

# A study of construction mediator tactics—Part II: The contingent use of tactics

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## Abstract

Mediation is a dynamic process. A mediator facilitates a settlement through the appropriate use of tactics that adapt and respond to the situational factors as the mediation progresses. This is described as the contingent use of tactics and is one of the prerequisites for mediation success. Having a better understanding of this contingent use of tactics is crucial to the practicing construction mediators as well as researchers. In the first of the companion papers, principal component factor analyses were employed to develop taxonomies for the three mediation dimensions; dispute sources, mediator tactics and mediation outcomes. Part II of the companion papers presents a study on the contingent use of mediator tactics in relation to the dispute sources and mediation outcomes. To achieve this objective, factor scales for the three mediation dimensions were first derived. Moderated multiple regressions (MMR) was then performed on these factor scales to detect the contingent effect of tactics on outcomes respective to the dispute sources. By examining the changes in the  $R^2$  values of the moderated regression equations, the effectiveness of tactics in bringing about the desired outcomes were investigated. The tactics of Trust Building and Reality Test were found to be the most versatile tactics. These reaffirm the industry belief that disputes are in fact problems that can be solved if pragmatic and sensible approaches are taken instead of the entrenched confrontational attitude. More significantly, the exercise of such approaches can only be possible in a trusting environment. These findings also add strength to the current endeavors in co-operative contracting as in partnering and strategic alliances.

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## 1. Introduction

The exorbitant cost associated with arbitration and litigation has led to the increase in use of alternative dispute resolution techniques to resolve construction dispute. Mediation has gained wide acceptance and is now an integral part of the construction dispute resolution regime. In this context, understanding mediation from a wider perspective is indispensably necessary. Wall et al. [1], based on a comprehensive review on mediation literature published in the 90's commented that although mediation has advanced significantly in many arenas, there are only a few studies on the dynamics of mediation process, in particular, examining the effectiveness of tactics used by

mediators. This paper presents a study on the contingent use of mediator tactics.

## 2. The contingent use of mediator tactics

Mediation is a dynamic process, the tactics used by a mediator unfold as the mediation progresses and with the situational factors. This evolution takes account of the facts of the dispute, the concerns of the parties and the settlement directed [2]. As such, it will be difficult to reach a settlement through mediation if the mediator performs incompetently [3]. It has been suggested that the appropriate use of mediator tactics is one of the decisive factors for mediation success [4]. This includes the use of tactics appropriate to the circumstances, which is often described as the contingent use of mediator tactics.

A wide range of tactics is available to a mediator in devising mediation outcomes [5,6]. For example, Kressel

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and Pruitt [7] identified three generic types of mediation tactics: reflexive, contextual and substantive. Reflexive tactics are designed to orient mediators to the dispute and create a foundation for their future activities. Substantive tactics deal directly with the issues in dispute like making suggestions for settlement. Contextual tactics involve facilitating the dispute resolution process so that the parties themselves are able to discover an acceptable solution. Lim and Carnevale [8] had taken this conceptualization further and suggested four substantive tactics: integration, pressing, compensation and inaction. Furthermore, Wall et al. [1], focusing on the outcomes of the tactics, suggested another set of generic mediator tactics: disputant oriented, disputant–disputant relationship and disputant–third-party relationship. Disputant-oriented tactics, among others, include information gathering, pressing and compensation. Setting agenda and providing integrative solution are examples of disputant–disputant relationship type of tactics. As for disputant–third party relationship type of tactics, using a third party and making the dispute public are cited as examples. Other studies do not attempt to theorize, however suggest two broad natures of mediator tactics: (1) tactics used in all mediation systemically [9,10] and (2) tactics used in specific situations [8,11–13]. The former type of tactics is described as general, systemic, primary, universalistic or non-contingent, whilst the latter is labeled as situation-and-person-specific, reactive or contingent.

