



Coalition Formation in Negotiations: Interacting Effects of Cultural Diversity and Negotiation Support Systems

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ABSTRACT

Cross-cultural negotiations have become increasingly prominent. Most research on negotiation support systems (NSS) has been confined to dyadic settings which do not quite tally with the real world in which collective bargaining (involving representatives of two or more groups) is more prevalent. When a group is operating, there exists the possibility of coalition formation. This paper examines the phenomenon, taking into account the interaction of the NSS technology and cultural diversity. A research model is presented and several propositions are put forth.

INTRODUCTION

Negotiations have been treated as persuasive social processes, involving dyads, small groups, organizations or governments in an attempt 'to define or redefine the terms of their interdependence' (Walton & McKersie 1965, p.3). Negotiations form an important activity in organizations, to the extent that negotiation activities occupy 20% of a manager's working hours (Foroughi et al. 1995). Most business negotiations are collective bargaining which involves representatives of groups (Morley & Stephenson 1977). Collective bargaining is a more complicated subject matter than interpersonal bargaining, and warrants separate treatment (Lim & Benbasat 1993). To better understand such negotiations, it is imperative to investigate the aspect of group dynamics. When there are three or more members in the group, there is a possibility of coalition formation (subgrouping). Arguably, coalition formation is detrimental to the group process, in that it does not only result in compromised performance, but may also lead to lower levels of group cohesion, and in turn lower levels of satisfaction of group members.

This paper attempts to address issues relating to coalition formation *in negotiations* from the perspective of negotiation support systems (NSS). NSS can be considered as a special class of Group Support Systems (GSS) catered towards bargaining, consensus seeking and conflict resolution (Bui et al. 1992). NSS are designed to assist negotiating parties in reaching mutually satisfactory decisions by supporting information analysis and communication protocols (Bui & Shakun 1996). Recent empirical research on NSS has shown that computer-aided negotiations generally yielded higher joint outcomes (i.e., combined utilities for all parties) and greater satisfaction (e.g., Goh et al. 2000).

With the increasing globalization, it becomes difficult to ignore the *cultural factor* in studying many kinds of group-related activities, including coalition formation in collective bargaining. Indeed, Blau (1977) suggested that firms with different levels of cultural diversity experience dissimilar dynamics and organizational outcomes. Earley and Mosakowski (2000) found that moderately heterogeneous groups exhibited relationship conflict, communication problems, and low identification of members with an overall workgroup.

This paper visits the following research questions: (1) How do NSS impact coalition formation within negotiation groups, thus negotiation outcomes? (2) How does cultural diversity moderate the above link? The

next section provides a literature review. Based on the review, a research model is conceptualized and several propositions are derived.

LITERATURE REVIEW

This section provides an overview of the conceptual background for coalition formation, cultural diversity and negotiation support systems.

Coalition Formation

A coalition is defined as two or more parties who cooperate to obtain a mutually desired outcome that satisfies the interests of the coalition rather than those of the entire group within which it is embedded (Murnighan 1986). Stevenson et al. (1985) refer to a coalition as an interacting group of individuals, deliberately constructed, independent of the formal structure, lacking its own internal formal structure, consisting of mutually perceived membership, issue oriented, and focused on a goal or goals external to the coalition.

Lau and Murnighan (1998) posit that faultlines and the process of coalition formation are intimately connected. Group faultlines are hypothetical dividing lines that may split a group into subgroups based on one or more attributes (Lau & Murnighan 1998). A demographic group faultline such as age tends to divide a group into subgroups of different ages. In addition, faultlines based on other non-demographic characteristics, such as personal values or personality, may also lead to active subgroups within a larger group. Depending on the similarity and saliency of group members' attributes, groups may have many potential faultlines, each of which may activate or increase the potential for particular subgroupings.

Although group members can categorize themselves in many different ways, they typically have a harder time denying their demographic attributes. Also, members of new groups are likely to form initial impressions on the basis of group members' outstanding physical characteristics (Fiske & Neuberg 1990). Thus, when groups are newly formed, members may use salient demographics to implicitly categorize themselves into subgroups (Lau & Murnighan 1998). It is only with additional information that people adjust and form more accurate impressions of each other. As a group develops, the variety and potential saliency of each member's more subtle characteristics become more likely sources for the alignment of faultlines (Newcomb 1961).

