

Minimizing construction disputes: the relationship between risk allocation and behavioural attitudes

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Abstract

The continuing incidence of costly disputes in the construction industry has led to a common interest of researchers in different countries to identify the generic aspects of conflicts, claims, disputes and their resolution. This paper undertakes a comprehensive review of literature in the field of construction disputes and identifies the relationship between procurement selection (with the inherent risk allocation) and the behavioural attitudes of key stakeholders as critical factors in the incidence of disputes. It conceptualises the research area and identifies a proposal for further research based on case studies of construction projects in Lebanon which have encountered disputes and claims.

Keywords: Disputes, conflict, claims, risk, behavioural attitudes.

1. Introduction

1.1 Disputes and conflict

Unlike other types of industries where the development and manufacture of product can be standardised and tested before being purchased, the nature of projects in the construction industry is extremely diverse. Every project is unique. Even where identical buildings are under construction, the site conditions in each will differ and introduce new challenges. Moreover, it is a multi-party process where numerous specialist parties are involved due to the diversity of skills required and thus maintaining teamwork atmosphere and controlling potential conflicts is important. Also, the construction projects normally span for a long period between the decision to invest and the completion of works. This leads to instability of supply and demand and high sensitivity to economic fluctuation [1].

Maintaining a cooperative environment becomes a difficult task because conflicts are inherent in construction projects [2,3]. Where conflicts result in adversarial stances and mistrust, they

have a detrimental effect on project performance [4]. Eliminating conflicts appears to be a daunting objective[5,6] and so efforts have been directed towards reducing their magnitude and/or keeping them under control [7].

The definition of dispute is itself a matter 'in dispute'. Some authors refer to disputes as simple disagreements, whilst others refer to disputes as the consequence of rejecting a claim [8, 9, 10]. Put in simple terms, and where it is referred to in what follows, a dispute is considered to be in existence where one party does not accept the rejection of the claim by the other party. Accordingly there has to be a claim, a rejection and a non-acceptance of the rejection. It is not considered to exist on the basis of a claim alone [11].

There appears to be a consensus in the literature that conflicts can be constructive or destructive. Accordingly, constructive conflicts should be encouraged whereas destructive conflicts that lead to disputes should be avoided [12, 5, 8, 4, 13]. Moreover, the sooner the destructive conflict is resolved the higher the percentage of resolution success and the lower the cost [4].

1.2 Causes of disputes

An extensive list of 56 causes of disputes over delay identified by Assaf *et al.* [14] includes: shortage of construction material, changes in types and specifications during construction, slow delivery of material, damage of material in storage, delay in the special manufacture of the building material, shortage of labour, labour skills, nationality of labourers, equipment failure, equipment shortage, unskilled operators, slow delivery of equipment, equipment productivity, financing by Contractor during construction, delays in Contractor's progress payment by Owner, cash problems during construction, design changes by Owner or his agent during construction, design errors made by designers, foundation conditions encountered in the field, mistake in soil investigation, water table conditions on site, geological problems on site, obtaining permits from municipality, obtaining permits for labourers, excessive bureaucracy in project Owner operation, building code used in the design of the project, preparation and approval of shop drawings, waiting for sample material approval, preparation of scheduling networks and revisions, lack of training personnel and management support, lack of database in estimating activity duration and resources, judgement of experience in estimating time and resources, project delivery systems used, hot weather effect on construction activities, insufficient available utilities on site, the relationship between different subcontractor's schedule, the conflict between the consultant and the Contractor, uncooperative Owners, slowness of the Owner decision making process, the joint ownership of the project, poor organization, insufficient communication between Owner and designer at the design phase, unavailability of professional construction management, inadequate early planning of the project, inspection and testing procedures used in the projects, errors committed during field, application of quality control based on foreign specification, controlling subcontractors by general Contractors in the execution of the works, the unavailability of financial incentives for Contractor to finish ahead of schedule, negotiations and obtaining of contracts, legal disputes between various parties, social and cultural factors, accidents during construction [14].

Through a questionnaire survey conducted on 61 contemporary construction projects in Hong Kong Kumaraswamy [8] attempts to better understand disputes; he identifies common root causes, proximate causes and confirms the need of further studies to isolate the real root causes of avoidable claims and disputes. A list of the root causes and the proximate causes is shown in Figure 1.

