

The Mediating Role of Group Cohesion in the Relationship between Interpersonal Trust and Team Effectiveness: The Derivation Grounded on a Survey among Scientists in Research and Development Organizations

Tessla Arakal¹, Dr. Sebastian Rupert Mampilly²

¹(Asst. Professor, KVM Institute of Management, KVM College of Engineering and Information Technology, Cherthala, India)

²(Professor, School of Management Studies, Cochin University of Science and Technology, India)

ABSTRACT: *The phenomenon of interpersonal trust holds a significant place in management literature and its potential and possibilities gather momentum with every attempt of research and discourse on the topic. This paper attempts to foresee the impact of interpersonal trust on group cohesion and team effectiveness. This study intends to empirically validate the mediating role of group cohesion in the relationship between interpersonal trust and team effectiveness. It is envisaged that this study based on primary data collected from 177 scientists from three nationalized research and development organizations in central Kerala, South India and carried out during the time period of June to September 2016, will add to our understanding of the link between interpersonal trust, group cohesion and team effectiveness. Partial Least Squares (PLS) was used to authorize the relationship among the variables. Findings of the study are conferred, together with limitations and suggestions for future research. This empirical study reiterates through its analysis and results that there is significant relationship between interpersonal trust and group cohesion. The study provides a deeper and richer understanding in explaining the relationship between group cohesion and team effectiveness. This study portrays that group cohesion partially intercedes the relationship between Interpersonal trust and team effectiveness.*

Keywords: *Group Cohesion, Interpersonal Trust, Team Effectiveness*

I. INTRODUCTION

The phenomenon of interpersonal trust holds an imperative role in management literature. Trust is based on confidence that people represent in relationships with no concern about exploiting vulnerabilities (Dyer & Chu, 2000). This empirical study attempts to portray the relationship between interpersonal trust and group cohesion. 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). The study provides an understanding about the relationship between group cohesion and team effectiveness. The concept of teamwork is based on the notion that individuals working collectively and interdependently are able to accomplish something beyond the capabilities of those individuals working independently (Philip S De Oretentiis, 2013). Data for the study was collected from 177 scientists from three Nationalized Research and Development Organizations in Central Kerala, South India, during the time span of June to September 2016. Although there are many studies on interpersonal trust, there is a dearth of literature illustrating the mediating role of group cohesion in the relationship between interpersonal trust and team effectiveness in the Indian context. Thus this study sheds light on the mediating role of group cohesion in the relationship between interpersonal trust and team effectiveness.

II. LITERATURE REVIEW

2.1 Interpersonal trust

Trust studies in disciplines of psychology, social psychology and sociology have influenced trust literature in the field of business studies. The economic approach of trust is often calculative, emphasizing its risk decreasing nature, and enhancing the prediction or expectations of other actor's future behaviour. (Seppanen, 2007). There are a lot of definitions of trust, most of them treat trust as a state, belief or positive expectation. According to S. Ganeshan (1994) trust is the willingness to rely on an exchange partner in whom one has confidence.

According to Luthman (1998) trust is a solution for specific problems of risk in relation between people, because it is an attitude that allows for risk taking. If people choose one course of action in preference to alternatives, in spite of the possibility of being disappointed by the action of others, they define the situation as one of trust. (Luthman, 1998). Gambetta defines trust in line with Luhmann, as when we say we trust someone or that someone is trustworthy, we implicitly mean that the probability that he will perform an action that is

beneficial or at least not detrimental to us is high enough for us to consider engaging in some form of cooperation with him. Trust is both the specific expectation that another's action will be beneficial rather than detrimental and the generalized ability to take for granted, to take under trust, a vast array of features of the social order. (Creed, 1996). The reliance by one person or group upon a voluntarily accepted duty on the part of another person or group in order to protect the interests of all others engaged in a joint endeavor is considered as trust in the opinion of Hosmer (1995). Trust is the expectation by one person, groups or firm of ethically justifiable behaviour- that is, undertake morally correct decisions and actions based upon ethical principles of analysis towards all others engaged in a joint endeavor or economic exchange. (L.T, 1995).

