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Factors Responsible for Effective and Ineffective Team in Construction Projects

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ABSTRACT: This paper investigates the factors responsible for the effective and ineffective team in construction projects. The achievement rate or otherwise of a construction is a component of the group saddled with the obligation of executing such tasks and this is liable to the viability or dysfunction of such team. Subsequently, it is important to evaluate the components in the effective and ineffective team in the development business and its impact on cost and time of development activities. Information for the review was acquired through organized surveys provide for experts in the construction business. For the effective and ineffective team, the sound clash among colleagues are determinants of the time execution of the construction work while cost execution of a construction work is resolved predominantly by responsibility and evasion of responsibility in the team. Finally, the review prescribes that healthy conflicts and accountability should be imbibed by the construction team members to guarantee a successful Project.

KEYWORDS: construction, effective, ineffective, projects, Team, Goals, Teamwork

I. INTRODUCTION

Construction project teams are developed as soon as they enter into a new project. The goal is for a team to showcase its desirability of cooperative relationships through project performance. To ensure construction teams successfully complete their projects, it is necessary for construction companies to promote, measure, and evaluate their teams' effectiveness. By all means, it is a challenging task to perform, but there are underlying reasons why construction companies need an effective measurement system for teams.

In construction, integration often refers to collaborative working practices, methods, behaviors that promote an environment where information is freely exchanged among the various parties. Within an integrated team environment, various skills and knowledge are seen as shared, and traditional barriers separating the design process from construction activities are removed or marginalized to improve project delivery.[10] The effective application of teamwork helps to improve many aspects of a team such as coordination, innovation, horizontal communication, and flexibility, however, it is not a not a panacea for solving all coordinating problems and poor application can have many negative consequences. Its effectiveness lies in its proper application for a given context (Nurmi, 1996).

This review adds to the body of knowledge relating to project administration and Organizations, particularly on the team and team practices. Besides concentrating on the execution Aspects of the construction extend, it is additionally anticipated this review will help extend supervisors and development team leaders in understanding what elements add to making a powerful Project group.

An evolution of teamwork and its concept started during the Industrial revolution, where most work organizations shifted to the hierarchical approach and used scientific management to design organizations and jobs.[4] During 1920's and 1930's, the scientific Management model was questioned, since it created issues with people's relationships to work, although the model functioned well. Workers became alienated and difficult to motivate. In Addition to no task flexibility, changes were difficult to implement teamwork occurs where group of people works towards a common goal in an organized and Coordinated way and it require flexibility of Behavior in such a way that if one team members unable to do a task, it is passed on to another member who is free and capable of doing it, so that the work of the group can progress. The process of execution of construction projects at any point requires teamwork due

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to the nature of task involved and in particular, the fragmented nature of the industry as being responsible for the poor performance of the industry.

The purpose is to determine the role of team effectiveness in construction project teams on the overall construction team and project performance. An organization's team effectiveness is a key juncture of theory development. Team performance can be increased by keeping basic teamwork principles at the forefront. To expedite this matter, it is vital to examine different factors associated with team effectiveness and to what extent these factors can lead to creating effective construction project teams. (Lowe, G.S 2009) These factors examined are crucial to helping comprehend the determinants of team effectiveness and to implement teams in construction projects. This study also seeks to provide an understanding of what team effectiveness means to people in the construction business. [7]

There are five different schools of thought for the composition of teamwork. The first uses competencies or KSAs based on teamwork skills. The second includes functions or dimensions along with supporting functions. The third conceptualizes teamwork as a sequentially phased-multidimensional approach (fancy terms for 3 phases with many factors in each phase). Our fourth theory is teamwork taxonomy.

Competencies	Dimensions and Function	Multi dimensional Phases	Team work and Taxonomy
Knowledge	Main dimensions	Transition processes Phase	Adaptability
Understanding of teamwork skills	Team leadership	Mission analysis and Planning	Communication
Skills	Mutual performance monitoring	Goal specification	Coordination
Moral building	Backup behavior	Strategy formulation	Decision making
Conflict resolution	Adaptability	Action processes Phase	Interpersonal
Information exchange	Team orientation	Monitoring progress/goals	Leadership
Task motivation	Support functions	System monitoring	
Cooperation	Shared mental modes	Team monitoring	
Consulting with others	Closed loop communication	Coordination	
Assertiveness	Mutual trust	Interpersonal processes phase	
Attitude		Conflict management	
Collective orientation		confidence building	
Importance of team work		Affect management	