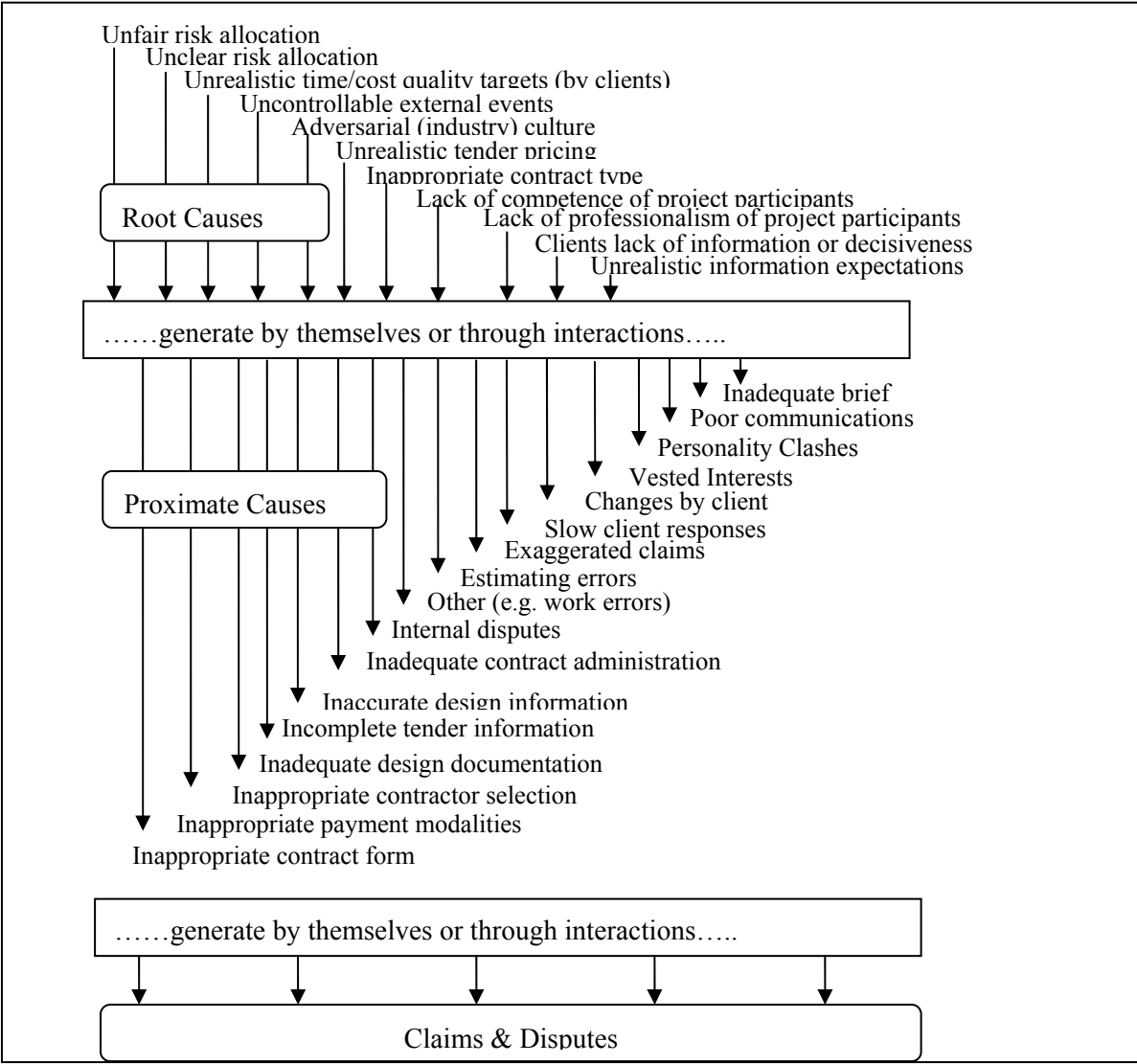


Figure 1- Root Causes and Proximate Causes (Kumaraswamy [8])

Other attempts to categorise the causes of disputes are shown in Table 1.

