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# GROUP COHESION AS A PREDICTOR OF TEAM EFFECTIVENESS: AN EMPIRICAL ATTESTATION FROM A SURVEY AMONG SCIENTISTS IN RESEARCH AND DEVELOPMENT ORGANIZATIONS

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In this postmodern era, when management concepts are increasingly implemented to tap unified human efforts to the optimum, for organizational accomplishment, the poignancy of teamwork, one of the major determinants of organizational success is appreciated and accepted by all organizations and is given prime focus. Exploring new ways to effectualise and advance the concept has initiated a plethora of empirical study and the findings have opened up new avenues in the pathways of progressive development. This research paper explores the impact of group cohesion on team effectiveness. Team effectiveness is the effectiveness of a team in terms of performance objectives, team climate, use of resources, innovation and quality, while group cohesion is the set of forces that are acting as a binding force keeping the group members together. This study on group cohesion and team effectiveness elucidate distinctly the association between these constructs. Data for the sample was collected from 187 scientists from three Nationalized Research and Development Organizations in Central Kerala, South India during the time span of October to November 2015. Regression analyses were performed to test the hypotheses and the results showed that group cohesion positively influenced team effectiveness. By nurturing group cohesion and augmenting team effectiveness, the developmental vision of any organization can be accomplished with ease. This research adds to the current body of literature by providing insight into the influence of group cohesion on team effectiveness among scientists in Nationalized Research and Development Organizations in the Indian context.

**Keywords:** Group Cohesion, Team Effectiveness, Scientists, Research and Development Organizations

## INTRODUCTION

The phenomenon of team effectiveness, holds an imperative role in management literature. The

concept of teamwork is based on the notion that individuals working collectively and interdependently are able to accomplish

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something beyond the capabilities of those individuals working independently (Philip S De Orentiis, 2013). The present study is envisaged to provide a deeper and richer understanding of group cohesion as a significant predictor of team effectiveness (Beal, 2003). Cohesion is the attraction to the group and assessed by asking members how much they liked one another or how long they wanted to stay in the group (Hogg, 1992). Interdependence theory suggests that individuals will work together in order to achieve common goals in team settings (Deutsch, 1949). Based on this theory this paper proposes to delineate the concept of group cohesion as an important predictor of team effectiveness. Data for the sample was collected from 187 scientists from three Nationalized Research and Development Organizations in Central Kerala, South India, during the time span of October to November 2015. Although group cohesion is identified as a significant predictor of team effectiveness, there is a dearth of literature illustrating the role of group cohesion in enhancing team effectiveness in the Indian context.

## GROUP COHESION

Fulk (1993) and Yoo and Alavi (2001) defined group cohesion as the member's attraction to the group. Group cohesion is generally associated with normative pressure to conform, and hence with a drive for consensus and unanimity that implies intolerance towards dissent and intellectual independence of group members (Deutsch and Gerard, 1955). Group cohesion is a significant variable in the organizational setting (Zixiu Guo, 2008). Cohesion has traditionally been defined as a unitary construct (Mullen Cooper, 1994; Zaccaro, 1991) and tended to reflect Festinger's (1950) notion that cohesion is "the

total field of forces which act on members to remain in the group". These forces may depend on the attractiveness or unattractiveness of either the prestige of the group, members of the group, or the activities in which the group engages". According to Widmeyer and colleagues (1985), two key distinctions are to be made when defining group cohesiveness. First is the distinction between the individual and the group. The individual aspect of cohesion is the notion of individual attraction to the group; that is the extent to which the individual wants to be accepted by group members and remains in the group. The group aspect is represented by perceptions of the group as a whole, which is the degree of closeness, similarity and unity within the group.

The second distinction is between task and social cohesiveness. Task cohesiveness is the extent of motivation towards achieving the organizational goals and objectives (Widmeyer *et al.*, 1985, p. 17). Social cohesiveness refers to the motivation to develop and maintain social relationships within the group. Based on the discussion above, Widmeyer and colleagues defined cohesion as (a) Group-interaction task, which is an individual team member's perceptions about the similarity and closeness within the team about accomplishing the task; (b) Group-Interaction Social, which reflects individual team member's perceptions about closeness and bonding regarding the team's social activities; (c) Individual Attraction to Group Task, which describes individual team members' feelings about personal involvement in the social interaction of the group; (d) Individual attraction to group social, which reflects individual team members' feelings about personal involvement in the social interaction of the group (Carless, 2000). Cohesion represents individual's beliefs

in the ability of the team to work together which is very imperative (Deortentis, 2013).

