Journal of Applied Sciences

ISSN 1812-5654

science alert

ANSInet
an open access publisher
http://ansinet.com

Journal of Applied Sciences 13 (9): 1504-1508, 2013
ISSN 1812-5654 / DOI: 10.3923/jas.2013.1504.1508
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Mediating Effect of Team Trust Between Team Conflict and Team Effectiveness in Self-management Teams

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Abstract: Team conflict is an amazing variable in team studies. But the effect of team conflict still remains debatable. Blessing or curse, it is not certain that team conflict is. It is reasonable that team type, team process and team context may influence the outcome of team conflict. In this study, 54 self-management teams were selected as participants, to explore the relationship between team conflict and team effectiveness. The result indicated that team conflict is medium negative correlated to team effectiveness and team trust is mediator between team conflict and team effectiveness. So, team conflict is harmful to team effectiveness in self-management team, but team trust may reduce the negative impact of team conflict.

Key words: Team conflict, team effectiveness, team trust, self-management team

INTRODUCTION

Self-management teams are a relatively new type of teams which are frequently used in modern organizations. Self-management teams have several defining characteristics. They are given relatively whole work tasks and are allowed increased autonomy and control over their work (Hackman, 1986; Manz, 1992). In addition, the members of such teams are responsible for many traditional management functions, such as assigning members to various tasks, solving within-team quality and interpersonal problems and conducting team meetings (Lawler, 1986). Leaders in self-management teams usually don't try to control the team; their primary function is to enable self-management.

Many benefits have been attributed to self-managing teams, including increased productivity, better quality work and improved quality of work life for employees, as well as decreased absenteeism and turnover (Cohen and Ledford, 1994; Manz, 1992). Despite many advantage of self-management teams (Manz and Sims, 1987), sometimes they may fail. Self-managing weaken the influences of authority out-of-team and increase uncertainty. For example, if team conflict occurred in self-management team, it must resolve in the team and by the team members themselves. Team would disintegrate if the level of conflict out of control.

Team conflict means serious disagreement and argument among team members about important issues related to the team goals (Jehn, 1995; Simons and Peterson, 2000). Any divergence or differences between team members may lead to team conflict, such as different interests, various values and cultures, or diversity in personality traits.

Academic perspective about team conflict developed in three stages (Robbins, 2004). In the first stage, scholars regarded conflict as irrational, harmful, destructive monster, which should be eliminated in organizations or in teams. In the second stage, people realized that conflict is inevitable and it should be fully understood and accepted. Managers should find some valid ways to depress the negative effects of team conflict. In the last stage, constructive aspect of team conflict was recognized by academic community, people believed that certain level of team conflict can motivate the potential of team.

Team conflict is surely an amazing concept not only in academic circle but also in business world. If conflict is assumed to be harmful and should be eliminated, team may be in harmony without viability; if conflict is supposed to be helpful and should be tolerated, team may fall into irrational debate and personal attack. Nelson (1989) suggested that the thresholds should be identified at which conflict becomes problematic in a team.

Some scholars speculated that different types of team conflict may induce different outcomes; they try to make a classification system of team conflict to predict the effect of conflict. Literatures indicated that there are three categories of team conflict in organizations: Relationship conflict, task conflict and process conflict (Jehn, 1994; Jehn and Mannix, 2001). Relationship conflict is defined as perceived disagreement among team members

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regarding issues not related to the tasks or goals (e.g., fights about different political opinions or value differences); it is likely to limit the information processing of team members and time or energy is devoted to discussing, resolving, or ignoring the conflict instead of working on the task (Jehn and Bendersky, 2003). Task conflict is defined as perceived disagreement among team members regarding issues of specific task the team is working on and may in contrast, increase divergent opinion about task which ultimately may improve team performance. Process conflict refers to perceived disagreement among team members regarding issues of means or methods by which team goal would be attained (e.g., assignment of task, distribution of responsibility and power, etc.,).

A lot of empirical studies indicated that relationship conflict is detrimental (Roseman *et al*., 1994) but task conflict is beneficial. But some theoretician doubted the generalization of this conclusion; they argued that beneficial conflict (e.g., task conflict) may be not really helpful sometimes. For example, a comment that express substantial standpoint may be interpreted as personal attack when violent debate about task occurred among team members.

The effect of team conflict can not be identified by characters or types of team conflict. Team contextual variables may influence the effect of team conflict significantly. It is assumed that team trust is an important factor that influences the relationship between team conflict and team effectiveness.

Team trust is "a shared believed that the team is safe for interpersonal risk taking" (Edmondson, 1999). Team members showed their perspectives directly without any worry about jeer or rebuke from others in the team. Edmondson *et al*. (2001) examined several hospitals implementing new cardiac surgery technology. In hospital teams whose team trusts are low, they are less likely to engage in risk taking and they exhibit more behaviors consistent with the status quo. Team trust is a part of team climates, in which critical comment may be regarded as impersonal suggestion in conflict context. So, team trust may reduce the negative effect of team conflict.