Table 1- Categorising Causes of Dispute (adapted from Fenn, [3] and Fenn, [60])

Al Momani [15]	Causes of delay: poor design, change orders, weather, site conditions, late delivery, economic conditions, and increase in quantity.
Alkass <i>et al.</i> [16]	Strikes, rework, poor organization, material shortage, equipment failure, change orders, act of God.
Bristow and Vasilopoulous [17]	Five areas unrealistic expectations: contract documents, communication lack of team spirit and change.
Colin <i>et al.</i> [18]	Six areas: payment, performance, delay, negligence, quality and administration.
Diekmann <i>et al.</i> [19]	Three areas: people, process and product.
Heath <i>et al.</i> [20]	Seven areas: contract terms, payment, variation, time nomination, re-nomination and information.
Hewit [21]	Six areas: change of scope change conditions, delay, disruption, acceleration and termination.
Kululanga <i>et al.</i> [22]	Four sources of dispute: (1) errors, defects and omissions in the contract documents, (2) underestimating the real cost of the project in the beginning, (3) changed conditions and (4) stakeholders involved in the project.
Madden [23]	Three categories: legal, technical and quantum.
Molenaar <i>et al.</i> [24]	Three categories: people issue, process issue and project issues.
Rhys Jones [25]	Ten areas: management, culture, communications, design, economics, tendering pressures, lay, unrealistic expectations, contracts and workmanship.
Semple <i>et al.</i> [26]	Four areas: acceleration, access, weather, and changes.
Sykes [27]	Two areas: misunderstandings and unpredictability.

Fenn [3, 60] conducted exhaustive studies of previous research into causes of disputes and the above table shows a sample from his studies of attempts to identify causes of disputes. However, it is evident from the sample that direct comparison of the results is, as expressed by Kumaraswamy [5], “neither possible nor useful, because of the diverse industry cultures and differing methodologies and terminologies used in data collection, analysis and outcome presentations.” However, all these factors as pointed out by Kumaraswamy [8] fall in the broader sense in three categories of external factors, contract and project teams. The same has been confirmed by the Dispute Prevention and Resolution Task Force of the Construction Industry Institute (CII) where the factors were described as project uncertainty, process problems including imperfect contracts and people issues [28, 29].

Mitropoulos and Howell [29] move beyond individual factors and study the effect of interaction of technical, contractual and behavioural factors on the development of disputes as proposed in

a dispute development model. These authors again identify three basic factors that directly affect disputes: project uncertainty, contractual problems and opportunistic behaviour.

Fenn *et al.*'s [12] research proves that studies conducted to determine dispute causes do not identify the causes that produce the most expensive delays. He concludes that there is a need for research that would investigate the causes of general disputes. Kumaraswamy[5] again emphasizes the need for a deeper analysis of the causal linkage between conflicts, claims and disputes. Identifying common causes and consequences of unresolved conflicts and claims would allow for more effective dispute avoidance as well as more efficient resolution of 'unavoided and unavoidable disputes' [5]. In spite of abundant research in the area, the continuing emergence of costly disputes verifies that further studies are needed to identify the causes of these disputes.

2. Uncertainty, contracts and behaviour

2.1 Project uncertainty

Construction projects are sensitive to an extremely large matrix of hazards and risks due to some of the inherent characteristics of construction projects [1]. As with disputes, many attempts have been made in the literature to identify and categorise risks. Zack [30] presents an exhaustive list of risk allocated in standard construction contracts that includes: physical risks, acts of God, impractical/impossibility, latent site conditions, quantity variations, site access, weather, capability-related risks, defective works, labour forces, subcontractor, supplier failure, economic risks, bonding, contract termination, cost escalation, economic disasters, failure to pay, insurance, project funding, taxes, time-related risks, acceleration, delays and disruptions, early use of facility, suspension of works, untimely responses, union strike, engineering and construction risk, changes, Contractor furnished equipment/material, continuation of work, coordination, defective contract documents, interpretation of requirements, means and methods of construction, owner-furnished equipment materials, permits and licenses, productivity, site safety, and work quality. Comparing these risks factors with the causes of disputes mentioned above by Assaf *et al.* [14] it is noticed that these risks are included as causes of disputes. This suggests that where risks surface in a project and are not treated correctly a dispute will result. Previous literature has ascertained that the risk should be transferred to the party that has the competence and expertise for best assessing, managing, controlling and minimizing it [31, 32, 33]. Risk allocation may be achieved through any one or a combination of risk retention, risk transfer, risk reduction and risk avoidance [33]. Given the significance of risks on project success, construction practitioners have raised awareness to the importance of risk management.

2.2 Contractual issues

Choosing the appropriate procurement method is a vital preventive method which if not carried out effectively might increase the probability of dispute occurrence. For this reason many models have been devised for procurement selection including discriminate analysis approach, multivariate analysis, decision support system, knowledge-based systems, procurement rating

systems, procurement path decision charts, the multi-attribute approach, the analytical hierarchical process, the project procurement system selection, the objective-subjective procurement method and the multicriteria / multiscreening model [34, 35, 36].