Non-contingent mediator tactics refer to those that can be applied in most situations. These include (1) explaining the process to the parties, (2) providing structure and control, (3) building trust and confidence of the parties, (4) gaining an accurate understanding of the issues and the underlying impediments to a settlement and (5) assessing the underlying attitudes of the parties [4,10,14–16]. Among these, it has been suggested that building trust and confidence of the parties should be the first strategic proposition. In this respect, tactics for same shall be useful in most mediation. Once certain level of trust is established, the parties are more likely to remain committed to solving the disputes at the negotiation table. This also accords the time and opportunity for the mediator to better understand the issues in dispute, the underlying interest and attitudes of the parties. The mediator can thereby identify the needs of both parties and find out the underlying impediments or hidden agendas to a settlement [15,16].

Notwithstanding, a successful mediation must be adaptive and responsive to the contexts [8,13,17,18]. This was described as the contingent approach of mediation. This approach specifies variables with conditional criteria, each of which may have an impact on mediation effectiveness. That approach was recently applied by Bercovitch et al. [2] in international mediations. The core parts of this approach are the clustering of context, process and outcome variables. Context variables include the nature of the mediator, the parties as well as the dispute. Process variables refer to the behaviors of the mediator. This approach gives due consideration to the inter-relationship among dispute nature, mediator behaviors and mediation outcomes (Fig. 1).

The importance of adding mediation outcome to the analysis is to consider whether contingent mediator behavior improves the likelihood of favorable mediation outcomes. Pioneer studies in this perspective can be found in the work of Hiltrop [6,19] and Rubin [27]. A common assumption used in these studies is that there is only one outcome (settlement vs. non-settlement). Nevertheless, these results suggest that some mediation tactics are more likely to be associated with certain mediation outcomes under certain situational factors. More recently, further research work was conducted by Lim et al. [8] and findings similar to Hiltrop's were obtained. For example, Hiltrop [6] found that the use of substantive pressure tactics was positively associated with settlement under low level of hostility. Furthermore, the use of forceful pressure tactics was positively associated with settlement when level of hostility was high. Lim et al. [8] identified a set of contingencies that affect the choice of tactics. An interesting observation is that male mediators are more likely to use substantive/press tactics than female mediators. As for disputes of high hostility level, the use of press tactics was positively related to general settlement. Furthermore, in the study of Lim et al. [8], the effectiveness of tactic respective to dispute type was also analyzed. Effectiveness was defined as the degree of achievement of the desired outcome. In essence, it was an investigation in the relation between the use of a tactic and an outcome, taking into account of the source of dispute [8]. In sum, these findings directed that mediation tactics should be used contingent to the circumstances of the case and this conceptualization can be illustrated by the moderated causal relationship diagram (Fig. 2). The relationship between mediation

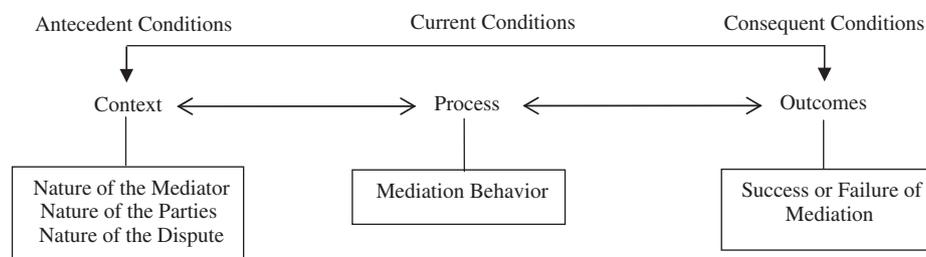


Fig. 1. A contingency model of mediation [2].