Trust can be broken down into three constituent parts – trust as a belief, as a decision and as an action. The first form of trust is a subjective, aggregated and confident set of beliefs about the other party and one's relationship with her/him, which lead one to assume that the other party's likely actions will have positive consequences for oneself. The second form of trust is the decision to actually trust the other party and the third form of trust is as an action to trust the other party. (Hartog, Vol 35, No 5, 2006) Trust is the willingness to rely on an exchange partner in whom one has confidence. (Ganeshan, 1994). Trust is the degree of confidence the individual partners have in the reliability and integrity of each other. (P.S, 1996). Trust is the level of expectation or degree of certainty in the reliability and trust/honesty of a person or thing. (Holden, 1997). Trust is defined as the perceived credibility and benevolence of a target of trust. (P.M, 1997). Trust as one party's confidence that the other party in the exchange relationship will not exploit its vulnerabilities. (W, 2000). Trust exists when one party has confidence in the honesty, reliability and integrity of their partner. (Coote L, 2003)

Trust has emerged as a central concept in a wide range of organizational studies including those focusing on performance. (Kramer, 1999, pp.569-598). Trust is so important to performance because it is a critical precursor to those exchanges that are tied to so many performance outcomes. (Paliszkiwicz, 2012) There are a lot of definitions of trust; most of them treat trust as a state, belief or positive expectation. According to Zand (1972), underlying the decision of trust is also the individual willingness to become vulnerable, and the expectation or belief that others will act in a way that is beneficial or not detrimental for the relationship. (Gambetta, 1998) The willingness to be vulnerable from Mayer, Davis and Schoorman (1995) is one of the most cited definitions of trust. For Lewicki and Bunker (1996) trust involves positive expectations about others. According to Chow, trust is the level of expectation or degree of certainty in the reliability and truth/honesty of a person or thing. (Chow, 1997). In the opinion of Donney, trust can be defined as "perceived credibility and benevolence of a target of trust" (Donney, 1997). According to Nooteboom, trust is a significant source of cooperation, along with coercion and self-interest. (Nooteboom, 1997)

Smith (1997) defined trust as "the critical factor differentiating effective from ineffective selling-partner relationships". According to Sako (1998), trust is an expectation held by an agent that its trading partner, will behave in a mutually acceptable manner. Zaheer (1998) opined that trust is the expectation that an actor can be relied on to fulfilling obligations, will behave in a predictable manner, and will act fairly when the possibility for opportunism is present. Plank (1999), found trust as a global belief on the part of the buyer that the salesperson, product, and company will fulfill their obligations as understood by the buyer. Dyer (2000) was of the opinion that trust is one party's confidence that the other party in the exchange relationship will not exploit its vulnerabilities.

Coote (2003) states that trust exists when one party has confidence in the honesty, reliability and integrity of their partner. Hosmer (1995) recognized the different definitions of trust in the different contexts as individual expectations, interpersonal relationships, economic exchanges, social structures and ethical principles. Hence from these definitions we can infer that trust is an optimistic expectation on behaviour of a person and it generally occurs under the condition of vulnerability to the interests of the individual. In literature we come across different forms of trusts like the organizational trust and the interpersonal trust; organizational trust refers to the positive expectations the individuals have about the competence, reliability and benevolence of organizational members as well as the institutional trust within the organization. (Mayer et al, 1995; McKnight et al, 1998). For the present study we limit our discussion to interpersonal trust.

Authentic and effective interpersonal relationships are almost always built upon the solid foundation of interpersonal trust (Deutsch 1960; Blake and Mouton 1964). It is probably impossible to carry out any activity in an organisation if the interpersonal trust is totally absent in its work culture. (Anwer, 1994). The Oxford English Dictionary defines trust as confidence in or reliance on some quality or attribute of a person or thing; confidence in the ability and intention of a buyer to pay at a future time for goods supplied without payment; to place reliance on; to give credence to; believe; to confide or entrust something to the care and disposal of; and so on. Trust consists of two components: i) the expectations that the other person's behaviour will conform to his/her expectation ii) the translation of expectations into behaviour under conditions of risk. Thus interpersonal trust can be defined as having faith or confidence that other person's behaviour will conform to one's expectations, and behaving towards that person reflecting those expectations. (M.M. Anwer, Oct 1994). Interpersonal trust

could be broken down into two dimensions; lateral trust which refers to trust within employees and vertical trust, refers to trust between employees and leaders.(Rikka Ellonen, 2008)

