Cheung, Yan Ki Fiona and Rowlinson, Steve (2007) Supply chain engagement through relationship management?. In London, Kerry and Thayarapen, G. and Chen, Jessica, Eds. *Proceedings Symposium: Building Across Borders Built Environment Procurement CIB W092 Procurement Systems*, pages pp. 119-126, Newcastle, New South Wales.

YAN KI FIONA CHEUNG
STEVE ROWLINSON

Supply chain engagement through relationship management?

ABSTRACT

Many studies carried out in relation to construction procurement methods have revealed evidence that there needs to be a change of culture and attitude in the construction industry, moving away from traditional adversarial relationships to cooperative and collaborative relationships. At the same time there is also increasing concern and discussion on alternative procurement methods, involving a movement away from traditional procurement systems. Relational contracting approaches, such as relationship management, are business strategies whereby client, commercial participants' and stakeholders' objectives are aligned. This paper reviews a range of relationship management project case studies undertaken between public and private organisations in Queensland, Australia and reports on the critical factors identified that influence the success of relationship management projects. The research takes place within the context of the supply chain and reflects attempts by a government agency to engage the supply chain through relationship management approaches. The advantages accruing from engagement include community benefit, added value and innovation. Relationship management is a system that provides a collaborative environment and a framework for all participants to adapt their behaviour to project objectives and allows for engagement of those subcontractors and suppliers 'down the supply chain'. It is about open communication, sharing resources and experiences, exposing the 'hidden' risks in the project for the benefit of all participants. The case studies suggest that leadership has a strong influence on the relationship management climate which needs to be facilitated and nurtured. Commitment and action by the senior management (and, so, parent organisations) can have a strong impact on the team and relationship management culture, indicating relationship management has a high chance of failure when there is inadequate support from top management. Like all relational contracting approaches, trust between relationship management partners is important. The authors conclude that without a positive approach to relationship management a sustainable industry and continuous improvement are not possible. So, the authors postulate that a 'sustainable supply chain' is essentially tautological without the existence of a clear relational vision that leads to both soft and hard infrastructure to assist and inform decision making and encourage relationship building. An example of this is discussed at the end of the paper.

Keywords: Relationship Management, Supply Chain Engagement, Sustainable Supply Chain, Catalyst for Change, Leadership.

1.1 INTRODUCTION

In both mainstream and construction management literature there has been a steady rise in the number of papers reporting studies on the implicit link between organisational culture and performance (Handy 1985; Wood and Ellis 2005). Benefits of partnering such as win-win relationships, time and cost savings, trust, motivation and open communication are highlighted in a stream of literature (Bennett and Jayes 1998; Wood and Ellis 2005; Wood, McDermott and Swan 2002; Bresnen and Marshall 2000).

Numerous reports published in the past decade, such as the Tang Report on *Construct for Excellence: Report of the Construction Industry Review Committee*, the Hong Kong Housing Authority report on *Quality Housing: Partnering for Change*, *Building for Growth* by Australia NatBACC and the Egan report on *Rethinking Construction*, all indicate the way forward for the construction industry. These reports advocate a move away from adversarial relationships and towards the use of relational contracting approaches. However, such approaches require a culture change.

More recently, the NAO report on *Modernising Construction* and Sir John Egan's report on *Accelerating Change*, both highlight the construction industry need for better management of construction supply chains and more engagement with the supply chains to achieve sustainable construction. Relationship management is a sustainable approach to the industry in terms of social, environmental and economic sustainability and can provide a positive contribution to sustainability and help to satisfy client and stakeholder interests (Blau 1963; Darwin 1994; Darwin, Duberley and Johnson 2000; MacNeil 1978; MacNeil 1985; Rousseau and Parks 1993). It provides the means to achieve sustainable, ongoing relationships in long and complex contracts by an adjustment process of a more thoroughly transaction specific, ongoing, administrative kind (Kumaraswamy and Matthews 2000). Although the potential benefits of relational approaches (for example, construction partnering, alliancing, PPP and relationship management) have received strong interest in the construction industry, relational approaches are not yet the dominant choice of procurement strategy (see Phua 2006 for example).

