

Team Dynamics in Software Companies: Issues that affect Teams in the Long Run

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Teams are replacing individuals as the basic building blocks of organisations. Software companies emphasise more and more on teamwork. Experience reveals that this practice enhances efficiency. Five prominent software companies were selected for the study and five typical characteristics of teamwork have been examined through a sample of 126 employees operating in teams in the respective companies. The attributes examined are team performance, leadership reinvigorating, diversity and Total Quality Management (TQM). All the five attributes have been found to be equally important for ensuring the success of teamwork.

Introduction

Teams are replacing individuals as the basic building blocks of organizations. Teams are a group of two or more people who interact and influence each other: are mutually accountable for achieving common goals associated with organizational objectives, and perceive themselves as the social entity within an organization.¹ All teams exist to fulfill some purpose, such as assembling a product, providing a service, designing and manufacturing, or making an important decision. Team members are held together by the interdependence and need for collaboration to achieve common goals. All teams require some form of communication so that members can coordinate and share common objectives. Team members also influence each other, although some members are more influential than others regarding the team's goals and activity.²

Software companies emphasize more and more on team work. This enhances their efficiency as well as helps to finish their projects on time. A successful team will monitor its own effectiveness and progress. Any member of the team who observes that the team is under performing has the responsibility to bring it to the attention of the entire group so that appropriate action can be taken to correct the problem. Occasionally, there may be a member

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of the group who is not really there to advance the group's objective, but perhaps to advance his or her own individual objective.³

There are several issues that affect the life span and working of teams. The five important ones were⁴

- a) Team performance
- b) Leadership
- c) Reinvigorating
- d) Diversity
- e) TQM

The present paper is based on these five factors and assesses the impact of these factors on the life span of teams.

Materials and Methods

The study was conducted to find the issues that affect the team in the long run. The present study is an analytical and descriptive study based on the primary data. Questionnaire was the tool used for collection of data. Nonprobability convenient sampling was the sampling technique used as the employees in the population did not have a predetermined chance of being selected as the sample subjects, and as the data collected was based on convenience and accessibility. The sample size was 126 employees working in the five selected companies and had worked in teams. The data were collected from the five software companies, namely, TCS, Infosys, Wipro, HCL Technologies and Mahindra Satyam.

The criteria for the selection of the companies were

- All five selected companies are the leading software companies on India.
- All selected are operating in more than 20 nations of the world.
- The selected companies hold 80% of the market share.
- The selected companies facilitate team work and strongly believe in team development.

For analyzing the data, ANOVA (Analysis of Variance) Test was used. In this, the coding method was applied for analysis. The coding method is based on the fact that the F – test statistic used in the analysis of variance is the ratio of variances without unit of variances.

Area of the study

The area of the study was restricted up to the boundaries of India. The seventh largest in area and second largest in population.

Hypothesis

The hypothesis to be tested is

H_0 - All five factors are equally important for the team in the long run.

H_1 - All five factors are not equally important for the team in the long run.

To test the significance of variation in the life span of teams due to factors a, b, c, d and e

Exhibit 1

Factors → Companies ↓	Team				
	performance	Leadership	Re invigorating	Diversity	TQM
TCS	6	5	3	6	4
Infosys	5	5	6	7	5
Wipro	5	4	5	5	4
HCL	4	4	3	6	7
Mahindra Satyam	6	5	7	4	5

Exhibit 2

X_1	X_1^2	X_2	X_2^2	X_3	X_3^2	X_4	X_4^2	X_5	X_5^2
6	36	5	25	3	9	6	36	4	16
5	25	5	25	6	36	7	49	5	25
5	35	4	16	5	25	5	25	4	16
4	16	4	16	3	9	6	36	7	49
6	36	5	25	7	49	4	16	5	25
26	126	24	107	24	128	27	162	25	131

$n = 5$ with $n_1 = n_2 = n_3 = n_4 = n_5 = 5$ and $n = 25$

Sum of observations of 5 factors $\rightarrow \sum x_{1j} + \sum x_{2j} + \sum x_{3j} + \sum x_{4j} + \sum x_{5j} = 126$

$$CF = \text{Correction Factor} = \frac{T^2}{n} = \frac{126^2}{25} = 635.04$$

SST = Total of sum of the squares $\rightarrow (\sum x_1^2 + \sum x_2^2 + \sum x_3^2 + \sum x_4^2 + \sum x_5^2) - CF$

$$(126 + 107 + 128 + 162 + 131) - 635.04$$

SSTR = Sum of squares between the samples

$$\left(\frac{(\sum x_{1j})^2}{n_1} + \frac{(\sum x_{2j})^2}{n_2} + \frac{(\sum x_{3j})^2}{n_3} + \frac{(\sum x_{4j})^2}{n_4} + \frac{(\sum x_{5j})^2}{n_5} \right) - CF$$

$$= 636.4 - 635.04 = 1.36$$

$$SSE = SST - SSTR = 17.96 - 1.36 = 16.6$$

$$df_1 = 5 - 4 = 4 \text{ and } df_2 = 25 - 5 = 20$$

$$\text{Thus MSB} = \frac{SSTR}{df_1} = 0.34$$

$$MSE = \frac{SSE}{df_2} = 0.83$$

Exhibit 3 ANOVA Table

Source of variation	sum of squares	Degree of Freedom	Mean Squares	Test Statistics
between Samples	1.36	4	0.34	
Within Samples	16.6	20	0.83	$F = 0.34/0.83 = 0.409638$
Total	17.96	24		

The tabular value of F for $df_1 = 4$ and $df_2 = 20$ at $\alpha = 0.05$ is 2.8661. since the calculated value of $F = 0.409638$ is less than its tabular value. Thus null hypothesis had been accepted

Discussion

The coding method of ANOVA shows that all five factors are equally important for the teams to last long. The value of $F = 0.409638$ is less than its tabular value.

Conclusion

The study undertaken shows that issues for team like performance, diversity, TQM, leadership and reinvigorating were equally important for teams to have a long life span. All these factors contribute to team work in the long run. These factors provide a base on which teams can successfully perform. Missing of any of these factors is like "Their bark is worse than their bite". All these issues should be properly managed by the teams. For achieving the success the team members should be motivated as they have "Taste blood".

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