Team effectiveness is a variable to describe the outcome of team process. Gladstein, (1984) and Hackman (1987) believed that there are 3 dimensions belonging to team effectiveness: (1) Team performance, (e.g., team efficiency, productivity, quality). (2) Team satisfaction, (e.g., subjective well-being or happiness of team members). (3) Team viability (Gladstein, 1984; Hackman, 1987). In practice, team effectiveness is broadly defined and accessed in various way. It therefore lacks precision of a theoretical construct; a wise researcher must look to its specification for particular types of teams to determine its grounded meaning (Goodman *et al*., 1987). Because of large diversity of team tasks in different self-management teams and too much conceptual overlap between team viability and team satisfaction, team effectiveness in this research is defined as two variables: team learning and team satisfaction.

Team learning is defined as a process of using information to guide behavior in such a way as to promote ongoing adaptation. It is a kind of knowledge management activity, such as seeking for feedback, asking for help, discussing error, experimenting and monitoring the results of action (Altschuler and Armstrong, 1996). Team learning promotes performance obviously and it is beneficial activity that organizations might want to support.

HYPOTHESES DEVELOPMENT

Two hypotheses were developed as below:

- **Hypothesis 1:**Team conflict is negative correlated with team learning and team satisfaction
- **Hypothesis 2:** Team trust is mediate variable between team conflict and team satisfaction, team trust is also mediate variable between team conflict and team satisfaction

METHODS

Instruments: In this research, 5 questionnaires are adopted as instruments.

Team conflict questionnaire developed by Jehn and Mannix (2001) was used to assess team trust conflict level. The questionnaire is consisted of 9 items. All types of team conflicts are all measured in this questionnaire; they are relationship conflict (3 items), task conflict (3 items) and process conflict (3 items).

Cronbach α of the questionnaire is 0.88. Likert 7 point scale is adopted.

Team trust questionnaire developed by Altschuler and Armstrong (1996) was used to access team trust. The questionnaire consists 8 items and adopts Likert 7 points scale, Cronbach α is 0.60.

Team learning questionnaire. Level of team learning behavior was measured by team learning questionnaire developed by Edmondson (1999). The questionnaire measured the frequency of these behaviors occurred in team working.

The questionnaire consists 7 items and adopts Likert 7 point scale. Cronbach α index of the questionnaire is 0.82.

Team satisfaction questionnaire developed by Brayfield and Rothe (1951) was used to access level of team satisfaction. The questionnaire consists 7 items, uses Likert 7 point scale. Cronbach α of the questionnaire is 0.78.

Participants: In this study, 292 individuals have been recruited from 54 self-management teams as participants.

All individual participants were invited to lab to finish questionnaires. Six senior students helped participants to finish questionnaire and took questionnaires back after completion.

In 292 individual participants, all of them are Chinese. There into, 104 are male, 188 are female, means of age is 19.75, SD is 1.14. Mean of working time in team is 1.02 year, SD is 0.60.

In 53 self-management teams (team participants), every team have several members to finish valid questionnaires, average numbers of questionnaire per team is 5.5.

DATA PROCESSING

Data has been imported into computer and analyzed by SPSS 20.0.

Transition from individual-level data to team level data: In this research, the teams other than the individuals are the subjects for analysis. Thus individual-level data should be converted into team-level data.

Rwg is abbreviation for reliability of within-group judgers and it is used to measure the statistical agreement to which individual members' perceptions converge in assessing aspect their team. The range of Rwg is from 0 to 1. If Rwg was more than 0.7, the variable will be thought to be a team-level variable and means of team member's individual data are used to represent the team's condition (James *et al*., 1984).

Data of a team (team No. 45) didn't meet this criterion; these data were excluded out of further statistical analysis.

Common method biases: Common method biases is a kind of systematic error due to same source of data. All data of this research came from same participants by questionaire (Zhou and Long, 2004). So, common method biases must be tested and be proved not too strong to affect accuracy of results.

Common method biases in this research were examined using statistical remedies (Harman's single factor analysis technique) and it were acceptable. (χ^2/df = 5.97, CFI = 0.75, NFI = 0.72, RMSEA = 0.22).

RESULTS

Level of task conflict is significantly higher than level of the other two types of team conflict: Team conflict questionnaire contain three dimensions: relationship conflict, task conflict and process conflict. Calculate three dimension means, SD and correlation matrix (Table 1).

All correlation coefficients are significant at 0.01 level, and the correlation between task conflict and process conflict is high (r = 0.73), the correlation between relationship conflict and task conflict is also high (r = 0.65). Maybe there are highly internal connections among three types of conflict.

Explore the differences among the three types of conflict by paired-sample t-test. The scores of task conflict is significantly higher than scores of task conflict and process conflict (t = 9.58, p<0.01). There is no significantly difference between scores of relationship conflict and process conflict (t = 0.238, p>0.05).

Three types of conflict are all negative correlated with team learning and team satisfaction: Relationship conflict is medium negative correlated significantly with team learning and team satisfaction, so are task conflict and process conflict (Table 2).