Bresnen (2007) points out studies in partnering often distil partnering into a set of principles such as The Seven Pillars of Partnering (Bennett and Jayes 1998). Many reports also define similar foundations for a more collaborative approach to projects between clients and contractors. However, the benefits and limitations of partnering are often disregarded (Bresnen 2007; Green 1999). Green (1999) argues that the philosophy of continuous, measured improvement from the definition of partnering presented by Construction Industry Board (see Construction Industry Board 1997) actually demands that each project exceeds the performance of the previous one. Emphasis is put on the search for general principles and universally applicable tools and techniques that can be used to support partnering (Bresnen 2007). Partnering is adopted as a set of procedures and examples of 'good practice' which are heavily based on the number of successful cases, rather than a process change or an attitude change. Recent research funded by the Cooperative Research Centre for Construction Innovation explores relationship management in a particular economic, environmental and social context in Queensland, Australia. According to Rowlinson and Cheung (2005), the key to the relationship management process is understanding team and organisational culture. It is necessary to fit a contract strategy to the collaborative approach that relationship management brings. They also point out one should not solely rely on the partnering or facilitation workshops, a formal structure must also be laid out. Relationship management is about changing the attitude and is both an organisational and an industry level issue, which requires an industry wide education and training initiative.

Relational contracting is predicated on a broader view of the procurement system; it implicitly incorporates supply chain engagement, essential if the performance indicators of best value, community benefit and innovation are to be achieved. It is about moving away from adversarial relationships, in order to develop a team, and perhaps a long-term commercial relationship. Thus, relational contracting approaches, such as partnering, alliancing and relationship management, are

about communication, cooperation, trust, culture, mutual objectives and risk sharing (European Construction Institute 1997; Liu and Fellows 2001; Matthews 1996; Sanders and Moore 1992; General Contractors of America Associated 1991; Bennett and Jayes 1995).

According to Rowlinson and Cheung (2002), relationship contracting (referred to as relational contracting above) is based on a recognition of and striving for mutual benefits and win-win scenarios through more cooperative relationships between the parties. Relationship contracting embraces and underpins various approaches, such as partnering, alliancing, joint venturing, and other collaborative working arrangements and better risk sharing mechanisms. Relationship contracts are usually long-term, develop and change over time, and involve substantial relations between the parties and development of trust.

This paper aims to shed some light on the practices and pre-requisites for relationship management to be successful. The problem addressed in the research is the implementation of relationship management through a range of projects between public and private sector organisations in Queensland, Australia. The rationale behind this research is that the implementation of relational contracting approaches requires a change of mindset, a culture change, and both client and contractor must change; with greater interaction in the project delivery strategy, organisation culture and structure.

1.2 RESEARCH METHOD

The research methodology was derived based on a prior grounded, triangulated approach (Cheung 2006). A grounded theory is discovered, developed and provisionally verified through data collection and analysis of data pertaining to that phenomenon. Therefore, data collection analysis and theory stand in a reciprocal relationship with one another other. One does not begin with a theory, then prove it, rather one begins with an area of study and what is relevant to that is allowed to emerge (Strauss and Corbin 1990). According to Love, Holt and Li (2002), triangulation is an appropriate research methodology for construction management research. It helps to maximise understanding regarding both the ontological and epistemological aspects of construction management.

A number of recent studies address innovation and change in the context of inter-organisational collaboration in project based settings (Rowlinson 2001; Alderman and Ivory 2007; Cox and Ireland 2002; Winch, Millar and Clifton 1997). Organisational structure, culture and commitment are identified in these works as being significant in shaping organisational performance, which form the main parameters of this research. Thus one objective of this research is to investigate the impact of the various cultural variables on project performance, which then allows patterns and characteristics leading to successful collaboration amongst firms to be identified. By using independently collected data, it was possible to verify the thinking of key individuals in the organisations as to the strengths and weaknesses of the systems currently in place. A questionnaire survey was conducted in order to find out where the organisation currently stands and interviews and case studies were conducted in order to validate the results.

