

# Analysis of Critical Success Factors For Satisfactory Completion of A Construction Project

Sitaram Vishwakarma<sup>1</sup>, Rakesh Sakale<sup>2</sup>, Hirendra Pratap Singh<sup>3</sup>

<sup>2</sup>HOD & Prof

<sup>3</sup>Asst. Prof

<sup>1, 2, 3</sup> School of Research & Technology, People's University Bhopal (M.P.)

## I. INTRODUCTION

### 1.1 General Introduction:-

As construction is dynamic in nature due to the increasing uncertainties in technology, budgets, and development processes and hence it a risky business and the possibility of business failure always exists, companies have to consider the parameters that can have a direct effect to their success in business. In this study, the critical factors leading to construction company success will be investigated.

These days, building development projects are becoming very complex and difficult. The project team is facing unprecedented changes. These factors are called critical success factors (CSFs). The term "critical success factors," in the context of projects and the management of projects is defined as those factors predicting success on projects.

Achieving success is a highly critical issue for the companies to survive in a competitive business environment. The construction industry is also an area where there is strong competition due to a large number of construction contractors.

### 1.2 Indian Construction Industry:-

The construction industry was accorded industrial concern status under the industrial development bank of India. Now the construction industry is the second largest industry, next to agriculture. With increasing thrust on developing infrastructure and attractive concession appeasing private partnership in infrastructure projects, the Indian construction is already booming and is poised to see a bigger growth in future.

Some of the factors in favor of the Indian construction industry are availability of cheap labor, availability of qualified professionals, excellent opportunities at present and a large no. of construction companies. Some of the factors that go against the Indian construction are low productivity, low ratio of skilled to unskilled workers, high cost of finance and complicated tax structure, lack of

technological back up and have low technology base. So many foreign companies are lacking or not interested for partnership or to carry the work in India. But some Indian companies have shown the positive approach to follow the international standards like for tendering FIDIC system.

In modern world PMI defines project as a temporary endeavor undertaken to provide unique product or service. The product in case of construction projects is the constructed facility such as building, assembling of some infrastructure.

### 1.3 Methodology:-

The methodology adopted to achieve above objectives comprises of following steps:

1. Literature survey was carried to describe, summarize, evaluate, clarify or integrate the content of information regarding critical success factors for a project. The sources of information for Review Literature include journal publications, books, magazine articles, international agendas and reports.
2. Success criteria of project management in Indian environment are found out through literature review and actual case study.
3. A questionnaire was designed for the survey in residential construction project. Data collection is obtained from different sizes residential construction projects with the help of questionnaires prepared on basis of objectives. It aims at collecting information about the critical factors that can be attributed to the success of a construction project from the experienced professionals such as any engineer who worked or has been working in the construction field and owners who have experience in building construction projects.
4. To analyze and prepare the result depending on the data received from site. Data Collection and Survey will investigate the success factors in residential building construction projects Data analysis on the basis of survey responses received from expert

opinion, it will possible to identify critical success factors by analysis of those critical success factors.

## II. LITERATURE REVIEW

### 2.1 Introduction:-

Success is without doubt a large motivator in the outcome of any project, however, it could be argued as one of the most subjective turns of phrase that a client or project team will use. By knowing how to measure project success, it may also be possible to understand what factors can stop it from being achieved. Therefore, it is the aim of this study to gain an understanding of how project success is measured and in doing so clarify how critical success factors (CSF's) relating to project success are identified and managed. For this, a literature review with specific reference related to project success, project management success, critical success factors and management of project success factors was undertaken. There are many definitions of success. In recent years, there has been an increment in the studies of the critical success / failure factors specially in the project management subject.