Some authors focus on the importance of proper contract documentation in avoiding and resolving disputes. Carnell [37] proposes that 'getting it right' requires successful negotiation of the contracting parties throughout the procurement and apportionment of risk, complying with contract requirements and monitoring delays. Jannadia *et al.* [38] conclude that, based on previous studies, waiting until the end of the project to resolve disputes makes the procedure more time and cost consuming. The authors investigate techniques that can be incorporated in preparing construction contracts for dispute avoidance and resolutions including: allocating fair contract risk, drafting dispute clauses, team building, and provision of a neutral arbitrator and binding arbitration. The authors conducted a survey in Saudi Arabia where results show that there was a common desire among the parties to draft dispute resolution clauses but they need to be better educated about the importance of 'fair risk allocation'. Other attempts in dispute prevention through contract procurement propose using alternative non-traditional procurement methods such as the design-build, EPC, PFI/PPP, Partnering, Concurrent Engineering, Incentive/Disincentive Contracts [39, 40, 41, 42, 43, 44, 45, 46].

Lowe and Leiringer [13] describe disputes as being the source of possible time and cost overrun and possible adversarial relationships between the different parties. This is not welcome to either the Owner or the Contractor. Cost overrun might lead to the project being unsuccessful, unfeasible or nullifying any benefits. Although avoiding disputes has been recommended, this is not usually possible and where disputes cannot be avoided efforts should be made to manage and contain the consequences. It is to the advantage of both the Employer and the Contractor to manage disputes towards a resolution as this will safeguard the success of the project.

2.3 Behaviour

The main causes of inter-organizational conflicts are identified as: conflict due to task interdependency, conflict due to differentiation, conflict due to differing values, interests and objectives, conflict due to communication obstacle, conflict due to tension, and conflict due to personality traits [47].

The resulting conflict leads to stereotyping and attitudes of low friendliness, low trust, and low respect which in turn has an adverse impact on performance [47]. In studying the dispute predictors: people, project and process criteria as likely sources of emanating disputes, the results showed that the people criteria had the most effect followed by the process criteria [10]. The team working approach on a project helps avoid opportunistic behaviour through promoting cooperation and establishing good relations [48, 49]. It is also important for the project team to establish effective problem solving mechanisms [29]. Jergeas and Hartman [50] propose approaches such as reference to facts and better understanding of contractual terms that could help the Contractor and the Owner to avoid protracted disputes as effective project management might be more successful than resorting to claim experts.

Zaccaro *et al.* [61] examined the theoretical framework for leadership where the two necessary qualities are identified to be social perceptiveness and behavioural flexibility. Self-monitoring includes three characteristics: a concern for social appropriateness, a sensitivity to social cues, and an ability to control one's behaviour in response to those cues [51, 52, 53].

Rahim [54] based his study on the conceptual scheme first presented by Blake and Mouton [55] to classify the modes for handling interpersonal conflicts into five types: problem-solving, smoothing, forcing, withdrawal, and sharing. He differentiated styles of handling interpersonal conflict on two basic dimensions, concern for self and concern for others as shown in Figure 2.

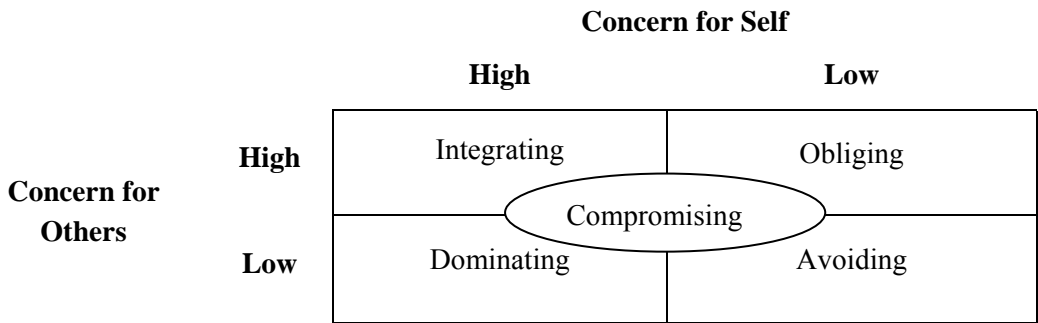


Figure 2- Styles of Handling Interpersonal Conflict (Rahim, [54])