Interpersonal trust has been depicted as the trust between two parties who are to a certain extent interdependent with respect to the outcomes defined by their joint choices , and one of the parties(P) is confronted with the choice between trusting or not trusting the other(O).It is important to note that both P and O are cognizant of the risk to which P exposes himself in his decision to trust O .That is, P knows that O can betray him and O knows that P has extended his trust even in the face of risk .(C.Swap, 1982).Willingness to exhibit trust in any given situation will be determined by a number of specific factors like the individual you trust to feed your dog may not be the trusted to repair your car, and your trusted mechanic may not be your chosen target for intimate self disclosures. Interpersonal trust consists of 1.)Overall trust 2.) Emotional trust 3.) Reliability of which overall trust refers to the trust which a person feels towards other, emotional trust explains how far a person can trust other on the basis of emotions and reliability refers to how far a person is reliable on another.

Both individual related factors and organisation related factors affect the interpersonal trust. The individual related factors are the personality of the individual, similarity of age, sex, experience, similarity of background, similarity of interests, similarity of problems or anxieties and so on and the organisation related factors are management practices and culture of the organisation.(M.M.Anwer, Oct 1994)Management practices followed in an organisation will have a significant bearing on the trust among members of a group. In order for an organisation to develop interpersonal trust the management needs to be fair and impartial while dealing with subordinates. Recent developments in human resource management and organizational science reflect the importance of interpersonal trust for sustaining individual and organizational effectiveness.(Zeffane, 2010)

The variable interpersonal trust is significant for organisations. Only when the scientists trust each other, they will be effective in their teams. To exist peacefully in organisations, people need to trust each other. It is the willingness to be vulnerable to other party with the confidence that the other party will not betray .Scientists who experience better interpersonal trust will have a sense of belongingness to the company, will trust the other party, and will not be reluctant to discuss ideas. Hence management must take necessary steps to foster interpersonal trust among employees.

2.2 Group Cohesion

Fulk(1993) and Yoo and Alavi (2001) defined group cohesion as the member's attraction to the group and 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 & Gerard 1955).Group cohesion is a significant variable in the organizational setting.(Zixiu Guo, 2008).Caron (1982) defines cohesion as a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its goals and objectives. While the majority of group cohesion research has primarily focused on its relationship to performance, much less empirical study has been directed towards identifying the factors responsible for developing and maintaining team cohesion.(M.Weiss, 1991)

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". Hence cohesion has been operationalized as 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).

According to Widmeyer and colleagues (1985), there are two key distinctions to be made when defining group cohesiveness. First, there 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, pg 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) Individual attraction to group interactionsocial, which reflects individual team members' feelings about personal involvement in the social interaction of the group.(S.Carless, 2000). Cohesion represents individual's beliefs in the ability of the team to work together which is very imperative.(P.Deortentis, 2013)

Group cohesion, the force that keeps the group members together is the binding force which helps the group members to get along well with each other. It is the degree of attractiveness that group members feel towards 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. The study sheds light on the fact that for a task to be accomplished by a group or team group cohesion is indispensable; hence it is the responsibility of the manager to develop group cohesion.

2.3 Team Effectiveness

Ever since our ancient ancestors first banded together to hunt game, raise families, and defend their communities, teams of people working together for a common purpose have been a centerpiece of human social organization. Team work is one of the most powerful tools for achieving goals in any area, sector or activity and is essential for 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 & McGrath, 1993; Hackman, 1992; Hollenbeck et al., 1995; Kozlowski & Bell, 2003; Kozlowski, Gully, McHugh, Salas, & Cannon-Bowers, 1996; Kozlowski et al., 1999; Salas, Dickinson, Converse, & Tannenbaum, 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 subcomponents like team climate, valuing differences, motivation and commitment, openness of communication, personal effectiveness, interpersonal effectiveness and conflict handling in teams. (Jca, 2010). 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 work 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 behaviours that increase the likelihood that a work team will meet the above three criteria mentioned. (J. Richard Hackman). 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)

Two types of models of team effectiveness are the unidimensional objective measures of team performance and the second one is multidimensional perspective. Cohen and Bailey (1997) categorized team effectiveness into three major dimensions according to the team's impact. 1.) performance effectiveness; 2.) attitudinal outcomes; 3) behavioural outcomes. (Maria Isabel Delgado Pina, 2007) Teams are indispensable for the effective functioning of any organizations and the role of synergy is significant for the company to succeed. 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 effects of teams are very high when compared to individual efforts. 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.