The traditional method to success in the construction industry is to focus on the ability to plan and implement the projects. Conventionally, the success parameters for the projects in this industry are cost, time and quality [1]

Success means (gaining) advantage, superiority, victory, accomplishment, achievement, added value. [3]

The term "critical success factors," in the context of projects and the management of projects, was first used by Rockart (1982) and he defined it as under:

CSFs are those few areas of activity in which favorable results are absolutely necessary for a particular manager to reach his or her own goals...those limited number of areas where "things must go right." [3]

Anton de wit defines project success as project is considered an overall success if the project meets the technical performance specification and/or mission to be performed, and if there is a high level of satisfaction concerning the project outcome among key people in the present organization, key people in the project team and key users or clientele of the project effort. [4]

Traditionally the project success criteria mainly concentrated on three parameters, time, cost and quality of projects describes as the "iron triangle" by Atkinson. [5]

Pinto and Slevin, and de Wit viewed success as being judged by the degree to which project objectives have been met. These views centered on success of project management delivery processes and also acknowledged that project success is also a matter of the project stakeholder's perception of the value (in their terms) of what was delivered. [4, 6]

Project success factors defined by Cooke-Davies are the inputs to management system that lead directly or indirectly to success of the project. He tried to answer three basic questions in order to find out the critical success factors that affect the performance of any project. [7]

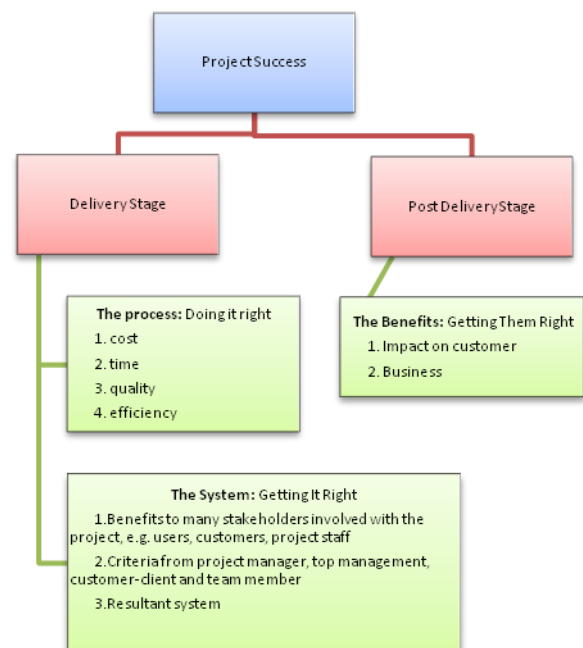


Figure No.-2.1 Model of Measuring Project Success

## III. STUDY OF CRITICAL SUCCESS FACTORS FOR A CONSTRUCTION PROJECT

### 3.1 CONCEPT OF THE CRITICAL SUCCESS FACTORS FOR CONSTRUCTION PROJECTS

Using success factors as a filter, management could identify the information that was most important to making critical enterprise decisions. CSFs provide a forecasting tool to enable parties to rapidly assess the possibility of a successful project from their viewpoint and are handfuls of things that must go right within someone's job for the organization to flourish.

The dictionary of business define critical success factors as Limited number of factors, activities, characteristics

or variables that have a direct and serious impact on the effectiveness, efficiency and viability of an organization or project. Critical success factor is a business term for an element which is necessary for an organization or project to achieve its mission. Business definition for critical success factor is that it is an element of organizational activity which is central to its future success and it may change over time, and may include items such as product quality, employee attitudes, manufacturing flexibility, and brand awareness. Critical success factors are normally identified in such areas as production processes, employee and organization skills, functions, techniques, and technologies. The identification and strengthening of such factors may be similar to identifying core competences, and is considered an essential element in achieving and maintaining competitive advantage.

### 3.2 IDENTIFICATION OF CRITICAL SUCCESS FACTORS FOR CONSTRUCTION PROJECT

For identifying the critical success factors, it is important to understand how they relate to the organization's strategic drivers and competitive environment.

CSFs have been used significantly to present or identify a few key factors that organizations should focus on to be successful. In actuality, its identification is a very iterative process. Steps to identify the CSFs for construction project are listed below:

1. Create project's mission and strategic goals.
2. For each strategic goal, ask "what area of project activity is essential to attain this goal?" the answers to the question are factors related to candidate.
3. Evaluate the list of candidate CSFs to find the absolute essential elements for achieving success which are nothing but Critical Success Factors.
4. Identify how to monitor and measure each of the CSFs.
5. Communicate CSFs along with the other important elements of project's strategy.
6. Keep monitoring and reevaluating CSFs to ensure project keep moving towards aims. These critical success factors are sometimes less tangible than measurable goals as it is useful to identify as specifically as possible how we can measure or monitor each one.