In an attempt at studying the importance of behavioural attitudes of each party in dispute resolution, Loosemore *et al.* [56] highlights Latham's recommendation to increase levels of trust as a means of reducing conflict. Based on previous surveys conducted by Rahim [54] and Likert and Likert [57], results show that there is a need for less reliance on prescribed rules and procedures, greater attention to lateral communication and a willingness to decentralize decision making authority. Conflict can also be minimized through enhancing the understanding of the other party's perception, stimulating openness, reducing relational uncertainty, and analyzing problematic issues before escalating the tension [7]. The degree of open confrontation of differences, rather than smoothing them over or forcing decisions, will also encourage better cooperation and overall performance [58]. If qualified people are assigned by both parties of a contract, they will begin to know, understand, respect and trust each other. The work experience will build solid relationship and thus the effectiveness in negotiating settlements will increase and the time spent negotiating settlements will decrease [2, 7].

3. Research area conceptualisation and proposal

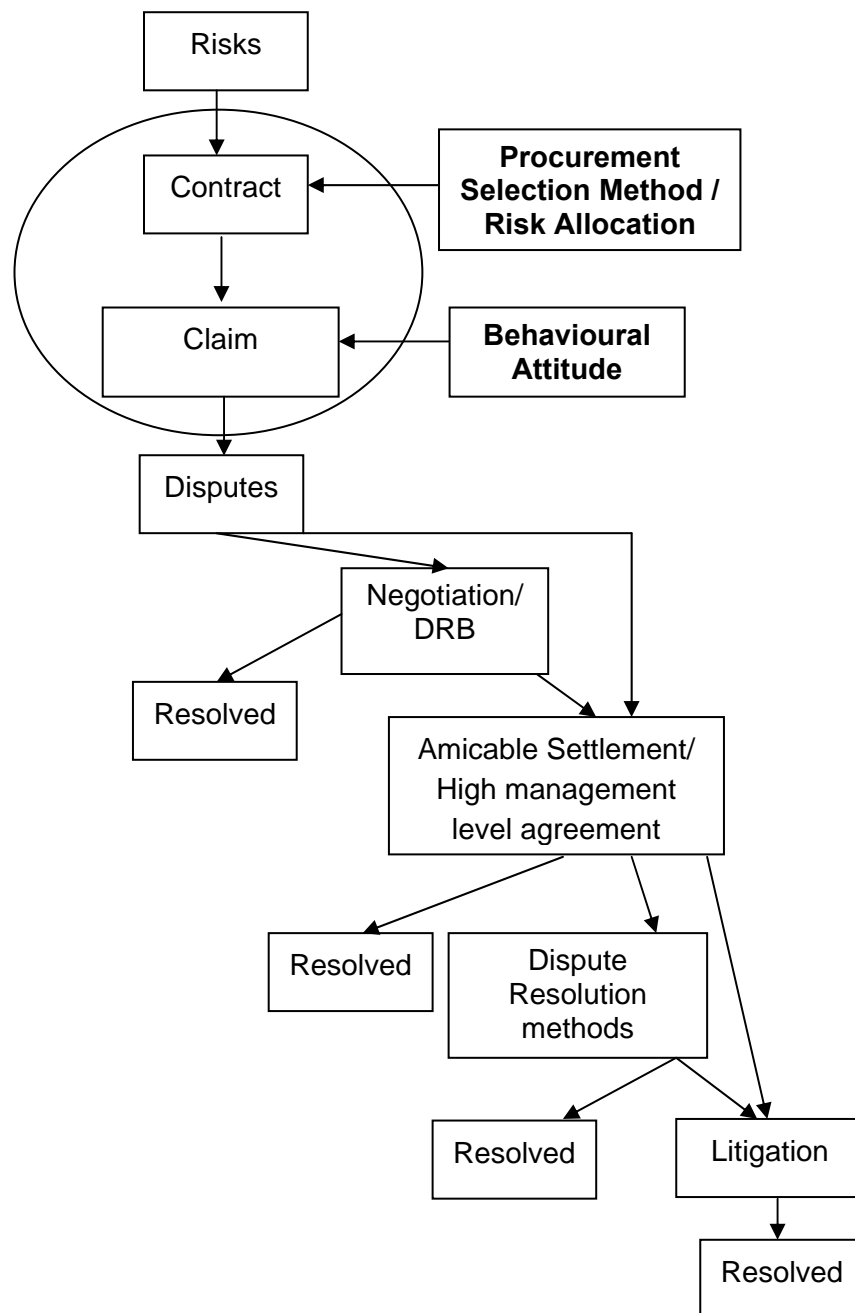


Figure 3 - Conceptual Flowchart of Dispute Evolution and Resolution

The literature clearly reflects the interrelationship between different factors. A study of disputes has led to the study of risks, conflicts, claims, procurement methods, and dispute resolution methods. Figure 3 shows a conceptual flowchart that describes the trajectory of disputes from inception to resolution based on the detailed literature review.

