

# A STUDY ON EFFECT OF TEAM BUILDING EXERCISES ON TEAM EFFECTIVENESS IN SELECTED IT SECTOR OF TAMILNADU

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**Abstract:** Team building have been influenced by different group concepts in psychology and social psychology (Hackman, 1990). Several concepts with similar meanings are widespread, such as: self-directed work groups, self-regulating work groups, self-managing work groups, semi-autonomous work groups, etc. (Benders and Van Hootegeem, 1999; Mueller et al., 2000). A group consists of individuals grouped together for administrative purposes only, working independently, sometimes at cross purposes with others. Members are told what to do rather than being asked what the best approach would be. Groups are developed through the application of group dynamics theory and knowledge in ways that help groups to become more effective, performing and cohesive. The main aim is the minimization of growing pain and maximization of continual improvement and performance.

**Keywords:** Teams, Team Effectiveness, Cohesiveness, Leadership

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## 1. INTRODUCTION

In today's more complex multinational and technologically sophisticated environment, the group has reemerged in importance as the project team (Wellins, Byham, & Wilson, 1991; Fisher, 1993; Nurick, 1993; Shonk, 1996; Thamhain & Wilemon, 1999). Team building can be defined as the process of taking a collection of individuals with different needs, backgrounds, and expertise and transforming them into an integrated, effective work unit. In this transformation process, the goals and energies of individual contributor's merge and focus on specific objectives. When describing an effective project team, managers stress consistently that high-performance, although ultimately reflected by producing desired results, on time and within budget, is a derivative of many factors that are graphically shown in Exhibit 1. Team building is an ongoing process that requires leadership skills and an understanding of the organization, its interfaces, authority, power structures, and motivational factors. This process is particularly crucial in environments where complex multidisciplinary or transnational activities require the skillful integration of many functional specialties and support groups with diverse organizational cultures, values and intricacies (Oderwald, 1996). Because of their potential for producing economic advantages, work teams and their development have been researched by many.

Starting with the evolution of formal project organizations in the 1960s, managers in various organizational settings have expressed increasing concern with and interest in the concepts and practices of multidisciplinary team building. As a result, many field studies have been conducted, investigating work group dynamics and criteria for building effective, high-performing project teams.

These studies have contributed to the theoretical and practical understanding of team building and form the fundamental concepts discussed in this chapter. Prior to 1980, most of these studies focused just on the behavior of the team members, with limited attention given to the organizational environment and team leadership. While the qualities of the individuals and their interaction within the team are crucial elements in the teamwork process, they represent only part of the overall organization and management system that influences team performance, which was recognized by Bennis and Shepard as early as 1956.

Since 1980 an increasing number of studies have broadened the understanding of the teamwork process (Tichy & Ulrich, 1984; Walton, 1985; Dumaine, 1991). These more recent studies show the enormous breadth and depth of subsystems and variables involved in the organization, development, and management of a high-performing work team (Gupta & Wilemon, 1996). These variables include planning, organizing, training, organizational structure, nature and complexity of task, senior management support, leadership, and socioeconomic variables, just to name the most popular ones (Shaw, Fisher, & Randolph, 1991; Thamhain & Wilemon, 1983, 1987, 1991, 1993).

Even further, researchers such as Dumaine (1991), Drucker (1996), Peters and Waterman (1987, 1997), Moss Kanter (1989), and Thamhain (1990, 1993) have emphasized the nonlinear, intricate, often chaotic, and random nature of teamwork, which involves all facets of the organization, its members, and environment. These teams became the conduit for transferring information, technology, and work concepts across functional lines quickly, predictably, and within given resource restraints) Some of the many different objectives that can be targeted by team building interventions are improving problem-solving skills, increasing trust, enhancing leadership skills, and improving communication (Mazany, Francis, & Sumich, 1995; Williams et al., 2002).

## **2. REVIEW OF LITERATURE**

According to Anderson and West (1994), Team Climate can be defined as the manner of working together which includes aspects like vision, innovation, communication patterns, participation safety, norms, cohesion and task style. Yuan, Chaoying and Peng (2008) said "team climate differs from organizational climate, as it focuses on the proximate work environment for individuals who relate to each other more closely".

According to Yuan, Chaoying and Peng (2008), the most popular model for team climate has been developed by West (1990). West (1990) has developed the four-factor theory of climate for work group innovation. The four factors include vision, task orientation, support for innovation and participative safety (West, 1990; Anderson and West, 1998).