This paper reports the initial findings captured from a survey undertaken with a public organisation focusing on the supply chain relationships and a series of interviews within public sector case studies. The survey stemmed from an initial, extensive grounded study which identified key variables in relationship management and supply chain engagement, namely: organisation culture and its fit; organisational commitment; organisational structuring, situational leadership and technology context. Questionnaires were sent to ten professionals nominated by the public organisation who have direct/indirect working relationships with the pre-cast concrete supply chain industry. Ten questionnaires were returned and an interview (30-45 minutes) was conducted with each participant.

Participants then nominated individuals (here-in-after called Other Units) whom they had work relationship with. 48 sub-questionnaires were sent out to the nominees and 23 were returned.

1.3 TYPES OF ORGANISATIONAL CULTURE

Handy's (1985) instrument on organisational culture and structure was chosen for this research as it is well understood, practical and fitted the responses elicited in the grounded study. Task culture was found to be preferred by the professionals in the organisation. Handy (1985) describes task culture as very much a small team approach. It is best suited to groups, project teams or task forces which are formed for a specific purpose, such as delivering a project, which describes the job nature in the public sector organisation; individuals in the organisation belong to his/her group for each project.

Task culture can be found where the market is competitive, the product life is short and speed of reaction is important. Individuals are empowered with discretion and control over their work. In this instance task culture fits well with the organisation as the participants generally work as a team i.e. a project team. Individuals form a team for a specific purpose, and cooperate with smaller organisations e.g. pre-cast concrete supplier, contractors to deliver projects. Also, achievement is judged by results, in this instance success of the project which includes the delivery and quality of particular products, e.g. concrete. However, when the results were analysed further, it was found that the culture that was perceived to exist within the organisation was a mix between role and power culture.

Role culture is often found where economies of scale are more important than flexibility or where technical expertise and depth of specialisation are more important than project innovation or product cost. In this case it is apparent in a highly structured, stable company, a bureaucracy. Procedures, role descriptions and formal authority are the mechanisms by which work was undertaken. Coordination is from the top, and the organisation has a long product life i.e. the organisation still exists when projects (e.g. highway up-grade, road and bridge building) have finished. Professionals in the organisation would not expect to be abandoned after the completion of each project. On the other hand, power culture is frequently found in small entrepreneurial organisations. Power and influence derives from the top person/group. The organisation depends on trust and empathy for its effectiveness, and with a personal relationship, the individual matters more than any formal title or position. The organisational structure is apparent in power-orientated forms and is politically minded – decisions made are hindered by politicians. It is risk-taking – sharing risks with contractors and open communication, reflecting principles of relationship management. Maximum independence is given to heads of units – principals have great control over his/her teams and projects. Hence, the existing organisation structuring, necessary for a large public sector organisation to work effectively, is fundamentally at odds with the needs of temporary intra-organisations, i.e. project organisations. The mismatch identified here can be seen to have an effect on issues such as commitment and structuring. This paradox between organisation and employee satisfaction is not new but is one that must be recognised and addressed.

1.4 LEVELS OF COMMITMENT

The same group of professionals were also questioned on the concept of organisational commitment using Allen and Meyer's (1990) affective, continuance and normative commitment scales. The degrees of emotional attachment to the organisation, affective commitment, and acceptance of organisation's values, normative commitment, are found to be stronger; whereas the degree of continuance commitment (the cost of leaving the organisation outweighs the cost of staying) are found to be more 'middling'. In Rowlinson's (2001) Hong Kong study with a public sector organisation, the levels of

normative and affective commitment were found to be relatively low. On the other hand, the findings reported a high degree of continuance commitment level with the HK professionals. Rowlinson suggests the mismatch between organisational culture and structure, professionals' expectation and procedures might affect issues such as commitment, as shown in his case study with the Hong Kong public sector organisation. A relational contracting approach can only succeed if the collaborating organisations accept its ethos. Hence, sharing values and being committed to the goals and objectives of the organisation is crucial in client, contractor and supply chain integrations.