In addition, the literature reveals abundant research studying different aspects of the problem and proposing preventive and remedial measures at the different stages of the construction project. However, the construction industry continues to suffer from cost overruns due to disputes and there remains a need, recognized by many authors, to identify the generic causes of disputes. By reference to the conceptual flowchart in Figure 3 the proposed research questions can be stated as:

1. What is the impact of risk allocation in contributing to the incidence of disputes on construction projects?
2. Can effective project management / contract administration help mitigate claims and minimize construction disputes?
3. How does the behavioural attitude of the parties involved in projects affect dispute avoidance, management and/or escalation?

The long term aims of this research are therefore to examine the frequency and causes of common disputes in the Lebanese construction industry and to identify possible relationships within and between the risk allocation strategies adopted during the procurement of the construction works and the behavioural attitude of the parties. Once the relationships are understood, a theoretical framework will be developed to help prepare advisory risk and behaviour recommendations for construction projects.

The unit of analysis studied in the cases studies are the claims themselves. The research design consists of multiple case studies where the case studies are the contracts in construction projects that have embedded units of analysis i.e. the claims. At the first stage, documentation related to 25 different projects is studied to identify the scale of claim, the causes / reasons and the dispute resolution methods employed. The events and observations from these case studies will be further supported by 25 interviews conducted with practitioners involved in the above mentioned projects at the second research stage. The findings from stages one and two will be analysed and processed to formulate a framework of factors which contribute to the incidence of construction disputes. The third research stage will then test this framework through the development of a questionnaire to be distributed to practitioners throughout the Lebanese construction industry. The framework will then be modified accordingly and a set of conclusions and recommendations drawn.

The first two stages comprise two sources of evidence used in the data collection procedure: documentation and interviews. The 25 cases to be examined have been chosen based on the combination purposeful sampling method described by Patton [59] where two different sampling methods are applied by way of triangulation. These two methods are the:

- Maximum variation sampling where the cases are heterogeneous representing different parties to the contract and different procurement practices.

- Criterion sampling where all the cases examined are construction projects in Lebanon.

Accessibility to these projects is provided by a leading practice in the region. However, it is conditional on a confidentiality agreement regarding the names of the projects and the parties involved. The practice is a chartered quantity surveying and project management firm. Accordingly, their role in these projects varies between project manager, quantity surveyor, contract administrator, claim expert, and mediator. The parties involved in these contracts represent a significant portion of contractors and consultants taking a lead in the Lebanese construction market along with different owners, both public and private.

References

- [1] Wood, G.D. (2001) Conflict Avoidance and Management, Postgraduate Course in Construction Law and Arbitration, Leeds Metropolitan University.
- [2] Zack, J.G. (1995) *Practical dispute management*, Cost Engineering, 37(12): 55.
- [3] Fenn, P. (1997) *Rigour in research and peer review*, Construction Management and Economics, 15: 383-385.
- [4] Harmon, K. M. (2003) *Conflicts between Owner and Contractor: Proposed Intervention Process*, Journal of Management in Engineering, 19(3): 121-125.
- [5] Kumaraswamy, M.H. (1998) *Consequences of construction conflict: a Hong Kong perspective*, Journal of Management in Engineering, 14(3):66–74.
- [6] Cheung, S.O. and Suen, C.H. (2002) *A multi-attribute utility model for dispute resolution strategy selection*, Construction Management and Economics, 20: 557–68.
- [7] Vaaland, T.I. (2004) *Improving project collaboration: start with the conflicts*, International Journal of Project Management, 22: 447-454.
- [8] Kumaraswamy, M.H. (1997) *Conflicts, claims and disputes in construction engineering*, Construction and Architectural Management, 4(2): 66-74.
- [9] Ren, Z., Anumba, J. and Ugwu, O. (2001) *Construction claims management: towards and agent-based approach*, Engineering, Construction and Architectural Management, 8(3): 185-197.
- [10] Diekmann, J. and Girard, M. (1995) *Are contract disputes predictable?*, Journal of Construction Engineering and Management, 121(4): 355-362.
- [11] Bunni, G. N. (2005) *The FIDIC Forms of Contract*, Blackwell Publishing: Oxford.
- [12] Fenn, P., Lowe, D. and Speck, C. (1997) *Conflicts and disputes in construction*, Construction Management and Economics, 15(6): 513-518.
- [13] Lowe, D. and Leiringer, R. (eds) (2006) *Commercial Management of Projects*, Blackwell Publishing, Oxford.

