherence to mutual goals helps save time, improve communication, lower the risk exposure and increase mutual understanding. Parties should have combined responsibility in achieving these goals.

### **3.3.3 Mutually agreed risk-reward plans, performance appraisal and dispute resolution mechanisms**

To ensure the adherence to these mutual goals by parties, periodic joint evaluation should be undertaken and positive behaviour, as well as short comings must be recognised. Risks should be shared fairly between the parties, in contradiction to the general tendency by clients and consultants to transfer majority of risks to the contractors. Conflict resolution techniques such as, confrontation and coercion are counter-productive and present win-lose solutions (Lazar 2000). Joint problem solving techniques, joint monitoring and performance appraisal systems may be used to overcome this issue and produce win-win solutions for all parties.

### **3.3.4 Flexible contracts**

Due to the high level of uncertainty and complexity associated with construction contracts, it is not realistic to fully perceive or quantify all future events to prepare comprehensive contracts. RC principles accept this and advocate the use of flexible contracts to effectively address these issues (Macneil 1974).

### **3.3.5 Long-term commitment**

Long-term commitment can be regarded as the willingness of the involved parties to integrate continuously to unanticipated problems (Bresnen and Marshall 2000; Cheng et al. 2000). Such commitment would imply a willingness among parties to permit short-term losses in the expectation of end-of-project mutual gains; thus preventing opportunism (Lazar 1997; Mohr and Spekman 1994).

### **3.3.6 Learning and innovation**

This includes capacity for innovation, presence of a learning culture and a positive attitude towards continuous improvement within project teams. Innovation, capture of knowledge and lessons learned is an important aspect of a successfully implemented RC practice (Walker and Hampson 2003). According to Jin and Ling (2006), cultivating a learning culture in tendering stage could improve cost performance; while after construction stage, it could reduce change orders or claims. Sharing the lessons learnt among all parties could result in achieving overall performance improvement and continuous growth.

## **4. Research design**

The purpose of this research was to explore the adaptability of RC practices in project environments in the Sri Lankan construction industry. This was achieved using a questionnaire survey. The questionnaire was divided into two main sections. The first section sought general information about the respondents. The second section included the 37 factors identified during the literature review. A seven-point Likert scale, ranging from (1) disagree very strongly to (7) agree very strongly, was used to obtain the respondents' level of agreement on each of the factors given. The questionnaires were

self-delivered, which helped ensure a 100 percent response rate. Informal interviews were also carried out with respondents to further clarify and validate the overall findings attained from the questionnaire survey.

#### 4.1 Selection of respondents

The implementation of RC practices requires a change of attitudes and culture in project delivery teams. This research sought to gather the perceptions of project team members, with respect to the applicability of the identified facilitators to RC in the Sri Lankan context. Two separate samples were selected for this purpose, which included 10 projects with traditional procurement arrangements and 10 projects with Design and Build (D&B) type procurement arrangements. The D&B arrangements are the most common form of integrated procurement arrangement used in the Sri Lankan construction industry. Selection of these two separate samples enabled to identify any differences of opinions between participants with different levels of project team integration. The convenient sampling technique was used with the main purpose of securing a good response rate. In addition, the nature of the data collected was such that no bias could be expected by selecting this sampling technique.

#### 4.2 Profile of respondents

In each DBB project, a member of the consulting team and a member of the construction team were selected and questionnaires were distributed to them. In the projects with D&B arrangements, the same team (from a single organisation) acted as the design and the construction team. Therefore, in this instance, a single questionnaire was given to a member of the project team. All the respondents selected fall into the category of ‘professionals’. Some held senior or middle management positions within their respective organisations. Therefore, all the respondents were actively interacting and dealing with members from other organisations working in the project team. Thus, their views on the facilitators to the development of more collaborative working relationships were developed through hands-on experience of working with other project parties.

*Table 1: Years of experience in the construction industry*

<i>Years of Experience</i>	<i>Number</i>	<i>Percentage %</i>
<i>1-5</i>	<i>7</i>	<i>23</i>
<i>6-10</i>	<i>6</i>	<i>20</i>
<i>11-15</i>	<i>5</i>	<i>16</i>
<i>16-20</i>	<i>5</i>	<i>16</i>
<i>Over 21</i>	<i>7</i>	<i>25</i>
<i>Total</i>	<i>30</i>	<i>100</i>

Table 1 gives the years of experience of the respondents in the construction industry. On average, respondents have worked in the industry for 14 years with 77 percent of the respondents having over six years of experience.