In summary, Group cohesion refers to the forces that keep the group members together. It is the degree of attractiveness that group members feel towards each other, the binding force which helps the group members to get along well with each other. When we say that a group is cohesive, it means that the members accept each other, they can get along well. There are various factors that contribute to group cohesiveness. The members of a group will have group cohesion depending on the character of the group members, climate of the organization and the nature of task given to them. Therefore, for a task to be accomplished by a group or team, group cohesion is indispensable. It is the responsibility of the manager to develop group cohesion.

## TEAM EFFECTIVENESS

Teams of people working together for a common purpose have been a centerpiece of human social organization ever since our ancient ancestors first banded together to hunt game, raise families, and defend their communities. Team work is one of the most powerful tools for achieving goals in any area, sector or activity. It is also one of the most important elements in continuous improvement systems, as it facilitates the sharing of information, problem solving and the development of employee responsibility (Cooney and Sohal, 2004). Teams touch our lives every day and their effectiveness is important to well-being across a wide range of societal functions (Ilgen, 2004). A team can be defined as (a) two or more individuals who; (b) socially interact (face-to-face or, increasingly, virtually); (c) possess one or more common goals; (d) are

brought together to perform organizationally relevant tasks; (e) exhibit interdependencies with respect to workflow, goals, and outcomes; (f) have different roles and responsibilities; and (g) are together embedded in an encompassing organizational system, with boundaries and linkages to the broader system context and task environment (Alderfer, 1977; Argote and McGrath, 1993; Hackman, 1992; Hollenbeck *et al.*, 1995; Kozlowski and Bell, 2003; Kozlowski, Gully, McHugh *et al.*, 1996; Kozlowski *et al.*, 1999; Salas *et al.*, 1992).

The conceptualization of teamwork has shaped the last 40 years of theory and research is based on the logic of an input-process-output framework by McGrath (1964; cf. Gladstein, 1984; Salas *et al.*, 1992). In this framework, inputs refer to the composition of the team in terms of the constellation of individual characteristics and resources at multiple levels (individual, team, organization). Processes refer to activities that team members engage in, combining their resources to resolve (or fail to resolve) task demands. Output has three facets: (a) performance judged by relevant others external to the team; (b) meeting of team-member needs; and (c) viability, or the willingness of members to remain in the team (Hackman, 1987).

Team effectiveness comprises of various components like team synergy, performance objectives, skills, use of resources, innovation and quality (Billy Bateman, 2002). According to Henderson and Walkinshaw (2002), the performance and effectiveness of a team is defined as follows: (1) performance : the execution of an action; something accomplished ; what is going on inside the team; (2) measure of performance: the extent to which a team executes the actions required in order to be

effective; (3) effectiveness: the accomplishment of a desired result, especially as viewed after the fact; (4) measure of effectiveness: the extent to which a team meets the demands which are placed upon it. From the research of Henderson and Walkinshaw, it is evident that effectiveness pertains specifically to the accomplishment of goals, milestones and objectives, by contrast, performance pertains more closely to how well the task worth and teamwork is carried out (Review of team effectiveness models, 2010).

A three dimensional view of team effectiveness is that first, the productive output of the team, meets or exceeds the standards of quantity, quality and timeliness of the teams' clients. Second, the social processes the team uses in carrying out the work enhance the member's capability to work together interdependently in the future. Third, the team experience, contributes positively to the learning and personal well-being of individual team members. This model of team effectiveness seeks to specify the organizational conditions and leader behaviors that increase the likelihood that a work team will meet the above three criteria mentioned (Richard Hackman, 2000). To perform well a team must surmount three hurdles. It must (1) exert sufficient effort to get the task accomplished at an acceptable level of performance; (2) bring adequate knowledge and skill to bear on the work; and (3) employ task performance strategies that are appropriate to the work and to the setting in which it is being performed (Hackman and Moriis, 1975).