### 3.3 SUCCESS FACTORS IN A CONSTRUCTION PROJECT

The study of project success factors is a means of understanding critical success factors and thereby improving the effectiveness of construction projects.

Several success factors for the construction process are as follows:

- Clarity/ Definition Of Project Objective
  - a. To state clearly the expected end result, with consultation with the related parties.
  - b. To state the communicated and defined goal to all parties.
  - c. To state the clarified time and cost objectives.
- Scope Of Project
  - a. To state the general direction and define the client's requirement.
  - b. To present a clear design brief with minimal subsequent changes. A brief must be exact and owned by the client at the highest (strategic) level within the client and project organizations.
- Project Manager
  - a. The Project Manager is the key person in the project.
  - b. The most important element is that the project manager must clearly understand their role as project leader, clearly defining their extent of involvement, and the authority and control they exercise over personnel.
  - c. Personality – The project manager must have a personality which encourages respect from team players, associates and peers.
  - d. Leadership – The project manager should have leadership skills and be able to apply competent managerial skills. The project manager should have the ability to persuade other members of the group to their view, and be able to resolve conflict between parties.
  - e. Organizing – The project manager should be responsible for organizing, selecting and defining the responsibilities of the project team.
  - f. Coordinating – The project manager should identify interfaces between the activities of the functional departments, subcontractors, and other project contributors.
  - g. Controlling – The project manager should be responsible for monitoring progress, identifying problems, communicating the status of interfaces to contributors, and initiating and co-coordinating corrective action.

- h. Motivating – The project manager should motivate the project team to perform their duties, and also convince the project team to co-operate with each other.
  - i. Technical knowledge and experience – The project manager must possess good technical knowledge and experience, since most of the project is highly technical.
- Project Team Commitment
- a. All participants must understand and be dedicated and strongly committed to achieve, maintain and fulfill project goals.
  - b. All participants must be committed to the concept of project planning and control and must be able to put the concept into practice. They must understand the project management process, its purpose and values, and be committed to following the steps and necessary procedures.
- Capability And Cooperation
- a. All participants must possess adequate capabilities, including skills and experience.
  - b. All participants must retain appropriate interpersonal skills.
  - c. All participants must maintain a good working relationship between the client, the project team members and stakeholders.
  - d. All participants must sustain a healthy work attitude.
- Planning
- a. The plan, or schedule, should be prepared as early as possible.
  - b. The plan should be prepared with as much detail as possible, including during the design process and throughout its phases. The detail required includes individual actions for project implementation, the party responsible for each action (if known), and the technical standard required.
  - c. The plan should be realistic; it should identify the appropriate workload for the project team.
  - d. The plan must be updated regularly in order to keep pace with the project's development.
  - e. The team should be prepared to re-plan the job schedule to accommodate frequent changes on dynamic projects.
  - f. The team should incorporate detailed planning guidelines for termination.
- Control
- a. Schedule control – The project's managers and supervisors should jointly agree on intermediate milestones and build the detailed schedule around these. Successful project teams mark the achievement of milestones formally (for example by celebrating) in order to break the monotony of a long schedule into easily managed portions.
  - b. Costs control – Focus on tracking the money spent. This requires detailed actual costs, and one of the best monitoring aids is a plot of plan versus actual costs on a cash-flow curve, for example, an earned – value analysis system.
  - c. Quality control – Focus on ensuring the project reaches the agreed and designed level of quality. It must be closely scrutinized during the entire process.
  - d. Methods of control include regular meetings and day-to-day reports etc.
- Appropriate Size Of Work Package And Environment
- a. Divide the project tasks into appropriate sizes and identify the relevant parties responsible for each task.
  - b. Maintain the appropriate level of staff for the amount of work that needs to be done.
  - c. Consider the natural environment e.g. weather.
  - d. Consider sustainability, e.g. supply of materials.
  - e. Consider the political environment, e.g. the legal requirements of the regulatory authorities.
- Communication And Information Management
- a. Instigate and maintain adequate communication channels among the project team.
  - b. Ensure there is some way to manage the flow of information. The suggested methods of transferring information should include drawings, manuals, meetings and letters.
- Top Management Support And Health And Safety
- a. Provide the necessary resources, authority and power for performing the project.
  - b. Ensure legislative health and safety requirements are considered.

