



# Experimental evaluation of logrolling as an effective mediating tactic in construction project management

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Received 30 November 2011; received in revised form 4 May 2012; accepted 29 May 2012  
Available online xxx

## Abstract.

Construction projects are prone to have disputes. Mediation has gained wide acceptance and is an integral part of the dispute settlement provisions in most of the standard forms of construction contract in Hong Kong. In mediation, the parties are encouraged to achieve maximum joint gains through making integrative concession on issues of low substitute rate and high welfare rate. Logrolling is identified as a mediating tactic whereby a *mediator* assists the disputing parties to improve joint value in bargaining exchanges and get convergence along the efficient frontier. Based on this conceptualization, a web-based mock mediation experiment that incorporates a logrolling system had been developed. Thirty experiments with practicing construction professionals were conducted. The results support the hypothesis that accepting the *mediator's* suggestion can achieve greater joint value, make greater integrative concessions, reduce substitute rate and enhance welfare rate in bargaining exchange, than those rejecting the *mediator's* suggestion.

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*Keywords:* Evaluation; Construction project management; Dispute resolution; Mediation; Mediating tactic; Logrolling system

## 1. Introduction

Project management is the art of directing and coordinating human and material resources throughout the life of a project by using modern management techniques to achieve predetermined objectives of scope, cost, time, quality and participant satisfaction (Hendrickson and Au, 1989; Munns and Bjeirmi, 1996; Söderholm, 2008; Yaghootkar and Gil, 2012). In construction, project managers are required to handle projects of different scopes, complexities and timelines (Maylor, et al., 2006; Milosevic and Patanakul, 2005; Naaranoja, et al., 2007; Platje and Seidel, 1993; Raymond and Bergeron, 2008; Turner, et al., 2010). Problems are inevitable in construction projects. It is likely that small and minor problems can be resolved successfully

through negotiation between the parties in disagreement. However, problems in more complex projects are multi-issue and sophisticated, in particular when legal issues are involved. In such circumstances, unresolved problems may end as disputes that have to be decided through expensive and time-consuming legal procedures. When this happens, the project will be adversely affected (Jannadia, et al., 2000). During the past two decades, serious disputes have become increasingly common on construction projects in Hong Kong. Mediation has gained wide acceptance as an effective informal means of resolution. It has become an integral part of the dispute settlement provisions in most of the standard forms of construction contract in Hong Kong (Cheung, 2010). In addition to this contractual use, voluntary mediation has been introduced in the civil procedures of the High Court as part of the Civil Justice Reform that came into force on 2nd April 2009. Under Practice Direction 6.1, adverse cost order is used to discourage ‘refusal to mediate’ and ‘failing to attempt to mediate’. The Hong Kong Department of Justice in 2010 published a draft report giving recommendations on how to promote and develop mediation services in Hong Kong. One of

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the key recommendations is to provide mediation training widely in order to arouse public awareness.

Process design (Cheung et al., 2000, 2004; Harmon, 2006; Novemskya and Schweitzerb, 2004) and mediators' intervention (Carnevale et al., 1989; Cheung and Yiu, 2007; Yiu and Cheung, 2007) have been the major foci of mediation research. With the advance in information technology in the last few decades, negotiation support systems (NSS) and e-negotiation systems (ENS) have been developed to assist parties to evaluate their options thereby facilitating parties to attain optimal outcomes (Lim and Benbasat, 1992). These systems simulate the role of a mediator in relaying the parties' interests and preference, nonetheless these systems seldom offer advice and suggestions on compromises and concessions that have proved to be critical in moving forward a negotiation.