Teams are indispensable for the effective functioning of any organizations. The company will be able to succeed only if there is proper teamwork. Synergy means two plus two will be greater than four, i.e., the individual efforts when

combined together, their result will be higher than their individual efforts. The synergetic effect of teams are very high when compared to individual efforts. Hence the organizations must strive for team effectiveness. If there are effective teams, the team members can pool their knowledge, skills and abilities for the benefit of their organization. Realizing the synergizing power of team effectiveness, managers should develop strategies to achieve team effectiveness.

## **LINKAGES BETWEEN GROUP COHESION AND TEAM EFFECTIVENESS**

When individuals gather to achieve a common goal, many interpersonal dynamics play a role in whether or not the team will be successful. Sometimes a team can mesh well together and succeed at anything they attempt; however, other teams, regardless of available resources, seem to flounder in failure. The first factor to consider is how cohesive members are with one another. Once a team is highly cohesive, a member's commitment and willingness to strive for excellence thrives. Team cohesion affects the extent to which members like one another, get along with each other, and trust and respect one another's abilities and opinions. Although these characteristics are difficult to observe, managers can look for signs that team members are well-acquainted past superficial meet-and-greet topics. This implies that group cohesion is an important antecedent for team effectiveness (McDonough, 2015). In the team cohesion, teams must pass through a storming stage in which the individual team members seek to clarify roles and this cohesion will lead to higher levels of team effectiveness. (Amanuel.G Tekleab, 2009). Cohesion is related to work team effectiveness

over time.(i.e., team satisfaction, viability and performance; Amason,1996; Cohen and Bailey, 1997; Evans and Dion ,1991; Jehn,1995,1997; Mason and Griffin, 2003; Wech *et al.*, 1998). Factors that are related to the willingness and ability of individuals to work together for a common goal, cohesion within a team should influence the effectiveness of the team in achieving goals shared among team members (Philip S DeOrtentiis, 2013). It is important that team members view themselves as a cohesive unit, because cohesion consistently has demonstrated a positive relationship with team effectiveness (Beal *et al.*, 2003; Chiocchio and Essieembre, 2008; Webber and Donahue, 2001).

Since group cohesion is the binding force that keeps the group together, which in turn helps individuals in a team to interact with each other, it augments their interactions with each other. The group members will know each other very well and therefore can play complementary roles. The knowledge, skills and abilities of each individual would be known to each other, and one team member can effectively complement another team member. Groups would be effective, when there are diverse members with varied levels of knowledge, skills and abilities. When there is group cohesion, members of the group will work together towards the accomplishment of their goals. When members of a group doesn't trust each other or doesn't have cohesion it can lead to members working as islands without taking the consultation of others, which will result in chaos and confusion and they won't be able to achieve their goals. Therefore, it is very important for managers to find out strategies to develop cohesion among team members. The scholarly insights presented establish group cohesion as an important antecedent of team effectiveness,

in other words, group cohesion leads to team effectiveness.

## OBJECTIVES AND HYPOTHESIS OF THE STUDY

### Main Objective of the Study

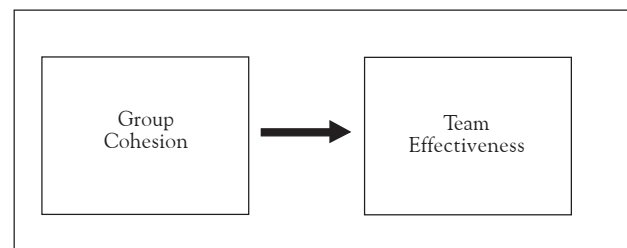
1) To establish the effect of Group Cohesion on Team Effectiveness.

Based on the discussion the following hypothesis was developed.

**Hypothesis 1:** *There is a positive relationship between group cohesion and team effectiveness.*

## THEORETICAL FRAMEWORK

Figure 1 shows the theoretical framework of the study based on the literature review.



The literature depicts that group cohesion leads to team effectiveness and hence this theoretical framework is developed.

## SAMPLE SIZE

Data for the sample was collected from 187 scientists from three Nationalized Research and Development Organizations in Central Kerala, South India. Data was collected during the time span of October to November 2015.