- [14] Assaf, S., Al Khalil, M. and Al Hamzi M. (1995) *Causes of delay in large building construction projects*, Journal of Management in Engineering, 11(2): 45-50.
- [15] Al Momani, A. (2000) *Construction delay: a quantitative analysis*, International Journal of Project Management, 18: 51-59.
- [16] Alkass, S., Mazerolle, M. and Harris F. (1996) *Construction delay analysis techniques*, Construction Management and Economics, 14: 375-394.
- [17] Bristow, D. and Vasilpoulos, R. (1995) *The new CCDC 2: facilitating dispute resolution of construction projects*, Construction Law Journal, 11(4): 95-117.
- [18] Colin, J., Langford, D. and Kennedy, P. (1996) *The relationship between construction procurement strategies and construction disputes*, CIB W 92 North meets South, Durban, South Africa.
- [19] Diekmann, J., Girard, M. and Abdul-Hadi, N. (1994) *Disputes potential index: a study into the predictability of contract disputes*, Construction Industry Institute, Source Document 101.
- [20] Heath, B. Hills, B. and Berry M. (1994) *The origin of conflict within the construction process*, The Proceedings of the First Plenary Meeting of TG15, Publication 171, CIB, The Netherlands.
- [21] Hewit, J. (1991) *Winning Construction Disputes – Strategic Planning for Major Litigation*, Ernst and Young, London.
- [22] Kululanga, G., Kuotcha, W., McCaffer, R. and Edum-Fotwe, F. (2001) *Construction contractor's claims process framework*, Journal of Construction Engineering and Management, 127(4): 309-314.
- [23] Madden, J. P. (2005) *To tech or not to tech in selecting a construction third party neutral*, Arbitration, 71(4): 300-306.
- [24] Molenaar, K., Washington, S. and Diekmann, J. (2000) *Structural equation model of construction contract dispute potential*, Journal of Construction Engineering and Management, 126(4): 268-277.
- [25] Rhys Jones, S. (1994) *How constructive is construction law?*, Construction Law Journal, 10(1): 28-38.
- [26] Semple, C., Hartman, F.I. and Jergeas, G. (1994) *Construction claims and disputes: causes and cost/time overruns*, Journal of Construction Engineering and Management, 120(4): 785-795.
- [27] Sykes, J. (1996) *Claims and disputes in construction*, Construction Law Journal, 12(1): 3-13.
- [28] Vorster, M. (1993) *Dispute Prevention and Resolution*, Source Document 95, Construction Industry Institute, Austin Texas.
- [29] Mitropolous, P. and Howell, G. (2001) *Model for understanding, preventing and resolving project disputes*, Journal of Construction Engineering and Management, 127(3): 223-231.
- [30] Zack, J.G. (1996) *"Risk-sharing" - good concept, bad name*, Cost Engineering, 38(7): 26.