2.4 Linkages between Interpersonal trust and Group Cohesion

Among the most predominant factors in constructing group cohesion within a workplace is trust. Since individual employees possess their own values and beliefs, it can take time for each team member to develop trusting relationships with other coworker. Once trust is established, an employee is better able to focus on their individual tasks and trust that other employees abide by similar standards. Trust also permits employees to share advice within their cohort when finding themselves in an unfamiliar situation; ultimately, trust enhances connectedness among coworkers and serves to promote group cohesion.(Alexander S. Alvarez, 2015)

The interpersonal trust is an important antecedent of cohesion and it motivates people to create and maintain positive social relationships.(Soboroff, 2012). Group cohesion varied with expectations of group member competence. When there is interpersonal trust between members of a group, it acts as a binding force keeping the group members together. Interdependency theory implies the importance of constructs like trust and cohesion, that influence or represent individual's abilities to work together, as it is not only important for individuals to need to work together in order to achieve shared goals, but also be capable and willing to work together.(Philip S. DeOrtentiis, 2013).When conceptualized as a "willingness to be vulnerable," trust within a team can serve as a means to describe individuals' willingness to work as a team, and have the achievement of their goals be subject to the actions of individuals other than themselves. So, when trust exists within a team, interdependence theory implies that shared goals are more likely to be realized when individuals are able to stay together (i.e. be cohesive) and work as a team, than when individuals are unable to function as a unit (Deutsch, 1949).

In situations where the achievement of individuals' goals depends on the actions of other members of the team, positive interdependence exists between the individuals and the team. As long as this exists, cohesion should materialize among individual team members, and influence the effectiveness of individuals working together to achieve common goals.(Philip S. DeOrtentiis, 2013).Team cohesion depends on making the existence of the team matter to the individual (Fine and Holyfield, 1996). A fundamental means of accomplishing this is to establish a shell, which facilitates an environment for interpersonal risk-taking (Edmondson, 1999). Trust refers to a team member's belief that another member will perform actions (e.g. including sharing information) that will prove helpful or not detrimental, thus permitting the establishment of a cooperative setting for team members (e.g. Gambetta, 1988, p. 217).

Without trust in teams, team members will be unwilling to be vulnerable within the group and participate in interdependent actions. If team members are not genuinely open with one another about their mistakes and weaknesses, then building a foundation of trust is nearly impossible, hence the failure to build trust negatively impacts a team's ability to build a cohesive unit, and engage in productive discussions (Lencioni, 2002).However, when team members trust one another, this increases their propensity to perceive their team as a tight collective or a cohesive unit that will aid individuals in achieving their goals. This perception of cohesion represents individuals' beliefs in the ability of the team to work together, which is a necessary criterion in order to obtain interdependent goals. Thus, we expect trust to be positively related to cohesion (Fine and Holyfield, 1996).The above discussion is a pointer to the fact that both the variables interpersonal trust and group cohesion are indispensable for organisations. Moreover, when there is interpersonal trust among employees, it would augment them in developing group cohesion

2.5 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 and 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)

Teams usually 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, April 2009).Cohesion is related to work team effectiveness over time.(ie .,team satisfaction, viability and performance ;Amason ,1996 ; Cohen&Bailey , 1997 ; Evans&Dion ,1991; Jehn,1995 ,1997; Mason&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).Since cohesion consistently has demonstrated a positive relationship with team effectiveness; it is imperative that team members view themselves as a cohesive unit (Beal et al., 2003; Chioccio and Essieembre, 2008; Webber and Donahue, 2001).