II. TEAM EFFECTIVENESS FACTORS

Construction projects are often associated with constraints, such as time and cost control. It is essential for a team to fully understand the whole project setup and how critical it is to develop an effective team. Construction team members are selected, based on the abilities of each team member, namely particular discipline skill, expertise, and

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experience, they have to offer to perform the technical contribution in an efficient and profitable way. [1]

Cohen et al define team effectiveness in terms of both high performance and employee quality of work life. This idea draws from socio-technical theory, which states both social and technical systems must be maximized for optimally effective teams.[11]

According to Katzenbach and Smith a team can be defined as:

“A small number of people with complementary skills, who are committed to a common purpose, performance goals and approach for which they hold themselves mutually accountable.” [6]

A simple sequence of events required in achieving effective teamwork and team synergy was discovered by Covey as follows:

$$\text{RESPECT} + \text{TRUST} + \text{OPENNESS} + \text{SYNERGY} \\ = \text{TEAMWORK}$$

When team members establish respect among each other, the trust will soon develop. Open communications result from trust and will, and, therefore, produce genuine teamwork. Additionally, Parker lists twelve characteristics of effective teams, which come alive when team members act as high-performing team players. [2]

2.1 Effective Team Factors

The following are the factors responsible for an effective team:

2.1.1 Accountability

Accountability is the obligation to answer for a responsibility conferred. It is a relationship based on the obligation to demonstrate and take responsibility for the performance in light of agreed expectations.

In demonstrating performance against agreed upon expectations, both the need to balance greater flexibility and autonomy with enhanced accountability for results and the need for openness and transparency is made evident.

2.1.2 Healthy Conflict

In the construction industry, how the conflicts get resolved, not how many occur, is the critical factor in Determining whether a relationship will be healthy or unhealthy mutually satisfying or not satisfying, friendly or unfriendly, deeper shallow, intimate or cold. Conflicts run all the way from minor unimportant differences to critical fights. There are conflicts of needs, wants, preferences, Interests, opinions, beliefs, and values.

Healthy conflict resolution is easy to understand intellect actually, but not as easy to apply and use consistently. It does, however, become easier once the skills and trust are developed. If fear and power are used to win, the relationship will be mortally wounded. [3]

2.1.3 Trust

A crucial aspect of the success of a project depends on the effective sharing of knowledge among the different people. Trust is important for knowledge transfer, especially for online applications. The building as a product has to face many constraints such as functional, economical, and technical as well as aesthetical. Because of the short time period, these project teams operate independently, yet they do have strong hierarchical relations.

2.1.4 Strong Commitment

This is manifested in a team when there's clarity around direction and priorities, aligning of the entire team around common objectives, development of an ability to learn from mistakes, taking an advantage of opportunities before competitors do and moving forward without hesitation. This Prevents team member from non-commitment to decisions, feigning agreement during meetings.

2.1.5 Attention to Result

Attention to result in an effective team is observed by retaining achievement-oriented employees, minimizing individualistic behavior, enjoying success and suffering failures acutely, benefiting from individual team members who subjugate their own goals/ interests for the good of the team and avoidance of distractions.

2.2 Ineffective Team

Describes a dysfunctional/ineffective team as one, built on an unstable foundation, lack of trust and is ultimately exposed by its lack of attention to results. An absence of trust undermines the team's Ability to engage in constructive conflict as it is known that without healthy conflict, teams don't make a solid commitment to plan and decisions. Where there's ambiguous commitment, there will also be unclear accountability which leads to

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inattentiveness to results. The symptoms of team ineffectiveness can be gauged by observing the process followed and behavioral aspects that are evident within the team. Symptoms to watch out include: friction and disagreements, hearing

complaints or gossip from various sources 'lack of loyalty towards one another, affection energy focused outside of the teams objectives, team members being absent from work or scheduled team meetings, poor coordination of team activities, disorganized and chaotic handling of tasks, falling behind on deadlines or inability to meet targets and drop in the efficiency or productivity level of the Team.

III. DATA COLLECTION AND EVALUATION

The project is said to be successful when it is completed in desired time and cost. Construction delays are common problems and occur frequently during the lifetime of the projects. Therefore understanding the concepts of Effective and ineffective teams in residential construction projects and their impact on the project, a field study is done no various residential construction projects is done in this study. Questionnaire survey method is used for collection data from different residential construction sites.

A series of question-related to construction Effective and ineffective teams were set for conducting a survey to obtain feedback and response from the construction project. Then analysis of the collected data is done for each company and effect of teams is found out. After the suggested measures were taken, the survey is used for data collection. Another round of reliability analysis is performed on the data obtained to examine if the reliability of the survey improved. Data is collected from following two residential construction projects.