Logrolling is defined as a strategy for achieving integrative trade-off; each party concedes on low priority issues in exchange for concessions on issues of higher priority to themselves (Lax and Sebenius, 1986; Neale and Bazerman, 1991; Pruitt and Rubin, 1986). However there is no reported study on the application of logrolling strategy in mediation. This study aims to fill this gap. An experiment has been designed to evaluate the effectiveness of logrolling as a mediating tactic through a computer simulated mediation. In mediation, the parties are encouraged to achieve maximum joint gains through making integrative concession on issues of low substitute rate and high welfare rate. The strategy of logrolling is closely related to the concept of efficient frontier. In this study, logrolling is proposed as a mediator tactic to help parties to improve joint value by bargaining exchange and get convergence along the efficient frontier. In economics term, those alternatives other than on the efficient frontier are worse than what they could achieve (Mas-Colell et al., 1995). To operationalize the logrolling strategy, a web-based logrolling system is developed. A web-based mock mediation experiment was conducted to test whether the logrolling strategy could work as an effective mediating tactic. The logrolling system thus simulates a mediator in action. In fact, use of logrolling tactic is not confined to mediation. Project managers can use the same technique in handling differences among project team members.

The organization of the paper is as follows. Section 1 gives the background for the study. In Section 2, a literature review on mediating tactics and logrolling is presented. Section 3 gives the concept of logrolling strategy and the design of the logrolling system. Section 4 provided details of the mock mediation experiment. Section 5 gives the conclusions.

## 2. Literature review

### 2.1. Mediation approaches and tactics

Review on mediation studies suggest that approaches to mediation can broadly be classified as transformative, facilitative and evaluative. Fig. 1 shows a continuum of mediation approaches and their respective functions.

Compared with the other two approaches, *facilitative* mediation is relatively more proactive, directive and settlement oriented.

Facilitative mediation focuses on economic outcomes as well as generating mutually-acceptable agreement. The notion of a staged process came from early labor-management research. In the "stage model" proposed by Douglas (1957), "Zone of Possible Agreement" (ZOPA) was considered achievable through three processes: problem identification, alternate solution search, and solution selection. In Folberg and Taylor's (1984) "mega-process" model, facilitative mediation tactics include fact-finding and isolation of issues, creation of options and alternatives, negotiation and decision-making. Similarly Fisher et al. (1991) identified several facilitative mediation tactics, "separate people from the problem", "focus on interests, not positions", "invent options for mutual gain" and "insist on using objective criteria". *Transformative* mediation, the most recent concept among the three, was suggested by Bush and Folger (2005). They advocated that transformative mediation would become the dominant approach in the future. Moreover, it is not easy for the disputants to accomplish the transformation from competition to cooperation without the input of a third party (Thompson, 1990); a mediator neatly fills this role. Transformative mediation engenders empowerment and recognition, with the aim of transforming dysfunctional, destructive conflicts to functional and productive solutions (Deutsch, 2000). Generally this means fostering integrative rather than distributive settlement (Walton and McKersie, 1965). Empowerment involves encouraging parties to define issues and to seek solutions on their own. It helps disputants to experience a greater sense of self worth, security, self determination and autonomy. Stevens (1963) highlighted the importance of "face saving" in mediation. Recognition means acknowledging the other party's needs and interests, and understanding better the other party's perspective. It exploits the opportunity for parties to understand and be responsive to each other. In this regard, Zartman and Berman (1982) pinpointed "diagnosis" (needs affirmation, review relationship) as the first step in their three-phase mediating process. Yiu and Cheung (2007) found that "reality test" and "trust building" are the most versatile tactics in construction mediation. Thus an effective mediation can be measured by the extent of interdependence between the parties. Transformative mediation releases the parties from the encumbrances of rules and nourishes or improves the tied-in relationship with mutual respect, trust and understanding. *Evaluative* mediation approach is to select and implement tactics for positive intervention and settlement. Thus in Kolb's (1983) *Dealmaking and Orchestrating* model, the mediator role is not only defined as "develop a dialogue", "encourage direct communication" and "encourage concessions", but as well as the implementation of the agreement reached. Druckman (1983) and Folberg and Taylor's (1984) "mega-process" model also highlighted the importance of implementation tactics. The approaches of mediation and the corresponding tactics are summarized in Table 1.

Among these approaches, what governs the choice of mediating tactics? The literature on mediation is not informative in this regard. Broadly, three factors are suggested. These are (1) the environment and the interested parties in it, (2) the mediator, and (3) the disputants (Wall et al., 2001).

Among the environmental influences, culture is probably the strongest. The effects of culture seem to be those of Oriental

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