## MEASUREMENTS AND INSTRUMENTS

The independent variable of the study is group cohesion and the dependant variable is team

effectiveness. Scales for the variables are adopted from established scales. Group Cohesion Scale was adapted from Guo *et al.* (2000). Group Cohesion Scale consisted of 8 items. The responses were measured using a five point Likert scale ranging from strongly disagree (1) to strongly agree (5). Team effectiveness scale was adapted from Billy Bateman *et al.* (2002). Team Effectiveness scale consisted of 35 items. The responses were measured using a five point Likert scale ranging from strongly disagree (1) to strongly agree (5).

## DATA ANALYSIS AND RESULTS

Reliability of the scales was checked. Reliability refers to the ability of the scale to give consistent results. Reliability evaluates the stability, equivalence and homogeneity of the scale. It answers questions like will the measure employed repeatedly on the same individual yield similar results. Will the measure employed by different investigators yield similar results. Will a set of different operational definitions of the same concept employed on the same individuals, using the same data collecting technique yield a highly correlated result, or will all items of the measure be internally consistent. Cronbach's alpha was calculated for both the variables. The independent group cohesion has a Cronbach's alpha of 0.936 and the dependent variable team effectiveness has a Cronbach's alpha of 0.966. Both the Cronbach's alpha values are above the accepted level of 0.07 (Nunnally, 1978).

Hence we can conclude that the scales group cohesion and team effectiveness are reliable. Regression analysis was used for the study. In regression analysis we fit a predictive model to our data and use that model to predict values of

the dependent variable from one or more independent variables. Simple regression seeks to predict an outcome variable from a single predictor variable whereas multiple regression seeks to predict an outcome variable from several predictors. *R* square tells us how much of the variance in *Y* is accounted for by the regression model. The significance level should be less than 0.01 (Field, 2005).

## REGRESSION OF GROUP COHESION ON TEAM EFFECTIVENESS

Table 1 showing the R square and beta value of the regression analysis

R square	0.293
Beta	0.544

From the regression analysis it is evident that there is a positive relationship between group cohesion and team effectiveness. The *R* square value for the regression analysis was found to be 0.293. From this, it is evident that 29.3% variation in team effectiveness is predicted by group cohesion. Beta value of 0.544 shows the strength of relationship between group cohesion and team effectiveness.

## DISCUSSIONS AND CONCLUSION

This study ascertains the positive relationship between group cohesion and team effectiveness. Group cohesion relates to the forces that are keeping the members of a group together and team effectiveness refers to the effectiveness of a team in achieving its objectives. Team effectiveness augments when there is group cohesion. In organizations especially in the case of scientists, only when scientists interact with each other, group cohesion occurs and then only

the scientists will be free to contribute their ideas, work freely which ultimately leads to the team achieving their common goals. For scientists to achieve team effectiveness, they must have an environment in which they can work properly. A common characteristic seen in high performance teams is group cohesion. Cohesiveness is the measure of attraction the team members have among themselves and it contributes to team effectiveness in a number of different ways. Group cohesion is the degree to which individual members want to contribute to the group's ability to continue as a functioning work unit. Cohesiveness develops over time out of interpersonal and group-level attraction, through collaboration, and as a result of a sense of belonging.

In the case of scientists, cohesive teams communicate more effectively, lead to higher member satisfaction, and can create efficiency in resource allocation. When communication enhances among scientists it paves the way for sharing of thoughts, exchange of ideas and strengthening of relationships. Scientists' satisfaction increases which ultimately leads to the organization achieving its goals or the team achieving the goals. When there is cohesion, there will not be any rifts among the scientists, they will have a sense of belongingness, they develop affinity towards the team members which ultimately leads to them contributing their best. Thus this level of cohesion is beneficial to the organization as it leads the teams in the organizations becoming effective. The synergizing power which emanates when there is group cohesion is the springboard for achieving organizational goals and by nurturing group cohesion and augmenting team effectiveness, the developmental vision of any organization can be accomplished with ease.

Scientists are a unique category of people, with infinite research acumen and innovative perspective. The willingness to share their ideas of innovation and the mindset to integrate with or work in a group depends upon the environment in which they are working. When there is an environment of group cohesion for the scientists, they will contribute much which ultimately leads to the organization achieving team effectiveness. Thus, by interfacing research endeavours of the scientists with management concepts like group cohesion and team effectiveness, accelerating and significant progress can be made and in future organizations can take a strategy of developing group cohesion among the members in order to have team effectiveness.

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