#### IV. SUCCESS CRITERIA OF A PROJECT MANAGEMENT IN INDIAN ENVIRONMENT

##### 4.1 RELATION BETWEEN SWOT ANALYSIS AND CRITICAL SUCCESS FACTORS

###### 4.1.1 Concept of SWOT analysis

In the years ahead, the construction industry in India has to overcome various challenges with respect to housing, environment, transportation, power or natural resources and hazards associated. Technocrats associated with the Indian construction industry need to employ innovative technologies and skilled project handling strategies to overcome these challenges. The outstanding performance under demanding situations in the past will stand in good stead and give confidence to the Indian construction industry to bring about an overall development in the infrastructure of the nation. SWOT analysis is an analytical method, which is used to identify and categorize significant internal factors (i.e. strengths and weaknesses) and external factors (i.e. threats and opportunities) an organization faces.

Specifically, SWOT is a basic, straightforward model that assesses what an organization can and cannot do as well as its potential opportunities and threats. The method of SWOT analysis is to take the information from an environmental analysis and separate it into internal (strengths and weaknesses) and external issues (opportunities and threats). Once this is completed, this analysis determines what may assist the firm in accomplishing its objectives, and what obstacles must be overcome or minimized to achieve desired results.

The CSFs can be determined simply by asking the question of the organization, “What factors affect our ability to get it right, or to realize our vision or to fulfill our mission, or to achieve our objectives?” It rather depends on the level at which you ask the question. The result might be a mixed bag of things, some of which may be more relevant to a process risk assessment. SWOT analysis techniques is used to measures a business.

The SWOT is a tool that identifies the strengths, weaknesses, opportunities and threats of an organization. It is just one method of categorization. Without a clear understanding of an organization’s strengths, weaknesses, opportunities and threats business plans may fail, goals will be missed. The analysis of strengths and weaknesses looks inwards on the organization, whereas the analysis of opportunities and threats looks outwards.

SWOT analysis aim to identify the key internal and external factors seen as important to achieving an objective. It is the foundation for developing tactics & strategies that become the road map for writing or planning business operating plans or strategies. Done properly, this analysis will give the big picture of the most important factors that influence survival and prosperity as well as a plan to act on.

The final step in the SWOT analysis is to identify quantitative measures for the critical success factors (CSFs). Critical success factors are often called value propositions as it represents the critical process in the firm that delivers value to the customer. Identifying critical processes and developing measures for the CSFs involves a careful study of the firm’s business processes. This analysis can be used as a guide for finding critical success factors. Product development, manufacturing, marketing, management and financial functions are investigated to determine in which specific ways these functions contribute to the firm’s success. The objective at this step is to determine the specific measures that will allow the firm to monitor its progress toward achieving its strategic goals.

The strengths and weaknesses analysis is an internal examination that focuses on your past performance, present strategy, resources and capabilities. It is based on an analysis of facts and assumptions about the company.

The opportunity and threat analysis is carried out by examining external factors in domestic and export markets. It serves to identify what is going on in the external environment that could affect the future direction of the organization or the success of a business proposition. This is usually broken down into environmental factors and competitors, including: Environmental Factors, Economic, Political/legal, Sociological, Environmental, Technology and Cultural.

Hence SWOT analysis is a helpful technique for deciding success factors for a construction project and it act as a guiding tool. Critical success factors are key areas which we can identify from conducting a SWOT.

###### 4.1.2 SWOT analysis in a construction industry

- **Strengths**

- i. Employment and training opportunities in the field of construction.
- ii. Private sector housing boom and commercial building demands Construction of the multi building projects on the feasible locations in the country.