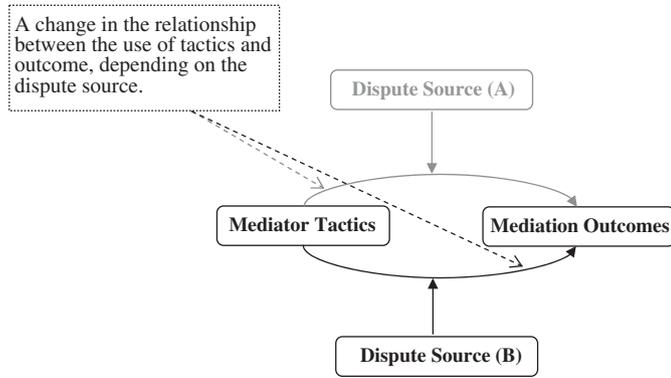


Fig. 2. Moderated causal relationship of mediation.

tactics and the respective outcomes is contingent on the dispute sources.

The study of Lim et al. [8] provides the framework for the study reported in this paper i.e., the contingent use of tactics on construction mediation.

### 3. Methodology

The development of taxonomies of dispute sources, mediator tactics and mediation outcomes has been reported in the first paper of the companion papers. The work described in this paper is to examine the contingent use of tactics on construction mediation. This can be achieved by the use of moderated multiple regression (MMR), which has been used successfully in assessing the viability of contingency models [8,20]. With this method, mediator tactics are set as predictors, mediation outcomes as criteria, and dispute sources as moderator variables. The analysis involves examining whether the reported use of mediator tactic ( $T_i$ ) interacts with the reported dispute source ( $D_i$ ) in predicting the mediation outcome ( $O_i$ ). If such interaction effect is statistically significant, this would mean that the expected change in mediation outcome under different mediator tactics might be changed for certain dispute sources. However, if the interaction effect is not significant, it can then be said that the tactics used have 'constant' effect on the mediation outcomes [20,21]. In the first paper of the companion papers, it was reported that eight, nine and four taxonomies (factors) were developed for dispute sources, mediator tactics and mediation outcomes, respectively through the use of principal component factor analyses (PCFA). Based on these factors, factor scales were devised for use in the MMRs. Such scales are the composite measures created for each observation on each factor extracted in the PCFA [22]. Therefore, new sets of variables are developed for each of the three mediation dimensions: dispute sources, mediator tactics and mediation outcomes.

#### 3.1. Moderated multiple regression

Regression analysis is a statistical technique which allows one to assess the relationship between dependent

variable and several independent variables. Multiple regression, however, is an extension of bi-variate regression in which several independent variables instead of just one are combined to predict a value of a dependent variable. The outcome of regression is an equation that best predicts the dependent variable from several continuous independent variables. The equation of multiple regressions (with two independent variables) is shown as follows:

$$Y = a + b_1X_1 + b_2X_2 + \varepsilon, \quad (1)$$

where  $Y$  is the dependent variable,  $X_1$ ,  $X_2$  the independent variables,  $a$ ,  $b_1$ ,  $b_2$  the unknown constants,  $\varepsilon$  the random error for any given set of values for  $X_1$ ,  $X_2$ .

In the above regression equation,  $X_1$  and  $X_2$  have independent effects on the prediction of  $Y$ . If the predictive power of  $X_1$  on  $Y$  depends on  $X_2$ , a moderation effect exists. This is also known as interaction effect and the moderator term is a compound variable formed by multiplying  $X_1$  by the moderator  $X_2$ . This moderation effect is included in the regression equation by introducing the moderator variable  $X_1X_2$ . The regression equation becomes

$$Y = a + b_1X_1 + b_2X_2 + b_3X_1X_2 + \varepsilon, \quad (2)$$

where  $X_1X_2$  is the moderator variable. The moderated regression model for the investigation of contingent use of tactics and its effectiveness are developed in a similar manner. Firstly, the regression model of mediation outcome and mediator tactics is shown as

$$O_i = a + b_1T_i + b_2D_i + \varepsilon, \quad (3)$$

where  $O_i$  is the  $i$ th mediation outcome scale from the identified taxonomy,  $i = 1, 2, 3$  and  $4$ ,  $T_i$  the  $i$ th mediator tactic scale from the identified taxonomy,  $i = 1, 2, 3, 4, 5, 6, 7, 8$  and  $9$ ,  $D_i$  the  $i$ th dispute source scale from the identified taxonomy,  $i = 1, 2, 3, 4, 5, 6, 7$  and  $8$ .