Table 1 Details of projects

Site Details	Project I	Project II
Project Name and Address	Oxy Primo, Gat No. 559, Bakori Phata, Pune Nagar Road, Wagholi, Pune 412207	Cozy Homes, Gat No. 42/3, Wagholi, Pune 412207
Building Type	Commercial and Residential Project	Residential Project
Number Of Floors	G+11	G+09
Construction Started	2-3-2014	18-5-2014
Estimated date Of Completion	6-2-2017	27-3-2017
Estimated Duration	339 Days	296 Days
Estimated Cost	155447145	105738050

3.1 Relative Index Method

In average index analysis, the result will be further summarized to obtain the overall level of importance and evaluation in local construction industry. Respondent is requested to rate each factor on five point scale 1 to 5. The relative index analysis for each variable is calculated by using:

Relative Index =

Where, X1 = number of respondent for not important,

X2 = number of respondent for less important,

X3 = number of respondent for average,

X4 = number of respondent for important,

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X5 = a number of respondent for very important.

The overall level of importance and evaluation in the local construction industry are summarized under such categories.

Table 2. Showing effective criteria of effective factors

Level of response	Notation
Strongly agree	X ₁
Agree	X ₂
Neutral	X ₃
Disagree	X ₄
Strongly disagree	X ₅

The team performance section is divided into nine categories—

1. Team goals and objectives,
2. Team leadership,
3. Roles and responsibility,
4. Trust and values within the project team.,
5. Team relationship,
6. Communications.

3.2 Method of Analysis

The analysis methodologies adopted in this study are further described according to the research questions outlined in the earlier. For each research questions, detailed explanations are given to provide a better understanding of the structure of this chapter. The method of analysis used in this study is depicted in Table. Sample questionnaire table is shown below:

Table 3 Sample questionnaire chart for project goals and objectives

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
a. I understand teams goals and objectives					
b. My teammates understand teams goals and objectives					
c. The team agrees on teams goals and objectives					
d. The team is committed to achieving team's goals and objectives.					
e. The team agrees on teams goals and objectives					
f. Team achieves outlined team goals and objectives					

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Table 4 Respondent and number of respondent

Responent	(Project I)	(Project II)
Project Manager	1	1
Civil Engineer	1	1
Asst. Civil Engineer	2	3
Contractor	2	1
Supervisor	3	4
Total	09	10

Table 4. Shows overall means of the main factors responsible for effective and ineffective teams

Factors	Project I	Project II
Project teams and goals and objectives	0.56	0.45
Project team leadership	0.57	0.53
Project team responsibility	0.56	0.47
Project team relationship	0.51	0.49
Trust and values within project team	0.53	0.54
Project team communication	0.55	0.45

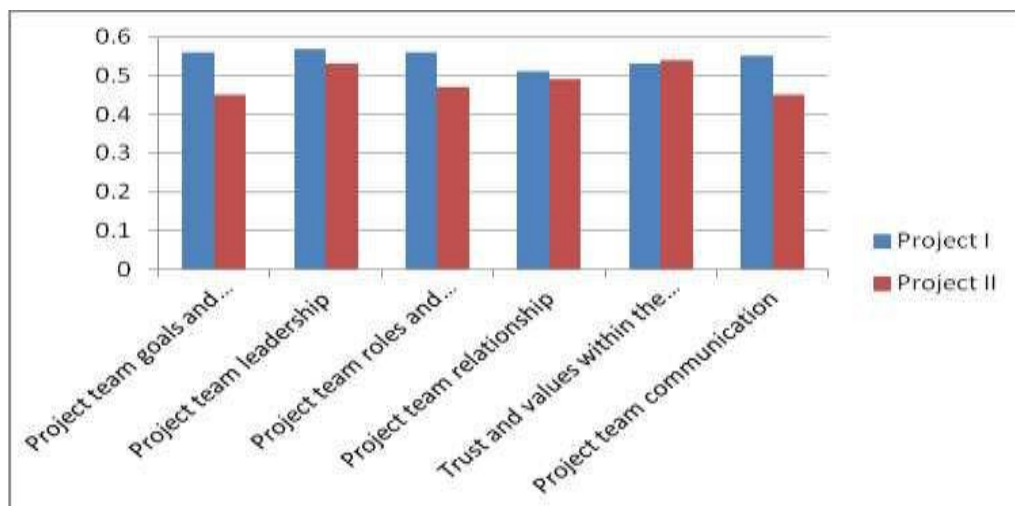


Fig 1 Shows comparative study between two projects

Above chart shows an overall comparison of the main factor responsible for effective and ineffective teams for this project I and project II on the basis of relative index analysis. Fig shows a high relative index of the project I team leadership i.e. 0.57 ranked at 1st. while project team I Relationship having a lowest relative index of 0.51 ranked at 6th. and all remaining factor are ranked in sequent order. It shows that Project team I leadership has most influence the factor of the team while project team relationship has the least effect.