- iii. Good structured national network facilitates the boom of construction industry.
  - iv. Low cost well- educated and skilled labour force is now widely available across the country.
  - v. Sufficient availability of raw material and natural resources in the country is supportive for the industry.
  - vi. Real estate development is on high and it is attracting the focus of the industry towards construction.
- **Weakness**
    - i. Distance between construction projects reduces business efficiency. Training itself has become a challenge.
    - ii. Changing skills requirements and an ageing workforce may emphasize the skills gap.
    - iii. Improvement in long-term career prospects is highly required to encourage staff retention and new entrants.
    - iv. External allocation of large contracts becomes difficult.
    - v. Lack of clearly defined processes and procedures for construction and its management.
    - vi. Huge amount of money needs to be invested in this industry.
  - **Opportunities**
    - i. Continuous private sector housing boom will create more construction opportunities.
    - ii. Public sector projects through Public Private Partnerships will bring further opportunities.
    - iii. Developing supply chain through involvement in large projects is likely to enhance the chances in construction.
    - iv. Renewable energy projects will offer opportunities to develop skills and capacity in new markets.
    - v. More flexible training delivery techniques are now available.
    - vi. Financial supports like loan and insurance and growth in income of people is in support of construction industry.
  - **Threats**
    - i. Long term market instability and uncertainty may damage the opportunities and prevent the expansion of training and development facilities.
    - ii. Current economic situation may have an adverse impact on construction industry.
- iii. Political and security conditions in the region and Late legislative enforcement measures are always threats to any industry in India.
  - iv. Infrastructure safety is a challenging task in construction industry.
  - v. Lack of political willingness and support on promoting new strategies.
  - vi. Natural abnormal casualties such as earth quake and floods are uncertain and can prevent the construction boom.
  - vii. Inefficient accessibility in planning and concerning the infrastructure.
  - viii. Competitors are emerging in the industry by leaps and bounds.

## V. STUDY OF CONSTRUCTION PROJECT PERFORMANCE-CASE STUDY

### 5.1 INTRODUCTION

For understanding construction project performance and influence of various success factors on their projects I did survey on various residential construction projects. I choose questionnaire survey method for collecting data. Data is collected by taking personal interviews of Different level management people having different positions in company from small, medium as well as large residential project. Then analysis of data collected is done for each company and critical success factors are found out.

The method used in this project consists of the following steps:

1. Development of a questionnaire to elicit information about critical success factors for residential construction projects as perceived by construction contracting organizations.
2. Conducting questionnaire survey through personal interviews.
3. Assessment of feedback from questionnaire survey to identify the major success factors for residential construction projects.

### 5.2 QUESTIONNAIRE DESIGN

A collectivity of data, in this project is done from each company rather than just collecting one individual's response from each company by taking their personal interviews.

In this project, questionnaire is chose as the method to collect data from different construction companies. There

are several reasons for such a decision. From the first principle of research, opinion collected from questionnaire survey from a sample is reflective of the opinion of the population besides; using questionnaire survey allows a great efficiency in collecting data in a rather short period of time and gives high flexibility to do different kinds of analysis based on the data collected.

A questionnaire was designed for the survey for small, middle as well as large residential construction company. Questionnaire helps to retrieve the useful information from different people to be used in the analysis of the data. Different level management people having different positions in company are included in this survey for taking different opinion to the values of the company.

By taking personal interview, data collected according to questionnaire and rating is given to each factor. Rating is done according to importance of each project success factor by means of scoring from 1 to 5. Five point Likert scale used to rate the factors on five-point scale, in which '1' represented least critical factor and '5' represented most critical factor.

Table-5.1 Showing the ranking criteria.

Rating	Score
Most Critical	5
Critical	4
Moderately Critical	3
Less Critical	2
Least Critical	1

The questionnaire had three parts,

Part I consisted of requesting respondent's personal information (e.g. Name, Age, Qualification, Designation, Experienced with that particular company and total experience in career)

Part II consisted of respondent's organization/company details (e.g. Company/Organization Name (current job), Location (City), Established in (year), No. of employees in office (Approximate).

Part III consisted of Questionnaire which was prepared after extensive literature review. The literature review was done through books, research papers, internet, and leading construction management and engineering journals. Through literature review, all the critical factors were identified. A total of 6 possible factors that were felt to have an effect on the construction business success of companies were determined.

These main factors are Project Related Factors, Project Manager Related Factors, Project Team Related Factors, Organization Related Factors, Environmental Related Factors Tools and Techniques Related Factors. Similarly, the sub-factors of these main factors were determined and they are 39.

## VI. COMPARISON & DISCUSSION

### 6.1 INTRODUCTION

The factors which are critical for achieving success for construction projects considered were identified based on a literature review. A total of 6 possible factors that were felt to have an effect on the construction business success of companies in residential construction are determined. These main factors are Project Related Factors, Project Manager Related Factors, Project Team Related Factors, Organization Related Factors, Environment Related Factors, Tools and Techniques Related Factors. Similarly, the sub-factors of these main factors were determined. Data collection is done from 7 different sizes residential construction projects related to these factors by taking personal interview from different managerial level from each company.