Group cohesion, the binding force that keep the group together helps individuals in a team to interact with each other and play complimentary roles. The knowledge, skills and abilities of each individual would be known to each other, and one team member can effectively compliment another team member. Groups would be effective when there are diverse members with varied levels of knowledge, skills and abilities who work towards the accomplishment of their goals. When a member 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 eventually results in chaos and confusion and they won't be able to achieve their goals. Therefore, it has become the need of the hour that managers must find out strategies to develop cohesion among team members. The scholarly insights presented establish group cohesion as an important antecedent of team effectiveness and this study proves that group cohesion leads to team effectiveness.

III. METHODOLOGY

3.1 Objectives of the Study

1. To evaluate the relationship between interpersonal trust and group cohesion.
2. To evaluate the relationship between group cohesion and team effectiveness.
3. To evaluate the mediating role of group cohesion in the relationship between interpersonal trust and team effectiveness.

3.2 Hypothesis of the Study

Hypothesis 1: There is a positive relationship between interpersonal trust and group cohesion.

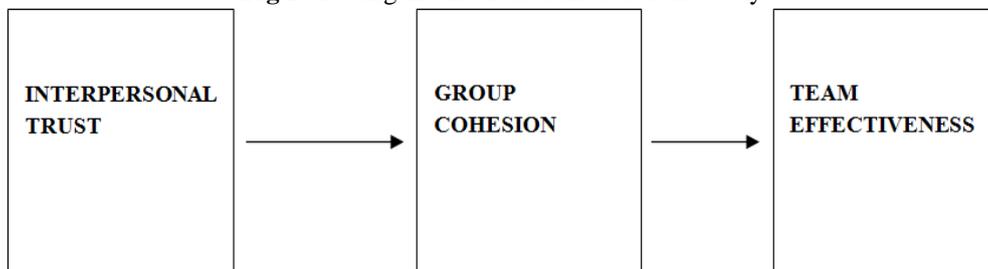
Hypothesis 2: There is a positive relationship between group cohesion and team effectiveness.

Hypothesis 3: There is a positive relationship between interpersonal trust and team effectiveness.

Hypothesis 4: Group Cohesion mediates the relationship between interpersonal trust and team effectiveness

3.3 Theoretical Model of the Study

Fig 1 showing the theoretical model of the study



3.4 Population and Sample

Population consisted of scientists from three nationalized Research and Development organisations in central Kerala. The sample was determined to be 177 scientists from three nationalized Research and Development organisations in central Kerala.

3.5 Scales

3.5.1 Interpersonal Trust

Specific interpersonal trust scale by Johnson –George Swap (1982) was administered for this study. The questionnaire consisted of 5 point scale ranging from strongly agree to strongly disagree. The objective of the questionnaire was to assess the interpersonal trust among the employees. The specific interpersonal trust scale covers questions related to 1.) Overall trust 2.) Emotional trust and 3.) Reliability

3.5.2 Group Cohesion

Group Cohesion measure was measured using the scale developed by Guo, Zixiu, Tan, Felix B., Turner, Tim, & Xu, Huizhong (2010).The questionnaire consisted of a 5 point scale and the respondents were asked to mark their opinion from strongly agree to strongly disagree with a mid-point labelled “ neither agree nor disagree”. The objective of the questionnaire was to assess the cohesion among members of the group, specifying their likeness of the group, involvement of the group, unity in the group.

3.5.3 Team Effectiveness

The Team Effectiveness Audit Tool developed by Billy Gateman, F. Colin Wilson and David Bingman(2002) was the scale used to measure team effectiveness. The questionnaire consisted of a 5 point scale ranging from strongly agree to strongly disagree with a mid-point labelled “neither agree nor disagree”. This team effectiveness questionnaire is designed to help teams measure their effectiveness. It examines six areas of team working; 1) Team Synergy 2) Performance Objectives 3.)Skills 4.)Use of Resources 5.)Innovation and 6.)Quality