Cultural Diversity

Cultural diversity refers to the representation, in a social system, of people with distinctly different group affiliations of cultural significance (Cox 1993). Research suggests a seemingly universal human tendency to respond positively to similarity and negatively to dissimilarity (e.g., Bynre 1999). In general, we are attracted by people who have similar attitudes because they confirm our norms and values and because they are easier to communicate with (Newcomb 1956). Social identity theory (Tajfel & Turner 1986) and self categorization theory (Turner 1982) predict that individuals tend to classify their social environment

into subcategories and that they tend to create a favorable picture of their own category relative to other categories to retain a positive self-image. In-group favoritism, combined with out-group bias, may prohibit productive team processes and may affect team outcomes negatively. Similarity provides a strong basis for categorization.

Blau (1977) suggested that firms with different levels of cultural diversity experience dissimilar dynamics and organizational outcomes. Within culturally homogeneous groups, members tend to communicate with one another more often and in a greater variety of ways, perhaps because they share worldview and a unified culture resulting from in-group attachments and shared perceptions (Earley & Mosakowski 2000). According to the social identity theory, cultural homogeneity in management groups may thus increase satisfaction and cooperation and decrease emotional conflict (Tajfel & Turner 1986). Since homogeneous groups do not have significant cultural barriers to social interaction, positive social associations and in-group social contacts are fostered (Blau 1977).

As cultural diversity increases, however, social comparison and categorization processes occur, and notions of in-group/out-group as well as cognitive biases may emerge, creating barriers to social interaction (Tsui et al. 1992). Therefore, as heterogeneity in groups reaches moderate levels, the psychological processes associated with social identity theory and self-categorization processes may become more likely to occur. These processes generate individual behaviors such as solidarity with others in a race- or gender-based group, conformity to the norms of one's group, and discrimination against out-groups (Tajfel & Turner 1986). To the extent that multiple subcultures exist in moderately heterogeneous groups, conflict is potentially maximized (Earley & Mosakowski 2000), and inter-group interaction and communication may be blocked (Alexander et al. 1995).

Although moderate levels of cultural heterogeneity may create barriers to effective social interaction, high levels of heterogeneity could actually weaken these barriers (Blau 1977), since group members will be more evenly diffused over the categories of cultural diversity and in-group/out-group identities will be reduced (Alexander et al. 1995).

Negotiation Support Systems

Bui et al. (1992) describe negotiations as complex, ill-structured and evolving tasks requiring sophisticated decision support. Normative, game-theoretic models of negotiation (Nash 1953) assume rationality and focus on the outcomes that should emerge from these rational actions by all negotiating parties. Because of its explicit assumptions of individual rationality and normative analyses of negotiation behavior, game theory has been simultaneously a goal and a foil against which much descriptive experimental research has been directed (e.g., Dawes 1988). These models focus on the best outcome but ignore the process of the negotiation itself. In contrast, descriptive theories of negotiation in sociology, psychology and organizational behavior have mostly emphasized contextual characteristics of negotiation and negotiators' cognition and interaction processes (Bazerman & Carroll 1987). These descriptive theories examine the influence of individual differences, situational determinants and cognitive processes on judgment, behavior and outcomes in negotiation (Bazerman & Carroll 1987).

NSS have generated considerable interest in recent years. Much of the previous work has focused on conceptual framework, design and implementation of NSS, as well as the building blocks of NSS (e.g., Lim 1999). Lim and Benbasat (1993) have suggested some theoretical directions along which NSS could successfully be developed. Two major components are envisioned for supporting negotiations: decision support systems (DSS) for each negotiator and an electronic linkage between the DSS so that the negotiators may communicate electronically.

Starke and Rangaswamy (1999) attempt a classification of NSS based on fundamental differences in NSS design and functionality. They highlight a few systems to illustrate the different types of NSS. Negotiation support systems essentially belong to one of two categories: (1) preparation and evaluation systems, which provide negotiation decision

support before or during a negotiation; (2) process support systems, which function as electronic "bargaining tables" by providing the negotiators with the means to communicate with each other, and in some cases, assuming a more active role by providing "computer mediation" or arbitration mechanisms. This taxonomy fits nicely into the group-to-group negotiation scenario under current study. The former (preparation and evaluation systems) can be used to support intra-group decision making process, whereas the latter (process support systems) are mainly meant for supporting the inter-group negotiation processes.