1.5 ORGANISATIONAL STRUCTURE

Van de Ven and Ferry's (1980) organisational assessment was used to explore organisational structuring. The aim is to assess the organisation performance in relation to how it is organised and to the environments in which it operates. Using the results generated from the survey and interviews, it is noticed that although the organisation was initially expected to follow the logic of developmental group mode, the logic of a cross between systematised impersonal mode and discretionary personal mode is more closely followed. This again reflects the results derived from Handy's instrument. The professionals should be and expect to be following a developmental group mode and do prefer working in a task culture but are actually in a mix between role/power cultures and follow the systematic/discretionary mode. In subsequent interviews with survey respondents, the senior management was often described as a power centre, where information and decisions were diffused from the top.

The public sector organisation has had long relationships with the Other Units, implying there is a mutual understanding of organisation policies and direction in general; perhaps suggesting a reason for both parties finding their working relationship to be medium to highly effective. The public sector organisation and Other Units both believe the other party is quite familiar with each other's services and goals and both parties find their degree of personal acquaintance to be good, suggesting a level of trust is developed over a series of interpersonal encounters and established mutual obligations (Moorman, R. and Zaltman 1993). Trust is an underpinning component for relationship management (Cheung, Rowlinson, Jefferies and Lau 2005).

The average degree of conflict for both parties is found to be low. Interviewees pointed out the majority of conflicts/disagreements are on technical and programme issues. Other Units indicated a medium-high level of agreement with the public sector organisation, whereas the public sector organisation indicated a medium-low level of agreement with Other Units. A point of interest is most survey participants from the public sector organisation indicated they do not know the ways of work/services provided by Other Units. An interviewee mentioned "contractor/supplier worries knowledge or their trade secrets might be stolen by us (inspectors, visitors). However, labour moves to different sites and would give suggestions… this is a small industry." The fear of knowledge disclosure and the lack of trust in the supply chain are expounded in the example. Relationship management is about opening up communication and working towards aligned goals.

The most frequent use of communication methods by the professionals are telephone calls and written forms, followed by face-to-face conversations. Survey findings point out that the higher frequency of written communication, the more effective the working relationship is. Also, although there is a high frequency of contact between both parties, the amount of time they spend with each other is relatively low. A point to note is communication in writing is not limited to written reports or letters, but also emails. This is confirmed by the follow up interviews, due to the resource constrains and distance between parties, physical meetings were not always viable and a large amount of information exchange is conducted by phone and confirmed by email. The quality of communication is found to be

satisfactory (based on the degree of difficulty of getting in touch and getting ideas across to the other party). Should the degree of difficulty on getting in touch and getting ideas across to Other Units increase, the performance of the public sector organisation is increasingly hindered and *vice versa*. This is purely a consequence of the nature of construction in that all levels in the value chain are interrelated – from policy makers to principal engineers (implementing policy in specifications) to structural engineers (ensuring works are carried out according to specifications) to concrete suppliers (supplying products according to specifications).

A high level of commitment is found between the public sector organisation and Other Units. Survey findings also indicate both parties found their relationship very productive. Both parties believed the time and effort spent have been worthwhile and were very satisfied with the relationship. Strong positive correlations are also found between the extent of commitment by both parties, the degree of productive relationship and the relationship satisfaction level, suggesting these variables are interrelated. High commitment from both parties resulted in a more productive relationship, an engagement of the supply chain. Senior management commitment is crucial in pushing changes forward – from revising contract conditions, with a stronger focus on other important factors than best price when determining best value, to implementing specification changes in Standards Australia. Lack of top management commitment, poor understanding of the relationship management concept, inappropriate organisation structure and low commitment from partners will lead to supply chain relationship failure (Akintoye, McIntosh and Fitzgerald 2000). The concept of relationship management and its complexities must be understood by all parties – client, contractor and supply chain. Parties must recognise the benefits of relationship management and understand the approach; this requires education and training with intervention of a facilitator in order to ensure relationship management effectiveness (Cheung et al. 2005).

