MANAGING CONFLICT TO
IMPROVE THE EFFECTIVENESS OF RETAIL NETWORKS

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ABSTRACT

Retailers are becoming involved with networks consisting of multiple firms in order to more effectively perform business activities such as supply chain management. This research develops and tests a framework outlining the effects of conflict in networks and how conflict management can mitigate and exacerbate these effects. A study of 81 simulated networks finds that relational and task conflict have a negative effect on network member satisfaction with and desire to be a member of the network. The use of a collaborative conflict management style has a positive effect on satisfaction and desire for continuity, but the effects of accommodative and confrontational styles depend on the level of relational and task conflict present in the network.
MANAGING CONFLICT TO IMPROVE THE EFFECTIVENESS OF MARKETING NETWORKS

Retailers increasingly are becoming involved with groups of other firms to improve their effectiveness in performing business activities. This trend toward complex, interorganizational relationships suggests that firm performance may be determined by competition between business networks rather than competition between individual firms (Achrol 1997, Hakansson and Snehota 1995, Moller and Halinen 1999).

A business network is defined as multiple independent businesses that have an interdependent relationship without hierarchical control (Anderson, Hakansson, and Johanson 1994). These networks are more than a set of firms involved in exchanges. The firms in a business network have relationships that are characterized by cooperation as well as competition (McLoughlin and Honan 2002).

Perhaps the most widely discussed networks in retailing involve supply chain management. These networks are composed of a focal retailer, the retailer’s vendors, logistics suppliers, software and system providers, and organizations such as Voluntary Interindustry Commerce Standards (VICS) that provide standards to facilitate communications [see the special issue on Supply Chain Management in the Journal of Retailing, Levy and Grewal (2000)]. However retailers are involved in other networks. For example, the effective use of electronic article surveillance (EAS) tags requires the coordinated efforts of the suppliers of tags and detection equipment, the set of vendors affixing the tags to products, and the retailers buying and selling the merchandise. Other examples of a retail networks are retailers that share a common facility such as tenants in a mall and groups of retailers that work together
with manufacturers to develop private label merchandise for sales by all of the retailers in the buying group.

The diverse capabilities and resources possessed by the parties in these retail networks provide the potential for improved performance. However, the firms in the network probably will view the same issues through very different lenses. Their different perspectives and goals can create conflict. Thus conflict is a ubiquitous and important aspect of network dynamics and the management of conflict plays an important role in network performance (Achrol and Kotler 1999, Bengtsson and Kock 2000).

The objective of this research is to understand how conflict and conflict management affect network outcomes. Building on previous research on conflict resolution (Rahim 1986; Thomas 1976, 1992) and conflict in groups (De Dreu 1999; Jehn 1995, 1999; Pelled, Eisenhardt and Xin 1999), in the next section, we develop a framework describing different types of conflict and the effects of conflict management approaches on network outcomes. The hypotheses derived from this framework are tested using a simulation of 81 networks. After presenting the results, the paper concludes with a discussion of the limitations and direction for future research.

**PROPOSED MODEL AND HYPOTHESES**

The conceptual framework on which this research is based is presented in Figure 1. The level of network conflict and the conflict management approach used have a direct effect on network outcomes. In addition, the conflict management approach used moderates the effect of conflict on network outcomes.

The network outcomes examined in this study are the satisfaction of network members with the process and outcome and the degree to which the members desire to continue the
relationship in the future. Two dimensions of conflict considered in the framework are relational conflict and task conflict and three conflict management approaches are examined – confrontation, accommodation, and collaboration.

**Network Outcomes**

The two network outcomes examined in this research are network member satisfaction and desire for continuity. Network member satisfaction is defined as the extent to which network members feel the process and outcomes of interactions with other network members exceeds their expectations. Network continuity is the degree to which network members are willing to work together in the future. These attitudes towards the network indicate the degree to which members will actively support the network and continue to participate in the network in the future.

**Types of Conflict**

Conflict is defined as the behaviors or feelings of interdependent parties in response to potential or actual obstructions that impede one or more of the parties achieving their goals (Deutsch 1973; Gaski 1984; Stern, El-Ansary, and Coughlan 1996.) Most of the research in retailing and marketing on conflict has focused on channel relationships; however, conflict is a ubiquitous phenomenon that pervades virtually all interorganizational activities (Dahrendorf 1959; Lewin 1947; Thomas 1976). While much of the research has focused on reducing the negative effects of conflict, conflict can also produce positive outcomes by introducing different perspectives that produce innovative solutions (e.g. Pondy 1967).

Conflict is a multi-dimensional construct (Amason, Thompson, Hochwarter, and Harrison, 1995; Jehn 1995). In this research, we consider two dimensions, or types, of conflict: (1) relational conflict and (2) task conflict. These two dimensions parallel the classic
factors affecting judgments and decision-making – affect and cognitions. Thus relational conflict is also called emotional or affective conflict, while task conflict is referred to as cognitive conflict.