While in the case of project II fig shows a high relative index of trust and values within the project team i.e. 0.54 ranked at 1st. Project team goals and objectives and project team communication having a lowest relative index of 0.45 ranked at 6th. And all remaining factor are ranked in sequent order.

It shows that project team leadership has most influence the factor of the team while project team roles and

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responsibility has the least effect.

IV. RESULT AND DISCUSSION

Effective And Ineffective Teams have been a topic of concern in the construction project. The purpose of this paper is to present, discuss the results from the data analysis performed to address the research questions.

1. In this study, team leadership is determined the most significant predictor in project change management. For both the project team relationship with healthy conflict amongst construction team members in the construction industry is the most significant factor for an effective contraction team.
2. From Project-I respondent it can be observe that ineffective team at any point is time is one that knowhow to disagree without snowballing into interpersonal conflict which means an effective team knows how to deal with conflict. Residual knowledge and experience supports this as team members of any category with be more effective when they engage in constructive conflict for an ineffective team.
3. From the Project- II the construction professionals believe that avoidance of accountability by various team members is the most responsible factor. Described non-accountability of a team as atmospheric ambiguity leading to low standard performance of the team. In a construction team engaged in a construction project, all practitioners involved are expected to be accountable as stated in the contract agreement and any shortcomings in its respect show the ineffectiveness, of the team.
4. The result from the analysis shows that in an effective construction team, accountability of team member results into a better cost delivery. Defined accountability as an obligation answer for a responsibility conferred. Construction team menders are expected to be accountable to other team members as this will have the greatest effect on the cost of the project. For an ineffective construction team, the cost performance of construction projects is most hindered by the lack of accountability of team members and this is in agreement with the result obtained for an effective team.
5. It can be summarized that team effectiveness is important in construction Project teams and project performance. The team effectiveness factors identified (team Goals and objectives, team leadership, team relationship, team roles and responsibilities, team communication, and trust and values) have an impact on the Performance of the construction project, specifically on project change management.
6. Healthy conflict among effective team members and fear of conflict among ineffective construction team members has the highest resultant effect on time performance of project respectively. Stated that without healthy conflict team's do-t make solid commitment to plan and take decisions. This supports the observation from experience and tradition that when construction team members cannot constructively disagree on how to meet up with project target, the resultant effects will lead to construction project time over
7. For Project-I, teams communication and trust & values within project teams also have an impact on the team performance. So there is should take care if this factor. Here they should maintain relationship between the team member and develop communication to avoid misunderstandings. It helps to increase trust and respect among the team member
8. Similarly for project-II, project team goals and objectives as well as team responsibility impact on team co-ordination. Their fore they need Special attention. Here for this project also they should increase their communication frequent absenteeism found to be teams roll and responsibility, so they should find the reason behind absenteeism.

V. CONCLUSION

This study presents the conclusions developed from the research of team effectiveness factors obtained from the literature review are Team Goals and Objectives, Team Leadership, Team Relationship, Team Roles and Responsibilities, Team Communication, and Trust and Values.

1. The construction industry is a complex and required tremendous capital outlays. Therefore, this study aimed to develop, to satisfy the construction teams, and to find out their factor, effect to ensure the successful and timely completion of the project in an estimated cost.
2. The study will contribute the field by giving knowledge about the teams. It will provide a guideline to know

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the conceptual framework of management of teams to this construction project.

3. The aim of the study is to investigate the factors responsible for the effective and ineffective team in the construction industry.

4. The team effectiveness factors obtained from the pilot study and literature review are Team Goals and Objectives, Team Leadership, Team Relationship, Team Roles and Responsibilities, Team Communication, Trust, and Values.

5. The study reiterated that healthy conflict among construction team member is a major factor resulting in an effective construction team while ineffective construction team is a product of avoidance of accountability among construction members.

6. Finally, it was also observed that in an ineffective team, project delivery depends on team goals and Objectives in construction team members.

7. Project teams communication has the greatest variation between the project teams. Project team Leadership is the only insignificant factor.

8. Team members' understanding of team effectiveness focuses on Team Goals and Objectives, Team Communication, and Team Roles and Responsibility to complete the project as expected by the owner. From the owner's perspective, a team should be able to work together and complete the project within the given timeframe and cost

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