Positive correlations are found with the level of personal acquaintance and the extent of productive and satisfactory relationship, implying the better both parties know each other on a personal basis, the higher and more productive and satisfactory is the relationship. Strong significant correlations are also found between personal acquaintance, consensus and awareness. Various interviewees pointed out personal relationships are very important for the project and negotiations. Parties become more cooperative, issues are raised at the first instance (e.g. at design stage), and there is sharing of information, including design issues between clients and suppliers, and technical issues cross states, which led to reduction of risks and minimisation of errors. Innovative ideas and collaborative working relationships are developed between the parties. The observation was reflected by the positive correlation between consensus and resource dependence. There was a cultural shift from adversarial to proactive, trusting relationships between the public sector organisation and the supply chains. The positive correction between personal acquaintance and resource flow between both parties indicates the better one knows the other, the higher frequency of transaction (e.g. dollars, work) occurs.

Although both public sector organisation and Other Units indicated there are high levels of commitment and satisfactory relationships, findings point out the equality of transactions between the parties is only average or below, suggesting the equality of the give-and-take relationship with the other party was unbalanced. Relationship management is about striking the balance between the partners, in this case clients and suppliers, to achieve a long-term relationship. By establishing a long-term relationship with suppliers, the public sector organisation can assist the suppliers to create value and material development e.g. quick dry concrete. Clients and suppliers can potentially make savings in their operations under a relationship management regime through sharing and exchanging technical and managerial knowledge of the project.

Resource dependence was found to have a positive correlation with frequency of communication as expected. Constant communication is needed for the exchange of knowledge, such as the public

sector organisation's expertise and Other Units' technical and practical knowledge. A strong correlation was also found between frequency of communication and the level of awareness. Also, it is shown that the higher level of awareness of the other party, the higher degree of consensus. However, lack of (urgency) awareness and poor attitude towards issues are comments constantly surfaced at interviews. Such behaviour often leads to frustrations on reoccurring problems and unable to close up issues.

1.6 POSTSCRIPT: MYVIRTUALHOME

This section briefly introduces a 'hard' technology which can assist in the development of relationships and so lead to supplier engagement and so a sustainable supply chain. The previous sections have discussed the soft infrastructure of relationship management but a hard infrastructure is also important in facilitating relationship building in the supply chain. The concept of MyVirtualHome (MVH) is to provide a comprehensive and interactive communication platform between customers, suppliers (product and service), trades people and consultants. It provides an ICT platform for customers to select products from the database and provide an instant preview (3D models and allows 'walk through') of a range of designs and looks of the final product. At the same time, it provides interactive communication channels between business/business, business/customer, customer/customer. Suppliers can deliver information directly to customers via 3D catalogues on MVH, which enables customers to browse through and purchase from the suppliers. At the same time, MVH acts as a knowledge sharing platform, where product details are shared (3D categories) and completed home/room designs can be uploaded to the website for download and share amongst MVH users. For this multi-dimensional communication tool to be sustainable, it requires an ongoing partnership between suppliers, manufactures, consultants, trades people and most importantly, customers; an engagement of all stakeholders, not just supply chain. By involving customers in design and product selection process, as well as providing visualisation of the real product, it increases customers' incentive to use the tool, and buying the products/services from the registered suppliers. On the other hand, the success of MVH relies heavily on registrations from suppliers and professionals in the industry for up-to-date range of products and product information to the customers. To achieve this, MyVirtualHome Pty Ltd must have ongoing relationships with suppliers, which is done through membership. Thus, the relationship management approach is actively supported by software which encourages interaction and engagement.