**Relational conflict.** Relational conflicts are disagreements between network members based on personal incompatibilities. These conflicts typically produce suspicion, distrust, and hostility among network members (Brehmer 1976; Guetzow and Gyr 1954; Faulk 1982). Research suggests that this type of conflict reduces the network’s ability to reach high-quality decisions and impedes the acceptance of decisions among network members. Relational conflict limits cognitive processing of new information, gives rise to hostile attributions concerning each other’s intentions and behaviors, reduces receptiveness to ideas advocated by others who are disliked, decreases willingness to tolerate opposition, and disturbs effective communication and cooperation within the network (e.g. Amason 1996b; Amason and Schweiger 1994; Baron 1991; Eisenhardt and Bourgeois 1988; Jehn 1995). Thus, we hypothesize that:

H1: Relational conflict in networks negatively affects the (a) network member satisfaction and (b) desire for network continuity.

**Task conflict.** Amason (1996a) defines task conflict as disagreements over how to accomplish work together. It often arises from systemic or structural incompatibilities (Wilkof, Brown, and Selsky 1995). Network members often have different organizational and societal cultures, resources, and capabilities that create differences in perspectives on how to accomplish work. These systemic incompatibilities tend to originate over rules, policies and procedures used to achieve the goals of the parties interdependently involved (Stern and Gorman 1969). An example of task conflict is a disagreement between network members in a retail mall setting over the nature of entertainment provided to attract different consumer
segments. Addressing this type of conflict is effortful and can distract attention from performing the network’s task, thus negatively affecting network performance and satisfaction. Therefore we hypothesize that:

\[ H_2: \text{Task conflict in networks negatively affects (a) network member satisfaction and (b) desire for continuity.} \]

**Conflict Management and Network Outcome**

As hypothesized previously, conflict left unmanaged leads to negative consequences for the parties involved. However, research suggests that conflict, if managed properly, can have positive as well as negative consequences. For example, conflict prevents stagnation, stimulates interest and curiosity in a task, and provides a medium through which problems can be aired and solutions arrived at (Deutsch 1973; Simmel 1955; Coser 1956; Jehn 1997; Tjosvold 1985). Positive outcomes of conflict also include an expanded understanding of the issues confronting network members, mobilization of members’ resources and energies toward problem resolution, and clarification of competing solutions and creative searches for alternative solutions to existing problems (Brown 1983). Thus, it is important for the parties in networks to manage conflict effectively so that the positive consequences of conflict can be realized (Robbins 1978; Tjosvold 1985; Rahim 1986). For example, Schweiger and colleagues (1986, 1989) found that the management of conflict, specifically the use of interaction techniques that force network members to disagree and debate the merits of different alternative perspectives, produces superior results. Thus conflict management practices can mitigate the negative effects of conflict on network performance and can result in exploiting the beneficial aspects of conflict.

A number of taxonomies of conflict management behaviors have been developed (Blake and Mouton 1964; Hall 1969; Rahim and Bonoma 1979; Stern, Sternthal, and Craig
1973; Thomas 1976, 1979; Pruitt 1983). In this research, we examine the effects of three conflict management styles discussed in these frameworks: (1) collaboration, (2) confrontation, and (3) accommodation.

**Collaboration.** Collaboration conflict management is activities in which network members reach agreement by exploring integrative solutions. When network members use this style of conflict management, they face conflict directly and try to find new and creative solutions to problems by focusing on their needs as well as on the needs of all network members (Gross and Guerrero 2000). When collaboration is used in networks, communication focuses on reaching a successful resolution that keeps the relationship intact for future interaction (Hocker and Wilmot 1998).

This style of managing conflict has the greatest potential to produce positive outcomes. Its use can lead to integrative solutions that can be mutually beneficial for all network members. Thus the following hypothesis:

H3: Collaboration positively affects (a) network satisfaction and (b) desire for network continuity.

While we hypothesize that using collaboration conflict management is effective in all situations, accommodation and confrontation conflict management, discussed in the following sections, have a positive effect in some situations and a negative effect in others.

**Accommodation.** Accommodation conflict management behavior involves network members allowing others to have their way and/or accepting the other members’ perspectives. The use of accommodation conflict management can be effective because it signals a willingness to listen, accept the points of view raised by others, and make concessions (Papa and Pood 1988). On the other hand, accommodation conflict management can lead to dissatisfaction among the network members employing this approach. The accommodating
members may feel that they have not had the opportunity to express their views and that their needs are not being adequately addressed.

We propose that the use of accommodation conflict management is particularly effective when dealing with relational conflict in networks but detrimental when dealing with task conflict. When relational conflict occurs, the process of making concessions, associated with accommodation conflict management, reduces the negative emotion in the network that impedes the attainment of network outcomes. By accommodating to relational concerns, network members can concentrate on task-related issues undertaken by the network and thus network member satisfaction and processes as well as the desire for network continuity improves.

$H_4$: The use of accommodation conflict management moderates the impact of relational conflict on (a) network member satisfaction and (b) desire for continuity. The moderating effect of accommodation conflict management is positive – greater use of accommodation conflict management provides more satisfaction and desire for continuity.