According to Eq. (3),  $T_i$  and  $D_i$  have independent effects on  $O_i$ . If  $T_i$  depends on  $D_i$  (i.e. the contingent use of mediator tactics), this equation is no longer applicable for the prediction of  $O_i$ . A moderated term is therefore added to explain this relationship; Eq. (4) shows a MMR model used in this study:

$$O_i = a + b_1T_i + b_2D_i + b_3T_iD_i + \varepsilon, \quad (4)$$

where  $T_iD_i$  is the moderator variable.

#### 3.2. The procedures

In the light of the above, as suggested by Jaccard et al. [21] and Cohen et al. [20], the first step of MMR is the formation of interaction. This is achieved by establishing Eqs. (3) and (4) above. As described, mediator tactics, mediation outcomes and dispute sources are used as predictors, criteria and moderator variable, respectively [20,21,23,24]. In this study, a total of 288 MMR models (devised from the combination of eight dispute source scales, nine mediator tactic scales and four mediation outcome scales) were identified. These models are then

subject to the test of significance on their interaction effects. The presence of a significant moderated effect is indicated if the inclusion of the predictor–moderator product (i.e.  $T_i D_i$  term) in the regression model produces a significant change in the  $R^2$  (i.e.  $\Delta R^2$ ) between Eqs. (3) and (4).  $F$ -test is employed for each model accordingly. The  $F$ -test can be assessed by the following equation:

$$F = \frac{(R_2^2 - R_1^2)/(k_2 - k_1)}{(1 - R_2^2)/(N - k_2 - 1)}, \quad (5)$$

where  $k_2$  is the number of predictors in the expanded equation (Eq. (4)),  $k_1$  the number of predictors in the original equation (Eq. (3)),  $N$  the total sample size, ( $k_2 - k_1$ )

and ( $N - k_2 - 1$ ) the degrees of freedom,  $R_2$  the multiple  $R$  for the expanded equation (Eq. (4)),  $R_1$  the multiple  $R$  for the original equation (Eq. (3)).

Technically, the null hypothesis is established for which the regression coefficient for the product term (i.e.  $b_3$ ) is zero in the population. Rejection of this hypothesis is consistent with the notion that an interaction effect is present. Moreover, there are two methods for the calculation of  $F$ -test statistic:

- (a) by the use of  $F$ -test as shown in Eq. (5),
- (b) the same substantive results as that of point (a) above can also be obtained by squaring the  $t$ -test statistic of the  $b_3$  coefficient in Eq. (4) [21].

Table 1  
Summary of the 40 moderated regression models with significant interaction effect

No.	Mediation outcome ( $O_i$ )	Tactics ( $T_i$ )	Dispute source scales ( $D_i$ ) that make significant contribution to the relationship of $O_i$ and $T_i$
1	Win–win settlement	Encourage to self-improvement	Variation
2			Cease of works
3		Reality test	Cost of delay
4			Cease of works
5		Process control	Cease of works
6			Variation
7		Caucus	Process overload
8			Cost of delay
9		Trust building	Process overload
10			Variation
11		Ice breaking	Variation
12			Cost of delay
13		Pressing settlement	Process overload
14			Cost of delay
15	Progress	Reality test	Variation
16			Process overload
17		Trust building	Cost of delay
18			Parties' internal problems
19		Analyzing	Process overload
20			Sub-contractor related
21		Ice-breaking	Variation
22			Incompetence of works
23		Seeking progress	Cost of delay
24			Cost of delay
25		Pressing settlement	Parties' internal problems
26	Improvement	Reality test	Cease of works
27		Trust building	Variation
28			Incompetence of works
29		Pressing settlement	Cost of delays
30			Process overload
31		Pressing settlement	Cost of delay
32			Process overload
33	Time advantage	Encourage to self-improvement	Variation
34			Site availability
35		Reality test	Incompetence of works
36			Cost of delay
37		Trust building	Cease of works
38			Process overload
39		Ice breaking	Incompetence of works
40	Pressing settlement	Cost of delays	