The discussion of this overall project is done in short as follows:

1. Nowadays, building projects are becoming much more complex and difficult. The project team is facing unprecedented changes. The study of project success and the critical success factors (CSFs) are considered to be a means to improve the effectiveness of project. The purpose of this study is to systematically investigate the causes of project failure and how these can be prevented, managed, or controlled. Constructions projects are frequently influenced by success factors which can help project parties reach their intended goals with greater efficiency. This study investigated the critical factors leading to construction company success. any critical success factors such as factors related to project manager's performance, factors related to organization, factors related to project, factors related to external environment became apparent from this study This study will helpful to identify which factor influence the project success.
2. A building project is completed through a combination of many events and interactions, planned or unplanned, over the life of a facility, with changing participants and processes in a constantly changing environment. Certain factors are more

critical to a projects success than others. These factors are called critical project success factors. Critical success factors are important influences that contribute to project success. So, critical success factors are the set of circumstances, facts or influences which contribute to the project outcomes.

3. Literature review on critical success factors, it was found that all research work is done only on finding general critical success factors for construction industry rather than providing CSFs for a particular project. In Indian context, all work is done for finding critical success factors affecting schedule and quality performance. This study provides a frame structure for grouping CSFs for residential construction projects in Bhopal Madhya Pradesh in more systematic way and it demonstrated the interaction between the factors, how the project would be affected by these factors and whether the outcome is success or failure.
4. CSFs have been used significantly to present or identify a few key factors that organizations should focus on to be successful. These elements are vital for a strategy to be successful. Developing and communicating a set of CSFs can reduce the dependence on the perceived aims of the organization and it reflect the implicit, collective drivers of key managers and as a result are a more dependable and independent articulation of the organization's key performance areas.
5. Building projects are now much more complex and difficult and hence companies have to develop appropriate strategies to be more competitive in this industry and get success in their businesses. Hence Industrial critical success factors are things that the organization must do to remain competitive. A unique set of CSFs that particular construction project must achieve to maintain or increase their competitive positions, achieve their goals, and accomplish their missions. Failure to achieve these CSFs may render the organization unable to stay competitive in its industry and may ultimately results in its exit.  
Executive-level managers must Categorizing a CSF as either internal or external as it is important because it can provide better insight for managers in setting goals and they should focused on the external environment in which their organizations live, compete, and thrive.
6. The method of SWOT analysis is to take the information from an environmental analysis and separate it into internal (strengths and weaknesses) and external issues (opportunities and threats).The

analysis of strengths and weaknesses looks inwards on the organization, whereas the analysis of opportunities and threats looks outwards. SWOT analysis aim to identify the key internal and external factors seen as important to achieving an objective. The final step in the SWOT analysis is to identify quantitative measures for the critical success factors (CSFs).Hence SWOT analysis is a helpful technique for deciding success factors for a construction project and it act as a guiding tool.

7. Project success criteria differ from persons to persons depending on their role in that project. The factors of importance range from meeting internal budgets to professional satisfaction and on to producing a job that will help the firm obtain repeat business or serve as a marketing tool for similar projects with different clients. An experienced designer serving as a project engineer may be concerned about meeting internal budget criteria as well as meeting the client's needs. A less-experienced designer working at a lower level of responsibility may consider the opportunity to gain valuable design experience as success criteria and be less concerned about meeting the internal budget.
8. When average of all success factors related to project, project manager, team members, organization, environment and tools and techniques related are taken then following factors are found critical for achieving success for construction projects.
9. Uniqueness of project activities, Effective leadership and Motivation and goal orientation, Ability to handle unexpected crisis and deviations from plan and Level of trust among team members, Top management support, Client knowledge and experience, risk analysis are found most critical success factor for large companies.
  - a) Adequate funds and resources, Effective leadership, Ability to handle unexpected crisis and deviations from plan, Top management support, Economical, risk analysis are found most critical success factor for medium companies.
  - b) Clear goals and objectives and Uniqueness of project activities, Motivation and goal orientation, Technical background of project team, Top management support, Technological, risk analysis are found most critical success factor for small companies.
10. For finding critical success factors for residential construction projects, data collected from different sizes project and from analysis of that data it is found that Effective conflict resolution related to project manager is critical success factor except for Signature



Group having score 66.7 and Mahindra Builders with score 65.7 for this factor.