On the other hand, the use of an accommodation conflict management style can inhibit the degree to which task conflicts can be managed in the development of integrative solutions. Accommodation conflict management limits the free exchange of information and the presentation of different perspectives. Without these different insights on how the task should be accomplished, the development of mutually beneficial, integrative outcomes is reduced. Thus,

$H_5$: The use of accommodation conflict management moderates the impact of task conflict on (a) network member satisfaction and (b) desire for continuity. The moderating effect of accommodation conflict management is negative – greater use of accommodation conflict management provides less satisfaction and desire for continuity.
**Confrontation.** Confrontation conflict management emphasizes the viewpoints of one or more of the network members without considering the viewpoints of other network members. While we propose that task conflict, in general, has a negative effect on network outcomes, confrontational conflict management has been found to be effective in managing task conflicts in some situations (Papa and Canary 1995). Research shows that when parties engage in confrontational behavior and do so in an environment in which members have a good relationship (i.e., low relational conflict - they are relaxed, friendly, and attentive), confrontational behavior yield positive outcomes (Infante and Gorden 1985). When network members use confrontation conflict management behavior in the absence of relational conflict, the saliency of the task to be accomplished is heightened and the energy of network members is directed toward network tasks. Confrontation conflict management behavior forces network members to consider each party’s goals.

Confrontation conflict management can be beneficial in this situation because it puts the relationship at risk. If a network member is willing to do that, it signals that they care about the network and therefore can build trust. In addition, network relationships that are open to opposing viewpoints and that have members who are willing to communicate their viewpoints have a foundation for high quality interaction, creativity and the development of sound relationships. For example, research has reported that high levels of trust and commitment encourage the use of communication strategies that emphasize confrontation (Helper and Sako 1995; Ping 1993; Ping 1997).

However, if the level of task conflict is low, the use of confrontational conflict management will have a negative effect on network outcomes. Confrontation, in this situation, creates controversy that must be contended with. Therefore even though network members
have low task and relational conflict, they must take time and energy away from the pursuit of business activities and focus the discussion on issues raised through confrontations.

Thus we propose that:

\( H_6: \) The use of confrontational conflict management moderates the impact of task conflict on (a) network member satisfaction, and (b) desire for continuity, when affective conflict is low and task conflict is high. The moderating effect of confrontational conflict management is positive – greater use of confrontational conflict management in this situation provides greater satisfaction and desire for continuity.

\( H_7: \) The use of confrontational conflict management moderates the impact of task conflict on (a) network member satisfaction and (b) desire for continuity when affective conflict is low and task conflict is low. The moderating effect of confrontational conflict management is negative – greater use of confrontational conflict management in this situation provides reduced satisfaction and desire for continuity.

In the following sections, we describe the method used to test the hypotheses, the results, their limitations, directions for future research and managerial implications.

**METHOD**

This section describes the research design, sample and data collection procedure, the measure development, the measures used in the research, and the data analysis approach used.

**Research Design**

In light of the limited research involving conflict in networks, we used a simulation to test the hypotheses proposed in the previously presented conceptual framework. By using a simulation, we were able to measure conflict management behaviors used in networks in close time proximity to the network interactions and assess measures of network outcomes.

To test the hypotheses, we created 81 four-person networks. The networks, composed of MBA students, engaged in a mixed-motive exercise developed by Beggs, Brett and
Weingart (2000). Each member was assigned a different role within a network. The network members were motivated to consider both the network’s goal and their individual perspectives by awarding prizes to all the members of the network with the best overall network performance and to the best performance by the network member in each of the four roles.

The exercise placed each network member in the role of a different specialty store owner in a hypothetical retail building (mall). The store owners had to discuss and come to agreement on five issues that differentially affected each of their businesses. The five issues were the extent to which (1) advertising, (2) hiring and training of clerks, and (3) maintenance would be organized separately by each store-owner or jointly for the mall as a whole, (4) the temperature within the mall and (5) the location of stores within the mall. For each owner, a value or utility was assigned for each outcome; however, the values differed across owners. For example, the flower shop owner’s utility was higher for locations near the entrance of the mall because the increased traffic would generate more impulse visits. On the other hand, the liquor store owner’s utility was higher for locations near the loading dock since its merchandise (cases of alcoholic beverages) are difficult to move around and the store is a destination with limited impulse visits. The trade-off facing the flower shop and the liquor store owners over location is a zero-sum situation; however, within the payoff matrices, there were situations in which two or three members of the network would all have increasing utility from an agreement on an issue. Network members knew their own payoffs for each decision, but not those of the other network members.

The network exercise began with the participants receiving instructions for the simulation, information about their role, and the utilities associated with each level of the decision variables. The participants then met with the other members of their network and
reached an agreement concerning the five decision variables. Finally, each participant completed a questionnaire to assess the constructs in the conceptual framework.

This simulated network environment is consistent with the definition of business networks in the literature. The multiple entities are independent but interdependent without hierarchical control and, through cooperation, they can expand the total utility of the group.