Three types of conflict are medium negative correlated with team learning and team satisfaction significantly. Hypothesis 1 is verified.

Full mediating effect of team trust exists between team conflict and team learning: Baron and Kenny (1986) developed a method to test the mediating effect. In this study, Baron's method was used to test mediating effect of team trust between team conflict and team learning. Calculate regression coefficient of team trust on team learning (β = 0.638, p<0.01), team conflict on team learning (β = -0.359, p<0.01), team conflict on team trust (β = -0.489, p<0.01), all of them are significant.

Table 1: Three dimensions of team conflict and its correlation matrix

Team conflict	Mean	SD	1	2	3
Relationship conflict	2.29	0.64	1		
Task conflict	2.96	0.59	0.65**	1	
Process conflict	2.26	0.57	0.47**	0.73**	1

*Mean p<0.05, **Mean p<0.01

Table 2: The regression coefficient between team conflict and team effectiveness

	Team effectiveness			
	Team learning		Team satisfaction	
Team conflict	β	Sig.	β	Sig.
Relationship conflict	-0.237	0.046	-0.346	0.01
Task conflict	-0.316	0.020	-0.493	0.00
Process conflict	-0.339	0.012	-0.459	0.00

Put three variables into the regression equation, coefficient of team trust ($\beta = 0.607$, $p<0.01$) still significant, but coefficient of team conflict ($\beta = 0.063$, $p>0.05$) becomes quiet. So, team trust is a full mediator between team conflict and team learning.

Partial Mediating effect of team trust exists between team conflict and team satisfaction: Calculate regression coefficient of team trust on team satisfaction ($\beta = 0.533$, $p<0.01$), team conflict on team satisfaction ($\beta = -0.507$, $p<0.01$), team conflict on team trust ($\beta = -0.489$, $p<0.01$), all of them are significant.

Put three variables into the regression equation, coefficient of team trust ($\beta = 0.319$, $p<0.01$) still significant; coefficient of team conflict ($\beta = -2.527$, $0.01<p<0.05$) is significant too but level of significant decreases. So, team trust is a partial mediator between team conflict and team satisfaction. Hypothesis 2 is also verified.

DISCUSSION

Pervious research supported the idea that task conflict may be beneficial for team effectiveness, whereas relationship conflict and process conflict are harmful. This conclusion has little practical implications. Three types of team conflict work as a whole. "Avoid relationship conflict and enhance task conflict" is far more easily said than done (Rispens, 2012). Discussion about component ratio of team conflict types are more instructive than focusing on team conflict categories and its' effects.

Component ratio of team conflict categories may due to team character or team context (Wu *et al*., 2013). The 53 self-management teams acted as participant in this research were formed by team members themselves. Before these teams established, members are familiarized with one anther and initiate interpersonal relationship are set up among them. When organization allowed them found free-combinational team, they gathered together quickly. So, team members have little disagreement regarding values, cultures, task assignments and power distributions. It is reasonable that level of relationship and process conflict are significantly lower than level of task conflict.

In this research, team conflict is negative correlated with team effectiveness, no matter what type of conflict. It isn't in conformity with some authority literatures from western countries. The authors speculated that culture differences may play an important role in this disaccord. All individual participants are Chinese. In Chinese culture, saving face is very important in interpersonal skill (De Dreu and Weingart, 2003). If some one makes other people losing face, their friendly interpersonal relationship would be injured or ruined (Wu, 2004). Criticism toward other's opinion, even showing disagreement with others in public are typical behavior of making others lose face. So, Chinese tend to hide the different standpoints with others, express their own thought cautiously, in order to avoid all kinds of conflict, including task conflict. In China, all conflict would be regarded as personal attack and destroy interpersonal cooperation in teams, then team effectiveness would be reduced.

Team conflict contains a lot of activities of information sharing and perspective clarifying. Sometimes, conflict is anther form of discussion if personal attack and negative affection arousing are excluded. In a sense, team conflict don't reduce team effectiveness directly, it declines team effectiveness by diminishing team members' willingness to work together on the task. Team trust acts as bond among team member. Effect of violent team conflict would weaken if high team trust has been established in the team. So, Team trust is a mediator between team conflict and team effective.

CONCLUSION

In self-management teams, level of task conflict is significantly higher than level of relationship conflict and process conflict.

Team conflict is negative correlated to team effectiveness, no matter what type of conflict.

Team trust is mediator between team conflict and team effectiveness.

ACKNOWLEDGEMENTS

This research is supported by National Social Science Fund (No. 12 CGL050) from National Planning Office of Philosophy and Social Science.

This research also supported by Jiangsu University Philosophy and Social Science Research Fund of Education Department, Jiangsu Province (No. 2012 SJB 190012).

Thank for the academic support from Prof. Tian Xiaoming (Soochow University), Prof. Duan Jinyun (Soochow University) and Prof Yu Jiayuan (Nanjing Normal University).

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