IV. DATA ANALYSIS

The Partial Least Squares (PLS) was adopted for analyzing the theoretical model in this study. PLS was first introduced by H. Wold (1975) under the name NIPALS (nonlinear iterative partial least squares), and it focuses on maximizing the variance of the dependent variables explained by the independent ones. (Michael Haenlein, 2004). PLS was used to test the theoretical model. Partial least squares analysis is a multivariate statistical technique that allows comparison between multiple response variables and multiple explanatory variables. This technique was designed to deal with multiple regression when data has small sample, missing values, or multicollinearity. (Pirouz, 2006) The goal of partial least squares is to predict Y from X and to describe the common structure underlying the two variables (Abdi, 2003). Partial least squares is a regression method that allows for the identification of underlying factors, which are a linear combination of the explanatory variables or X (also known as latent variables) which best model the response or Y variables (Talbot, 1997). The PLS Test results for the study are as follows:-

Table 1 showing PLS results

	IT	GC	TE
R-Squared		0.293	0.665
Adj R-Squared		0.279	0.650
Composite Reliability	0.894	0.943	0.969
Cronbach Alpha	0.873	0.926	0.967
Avg Variance Extracted	0.313	0.707	0.471
Full Collin VIF	1.944	1.854	2.643
Q –Squared		0.306	0.671

Warp PLS software; the first SEM software which identifies non-linear relationship among latent variables and corrects the values of path coefficients accordingly, was used for this study. The individual item reliability is evaluated by examining the loading of the measures with the construct; all the indicator loadings in the study are higher than 0.7 and is acceptable (Hair et al., 2011). All the composite reliability indexes in the study are higher than the expected 0.7(Hair et al., 2010). All the cronbach alpha measures in the study are greater than the expected 0.7(Nunnally&Bernstein, 1991). Table 1 depicts the PLS results.

The primary evaluation criterion for the structural model is R² measures along with the level of significance of the path coefficients. R² reflects the share of the latent variables explained variances and it varies between 0 and 1. The larger the R² the larger is percentage of variance explained. In the study a 66% variance in team effectiveness (R² = 0.66) is caused by interpersonal trust and 29% variance in Group Cohesion (R² = 0.29) is caused by Interpersonal trust.

4.1 Analysis of partial mediating effect of Group Cohesion

Mediational effect of group cohesion in the relationship between interpersonal trust and team effectiveness was done with PLS - SEM. The mediation analysis followed the Baron and Kenney (1986) approach for testing mediation. Baron and Kenney approach is one of the most widely used procedure to test the effect of a mediator in the relationship between an independent variable and a dependent variable. Baron and Kenny (1986) procedure confirms mediating influence when the following conditions are satisfied in a relationship.

Step 1: Independent variable should have significant effect on the mediator. (Path a)

Step 2: The mediator should have significant effect on the dependent variable. (Path b)

Step 3: Independent variable should have a direct significant effect on dependent variable. (Path c)

Step 4: The effect of independent variable on the dependent variable when the effect of mediator is also controlled should be less than its direct effect on dependent variable. (Path c')

Complete mediation is the case in which the independent variable no longer affects dependent variable and mediator has been controlled and so path c' is zero. Partial mediation is the case in which the path from independent variable to dependent variable is reduced in absolute size but is still different from zero when mediator is introduced. (D.A, 1986)

Figure 2: The direct relationship between interpersonal trust and team effectiveness

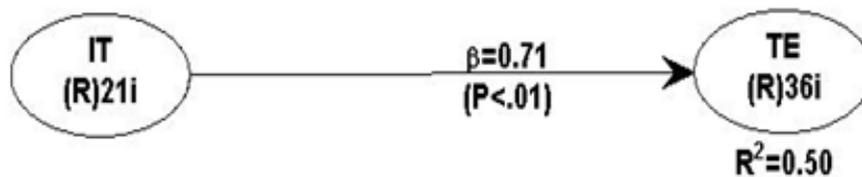


Figure 3: The relationship between interpersonal trust and team effectiveness when group cohesion is introduced