**Measures**

Measures were developed using a framework outlined in Churchill (1979.) First, a pool of items was developed for each construct. These items were pre-tested on a convenience sample of business school faculty and graduate students. Exploratory factor analyses and an examination of the item intercorrelations, means, and standard deviations were used to purify the scales. Scale unidimensionality was verified using confirmatory factor analysis (Gerbing and Anderson 1988).

The measure used for each network was the average score on each item across all participants in the network. The scales used to measure the constructs and reliabilities of the scales are reported in the appendix. The means, standard deviations, and correlation matrix for the constructs are shown in Table 1. The items used to measure the constructs are shown in the Appendix.

**Types of conflict.** The five items used to measure relational conflict assessed the degree to which personal friction and tension caused by personal incompatibilities occurred during the completion of the network task. The Cronbach alpha for the scale is .94. The four-item scale measuring task conflict assessed the extent to which members of the network had differences of opinions concerning the process for undertaking the task and the goals for completing the task. The responses for the items in these scales were collected on seven point
scales anchored by “strongly disagree” and “strongly agree.” The Cronbach alpha for the task conflict scale is .81.

**Conflict management behaviors.** The three conflict management behaviors were measured on 7-point scales assessing the degree to which the conflict management style was used in the interaction. The scales were anchored by “never” and “very frequently”. The seven items used to measure accommodation conflict management behavior assessed the frequency of behaviors related to conforming to the views of others. The Cronbach alpha for this scale is .85. Confrontational conflict management behavior (Cronbach alpha .83) was measured using a six-item scale to assess the frequency of behaviors in which one or more network members asserted themselves in a conflict situation in order that their point of view might prevail. Finally, collaboration conflict management behavior was measured using by five items (Cronbach alpha .90) assessing the frequency with which network members attempted to develop integrative solutions.

**Network outcomes.** The two dependent measures used in this research were satisfaction and network performance. The degree to which network members were satisfied with the process and outcome was measured using a six-item, seven-point scale anchored by “strongly disagree” and “strongly agree” (Cronbach alpha .89). Finally, network continuity, the degree to which the network members are interested in working together in the future, was assessed using a three-item, seven-point scale anchored by “strongly disagree” and “strongly agree” (Cronbach alpha .84).

**Formation of Network Measures**

The responses obtained from multiple individual network members were to be aggregated into a single network-level response; therefore it was necessary to verify the
relative magnitudes of the between-network and within-network variance. Following the procedure recommended by Georgopolous (1986) and used by Jehn (1995), a one-way ANOVA analysis was performed for each network member measure using the measure as the dependent variable and the network as the single factor. The F-ratio from the ANOVA was compared with Georgopolous’s criterion that F exceeds 1.0. In addition, the eta-squared statistic was calculated for each measure. Eta-squared, or the ratio of the between-network variance to the total variance, should exceed 0.16 if data aggregation is to be appropriate (Georgopolous 1986). All the measures have F ratios that exceed 1.0 and eta-squared greater than 0.16.

Hypotheses H₁ through H₅ were tested by estimating the following multiple regression models:

(1) Satisfaction = b₀₀ + b₀₁ x relational conflict (RC) + b₀₂ x task conflict (TC) + b₀₃ x accommodation (AM) + b₀₄ x confrontation (CF) + b₀₅ x collaboration (CL) + b₀₆ x RC x AM + b₀₇ x RC x CF + b₀₈ x RC x CL + b₀₉ x TC x AM + b₁₀ x TC x CF + b₁₁ x TC x CL

(2) Network Continuity = b₁₀ + b₁₁ x relational conflict (RC) + b₁₂ x task conflict (TC) + b₁₃ x accommodation (AM) + b₁₄ x confrontation (CF) + b₁₅ x collaboration (CL) + b₁₆ x RC x AM + b₁₇ x RC x CF + b₁₈ x RC x CL + b₁₉ x TC x AM + b₁₁₀ x TC x CF + b₁₁₁ x TC x CL

where b₀₀…b₁₁₁ represent the unstandardized regression coefficients for the respective independent variables.

The measures of the individual constructs were mean-centered to reduce multicollinearity as recommended by Cronbach (1987) and Jaccard, Turrisi, and Wan (1990).
Hypotheses H₆ and H₇ involve third order interactions – interaction between confrontation conflict management, relational conflict, and task conflict. When the third-order interactions were added to equations (1) and (2), the multicollinearity was so great that none of the estimated coefficient was significant. Thus, to test these hypotheses, we used the medians of the types of conflict to divide the sample into four groups: (1) high task conflict – low relationship conflict, (2) low task conflict – high relationship conflict, (3) low task conflict – high relationship conflict, and (4) low task conflict – low relationship conflict. Then we estimated the correlation between the conflict management styles and network outcomes for each group. The results of these analyses are shown in Tables 3 and 4.

RESULTS

The standardized coefficients estimated for equations (1) and (2) concerning the factors affecting network outcomes covered in the first five hypotheses are shown in Table 2.