### **4.3 Data analysis**

The results of the data analysis of the questionnaire survey, *inter alia*, examined whether factors that facilitate RC already exist in the project environments in the Sri Lankan construction industry. The higher the level of existence of facilitating factors in the project environments, the higher the level of adaptability of RC practices. In contrast, if the facilitators were found to be lacking, it would be an impediment to implementing RC practices indicating a low level of adaptability of RC practices within project environments. Since the questionnaire used a Likert scale the gathered data was ordinal in nature. Hence, it was not possible to carry out arithmetical calculations such as, mean or standard deviation or any parametric tests on the data gathered. Therefore, the median and the inter quartile ranges were calculated. Due to space limitations, Table 2 only shows the aforementioned calculations for the questionnaire survey results on the project-related factors. Similar, analyses were carried out for the client-related and organisation -related factors. The Mann-Whitney U test was also used as a method of data analysis. This was used as a non-parametric equivalent of the independent samples t-test. The results of the Mann-Whitney U tests was used to examine any significant differences between the perceptions of different categories of participants, i.e. 1) traditional vs. D&B, 2) contractors vs. consultants in traditional projects. The following sections discuss the findings relating to the above.

## **5. Discussion**

### **5.1 Potential to develop RC in the Sri Lankan Context**

The results revealed that, of the 37 factors identified, 30 factors could be regarded as factors facilitating RC in the current project environments. Out of these, the strongest facilitators included the organisations' competency to perform, the capacity for innovation within project teams and the presence of mutually agreed dispute resolution mechanisms. With respect to these 75 percent of the respondents stated that they 'agree', 'agree strongly' or 'agree very strongly', whereas, the remaining 25 percent were 'undecided' on the issue. Similarly, 75 percent of the respondents showed varying levels of agreement to the presence of commitment from senior management, vertical intra-organisational trust, and having a mutually agreed mechanism for dispute resolution in place.

Factors such as, open and efficient communication between parties, effective coordination between parties, team working attitude of all parties and mutual trust among parties, which are essential in building a RC culture, all had a median of five. The four aforementioned factors, along with top management support were found to be the most important facilitators of RC in the works of Cheng and Li (2001) and Kumaraswamy et al. (2005). Thus, the presence of these factors to this extent in

the present project environments, where polarisation of parties is expected due to past experiences of adversarial relationships and disputes is an important aspect.

The strongest impediment to RC in the current Sri Lankan context was identified to be the commercial pressures on organisations. With regard to this item, 50 percent of the respondents agreed it prevented them from working co-operatively with other project parties. This made alignment of commercial and project objectives of parties, which is an important facilitator to RC, difficult in the current context. A number of contractors interviewed saw themselves constantly having to choose between better relationships and collaboration with project parties having conflicting objectives and their own objectives of profit maximisation. The issue was amplified in situations where the contractors had been forced to operate in increasingly tight margins due to increased competition and lowest price selections. Findings of a similar study conducted by the Construction Industry Institute of Australia (CIIA) had revealed similar results where there was strong agreement among respondents that commercial pressures on organisations was a barrier to developing successful partnering relationships.

In addition to above, the results revealed that the respondents were divided between agreement and disagreement, with respect to long-term commitment of the other project member organisations, the ability of their own organisations to work collaboratively with competitor organisations, equality between project parties, timely responsiveness to problems, joint responsibility for the project outcome of parties and arrangements to share rewards as well as risks. Therefore, it was necessary to investigate these items further and explore if the perceptions improved with better integration of teams, by comparing between the traditional and D&B projects before a conclusion could be made.

## **5.2 Differences in perceptions: According to the type of project**

### **5.2.1 Traditional vs. D&B**

The results of the Mann-Whitney U tests revealed 11 factors had a significance level lower than 0.05 showing noteworthy differences in perceptions between the two groups. Analysing the responses given by the respondents of the two groups for these factors showed better facilitators to RC in D&B projects compared to the traditional projects.

In traditional projects, 50% of the respondents ‘disagreed’, ‘disagreed strongly’ or ‘disagreed very strongly’ that there was any equality between parties. In contrast, less than 25% of the respondents from D&B projects ‘disagreed’ with the statement. The dominant position held by consultants in the traditional project teams, especially in approving payments to contractors was significant in affecting the equality between parties in these projects. More than 50% of the respondents in traditional projects disagreed that there was timely responsiveness to problems arising in projects. This was interrelated to the fact that there was poor coordination in these projects. Over 50% of the respondents in traditional were undecided or disagreed (with 25% of the respondents stating they ‘disagree strongly’ or ‘very strongly’) to the fact that there was effective coordination within the project team. On the other hand, 75% of the respondents from the D&B projects stated varying



degrees of agreement to the statement. Similarly, project team members from D&B projects were more supportive towards trying to reach win-win solutions to problems. These results showed that a change of adversarial attitudes was possible through better integration of the project process. Hence, it could be deduced that as the levels of integration of project teams increase, the relationships between project parties improve; thereby making the project environments more conducive to RC approaches.