Anderson and West (1998) have studied 27 hospital management teams in UK to validate and measure the multi-dimensional facet specific climate for innovation within work teams known as Team Climate Inventory (TCI). TCI is a measure to find the team climate for innovation in work groups. TCI has been used in many studies (Liu and Cheng (1996); Anderson and West (1998); Curral, Forrester, Dawson and West (2001); Bain, Mann and Pirola-Merlo (2001); Mathisen, Einarsen, JOrstad and BrOnnick (2004); Ganesh and Gupta (2006); Hann, Bower, Campbell, Marshall and

Reeves (2007); Proudfoot, Jayasinghe, Holton, Grimm, Burner, Amoroso, Beilby, Harris and PRACCAP Research Team (2007); Kivimaki, ^anahala, Pentti, Lansisalmi, Virtanen, Elovainio, and Vahtera (2007); Gautam, Upiadhyay, Dick and Wagner (Undated); Bosch, Dijkstra, Wensing, Weijden and Grol (2008); Yuan, Chaoying, Peng (2008); Acuna, Gomez and Juristo (2008); Strating and Nieboer (2009)). TCI has been used in health care teams, social service teams, software teams, community psychiatric care teams, oil company teams (Bain, Mann and Pirola-Merlo, 2001) and management teams (Mathisen, Einarsen, Jørstad and Brønnick, 2004).

Hence, According to Anderson and West (1998) and West (1990), team climate for innovation consists of the four constructs such as vision, task orientation, support for innovation and participative safety. According to West (1990), Vision is "an idea of a valued outcome which represents a higher order goal and a motivating force at work". It constitutes components such as clarity, visionary nature, sharedness and attainability. According to West (1990), task orientation is defined as "a shared concern with excellence of quality of task performance in relation to shared vision or outcomes, characterized by evaluations, modifications, control systems and critical appraisals". Support for innovation is the "exception, approval and practical support of attempting to introduce new and improved ways of doing things in work environment" (west, 1990).

Software development team performance can be measured using combination of objective and subjective measures (Sawyer, 2001; Bahli and Buyiikkurt, 2005; Ong, Tan and Kankanhalli, 2005; Na, Simpson, Li, Singh and Kim, 2007). According to Sawyer (2001), Objective measures include function points (Ong, Tan and Kankanhalli, 2005), lines of code, defect rates, complexity metrics (Ong, Tan and Kankanhalli, 2005), resource consumption, etc. Subjective measures are the perceptual measures given by the people involved (Na, Simpson, Li, Singh and Kim, 2007). According to Ong, Tan and Kankanhalli (2005), other objective measures include cost variance and time variance. Perceptual measures include the assessments given by the stakeholders from outside the software development team. According to Bahli and Biiyikkurt (2005), objective measures include group productivity and subjective measures include subjective ratings of the group performance. According to Hackman, group performance consists of the constructs such as task effectiveness, system viability and professional growth (Bahli and Biiyikkurt, 2005). According to Ong, Tan and Kankanhalli(2005), perceptual measures include user satisfaction, teamwork satisfaction, and perceived output quality. While measuring team performance it is important to take ratings from stakeholders such as team members, management and users (Ong, Tan and Kankanhalli, 2005).

Sawyer (2001) has studied the relationship of presence of intra-group conflict, the level of conflict management and the software development team performance. He has surveyed the team members based on their most recent completed module or project. According to Sawyer (2001), constructive conflict management can improve team performance, whereas destructive conflict management can reduce the team performance. According to Na, Simpson, Li, Singh and Kim (2007), the objective performance measures include cost, schedule and effort overrun. Na, Simpson, Li, Singh and Kim (2007) have investigated the impact of specific risk management strategies and residual performance risk on objective measures of team performance such as cost and schedule overrun with a study of 123 project teams in Korea. They found that the objective performance measures such as cost and

schedule overruns are positively related to residual performance risk in Korea. Subjective performance measures of a software development team include process performance and product performance (Na, Simpson, Li, Singh and Kim, 2007; Wallace, Keil and Rai, 2004). A related study was done by Wallace, Keil and Rai (2004) to understand the dimensions of software project risk and its impact on project performance.

Their investigation showed that the social sub system risk affects the technical sub system risk, which in turn affects the level of project management risk, and finally the project performance. According to them project team performance can be measured using product performance and process performance. Product performance refers to the success fitness of the product being developed. Process performance refers to the successfulness of the development process itself (Wallace, Keil and Rai, 2004). Product performance measures used here include whether the application developed is reliable, maintainable, meets functional requirements, meets user specified response time, and overall quality of the product is high. Process performance measures used here include whether the system was completed within budget and within schedule (Wallace, Keil and Rai, 2004).