Main Effects of Conflict Management Behaviors on Network Outcomes

The results concerning the main effect of collaboration conflict management on network outcomes partially support H₁. The use of collaboration conflict management is significantly related to network member satisfaction ($\beta_{01} = 0.304$, $p<.01$). While the estimated effect of collaboration on network continuity is in the hypothesized direction ($\beta_{11} = 0.244$), it is not statistically significant. While we did not hypothesize a main effect for accommodation and confrontation conflict management on network outcomes, confrontation conflict management had a significant positive effect on network continuity ($\beta_{14} = 0.252$, $p<.05$).

Main Effects of Conflict on Network Outcomes

H₂ and H₃, the negative main effects of conflict types on network outcomes, are largely supported. Relational conflict has a significant negative effect on network member satisfaction
(\(\beta_{01} = -0.383, p<.005\)) and has a significant negative effect on desire for network continuity
(\(\beta_{11} = -0.428, p<.005\)). Task conflict is significantly related to network satisfaction (\(\beta_{02} = -0.332, p<.005\)), but is not significantly related to network continuity (\(\beta_{12} = -0.138\)).

**Moderating Effects of Conflict Management Behaviors**

The results support H4 and H5 that the use of accommodation conflict management moderates the effects of task and relational conflict on network outcomes. Accommodation significantly and positively moderates the effects of relational conflict on network satisfaction (\(\beta_{06} = 0.261, p<.05\)) and desire for network continuity (\(\beta_{16} = -0.293, p<.05\)). As hypothesized, accommodation conflict management significantly and negatively moderates the effects of task conflict on network satisfaction (\(\beta_{010} = 0.262, p<.05\)) and desire for network continuity (\(\beta_{111} = -0.266, p<.05\)).

While we did not hypothesize any moderating effects for collaboration, collaboration did significantly and negatively moderate the relationship between relational conflict and network continuity (\(\beta_{1.} = -0.374, p<.05\)). This result suggests that, while the use of collaboration is generally a useful conflict management approach (H1), its effectiveness is diminished with higher levels of relational conflict.

As mentioned previously, hypotheses H6 and H7 involve third order interactions since they predict that the moderating effects of confrontation conflict management will depend on the levels of relational and task conflict. The results of the correlations for the four different conflict situations shown in Tables 3 and 4 support H6 and H7. In networks with high task conflict and low relational conflict, confrontation conflict management is positively related to network satisfaction (\(r = 0.58, p<.05\)) and desire for network continuity (\(r = 0.71, p<.01\)). However, in networks with low task conflict and low relational conflict, confrontation has a
negative effect on network satisfaction ($r = -0.47, p<.01$) and network continuity ($r = -0.30, p<.10$).

**DISCUSSION**

The results of the network simulations support the conceptual framework we presented. Relational and task conflict have a negative effect on network outcomes. These negative effects can be reduced by the use of the appropriate conflict management approaches. The use of collaboration conflict management is effective in reducing both types of conflict. However, accommodation conflict management is effective only at reducing relational conflict and confrontation is effective only at reducing task conflict in networks where relational conflict is low and task conflict is high.

The misuse of conflict management approaches can exacerbate the negative effects of network conflict. For example, the network outcomes are diminished when accommodation conflict management is used to address task conflict. Confrontation conflict management has negative effects on network outcomes when used under condition of low relational and low task conflict.

The results also emphasize the need to consider the multi-dimensional nature of conflict. Task and relational conflict, the two dimensions of network conflict considered in this research, need to be approached differently. While both of these types of conflict have a negative effect on network outcomes, conflict management approaches are differentially effective in mitigating or exacerbating these effects.

**Managerial Implications**

Managing interorganizational network relationships is a particular challenge, since their very nature includes conflicting objectives in addition to a need for cooperation. Adding to
this difficulty, the lack of a hierarchical control structure means that network members are themselves tasked with managing network relationships. Since marketers have considerable expertise in managing interorganizational relationships, they are well positioned to play a major role in the network management activities of their firms. 

This research emphasizes the need to use of appropriate conflict management behaviors that can mitigate the negative effects of instrumental conflict and even result in a condition when task conflict can have a positive impact on network performance. Task conflict has a negative effect on network performance; however reducing relational conflict through accommodation conflict management and then confronting the conflict, rather than accommodating it, can produce positive network outcomes. This finding suggests that managers, after reducing relational conflict, might do well to promote network norms that support the open challenges of ideas between network members, with the understanding that better performance can result.

Limitations

While the results support our conceptual framework, the framework was tested in only one context – a mixed-motive exercise involving a simulation of networks composed of MBA students. One would expect that the specific results would be different when networks have a different composition and are embedded in different contexts. For example, the impact of relational conflict would probably be greater for networks facing considerable competition, resulting in weak member performance. Similarly, the main effects of task conflict on network outcomes might be greater for networks in which there is truly an opportunity to integrate different capabilities to develop innovative strategies.
Finally, the outcomes examined in the research are subjective assessments of satisfaction and desire for continuity. We did not directly examine the objective performance of the networks. By assessing subjective performance, there is the potential for common method variance biasing the results toward significance. While this might affect the strength of the main effect relationships, it is unlikely to affect the strength of the hypothesized interactions.