### **5.2.2 Contractors vs. Consultants in Traditional Projects**

Mann-Whitney U test between contractors and consultants of the traditional projects identified seven factors with significance levels lower than 0.05 indicating significant different perceptions in the two groups of respondents. Overall, the results showed that in comparison to consultants, the contractors have a more conducive attitude towards developing collaborative relationships within project teams. The contractors showed better long-term commitment with 75 percent agreeing that they were willing to allow small losses to their own organisations in the expectation of end of the project mutual gains or future projects from clients. However, all of the consultants were either undecided or disagreed with the statement. Furthermore, all the contractors were either 'undecided' or 'disagreed' with the statement that all project parties were held jointly responsible for the outcome of the project, while none of the consultants disagreed with the statement. This showed the frustration of the contractors with regard to the ability of the consultants to escape blame for problems in design and design communication.

## **6. Conclusions**

The research found that there were 30 factors, identified as facilitators to developing relational contracting, present in the Sri Lankan construction industry. However, in the current traditional procurement environments the factors that could facilitate better relationships between parties appear to be overshadowed by inherent pressures created by the traditional procurement and contracting strategies; most prominent among which is the commercial pressures on organisations. The dominant position held by the consultants in the traditional project teams seems to be magnifying these pressures. Comparison of perceptions of contractors and consultants in traditional projects revealed that, contractors were more supportive towards the development of collaborative project environments than the consultants. This showed the frustration of the contractors towards the inferior position they are constantly given within the traditional project teams, as well as the unwillingness on the part of consultants to give up their dominant position.

Mann-Whitney U tests between traditional and Design and Build (D&B) project team members revealed that the factors facilitating RC were stronger in the D&B environments. Significant improvements were found in D&B projects with respect to the level of equality between project parties, timely responsiveness to problems and the willingness of project parties to reach win-win solutions to disputes. Finding that there were stronger facilitators to RC with increased integration in project teams complimented the findings of Kumaraswamy et al (2005). Thus, their statement that

approaches to building a RC culture can be reinforced through measures to promote integrated teams could be held valid to the Sri Lankan context as well.

Drawing from the results of this study, it is recommended that initiatives be taken in shifting away from the traditional project delivery strategies towards RC. These initiatives could begin with measures to promote integrated teams in project delivery processes by the government and other industry related institutions. At the same time, awareness should be given to clients (especially clients of large scale or repetitive construction projects) on these RC practices and the potential benefits that could be obtained through their adaptation. It was revealed that the research findings concurred with the findings of similar researches done in other countries. Therefore, it could be deduced that the results obtained have a high reliability. Furthermore, these findings make the relevant international literature on this area applicable to the Sri Lankan context as well.

*Table 2: The questionnaire survey results*

<i>Item</i> <b>(Project Related Factors)</b>	<i>Percentiles</i>		
	<i>25th</i>	<i>50th(Median)</i>	<i>75th</i>
<i>There is capacity for innovation within the project team</i>	5.0	5.0	6.0
<i>The risk allocation/sharing arrangements are clearly defined in this project (Avoiding unclear and confusing use of words to reduce disputes and potential legal liabilities)</i>	5.0	5.0	6.0
<i>The dispute resolution arrangement of this project has been agreed to by all the relevant project parties</i>	5.0	5.0	6.0
<i>There is a learning culture within the project team</i>	4.0	5.0	6.0
<i>You are willing to trust and rely on the other project team members in this project</i>	5.0	5.0	5.0
<i>There is a positive attitude towards continuous improvement within the project team</i>	4.0	5.0	5.0
<i>The contract in this project is flexible to deal with uncertainties</i>	4.0	5.0	5.0
<i>The procurement/contract strategy of this project is appropriate</i>	4.0	5.0	5.0
<i>The fear of opening future claims does not restrict your organisation from involving in resolving non-contractual claims in this project</i>	4.0	5.0	5.0
<i>There is efficient communication between parties in this project</i>	3.0	5.0	6.0
<i>There is open communication between parties in this project</i>	3.0	5.0	6.0
<i>There is effective coordination between parties in this project</i>	3.0	5.0	5.0
<i>There is a team working attitude between parties in this project</i>	3.0	5.0	5.0
<i>There is good project planning in this project</i>	3.0	5.0	5.0
<i>The risk is allocated or shared fairly between parties in this project</i>	3.0	5.0	5.0
<i>The project parties try to reach win-win solutions to disputes arising in this project</i>	3.0	5.0	5.0
<i>There is timely responsiveness to problems arising in this project</i>	3.0	4.5	5.0