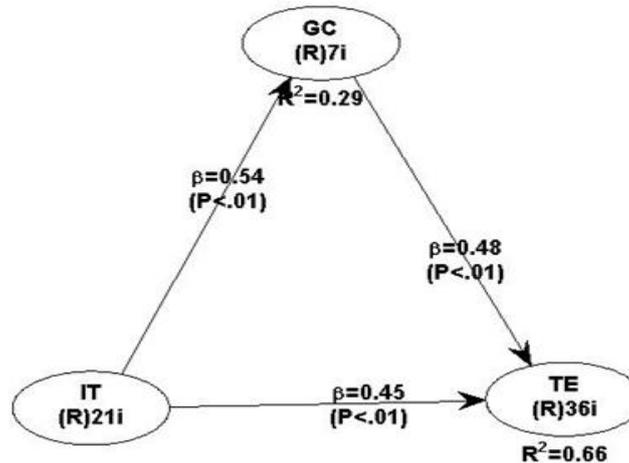


Figure 3 shows the relationship between interpersonal trust and team effectiveness when group cohesion is introduced. The direct relationship between interpersonal trust and team effectiveness as per the analysis is found to be $\beta = 0.71$. But when the mediator variable group cohesion is introduced the path from the independent variable interpersonal trust to dependent variable team effectiveness (path c') is reduced to $\beta = 0.45$. Thus the conditions of the partial mediation effect confirmed by Baron and Kenney method are fulfilled here. The study proves that the variable group cohesion partially mediates the relationship between interpersonal trust and team effectiveness.

V. CONCLUSION

The subject of interpersonal trust is a matter of concern for organizations across the globe and as literature repeatedly suggests, interpersonal trust is indispensable for the success of organizations. This empirical study investigates the relationship between the variables; interpersonal trust, group cohesion and team effectiveness and reiterates through its analysis and results that there is significant relationship between interpersonal trust and group cohesion. The study provides an indepth understanding of the relationship between group cohesion and team effectiveness. Interpersonal trust and group cohesion acts as predictors of team effectiveness in organizations and group cohesion partially intercedes the relationship between interpersonal trust and team effectiveness.

Despite the significant academic interest in interpersonal trust, group cohesion and team effectiveness there is a dearth of literature investigating the relationships of the three variables; interpersonal trust, group cohesion and team effectiveness in the Indian context and beyond. This paper sheds light into the relationship among interpersonal trust, group cohesion and team effectiveness in the Indian context. Moreover this paper confirms the mediating role of group cohesion in the relationship between interpersonal trust and team effectiveness. Desirable, qualitative and progressive changes can be effectively utilised in organisations through efforts to develop interpersonal trust leading to an efflorescence of group cohesion and team effectiveness.

REFERENCES

- [1]. Hogg (1992), "The Social Psychology of group cohesiveness", From attraction to social identity, New York: John Wiley
- [2]. P. Deontentis, J. A. (2013). Cohesion and satisfaction as mediators of the team trust-team effectiveness relationship: An interdependence theory perspective. *Career Development Journal*, 521-543.
- [3]. Seppanen, R. a. (2007). Determinants of Trust in Supplier Relations: Evidence from the automotive industry in Japan and the United States. *Journal of Economic Behaviour and Organisation*, 34(3), 387 - 417.
- [4]. S, G. (1994). Determinant of long term orientation in buyer -seller relationships. *Journal of Marketing*, 58(April), 1 - 19.
- [5]. Luhmann, N. (1988). "Familiarity, confidence and trust, problems and alternatives" in Gambetta. *Trust, Making and breaking cooperative relations*, Basil blackwell, oxford, pp 213-37.