In this study, the second method as suggested by Jaccard et al. [21] was adopted. The critical value for such test were obtained from the  $F$ -distribution table with different significance level ( $\alpha = 0.10, 0.05$  and  $0.01$ ). The  $\Delta R^2$  is regarded as significant at these significance levels and significant interaction effect presents in that particular moderated regression model. Hence, 288 numbers of the  $R^2$  value, change in  $R^2$  ( $\Delta R^2$ ) and the standardized regression coefficients ( $b_3$ ) of the ‘tactic  $\times$  source’ interactions ( $T_i D_i$ ) for the respective outcome scale are obtained. Finally, a total of 40 moderated regression models were found significant among the 288 combinations of model (Table 1).

#### 4. The result

Moderated regression models that show significant moderation effects are summarized in Table 1. As an illustration, the tactic of ‘trust building’ is perceived to be contingently effective to deal with dispute related to ‘variation’ as far as the outcome of attaining improvement for a settlement is concerned. The tactic ‘encourage to self-improvement’ is perceived to be contingently effective with regard to the dispute source of ‘variation’ with respect to the outcomes of ‘win–win settlement’ and ‘time advantage’. The extent of contingent effectiveness of mediator tactic in achieving their respective outcomes was identified. To save space and preserve clarity, only the results of the 40 moderated regression models that show significant moderation effects are presented in Table 2.

The interpretation of Table 2 is again illustrated by way of an example. Referring to the first row of the table, the use of the tactic of encourage to self-improvement in mediating a dispute that involves variation is contingently effective in achieving the outcomes of win–win settlement and time advantage. The other scenarios can be interpreted accordingly.

#### 5. Discussion

From Table 2, it can be seen that not all tactics are perceived to have an effect on the mediation outcomes in relation to the eight dispute sources. This in general supports the proposition that tactics should be employed appropriate to the contexts.

Discussions on Table 2 shall be structured under the heading of the three mediation dimensions; tactics, sources and outcomes with foci being placed on the more important observations. Fig. 3 presents such a summary.

##### 5.1. Mediator tactics: reality test and trust building

From Table 2, it can be noted that some tactics are more versatile than the other. Versatile is defined as being effective in a wide range of situations. In this respect, reality testing and trust building are the two most versatile tactics. This can be supported by the number of dispute sources displaying a moderation effect. In fact, similar observation was reported

by Lim et al. [8]. According to Boulle et al. [26], mediators are often referred to as ‘agents of reality’ in so far as their function of encouraging the parties to face the realities of their situations. The purpose of reality testing is enabling the disputants to reflect more systemically and practically on their position, behavior or attribute; to think beyond the present situation to future consequences. Reality test can be applied to subjective factors associated with the dispute, and to objective factors which are part of the wider picture. Boulle et al. [26] also suggested that reality testing tactics can be effective to deal with

1. the parties’ substantive, procedural and emotional interests,
2. resources like time and cost,
3. all aspects of a proposed settlement, including its degree of specificity, its durability and its fairness to all parties and,
4. the possibilities which exist should the matter not settle.

In these respects, reality testing tactics are used by mediators to direct disputants to re-assess their positions from a more pragmatic perspective. In fact, disputants often over-value their own cases while under-value the opponent’s assertions. This would affect the objectivity of the assessment. Reality test helps to restore objectivity by pointing out the feasibility and viability of expectations. Through reminders and arm-twisting, disputants are urged to re-assess the strengths and weaknesses, the likely cost implications of their cases. These are all useful and contribute towards the chance of reaching a settlement. In Table 2, reality testing tactics are perceived to have contingent effect on the mediation outcome for five types of dispute source.