1.7 SUMMARY

The basic concepts and variables relating to cooperation, collaboration, organisational issues and performance were examined in this research. Cultural barriers to change exist at both management and operation levels. MVH and relationship management, both have a similar objective, to promote engagement and long-term relationships between clients/customers, suppliers and professionals. Relationship management brings professionals from different industry groups together by providing an interactive communication platform. It provides the setting for knowledge sharing and innovations which leads to cost and time saving. In this case, by establishing partnership with suppliers, the public sector organisation can help suppliers to create value and material development; and on the other hand, suppliers can tailor made products to suit client needs. The software package provides a medium and the information base for this interaction and engagement to take place; in essence, it is a catalyst in the process.

The degree of match and mismatch between organisational culture and structure has an impact on staff's commitment level. The concept of relationship management needs to filter down to all levels in the supply chain if participants are to retain commitment and buy-in to the relationship and become engaged.

A sustainable supply chain requires proactive relationship management and the development of an appropriate organisational culture, and trust. Relationship management will not succeed without parties' strong buy-in and commitment to the concept. Project parties need to recognise the benefits of relationship management. They also need to be familiar with relationship management principles and relationship management in practice for effective integrations. Indeed, a catalyst for the development of relationship is important. In this instance we have used a software example, MVH. However, behind the software is a whole network of relationships and interests which have to be recognised and managed. This brings us to the last conclusion of this research, that education and training is an imperative for achieving effective relationship management application. Relationship management culture must be championed in organisations through continuous training and in-house workshops. Relationship management culture and correct principles should be embedded in people's mindset at an early stage e.g. through institutes and universities.

1.8 ACKNOWLEDGEMENT

The supports of the CERG (grant ref: HKU 7122/04E The Impact of Culture on Project Performance) and CRC for Construction Innovation (project no: 2004-016-A Supply Chain Sustainability) in providing funding for part of this work are gratefully acknowledged.

1.9 REFERENCES

Akintoye, A., G. McIntosh and E. Fitzgerald. 2000. A survey of supply chain collaboration and management in the UK construction industry. *European Journal of Purchasing & Supply Management*, 6: 159-168.

Alderman, N. and C. Ivory. 2007. Partnering in major contracts: paradox and metaphor. *International Journal of Project Management*, 25: 386-393.

Allen, N. J. and J. P. Meyer. 1990. The measurement and Antecedents of Affective, Continuance and Normative Commitment to the Organisation. *Journal of Occupational Psychology*, 63: 1-18.

Bennett, J. and S. Jayes. 1995. *Trusting the team: the best practice guide to partnering in construction*. Reading: Reading Construction Forum.

Bennett, J. and S. Jayes. 1998. The Seven Pillars of Partnering. Reading, England: Reading Construction Forum.

Blau, P. M. 1963. *The Dynamics of Bureaucracy*. Chicago: University of Chicago Press.

Bresnen, M. 2007. Doconstruction partnering in project-based organisation: seven pillars, seven paradoxes and seven deadly sins. *International Journal of Project Management*, 25: 365-374.

Bresnen, M. and N. Marshall. 2000. Motivation, commitment and the use of incentives in partnerships and alliances. *Construction Management and Economics*, 18 (5): 587-598.

Cheung, Y. K. F. 2006. *A study of determinants of effectiveness in relational contracting*. Master by Research, Faculty of Built Environment and Engineering, Queensland University of Technology, Brisbane.

Cheung, Y. K. F., S. Rowlinson, M. Jefferies and E. Lau. 2005. Relationship contracting in Australia. *Journal of Construction Procurement*, 11 (2): 123-135.

Construction Industry Board. 1997. Partnering in the Team. London: Thomas Telford.

Cox, A. and P. Ireland. 2002. Managing construction supply chains: the common sense approach. *Engineering, Construction and Architectural Management*, 9 (5/6): 409-418.