**Directions for Future Research**

While the results of this research support the basic premises of the conceptual framework, the framework certainly needs to be tested in an actual network environment. The simulation with MBA students used in this study has the advantages of enabling a straightforward data collection process and the collection of conflict management behaviors shortly after the completion of the task. However, the results from using a simulation may be biased because a simulation does not capture the same level of involvement that is present in actual network activities. On the other hand, the results are promising and suggest that additional research in the area of network conflict management is merited.

Three other issues that merit further investigation are: (1) factors causing task and relational conflict, (2) other network outcomes such as the creativity of the task solution, and (3) the impact of the nature of the tasks undertaken by the network.

**Antecedents of Network Conflict.** Members of business networks contribute different skills and perspectives to the performance of business activities. Research on team composition can be used to develop hypotheses about the link between network composition and network performance. In the past, much of this team research focused on the effect of visible demographic characteristics, such as gender, age, and ethnic background. More recently, the
importance of “unobservable diversity” (Milliken and Martins 1996) and “deep level” (Harrison, Price, and Bell 1998) diversity has been recognized. Deep level attributes are invisible attributes that are central to a person’s identity, such as personality and core values (Becker 2000). Research suggests that differences at these deeper levels, such as differences in skills and perspectives, contribute to the quality of team output (Pelled, Eisenhardt, and Xin 1999). The term “creative abrasion” (Leonard and Rayport 1997) is used to describe team innovation that occurs when conflicts arise from disparate ideas colliding and eventually leading to creative solutions. Thus differences in skills and perspectives lead to conflict.

Differences in the areas of expertise, differences in levels of power that each network member possesses, and differences in commitment are potential sources of task conflict in the network. Expertise differences are the degree to which network members have different types and level of knowledge, skills, and capabilities with respect to the problem for which the network is charged with developing a solution. Differences in expertise among network members will result in the network members proposing and advocating different approaches for addressing the business activity, tending to increase task conflict.

Power differences are the degree to which some network members are regarded as being of higher status than others. Differences in power among network members may lead to different perspectives on how to tackle a network task, or different ideas about the desired goal. For example, a high-power member may shrug off difficulties, under the assumption that a subordinate will take care of them. A low-power member, on the other hand, may want to choose a simpler solution.

Networks with high power differences experience more personal friction than networks composed of equal status members, because network members assume that other network
members will assume roles of responsibility that may not be consistent with how those members desire to work with the network (Dutton & Walton 1966; McCann and Galbraith 1981; Smith, Carroll, and Ashford 1995). In addition, opposition to points of view of those who have more power leads to contention that is not task-related, but related to perceived role. Network members who default to the incorrect or inconsistent point of view of the more powerful member(s) cause non-task related conflict, especially when their point of view is not considered by other network members.

Similarly, when network members differ in terms of their commitment to the network and its tasks, some members are likely to want to complete the task efficiently, without too much attention to the quality of the solution. More committed members, in contrast, may propose more complex approaches to the task, or more ambitious goals, leading to task conflict.

Interpersonal frictions in networks are also created when some members of a network are committed to the network while other members are not concerned about the issues facing the network. The disparity in commitment manifests itself in a negative perception of network member worthiness, which is a non-task related value judgment. This non-task value judgment about a network member’s worth causes relational conflict.

Social relationship is the extent to which network members have personal, in addition to business, relationships. Surprisingly, research suggests that conflict increases as social relationships between team members increase (Braiker and Kelley 1979; Coser 1956; Jehn and Shaw 1996). When team members have closer social relationships they are more likely not only to voice their position on topics of discussion but also to want to be heard. In close, interpersonal relationships, the severity of conflict increases because the rules of the
relationship are held as more central and transgressions of these rules can violate the relationship more severely (Roloff and Cloven 1990). Levine and Thompson (1996) propose that the frequency of conflicts is greater in close relationships because there is less concern that conflicts will endanger the continuance of the relationship between the parties.

**Creativity as a Network Outcome.** The creativity with which a business activity is undertaken is an important, subjective measure of network performance. Creativity is defined as the creation of novel and useful outcomes (Amabile 1983). In fact, one could argue that the primary reason for bring together the different abilities and resources represented in a business network is to facilitate the development of creative solutions.

The optimum conditions for creativity include the presence of a non-judgmental atmosphere (Delberq and Mills 1985; Amabile 1996, 1998), which encourages people to present their unedited thoughts without fear of ridicule. In situations where disagreements about network goals exist, it is likely that people will be less willing to expose themselves to criticism, and therefore we propose that networks with high levels of instrumental conflict will tend to exhibit low creativity.

**Nature of the Task Undertaken.** The framework could be extended to consider moderating effects of the nature of the activities in which the network is involved. Hambrick, Davidson, Snell, and Snow (1998) divide group tasks into coordinative, computational, and creative tasks. The activity considered in this research is a computational task with limited opportunities for truly innovative solutions. The level and nature of conflict might change and the effective management of the conflict might differ as the opportunity for innovative solutions increases. The moderating effects of these different task types, and solution
possibilities, on the nature of conflict and conflict management in networks need to be investigated.