Boulle [10] also points out that if the disputants trust the mediator and the process, then they are more likely to remain at the negotiating table and direct efforts to strive for a settlement. With reference to the list of these companion papers, two tactics were grouped in the tactic taxonomy of Trust Building: avoid taking sides on important issues in joint sessions and keep in rapport with the parties. The first tactic features the neutrality of mediators, a quality that has long been identified as fundamental to establish trust [25]. The second tactic of establishing rapport with the parties seeks to impress on the disputants that the mediator is trustworthy.

Trust can be described as a disputant’s willingness to believe, to be open to, and to take risks with the other parties [10]. It is not too difficult to comprehend that parties in dispute frequently distrust each other. Whilst reality test seeks to enable a disputant to pragmatically assess his position, he needs to rely on information in his possession or provided by the other party to perform this task. Trust underpins his chance of obtaining the necessary information. In fact, apart from the dispute sources that are sub-contractor-related or concerning site availability, all the other dispute sources responded to the tactic of trust building in terms of achieving the four generic types of

Table 2  
Summary of moderated multiple regression (MMR)

Mediator tactics	Dispute sources							Mediation outcome				
	Variation	Incompetence of works	Cost of delay	Sub-contractor related	Cease of works	Site availability	Parties internal problems	Process overload	Win-win settlement	Progress	Improvement	Time advantage
Encourage to self-improvement	*				*				✓			✓
Reality test	*	*			*			*	✓		✓	✓
Process control					*				✓			
Caucus	*							*	✓	✓	✓	
Trust building	*		*		*		*		✓	✓	✓	✓
Analyzing				*			*		✓	✓	✓	✓
Ice breaking	*								✓	✓		✓
Seeking progress	*		*				*		✓			
Pressing settlement		*					*		✓	✓	✓	✓

\*Dispute source that responds to certain tactics such that they are effectively achieved at different mediation outcomes.

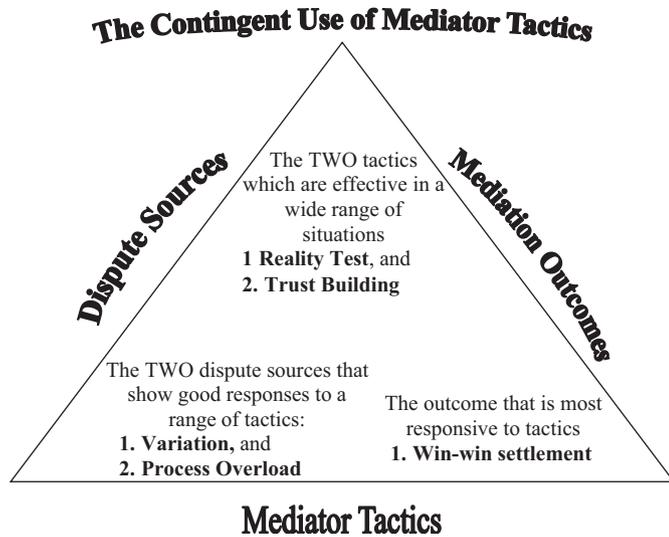


Fig. 3. Summary of important observations.

outcome. The following techniques have been suggested by Boulle [10] to develop trust in mediation:

1. explaining, normalizing and validating the mediation process,
2. by reassuring the parties, where possible, on their anxieties about the process,
3. by providing for equality of speaking time for the parties,
4. by applying the mediation guidelines appropriately,
5. by using caucus to keep the process moving.

