Task Conflict -Team Creativity: Moderating Role of Task Interdependence and Mediating Role of Information Search

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Introduction

It is so believed that the organizational sciences can benefit from systematic investigations of creative behavior in complex social systems. Most of the earlier research has addressed the determinants of creativity exhibited by individual employee, and focused on antecedents of individual employee creativity (Amabile, Schatzel, Moneta & Kramer 2004; Rodan & Galunic 2004; Shalley, Zhou & Oldham 2004; Tierney& Farmer 2002; Zhou & Shalley 2003).

Today, researchers must look to the next horizon (From Individual to Team) to understand how creativity occurs in natural settings. Many previous studies, (Taggar 2002, Gilson & Shalley 2004; Pirola-Merlo & Mann 2004; Chen 2006; De Dreu 2006; Farh, Lee & Farh 2010) investigated team task, relationship conflict team creativity relationship under projects team where project team engage in a particular task and found different task conflict team creativity relationship. These conflicting findings highlight the need to study the role of moderator and mediator variables that determine the direction of the relationship between task conflict and team creativity. Thus, this study extends identifying the task conflict team creativity relationship in a different work setting and context because the team environment where competition is very intensive, nature of task is routine and non-routine and people are working in collectivistic culture. Thus research questions postulated for this study is as follows: Would contextual factors be important in explaining the task conflict – team creativity relationship in such a context?

Literature Review

In general, the few studies that have focused on team creativity (Taggar 2002, Gilson & Shalley 2004; Pirola-Merlo & Mann 2004; Chen 2006; De Dreu 2006; Farh, Lee & Farh, 2010). Shalley, Zhou and Oldham (2004) pointed out that despite a recent growing literature on individual creativity, authors of recent reviews of creativity literature have called for greater attention toward factors influencing team creativity. All innovation begins with creative ideas. Successful implementation of new programs, new product introductions, or new services depends on a person or a team having a good idea—and developing that idea beyond its initial state (Amabile et al. 1996). On the other hand, it is so believed that productivity, creativity, and performance will be greater in a team environment.

The relationship of conflict and creativity in existing studies has found to differ. Previous researches (Jehn 1995; De Dreu and Weingart 2003; Mortensen & Hinds 2001; Amason 1996; De Dreu & Weingart's 2003; Kurtzberg & Mueller's 2005; Anderson et al. 2004; De Dreu 2006; Farh, Lee & Farh 2010; De Dreu 2006; Kratzer, Leenders &Van Engelen 2006) found different relationship between conflict and creativity.

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Contextual Factors and Team Creativity Relationship: Information Search and Task Interdependence

Information search is one of the key elements of creative process engagement (Amabile 1983). Task-related disagreement among team members triggers information exchange, thorough exploration of opposing opinions, reevaluation of the status quo, and scrutiny of the task at hand. This in turn fosters the generation of new ideas and solutions and improves problem solving (Shalley & Gilson 2004; Tjosvold 1985; West 2002). Gebert, Boerner & Kearney (2006), point out that to the extent that conflict leads to more information sharing and task-relevant information elaboration, conflict will facilitate creativity.

Task interdependence exists to the extent that group members rely on one another to perform and complete their individual jobs (Van de Ven, Delbecq & Koenig 1976; Van de Ven & Ferry 1980). Increase interaction and dependence among members causes conflict to have an intensified effect on individual and group outcomes (Schmidt & Kochan 1972; Gladstein 1984).

Methodology

Respondents

A sample of 100 teams was identified based on the availability of the branches. All 620 members in 100 teams were invited to participate in the survey, and 483 (80%) of them provided usable responses. Of the remaining 117 employees and 07 team leaders (20%), either they or their team leaders/supervisors did not respond. After deleting incomplete questionnaire, final sample of this study consisted of 452 team members and 89 team leaders from 89 teams. Including team leaders, 541 responses representing 89 teams were considered for analysis.

Questionnaire and Measures

Data was gathered through a structured questionnaire. All constructs in this study were operationalized with published scale in earlier studies; some words in some scale were modified to fit best in the context.