RESEARCH MODEL AND PROPOSITIONS

Surmised from the above review, a research model is proposed (Figure 1). The central research issue concerns how NSS and cultural diversity impact upon the extent of coalition formation within negotiation groups, which may in turn impact upon various important aspects of negotiation outcomes. Consistent with past NSS studies (e.g., Lim 2000), dependent variables in the current study include joint outcome, perceived group cohesion and satisfaction with the outcome.

NSS, Coalition Formation and Negotiation Outcomes

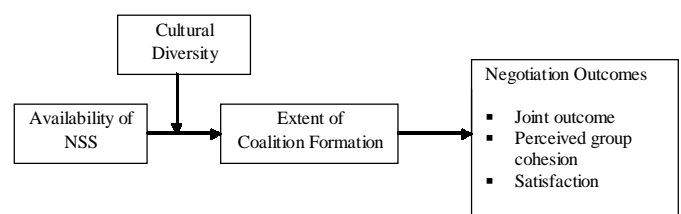
Lim and Benbasat (1993) have emphasized the importance of evaluating the impact of each of the two subcomponents of NSS – the DSS for each party and the electronic communications channel between the parties – instead of evaluating NSS as a single entity.

DSS are utilized away from the bargaining table to help one or more negotiating parties to privately organize information, develop pre-negotiation strategies, or evaluate and propose mid-negotiation offers. They assist individuals in forming subjective representations of negotiation situations and in generating prescriptions about what to do during a negotiation. In other words, these DSS aid negotiators in overcoming their cognitive limitations and by identifying their (and others') real interests, rather than focus on negotiating positions (Fisher & Ury 1983). Hence, the motivation to form coalitions is much reduced compared to the face-to-face scenario.

The electronic communication is supposed to alter the group process as well, according to literature of computer-mediated communications (CMC). Firstly, CMC may allow people to engage in group discussion with reduced social presence (Rice 1993) compared to face-to-face communication. Social presence is the degree to which people establish warm and personal connections with each other in a communication setting (Short et al. 1976). It is related to the degree of salience attached to others involved in an interaction. Settings that are high in social presence encourage people to treat each other as social beings with feelings rather than objects that can be ignored. On the other hand, communication settings with low social presence helped to focus human attention on arguments presented (Siegel et al. 1986). The implication is that low social presence will reinforce the objectivity of decision making.

The DSS component and electronic communication available in NSS help to shift group members' attention to a task, rather than socio-emotional, focus, thus lowering the chances of coalition formation among group members.

Figure 1. The Research Model



Proposition 1: The presence of NSS lowers the extent of coalition formation within negotiation groups.

Coalition formation will have a negative effect on achievable outcomes due to the potential conflict, communication problems, and distancing across the divide (Thatcher et al. 2003). When coalitions form to divide a workgroup, the processes that members typically go through to negotiate common agreements will be hindered (Clark et al. 2000) as communication and task interdependence are hurt. The negotiation outcome of one negotiating party or group is compromised; consequently, the joint outcome (total utility of the negotiated settlement for both parties) will be lowered.

Proposition 1a: The lowered extent of coalition formation (due to the presence of NSS) leads to higher joint outcome.

Group cohesion (members' attraction to the group) is an important indicator of group processes that is also influenced by coalition formation. Lau and Murnighan (1998) pointed out that unspoken but implicit subgrouping (coalition formation) may limit cross-subgroup communication and diminish group cohesion. The similarity-attraction paradigm and literature from coalition theory suggest that individuals are likely to form coalitions when they have numerous similarities across a variety of characteristics. The similarity inherent in this type of coalition formation is likely to lead to less conflict within subgroups. However, coalitions tend to perpetuate the notion of in-groups and out-groups, leading to increases of conflict between or across subgroups (Hogg, et al. 1990). The conflict may in turn create hostility between or across these subgroups, thus leading to lower group cohesion.

Proposition 1b: The lowered extent of coalition formation (due to the presence of NSS) leads to higher group cohesion.

It seems reasonable that if negotiators achieve a higher joint outcome and higher group cohesion, they are likely to be more satisfied.

Proposition 1c: The lowered extent of coalition formation (due to the presence of NSS) leads to higher satisfaction.