### 5.2. Dispute sources: variation and process overload

From Table 2, where a dispute is related to either variation or associated with a process overload, a range of tactics can be used to effectively achieve the four generic types of mediation outcome. In fact variation has been identified as the most critical source of dispute in construction [28,29]. Typically, dispute related to variation would involve some form of disagreement on position (validity). The time and cost implications are also the main sources of disagreement. Ice-breaking tactics and the use of caucus help to establish communication. Reality testing techniques helps to alter positions and expectations. The tactics of Encourage to Self-improvement and Seeking Progress are often vital if a final settlement can be reached. A process will be overloaded if too many issues are brought to the table. In this connection, a skillful mediator would first establish some agreed facts so as to simplify the agenda. This would also eliminate non-productive discussions on agreed items.

### 5.3. Mediation outcome: win–win settlement

Out of the four types of outcome, win–win settlement appears to be the most responsive to tactics. This result suggests that mediation is an effective means to resolve

construction disputes as both parties felt they gained something. Indeed, the result is not surprising as the ultimate aim of mediation is to achieve a win–win settlement. Mediation has been described as the best alternative to a negotiated agreement (BATNA). By helping the parties to understand the worst alternative to a negotiated agreement (WATNA) through his skill and tactics, disputants would make the informed choice of reaching a reasonable settlement and avoid the costly arbitration litigation.

### 5.3.1. Further research areas

Mediation, with its wider use in the construction industry attracted research efforts primarily deal with process design and success factors. These studies are instrumental in introducing mediation whereby rapid adoption of mediation in construction is achieved. Moreover, continual use of the process needs to be supported by its successful use for which the appropriate use of tactics by the mediator is pivotal. This study examines the contingent use of tactics in relation to the dispute sources and mediation outcomes. As such, several directions for further research in construction mediation are identified. Since the findings of this research are based on mediators' perceptions, future research efforts shall be put into the study of disputants' orientation, which is defined as the response of disputants under different mediator behaviors.

The study of construction mediator behaviors also has important implications for mediator training and performance assessment. The results suggest that construction mediators should understand that some tactics are positively associated with favorable outcomes regardless of the construction dispute sources (e.g. process control and ice breaking). The data also suggest that some mediation tactics are most likely to be associated with success if they are used contingently (e.g. trust building and reality testing). It is essential to train construction mediator to use these tactics.

## 6. Concluding remarks

The appropriate use of mediator tactics is decisive for a successful mediation. Due to the dynamic nature of a mediation process, mediator should employ tactics appropriate to the contexts, in particular the dispute source. This study examines the contingent use of these tactics in relation to the dispute sources and mediation outcomes. In the first of the companion papers, the use of principal component factor analyses to develop taxonomies of dispute sources, mediator tactics and mediation outcomes was reported. Based on these, factor scales were derived for use in moderated multiple regressions (MMR), a statistical technique for the detection of moderator effect of dispute source towards improvement in the possible outcomes. The findings suggested that not all of the dispute sources display a moderator effect. This in general supports the proposition that certain mediator tactics are more effective

in dealing with certain dispute sources. Among the range of tactics within the toolkit of a mediator, Trust Building and Reality Test were found to be the most versatile. These results reaffirmed that disputes are problems that can be solved if the disputants are pragmatic and act sensibly. More significantly, the exercise of such approaches can only be possible in a trusting environment. These findings also add strength to the current endeavors in co-operative contracting as in partnering and strategic alliances.