The present model does not take into account the trend toward globalization, which means that the members of many inter-organizational networks are located remotely from one another, and may have different cultural norms for relationships and conflict management. The lack of opportunity for face-to-face communication, combined with different expectations, may increase the challenge of managing conflict in these networks. This is an important area requiring future research.

Effective conflict management in networks is a complex phenomenon meriting additional research attention. This research presents a framework for advancing the understanding of conflict management strategies and some preliminary results supporting the framework. Further empirical investigations and conceptual extensions of the framework can potentially improve the theoretical understanding of the role and management of conflict in networks, thereby enhancing their productivity.
REFERENCES


and Handling of Conflicts between Himself and Others. Houston, TX: Teleometrics.


Figure 1: Conceptual Framework

Types of Conflict

- Relational Conflict
- Task Conflict

Conflict Management Behaviors

- Accommodation
- Confrontation
- Collaboration

Performance Outcomes

- Satisfaction with Outcome and Process
- Network Continuity
<table>
<thead>
<tr>
<th>Conflict Type</th>
<th>Relational Conflict (RC)</th>
<th>2.32</th>
<th>.94</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Conflict (TC)</td>
<td>4.21</td>
<td>.79</td>
<td>.61</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Conflict Management Behavior</td>
<td>Accommodative (AM)</td>
<td>5.03</td>
<td>.51</td>
<td>-.19</td>
<td>-.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confrontational (CF)</td>
<td>3.68</td>
<td>.75</td>
<td>.59</td>
<td>.56</td>
<td>-.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaborative (CL)</td>
<td>5.62</td>
<td>.60</td>
<td>-.46</td>
<td>-.34</td>
<td>.58</td>
<td>-.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome</td>
<td>Satisfaction with Outcome and Process (SOP)</td>
<td>4.90</td>
<td>.76</td>
<td>-.60</td>
<td>-.59</td>
<td>.38</td>
<td>-.44</td>
<td>.62</td>
</tr>
<tr>
<td>Network continuity (NC)</td>
<td>5.83</td>
<td>.64</td>
<td>-.54</td>
<td>-.41</td>
<td>.38</td>
<td>-.27</td>
<td>.52</td>
<td>.68</td>
</tr>
</tbody>
</table>
Table 2: Network Outcomes

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Satisfaction with Process and Outcome</th>
<th>Network Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relational Conflict (TC)</td>
<td>-.383***</td>
<td>-.428***</td>
</tr>
<tr>
<td>Task Conflict (TC)</td>
<td>-.332***</td>
<td>-.138</td>
</tr>
<tr>
<td>Accommodation (AM)</td>
<td>.056</td>
<td>.197</td>
</tr>
<tr>
<td>Confrontation (CF)</td>
<td>.093</td>
<td>.252*</td>
</tr>
<tr>
<td>Collaboration (CL)</td>
<td>.304**</td>
<td>.244</td>
</tr>
<tr>
<td>TC*AM</td>
<td>.261*</td>
<td>.293*</td>
</tr>
<tr>
<td>TC*CF</td>
<td>.224</td>
<td>-.098</td>
</tr>
<tr>
<td>TC*CL</td>
<td>-.186</td>
<td>-.374*</td>
</tr>
<tr>
<td>TC *AM</td>
<td>-.262*</td>
<td>-.266*</td>
</tr>
<tr>
<td>TC *CF</td>
<td>-.209</td>
<td>-.002</td>
</tr>
<tr>
<td>TC *CL</td>
<td>.080</td>
<td>-.228</td>
</tr>
<tr>
<td>R²</td>
<td>.645</td>
<td>.491</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.588</td>
<td>.410</td>
</tr>
<tr>
<td>Significance of F for Model</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

* p<.05  
** p<.01  
*** p<.005
Table 3: Correlation Between Conflict Management Styles and Network Satisfaction

<table>
<thead>
<tr>
<th></th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
</table>
| **Relational Conflict** | Confrontation = -26  
Accommodation = .28  
Collaboration = .34*  
n=28          | Confrontation = .58*  
Accommodation = .33  
Collaboration = .29  
n=10          |
| **Task Conflict** | Confrontation = .42  
Accommodation = .06  
Collaboration = .38  
n=12          | Confrontation = -.47***
Accommodation = .40**  
Collaboration = .63***  
n=31          |

*Correlation of confrontation conflict management with network satisfaction is 0.34 in groups with high relational and high task conflict