Moderating Effect of Cultural Diversity

Byrne's (1971) similarity-attraction paradigm suggests that people are attracted to others who are similar to themselves. In the scenario depicted under the current study, we propose that cultural traits provide an overriding means of determining similarity and thus shaping coalition formation within negotiation groups. Culture can be defined as the collective programming of the mind, which builds on shared norms and values (Hofstede 1980). Culture is a mechanism of collective sense making; it binds individuals in groups and distinguishes one group of people from another.

Negotiators with similar cultural traits tend to define negotiation situations similarly (Salacuse 1991). Psathas and Stryker (1965) suggest that coalitions stabilize as people develop similar definitions of their task situation: coalition partners tend to be those who ultimately define the situation similarly. Therefore, we posit that in heterogeneous-cultural group, members with similar cultural traits tend to form coalition. There will be a lower chance of coalition formation when the group is completely homogeneous or when it is as completely heterogeneous as a group can get. As the presence of NSS demotivates coalition formation, such impact is supposed to be stronger in a moderately heterogeneous group.

Proposition 2a: The impact of NSS on the extent of coalition formation is stronger in moderately heterogeneous-cultural group than in homogeneous group.

Proposition 2b: The impact of NSS on the extent of coalition formation is stronger in moderately heterogeneous-cultural group than in completely heterogeneous group.

CONCLUDING REMARKS

The central question of interest in this study is whether NSS improve negotiation outcomes of negotiation groups through influencing the group dynamics, with special emphasis on coalition formation within groups (or parties). Coalition formation in workgroups is seen to be detrimental to group performance and outcome, as well as group cohesion and members' satisfaction. Cultural diversity has been conceptualized as a moderating construct, because cultural traits are important predictors of negotiating style that may determine the salient similarity among group members and hence coalition formation.

Past NSS research has scarcely examined the group negotiation scenario (collective bargaining), which is nonetheless very prevalent especially in the business world. The current study has made an initial attempt to investigate the group dynamics involving coalition formation, focusing on cultural diversity as a key antecedent. Whereas cultural diversity is not plausibly the only predictor of coalition formation, it is one of the most salient in the negotiation context. The next natural step is an empirical assessment, which will involve triangulation of measurements, including static measurement of group status and dynamic process tracing.

REFERENCES

- Alexandra, J., Nuchols, B., Bloom, J., & Lee, S. (1995), "Organizational demography and turnover: An examination of multiform and nonlinear heterogeneity," *Human Relations*, 48, 1455-1480.
- Bazerman, M.H., & Carroll, J.S. (1987), "Negotiator cognition," in B.M. Staw and L.L. Cummings (Eds.), *Research in Organizational Behavior* (Vol. 7), Greenwich, CT: JAI Press.
- Blau, P.M. (1977), *Inequality and composition: A primitive theory of social structure*, New York: Free Press.
- Bui, T., Jelassi, M.T., & Shakun, M.F. (1992), "Negotiation support systems," proceedings of the 25th Annual Hawaii International Conference on System Sciences, 4, January, Hawaii, 152.
- Bui, T., & Shakun, M.F. (1996), "Negotiation support systems mini-track," proceedings of the 29th Annual Hawaii International Conference on System Science, 4, January, Hawaii, 198.
- Byrne, D.E. (1971), *The Attraction Paradigm*, New York: Academic Press.
- Byrne, D.S. (1999), *Social exclusion*, Buckingham, UK: Open University Press.
- Clark, M.A., Anand, V., & Roberson, L. (2000), "Revolving meaning: Interpretation in diverse decision-making groups," *Group Dynamics: Theory, Research and Practice*, 4, 211-221.
- Cox, T., Jr. (1993), *Cultural diversity in organizations: Theory, research and practice*, San Francisco: Berrett-Koehler.
- Dawes, R.M. (1988), *Rational choice in an uncertain world*, San Diego, CA: Harcourt, Brace, Jovanovich.
- Earley, P.C., & Mosakowski, E. (2000), "Creating hybrid team cultures: An empirical test of transnational team functioning," *Academy of Management Journal*, 43, 26-49.
- Fisher, R., & Ury, W. (1983), *Getting to Yes: Negotiating agreements without giving in*, Penguin Books, New York, NY.
- Fiske, S.T., & Neuberg, S.L. (1990), "A continuum of impression formation, from category-based to individuating process: Influences of information and motivation of attention and interpretation," *Advances in Experimental Social Psychology*, 23, 1-74.
- Foroughi, A., Perkins, W.C. & Jelassi, M.T. (1995), "An empirical study of an interactive, session-oriented computerized negotiation support systems," *Group Decision and Negotiation*, 4, 485-512.
- Goh, K.Y., Teo, H.H., Wu, H.X., & Wei, K.K. (2000), "Computer-supported organizations: An experimental study of bargaining in electronic commerce," proceedings of the 21st Annual International Conference on Information Systems, Brisbane, Australia.
- Hofstede, G. (1980), *Culture's consequences, international differences in work-related values*, Newbury Park London: SAGE.
- Hogg, M.A., Turner, J.C., & Davidson, B. (1990), "Polarized norms and social frames of reference: A test of the self-categorization theory