<i>All project parties are held jointly responsible for the outcome of this project</i>	3.0	4.5	6.0
<i>There are arrangements to share the rewards such as, cost savings made in this project</i>	3.0	4.5	6.0
<i>There is equality between parties in this project</i>	3.0	4.5	5.0

## References

Aglionby, A and Georgiou, P (2004) "Relationship Contracting, The ICAC and WTO Procurement Rules". In: *CII-HK Conference on construction partnering: Our partnering journey-Where are we now and where are we heading?*, 9 December 2004, Hong Kong.

Bennet, J and Jayes, S (1998) "*Trusting the team: The best practice guide to partnering in construction*". London: Thomas Telford.

Bidault, F and Castello, A (2009) "Trust and creativity: understanding the role of trust in creativity-oriented joint developments". *R&D Management*, 39(3), 259-270.

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, Chiang, Y H, Tang, B S, Chan, E H W and Ho, K S H (2004) "Exploring critical success factors for partnering in construction projects". *Journal of Construction Engineering and Management*, 130(2), 188-198.

Cheng, E W L and Li, H (2001) "Development of a conceptual model of construction partnering". *Engineering, Construction and Architectural Management*, 8(4), 292-303.

Cheng, E W L, Li, H and Love, P E D (2000) "Establishment of critical success factors for construction partnering". *Journal of Management in Engineering*, 16 (2), 84-92.

Das, T K and Teng, B S (1998) "Between trust and control: Developing confidence in partner cooperations in alliances". *Academy of Management Review*, 23(3), 491-512.

Jin, X H and Ling, F Y Y, (2006) "Key Relationship-based determinants of project performance in China". *Building and Environment*, 41, 915-925.

Kumaraswamy, M M, Rahman, M M, Ling, F Y Y and Phng, S T, (2005) "Reconstructing cultures for relational contracting". *Journal of Construction Engineering and Management*, 131(10), 1065-1075.

Lazar, F D (1997) "Partnering – New Benefits from Peering inside the black box". *Journal of Management in Engineering*, 13(6), 75-83.

Macneil, I R (1974) "The many futures of contracts". *Southern California Law Review*, 47(3), 691-816.

Mohr, J and Spekman, R (1994) "Characteristics of partnering success: Partnering attributes, communication behaviour and conflict resolution techniques". *Strategic Management Journal*, 15(2), 135-152.

Ofori, G (2000) "Challenges of construction industries in developing countries: lessons from various countries". In: Ngowi, A.B and Ssegawa, J (Eds), *2nd International Conference of CIB Task Group 29*, 15–17 November, Gaborone. National Construction Industry Council, University of Botswana, and CIB, 1–11.

Palaneeswaran, E, Kumaraswamy, M, Rahman, M and Ng, T (2003) "Curing congenital construction industry disorders through relationally integrated supply chains". *Building and Environment*, 38, 571-582.

Rahman, M M and Kumaraswamy, M M (2002) "Joint risk management through transactionally efficient relational contracting". *Construction Management and Economics*, 20, 45-54.

Rahman, M M and Kumaraswamy, M M (2008) "Relational contracting and team building: assessing potential contractual and noncontractual incentives". *Journal of Management in Engineering*, 24(1), 48-63.

Rameezdeen, R (2007) "Construction procurement selection: Study of trends in Sri Lanka". In: *The commonwealth association of surveying and land economy conference*, 22 June 2007, Colombo, Sri Lanka.

Tang, W, Duffield, C F and Young, D M (2006) "Partnering mechanism in construction: An empirical study on the Chinese construction industry". *Journal of Construction Engineering and Management*, 132(3), 217-229.

Thompson, P J and Sanders, S R (1998) "Partnering Continuum". *Journal of Management in Engineering*, 14(5), 73-78.

Walker, D and Hampson, K (2003) "*Procurement Strategies – A Relationship based Approach*". Oxford: Blackwell Science.

Wong, W K, Cheung, S O, Yiu, T W and Pang, H Y (2008) "A framework for trust in construction contracting". *International journal of project management*, 26, 821-829.