- [6]. Luhmann, N. (1988). "Familiarity, confidence and trust, problems and alternatives " in Gambetta. Trust, Making and breaking cooperative relations, Basil blackwell, oxford, pp 213-37.
- [7]. L.T, H. (1995). Trust: The connecting link between organisational theory and philosophical ethics. Academy of Management Review, 379 - 403
- [8]. Hartog, G. D. (Vol 35, No 5, 2006). Measuring trust inside organisations. Personnel Review, 557 -588
- [9]. P.S, A. M. (1996). Trust and performance in cross border marketing partnerships: A behavioural approach. International business studies, 27(5), 1005-1032.
- [10]. Holden, S. C. (1997). Toward an understanding of loyalty: The moderating role of trust. Journal of Managerial Issues, 9(3), 275-298
- [11]. W, D. J. (2000). The determinants of trust in supplier-automaker relationships in the US, Japan and Korea. Journal of International Business Studies, 31(2), 259- 285.
- [12]. Coote L, F. J. (2003). An investigation into commitment in non western industrial marketing relationships . *Industrial Marketing Management*, 32(7), 595 -604.
- [13]. Paliszkievicz, J. (2012). Orientation on trust and organisational performance. Management, Knowledge and learning International Conference 2012. Poland.
- [14]. Zeffane, D. M. (2010). Employee Involvement, Organisational Change and trust in management. The International Journal of Human Resource Management.
- [15]. Argote L and McGrath J E (1993), "Group processes in organizations", In C L Cooper and I T Robertson (Eds.), International review of industrial and organizational psychology, Vol. 8, pp. 333-389, New York: John Wiley & Sons.
- [16]. Beal D J, Cohen R R, Burke M J and McLendon C L (2003), "Cohesion and performance in groups: a meta-analytic clarification of construct relations", Journal of Applied Psychology, Vol. 88 No. 6, pp. 989-1004.
- [17]. Cooney R and Sohal A (2004), "Teamwork and total quality management: a durable partnership", Total quality management and business excellence, Vol. 15, No. 8, pp. 1131-1142.
- [18]. Cohen S G and Bailey D E (1997), "What makes team work: Group effectiveness research from the shop floor to the executive suite", Journal of Management, Vol. 23, pp. 239-290.
- [19]. Chiocchio F and Essieembre H (2008), "Cohesion and performance: a meta-analytic review of disparities between project teams, production teams, and service teams", Small Group Research, Vol. 40, No. 4, pp. 382-420.
- [20]. Edmondson A (1999), "Psychology Safety and learning behaviour in work teams", Administrative Science Quarterly, Vol. 44, No. 2, pp. 350-383.
- [21]. Evans C R and Dion K L (1991), "Group cohesion and performance: A meta-analysis", Small Group Research, Vol. 22, pp. 175-186.
- [22]. Gladstein C R and Day D V (1984), "Groups in context: A model of task group effectiveness", Administrative Science Quarterly, Vol. 29, pp. 499- 517.
- [23]. Hackman J R (1987), "The design of work teams", In J Lorsch (Ed.), Handbook of organizational behavior, pp. 315-342, New York: Prentice Hall.
- [24]. Hogg (1992), "The Social Psychology of group cohesiveness", From attraction to social identity, New York :John Wiley.
- [25]. "Multilevel theory of team decision-making: Decision performance in teams incorporating distributed expertise", Journal of Applied Psychology, Vol. 80, pp. 292-316
- [26]. Kozlowski S W J and Bell B S (2003), "Work groups and teams in organizations", In W C Borman, D R Ilgen, and R J Klimoski (Eds.), Handbook of psychology: Vol. 12. Industrial and organizational psychology (pp. 333-375). London: Wiley.
- [27]. Mullen B and Cooper C (1994), "The relations between group cohesiveness and performance : An Integration" Psychological Bulletin, Vol. 115, pp. 210-227.
- [28]. Salas E, Dickinson T L, Converse S A and Tannenbaum S I (1992), "Toward an understanding of team performance and training", In R W Swezey and E Salas (Eds.), Teams: Their training and performance, pp. 3-29, Norwood, NJ: Ablex
- [29]. Widmeyer W N, Brawley L R and Carron A V (1985), "The measurement of cohesion in sports teams: The group environment questionnaire", London Ontario: Sports Dynamics.
- [30]. Webber S S and Donahue L M (2001), "Impact of highly and less job-related diversity on group cohesion and performance: a metaanalysis", Journal of Management, Vol. 27, No. 2, pp. 141-162.
- [31]. Wech B A, Mossholder K W, Steel R P and Bennett N (1998), "Does work group cohesiveness affect individual's performance and organisational commitment? A cross level examination", Small Group Research, Vol. 29, pp. 472-494.
- [32]. Yoo Y and Alavi M, "Media and group cohesion: Relative influences on social presence, task participation and group consensus", MIS Quarterly, Vol. 25, No. 3, pp. 371 -390.
- [33]. Zaccaro S (1991), "Nonequivalent associations between forms of cohesiveness and group related outcomes: Evidence for multidimensionality", Journal of Social Psychology, Vol. 131, pp. 387-399.