- to group polarization," *Basic and Applied Social Psychology*, 11, 77-100.
- Lau, D.C., & Murnighan, J.K. (1998), "Demographic diversity and faultlines: The compositional dynamics of organizational groups," *Academy of Management Review*, 23(2), 325-340.
- Lim, J.L.H. (1999), "Multi-stage negotiation support: a conceptual framework," *Information and Software Technology*, 41, 249-255.
- Lim, J. (2000), "An experimental investigation of the impact of NSS and proximity on negotiation outcomes," *Behavior and Information Technology*, 19(5), 329-338.
- Lim, L.H., & Benbasat, I. (1993), "A theoretical perspective of negotiation support systems," *Journal of Management Information Systems*, 9 (3), 27-44.
- Morley, I., & Stephenson, G. (1977), *The social psychology of bargaining*, London: Allen and Unwio.
- Murnighan, K. (1986), "Organizational coalitions: Structural contingencies and the formation process," in R. Lewicki, B. Sheppard, & M. Bazerman (Eds.), *Research on negotiation in organizations*, 155-173, Greenwich, CT: JAI Press.
- Nash, J. (1953), "Two-person cooperative games," *Econometrica*, 21, 129-140.
- Newcomb, T.M. (1956), "The prediction of interpersonal attraction," *Psychological Review*, 60, 393-404.
- Newcomb, T.M. (1961), *The acquaintance process*, New York: Holt, Rinehart, and Winston.
- Psathas, G., & Stryker, S. (1965), "Bargaining behavior and orientations in coalition formation," *Sociometry*, 28, 124-144.
- Rice, R.E. (1993), "Media appropriateness: Using social presence theory to compare traditional and new organizational media," *Human Communication Research*, 19(4), 451-484.
- Salacuse, J.W. (1991), *Making global deal – Negotiating in the international market place*, Boston: Houghton Mifflin.
- Short, J., Williams, E., & Christie, B. (1976), *The social psychology of telecommunication*, John Wiley, New York.
- Siegel, J., Dubrovsky, V., Kiesler, S.B., & McGuire, T.W. (1986), "Group processes in computer-mediated communication," *Organizational Behavior and Human Decision Processes*, 37(2), 157-187.
- Starke, K., & Rangaswamy, A. (2001), "Computer-mediated negotiations: Review and research opportunities," *Encyclopedia of Micro-computers*, 26, Marcel Inc., NY: New York.
- Stevenson, W.B., Pearce, J.L., & Porter, L.W. (1985), "The concept of 'coalition' in organization theory and research," *Academy of Management Review*, 10 (2), 256-268.
- Tajfel, H., & Turner, J. (1986), "The social identity theory of intergroup behavior," in S. Worchel & W.G. Austin (Eds.), *Psychology of intergroup relations*, 7-24, Chicago: Nelson-Hall.
- Thatcher, S.M.B., Jehn, K.A., & Zanutto, E. (2003), "Cracks in diversity research: The effects of diversity faultlines on conflict and performance," *Group Decision and Negotiation*, 12, 217-241.
- Tsui, A.S., Egan, T., & O'Reilly, C.A. (1992), "Being different: Relational demography and organizational attachment," *Academy of Management Review*, 10(2), 256-268.
- Turner, J.C. (1982), "Towards a cognitive redefinition of the social group," in H. Tajfel (Ed.), *Social identity and intergroup relations* (pp. 15-40), Cambridge, UK: Cambridge University Press.
- Walton, R.E., & McKersie, R.B. (1965), *A behavioral theory of labor relations*, New York: McGraw-Hill.

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