Darwin, J. 1994. Networks, partnerships and strategic alliances. In *unpublished working paper*. Sheffield Hallam University: Sheffield Business School.

Darwin, J., J. Duberley and P. Johnson. 2000. Contracting in ten English local authorities: preferences and practice. *The international Journal of Public Sector Management*, 13 (no. 1): 38-57.

European Construction Institute. 1997. Partnering in the Public Sector: a Toolkit for the implementation of Post Award. Project specific partnering on construction projects. Loughborough, UK: ECI, Loughborough University.

General Contractors of America Associated. 1991. Partnering: A concept for success. Washington, D.C.: Associated General Contractors of America.

Green, S. D. 1999. Partnering: The Propaganda of corporatism? *Journal of Construction Procurement*, 5 (no. 2): 177-186.

Handy, C. 1985. *Understanding Organisations*. 3rd ed. London: Penguin.

Kumaraswamy, M. M. and J. Matthews. 2000. Improved subcontractor selection employing partnering principles. *ASCE Journal of Management in Engineering*, 16: 47-57.

Liu, A. M. M. and R. Fellows. 2001. An Eastern Perspective on Partnering. *Engineering, Construction and Architectural Management*, 8 (no. 1): 9-19.

Love, P. E. D., G. D. Holt and H. Li. 2002. Triangulation in Construction Management Research. *Engineering, Construction and Architectural Management*, 9 (4): 294-303.

MacNeil, I. R. 1978. Contracts: adjustment of long-term economic relations under classical, neoclassical and relation contract law. *Northwestern University Law Review*: 854-905.

MacNeil, I. R. 1985. Relational contract: what we do and do not know. *Wisconsin Law Review*: 483-525.

Matthews, J. 1996. *A project partnering approach to the main contractor-subcontractor relationship*. PhD Thesis, Loughborough University, Loughborough, UK.

Moorman, C., D. R. and G. Zaltman. 1993. Factors affecting trust in market research relationships. *Journal of Marketing*, 57 (January): 81-101.

Phua, F. T. T. 2006. When is construction partnering likely to happen? An empirical examination of the role of institutional norms. *Construction Management and Economics*, June (24): 615-624.

Rousseau, D. M. and J. M. Parks. 1993. The contracts of individuals and organizations. *Research in Organizations' Behaviour*, 55: 1-43.

Rowlinson, S. 2001. Matrix Organisation Structure, Culture and Commitment - A Hong Kong Public Sector Case Study of Change. *Construction Management and Economics*, 19 (no. 7): 669-673.

Rowlinson, S. and F. Cheung. 2002. Review of the concepts and definitions of the various forms of relational contracting (2002-022-A). Brisbane, Australia: CRC for Construction Innovation.

Rowlinson, S. and Y. K. F. Cheung. 2005. Culture Project - Final Report. In *Value in Project Delivery Systems: Facilitating a Change in Culture*. Brisbane, Australia: Cooperative Research Centre for Construction Innovation.

Sanders, S. R. and M. M. Moore. 1992. Perceptions of partnering in the public sector. *Project Management Journal*, XXII (no. 4): 13-19.

Strauss, A. and J. Corbin. 1990. *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. London: Sage.

Van de Ven, A. H. and D. H. Ferry. 1980. *Measuring and Assessing Organizations*. New York: Wiley.

Winch, G., C. Millar and N. Clifton. 1997. Culture and Organisation: The Case of Transmanche-Link. *British Journal of Management*, 8: 237-249.

Wood, G., P. McDermott and W. Swan. 2002. The ethical benefits of trust-based partnering: the example of the construction industry. *Business Ethics: A European Review*, 11 (no. 1): 4-13.

Wood, G. D. and R. C. T. Ellis. 2005. Main contractor experiences of partnering relationships on UK construction projects. *Construction Management and Economics*, 23 (3): 317-325.