Basaglia, Caporarello and Magni (2009) have studied 410 team members working in 69 organizational work teams in two large European companies. They found the impact of team climate (autonomy climate and experimental climate) on IT knowledge integration capability and its impact on team performance in terms of team efficiency and team effectiveness. They found that the team climate favoring the IT knowledge integration capability affects the team efficiency and effectiveness. They observed that the positive team climate creates the new knowledge in team which in turn improves the organizational performance.

### **3. OBJECTIVES**

1. To study the team Building Exercises on team effectiveness
2. To Identify the Team Building exercises impact on the effectiveness of team within companies in service sector

### **4. METHODOLOGY**

Statistical tests of differences are performed to compare the scores of the scales between or among the different levels of the demographic factors. This will indicate whether the differences observed are large enough to suggest actual differences in the population, or are just due to chance. The following dimensions are measured in the pre-test and posttest: Leadership, Trust & Respect, Reward & Recognition, Customer Focus, Decision making and Team Work.

### **5. STATISTICS OF THE TREATMENT AND THE CONTROL DATA**

Below given shows the statistics of the pretest and the posttest scores of the six subscales of the treatment data. In the rows marked as 'T1' and 'T2' are the observed means and standard deviations of the scores of the six TAQ subscales. In the row marked 'T2-T1 diff.' are the statistics of the differences between the posttest and the pre-test scores. We observe an increase in the scores of all the subscales.

**Table 1: Summary statistics of the treatment TAQ subscales**

		<b>Leadership</b>	<b>Trust&amp; Respect</b>	<b>Reward&amp; Recognition</b>	<b>Customer Focus</b>	<b>Decision Making</b>	<b>Team Work</b>	<b>Total</b>
	N	180	180	180	180	180	180	
T1	X	17.47	21.62	16.70	18.83	17.93	19.20	111.75
	S	2.80343	2.53087	2.36100	3.08628	2.92284	3.02946	
T2	X	25.21	27.78	26.23	23.87	26.23	30.86	
	S	1.87216	1.66648	2.35372	1.67265	2.35372	2.15884	155.11
T2- T1 Diff	Mean of Diff	7.74	6.16	9.53	5.04	8.30	11.66	43.36

Source: Output generated from SPSS 21

The data shows that reported means for the pre-test and posttest are different for all the dimensions. The total score on the pre-test and posttest showed a marked increase. The factor that featured at the higher levels in the posttest (highest mean score) was teamwork and at the lower levels in the post-test (lowest mean) was customer focus. This may indicate an improvement in the team effectiveness for all the dimensions as well as a significant difference between pre-test and posttest scores. The average score of the posttest Scales is different from the average score of the pretest scales, suggesting a change in the participants' perceived level of team effectiveness over the period of training.

**Table 2: Paired-sample t-test on the T2-T1 differences of the treatment data**

	<b>Leadership</b>	<b>Trust&amp; Respect</b>	<b>Reward&amp; Recognition</b>	<b>Customer Focus</b>	<b>Decision Making</b>	<b>Team Work</b>
T	31.663	27.306	39.476	20.545	28.572	42.228
Df	179	179	179	179	179	179
P Value	.001	.002	.007	.001	.001	.000

Source: Output generated from SPSS 21

A significant difference was indicated in the all the dimensions. After examining the results of the paired sample t- test, it was clear that all the six dependent variables (dimensions), differed significantly statistically. The same examination is carried out on the control data. Since the control respondents did not attend any training over the study period, there are no pretest and posttest learning scores in the actual sense. However, data was collected twice, at time points T1 and T2, to mimic the pretest and the posttest among the study (treatment) respondents. However, for the whole of control data, a single T1 to T2 period of one month was used. The results of the paired samples t-test in below given table show no evidence of significant differences between the scores of the two time points of any of the six TAQ sub Scales among the control respondents. This finding implies that the scores of the Six TAQ subscales do not change from time 1 to time 2. This supports the idea that the scores of SIX TAQ Sub Scale do not change among those who are not attending any training.

## 6. CONCLUSION

Analyses on the treatment data have shown evidence that all Six of TAQ subscales, have different means for time 1 (pretest) and time 2 (posttest). These findings seem to suggest that Team Building Exercises do have an impact on the scores of the all Six TAQ Sub Scales. In other words, there is an association between attending team building exercises and team effectiveness. Analyses on the

control data show no significant differences between the time 1 and the time 2 scores of any of the TAQ subscales. These results support the idea that changes in the scores of TAQ Sub Scaled that we observe among the training participants can be attributed to the team building intervention they attended. Looking at the observed values, it may also be suggested that Team Building Intervention is successful in increasing Team Effectiveness.

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