- [31] Kartam, N.A. and Kartam, S.A. (2001) *Risk and its management in the Kuwaiti construction industry: a contractor's perspective*, International Journal of Project Management, 19(6): 325-335.
- [32] Pickavance, K. (2000) *Delay and Disruption in Construction Contracts*, (2nd Edition), LLP, London.
- [33] Akintoye, A.S. and MacLeod, M.J. (1997) *Risk analysis and management in construction*, International Journal of Project Management, 15(1): 31-38.
- [34] Ng, S.T., Luu, D.T., Chen, S.E. and Lam, K.C. (2002) *Fuzzy Membership function of procurement selection criteria*, Construction Management and Economics, 20: 285-296.
- [35] Luu, D.T., Ng, S.T. and Chen, S.E. (2003) *A case-based procurement advisory system for construction*, Advances in Engineering Software, 34(7): 429-438.
- [36] Al Hazmi, T. and McCaffer R. (2000) *Project Procurement System Selection Model*, Journal of Construction Engineering and Management, 126(3): 176-184.
- [37] Carnell, N. (2005) *Causation and Delay in Construction Disputes*, (2nd Edition), Blackwell Publishing, Oxford.
- [38] Jannadia, M. O., Assaf, S., Bubshait, A.A. and Naji A. (2000) *Contractual methods for dispute avoidance and resolution (DAR)*, International Journal of Project Management, 18(1): 41-49.
- [39] Chan, E.H.W. and Yu, A.T.W. (2005) *Contract strategy for design management in the design and build system*, International Journal of Project Management, 23: 630-639.
- [40] Songer, A.D. and Molenaar, K.R. (1997) *Project characteristics for successful public-sector design-build*, Journal of Construction Engineering and Management, 123(1): 34-40.
- [41] Lazar, F.D. (2000) *Project Partnering: Improving the Likelihood of Win/Win Outcomes*, Journal of Management in Engineering, 16(2): 71-83.
- [42] Drexler, J.A. and Larson, E.W. (2000) *Partnering: Why Project Owner-Contractor Relationships Change*, Journal of Construction Engineering and Management, 126(4): 293-297.
- [43] Love, P.E.D., Gunasekaran, A. and Li, H. (1998) *Concurrent engineering: a strategy for procuring construction projects*, International Journal of Project Management, 16(6): 375-383.
- [44] Arditi, D. and Yasamis F. (1998) *Incentive/Disincentive Contracts: Perceptions of Owners and Contractors*, Journal of Construction Engineering and Management, 124(5): 361-373.
- [45] Mahmoud-Jouini, S. B., Midler, C. and Garel, G. (2004). *Time-to-market vs. time-to-delivery: Managing speed in Engineering, Procurement and Construction projects*, International Journal of Project Management, 22(5): 359-367.
- [46] Bing, L., Akintoye, A., Edwards, P.J. and Hardcastle C. (2005) *The Allocation of Risk in PPP/PFI Construction Projects in the UK*, International Journal of Project Management, 23(1): 25-35.
- [47] Walton, R.E. and Dutton, J.M. (1969) *The Management of Interdepartmental Conflict: a model and review*, Administrative Science Quarterly, 14(1):73-84.

- [48] Kharbanda O.P. and Stallworthy, E.A. (1990) *Project teams: The human factor*, NCC Blackwell, Oxford.
- [49] Gardiner, P.D. and Simmons J.E.L. (1998) *Conflicts in small and medium sized projects: case of partnering to the rescue*, *Journal of Management in Engineering*, 14(1): 35-40.
- [50] Jergeas G.F. and Hartman F.T. (1994) *Contractor's protection against construction claims*, *Transactions of AACE International*, DCL 8: 1-5.
- [51] Briggs, S.R., Cheek, J.M. and Buss, A.H. (1980) *An analysis of the self monitoring scale*, *Journal of Personality and Social Psychology*, 38: 679-686.
- [52] Snyder, M. (1974) *The self monitoring of expressive behaviour*, *Journal of Personality and Social Psychology*, 30: 526-537.
- [53] Snyder, M. (1979) *Self monitoring process*, in Berkowit, L. (ed), *Advances in experimental social psychology*, Academic Press, New York, 12: 86-128.
- [54] Rahim, M.A. (1983) *A measure of styles of handling interpersonal conflict*, *Academy of Management Journal*, 26(2): 368-376.
- [55] Blake, R.R. and Mouton, J.S. (1964) *The managerial grid*, Gulf Publishing, Houston Texas.
- [56] Loosemore, M., Nguyen, B.T. and Denis, N. (2000) *An investigation into the merits of encouraging conflict in the construction industry*, *Construction Management and Economics*, 18: 447-456.
- [57] Likert, R. and Likert, J. G. (1976) *New Ways of Managing Conflicts*, McGraw Hill, New York.
- [58] Lawrence, P.R. and Lorsch, J.W. (1967) *Organization and Environment*, Boston: Division of Research, Graduate School of Business Administration, Harvard University.
- [59] Patton, M.Q. (ed) (2002) *Qualitative Research and Evaluation Methods*, Sage Publications, Beverly Hills CA.
- [60] Fenn, P. (2006) *Conflict Management and Dispute Resolution*, in Lowe, D. and Leiringer, R. (eds), *Commercial Management of Projects*, Blackwell Publishing, Oxford, 234-269.
- [61] Zaccaro, S.J., Gilbert, J.A., Thor, K.K. and Mumford, M.D. (1991) *Leadership and social intelligence: Linking social perceptiveness and behavioral flexibility to leader effectiveness*, *Leadership Quarterly*, 2: 317-342.