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### References

- [1] Wall JA, Stark JB, Standifer RL. Mediation—a current review and theory development. *Journal of Conflict Resolution* 2001;45(3): 370–91.
- [2] Bercovitch J, Houston A. The study of international mediation: theoretical issues and empirical evidence. In: Bercovitch J, editor. *Resolving international conflicts: the theory and practice of mediation*. Boulder, Colo.: Lynne Rienner Publishers; 1996.
- [3] Thoennes NA, Pearson J. Predicting outcomes in divorce mediation: the influence of people and process. *Journal of Social Issues* 1985;41(2):115–26.
- [4] Kochan TA, Jick T. The public sector mediation process. *Journal of Conflict Resolution* 1978;22(2):209–40.
- [5] Wall JA, Rude DE. Judicial mediation of settlement negotiations. In: Kressel K, Pruitt DG, editors. *Mediation research*. San Francisco, CA: Jossey-Bass; 1989.
- [6] Hiltrop JM. Factors associated with successful labor mediation. In: Kressel K, Pruitt DG, editors. *Mediation research: the process and effectiveness of third party intervention*. San Francisco: Jossey-Bass; 1989. p. 241–62.
- [7] Kressel K, Pruitt DG. Themes in the mediation of social conflict. *Journal of Social Issues* 1989;41:179–98.
- [8] Lim RG, Carnevale PJD. Contingencies in the mediation of disputes. *Journal of Personality and Social Psychology* 1990;58(2):259–72.
- [9] Maggiolo W. *Techniques of mediation in labor disputes*. Dobbs Ferry, NY: Oceana Publications; 1972.
- [10] Boulle L. *Mediation—skills and techniques*. Chatswood, N.S.W.: Butterworths; 2001.
- [11] Stevens C. *Strategy and collective bargaining negotiation*. New York: McGraw-Hill; 1963.
- [12] Robbins E, Dennenberg TS. *A guide for labor mediators*. Hawaii: University of Hawaii Press; 1976.
- [13] Carnevale PJD, Pegnetter R. The selection of mediation tactics in public sector dispute: a contingency analysis. *Journal of Social Issues* 1985;41(2):65–81.
- [14] Keltner JW. Communication and the labor-management mediation process: some aspects and hypotheses. *Journal of Communication* 1965;15(2):64–80.
- [15] Simkin W. *Mediation and the dynamics of collective bargaining*. Washington, DC: BNA; 1971.
- [16] Kressel K. *Labor mediation: an exploratory survey*. New York: Association of Labor Mediation Agencies; 1972.
- [17] Bercovitch J, Houston A. Influence of mediator characteristics and behavior on the success of mediation in international relations. *International Journal of Conflict Management* 1993;4:297–321.
- [18] Bercovitch J, Langley J. The nature of the dispute and the effectiveness of international mediation. *Journal of Conflict Resolution* 1993;37:670–91.
- [19] Hiltrop JM. Mediator behavior and the settlement of collective bargaining disputes in Britain. *Journal of Social Issues* 1985;41(2): 83–99.
- [20] Cohen J, Cohen P, West SG, Aiken LS. *Applied multiple regression/correlation analysis for the behavioral sciences*. Mahwah, NJ: L. Erlbaum Associate; 2003.
- [21] Jaccard J, Turrissi R, Choi KW. *Interaction effects in multiple regression*. Sage; 1990.
- [22] Hair A, Tatham RL, Black WC. *Multivariate data analysis*, 5th ed. Englewood Cliffs, NJ: Prentice Hall; 1995.
- [23] Aiken LS, West SG. *Multiple regression: testing and interpreting interactions*. Newbury Park, CA: Sage; 1991.
- [24] Darlington RB. *Regression and linear models*. New York: McGraw-Hill; 1990.
- [25] Cheung SO, Suen CH. The contribution of the third party neutral towards amicable construction dispute resolution. *The International Construction Law Review* 2002;19(1):79–86.
- [26] Boulle L, Nestic M. *Mediation—principles, process, practice*. London: Butterworths; 2001.
- [27] Rubin JZ. Experimental research on third-party intervention in conflict: toward some generalizations. *Psychological Bulletin* 1980;87: 379–91.
- [28] Cheung SO, Tam CM, Ndekugri I, Harros FC. Factor affecting clients' project dispute resolution satisfaction in Hong Kong. *Construction Management and Economics* 2000;18:281–94.
- [29] Kumaraswamy MM, Chan DWM. Contributors to construction delays. *Construction Management and Economics* 1998;16:17–29.