Task Conflict Scale*:** Task conflict was assessed by three- item scale developed by Jehn (1995) (Cronbach's α at the individual level was .67.). ***Team Creativity Scale: For the purpose of this study, 6 items scale was used to measure team creativity of teams by reviewing the previous work (Amabile et al. 1996; De Dreu & West's 2001) this scale has been modified based on the team context. (Cronbach's α for these items at the individual level was .78). **Information Searching Scale:** Zhang, and Bartol's (2010), three items scale was used for the study. (Cronbach's α for these items at the individual level was .69). **Task interdependence Scale:** Five items based on previous research will be used to measure individual team members' task interdependence (Van der Vegt et al. 2001). (Cronbach's α for these items at the individual level was .61).

Inter-rater Agreement for Team Level Analysis (within group agreement)

For the purpose of this study, we checked empirically the appropriateness of aggregating the responses of individual team members to the team level by assessing criteria of inter-rater agreement by using the James et al. (1984) formula.

Results and Discussions

All the hypotheses tested by using hierarchical regression analysis using SPSS19 (Field 2009). All the models were tested for multi-collinearity by calculating the variance inflated factor (VIF) for each of the regression coefficients. Results show that all values were below the threshold value of 10.

To conclude that one variable (information search) mediates the relationship between an independent variable (task conflict) and a dependent variable (team creativity), it is necessary to show that: task conflict significantly

affects team creativity; task conflict significantly affects information search and when team creativity is regressed on both task conflict and information search, information search must be significant and task conflict must not be significant (e.g. see Shafer and Simmons , 2008). Hierarchical regression analysis was performed. Results showed that task conflict not significantly affects team creativity (β= -.11, ΔR^2 value of 0.13, p >.05, task conflict not significantly affects information search (β= .01, ΔR^2 value of 0.13, p > .05, and when team creativity is regressed on both task conflict and information search, information search is significant (β= .26, ΔR^2 value of 0.04, p < .05, and task conflict is not significant (β= .05, p >.0.05. These results confirm that information search did not mediate the relationship between task conflict and team creativity thereby failing supporting hypothesis H_1.

Further, it was predicted that Information search mediates the interaction effect of task conflict and task interdependence on team creativity the coefficient associated with the interaction term (e.g., task conflict X task interdependence) significantly affect the dependent variable (i.e., team creativity; (β=.27, ΔR^2 value of 0.19, p < .05) this satisfy the first condition and hypothesis H_3 was supported. Further, results supporting the hypothesis task interdependence moderate the relationship between task conflict and information search (H_2) the coefficient associated with the interaction term of task conflict X task interdependence was significant for information search (β=.51, ΔR^2 value of 0.23, p < .05), thus (H_2) was supported and this satisfy the second condition for the moderated mediation.

Finally, after controlling for the mediator, the coefficient associated with the interaction term (e.g., task conflict X task interdependence) on team creativity become non-significant (β=.13, ΔR^2 value of 0.04, p > .05, this satisfy the third condition and indicating that information search completely mediated the the interaction effect of task conflict and task interdependence on team creativity. Thus hypothesis H_4 was supported for this study.

Conclusion and Recommendations

Information search mediated the interaction effect of task conflict and task interdependence on team creativity, indicated under certain conditions, task conflict can aid to increase creativity via information search.

This study hypothesized and found that task interdependence moderated the relationship between task conflict and information search and also found that task interdependence moderated the relationship between task conflict and team creativity**.** These findings suggest that the important of task structure, when tasks are dependent among team employees, task conflict is positively related to team creativity. Because prior research from interactionist theory suggests that, variable at individual, team and organizational level interact; these promote innovation in organizations (Woodman et al. 1993). Further, this study predicted and found that information search mediated the moderated relationship between team task conflict, and team creativity. This finding suggest that, when task structure, that is task interdependence interact with, different viewpoints and argument (task conflict) might lead to extensive information search and creative process engagement thereby positive creative outcome in team work environment.

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