*** p<.01  
** p<.05  
* p<.10
Table 4: Correlation Between Conflict Management Styles and Network Continuity

<table>
<thead>
<tr>
<th></th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relational Conflict</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confrontation</td>
<td>(-0.10)</td>
<td>(0.71^{**})</td>
</tr>
<tr>
<td>Accommodation</td>
<td>(0.16)</td>
<td>(0.09)</td>
</tr>
<tr>
<td>Collaboration</td>
<td>(0.12)</td>
<td>(0.72^{**})</td>
</tr>
<tr>
<td>(n=28)</td>
<td></td>
<td>(n=10)</td>
</tr>
</tbody>
</table>

| **Task Conflict** |                       |                      |
| Confrontation    | \(0.44\)             | \(-0.30^{*}\)       |
| Accommodation    | \(0.28\)             | \(0.53^{***}\)      |
| Collaboration    | \(0.49 (p=.107)\)    | \(0.58^{***}\)      |
| \(n=12\)        |                       | \(n=31\)            |

*Correlation of confrontation conflict management with network continuity is 0.12 in groups with high relational and high task conflict

** \(p<.05\)

*** \(p<.01\)

* \(p<.10\)
Appendix
Measurement Scales

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Cronbach α</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relational Conflict</strong></td>
<td>.94</td>
</tr>
<tr>
<td>Our personalities occasionally clashed.</td>
<td></td>
</tr>
<tr>
<td>There was a lot of tension between us at times.</td>
<td></td>
</tr>
<tr>
<td>At times, there were bad feelings between us.</td>
<td></td>
</tr>
<tr>
<td>Sometimes we became irritated with one another.</td>
<td></td>
</tr>
<tr>
<td>There was personal friction among network members.</td>
<td></td>
</tr>
<tr>
<td><strong>Task Conflict</strong></td>
<td>.81</td>
</tr>
<tr>
<td>We disagreed over ideas.</td>
<td></td>
</tr>
<tr>
<td>Group members disagreed over how to complete the project.</td>
<td></td>
</tr>
<tr>
<td>Group members had differences of opinion over how to complete the project.</td>
<td></td>
</tr>
<tr>
<td>We experienced differences of opinion.</td>
<td></td>
</tr>
<tr>
<td><strong>Accommodative Conflict Management Behavior</strong></td>
<td>.85</td>
</tr>
<tr>
<td>Giving in to others.</td>
<td></td>
</tr>
<tr>
<td>Accepting others’ positions.</td>
<td></td>
</tr>
<tr>
<td>Letting the other person win.</td>
<td></td>
</tr>
<tr>
<td>Agreeing to go along with the others’ ideas.</td>
<td></td>
</tr>
<tr>
<td>Conforming to others' wishes.</td>
<td></td>
</tr>
<tr>
<td>Complying with others’ ideas.</td>
<td></td>
</tr>
<tr>
<td>Accommodating the wishes of the rest of the group.</td>
<td></td>
</tr>
<tr>
<td><strong>Confrontational Conflict Management Behavior</strong></td>
<td>.83</td>
</tr>
<tr>
<td>Trying to get one’s own way.</td>
<td></td>
</tr>
<tr>
<td>Arguing a point without considering the views of others.</td>
<td></td>
</tr>
<tr>
<td>Pushing one’s own interests regardless of the effect on other group members.</td>
<td></td>
</tr>
<tr>
<td>Pitting one’s own viewpoint against those of other group members.</td>
<td></td>
</tr>
<tr>
<td>Trying to win arguments.</td>
<td></td>
</tr>
<tr>
<td>Confronting other group members with dissenting views.</td>
<td></td>
</tr>
<tr>
<td><strong>Collaborative Conflict Management Behavior</strong></td>
<td>.90</td>
</tr>
<tr>
<td>Collaborating.</td>
<td></td>
</tr>
<tr>
<td>Reaching agreement by pooling our ideas together.</td>
<td></td>
</tr>
<tr>
<td>Integrating our ideas to come up with a jointly acceptable decision.</td>
<td></td>
</tr>
<tr>
<td>Coming up with a creative solution that we all can agree on.</td>
<td></td>
</tr>
<tr>
<td>Actively seeking a mutually beneficial solution</td>
<td></td>
</tr>
<tr>
<td><strong>Satisfaction with Outcome and Process</strong></td>
<td>.89</td>
</tr>
<tr>
<td>I was disappointed with the way the project turned out. (Reverse-scored)</td>
<td></td>
</tr>
<tr>
<td>I was very satisfied with the outcome of this project.</td>
<td></td>
</tr>
<tr>
<td>We could have done better on this project. (Reverse-scored)</td>
<td></td>
</tr>
<tr>
<td>I was very satisfied with the process used to complete the project.</td>
<td></td>
</tr>
<tr>
<td>We could have used a more effective method to accomplish our task. (Reverse-scored)</td>
<td></td>
</tr>
<tr>
<td>I would have preferred the project to have been done differently. (Reverse-scored)</td>
<td></td>
</tr>
<tr>
<td><strong>Network continuity</strong></td>
<td>.84</td>
</tr>
<tr>
<td>I would be willing to work with this group on future projects.</td>
<td></td>
</tr>
<tr>
<td>It would be good to get the same group together to work on future projects.</td>
<td></td>
</tr>
<tr>
<td>I do not want to work with this group again.</td>
<td></td>
</tr>
</tbody>
</table>