I would suggest that project manager of these two companies should utilize project management principles, understand the dynamics of conflict, and learn approaches to conflict resolution. Project managers will be able to establish an environment in which creativity and innovation is encouraged and project goals are accomplished. They should concentrate on building an atmosphere designed to reduce destructive conflict and deal with routine frictions and minor differences before they become unmanageable. The key to resolving conflict with a positive outcome includes looking for a win-win situation, cutting losses when necessary, formulating proactive conflict management strategies, using effective negotiation and communication, and appreciating cultural differences among project stakeholders.

11. Top-management support is on everyone's list of critical success factors (CSFs). In fact, it is usually at the very top of the list. Fail to get it, we are told, and the project stands little chance of succeeding. Top Management Support is when high level managers in a corporation seek to help lower-level employees to develop entrepreneurial behavior.

I suggest that top management should motivate Project managers and team members to finish a project successfully. Motivation comes in many forms, and one of them is to provide monetary or other rewards for successful projects. Basing a portion of persons, annual bonus on the overall success of a project is a method to encourage team members in a project.

12. From analysis of data collected from different sites, it is found that level of trust among team members is one of the critical success factor. Today, with business competition, customer expectations, new technology, and many other developments, build teamwork in organization is more critical than ever to. Team members need to be taught from the start that building trust between the team members is key element critically important to achieve success.

In Amaltas India Ltd. and Fortune Group, it was found that there is lacking of trust among team members. So I would suggest that these two companies should focus first on building trust between their team members by getting team members to open up among the team and expose their weaknesses and fears to each other. Until everyone is willing to trust the other members of the team,

progress towards team success will be limited and may affect success of that company.

## VII. CONCLUSIONS

### 7.1 CONCLUSIONS

All over the world and most especially in the developing countries, the construction industry is characterized by repeated delays and cost overruns. In India, the industry has been bedeviled by a myriad of problems ranging from problems related to project team up to problems related to organization.

This cross sectional survey study aimed to determine the critical success factors for a construction industry. Data was collected by visiting the residential construction sites & structuring the interviews. Data was analyzed in terms of factors which are responsible for achieving project success and on the basis of this study the conclusion was elaborated as below :-

1. Construction project is a complex and dynamic process which involves identifying and conveying clients, actual needs and requirements accurately to the project team. Therefore, this study defined a set of conditions or factors that, when thoroughly and completely applied, ensures the successful completion of the construction project.
2. The study will contribute to the field by integrating knowledge about critical success factors. By learning which critical success factors are perceived as most influential, this study can lead to better performance within construction industries.
3. The results of the study will reveal that there are different sets of construction success factors for different objectives they are likely to improve success in building construction projects.
4. The set of critical success factors obtained in this study can serve as a checklist for practitioners when conducting briefing in their construction projects and also be considered as the foundation for further quantitative studies such as using factor analysis to determine the CSFs for briefing in general, as well as for specific types of projects such as hospitals or hotels.
5. Success criteria are the standards by which a project will be judged, while success factors are the facts that shape the result of projects. It is these that must be tracked to be able to answer the question of whether your project has delivered any benefits. Assessment on project success should be done by different

stakeholder groups such as customers, managers, employees, stockholders, etc. Thus it was proposed that the criteria for assessing project success should reflect different stakeholders view.

6. Success criteria have changed considerably through time and moved from the classic iron triangle's view of time, cost and quality to a broader framework which includes benefits for the organization and user satisfaction. Success criteria are the standards by which the project will be judged to have been successful in the eyes of the stakeholders. For deciding success criteria for construction project, SWOT analysis is used to categorize internal and external success factors for projects.
7. Uniqueness of activities estimates the effort, time, and resources needed to complete project activities this is because of the inherent uncertainty associated with many activities is one of the critical success factor related to project. Hence special attention should be given on this factor for achieving success.
8. The project manager needs to be an effective and clear leadership with the power to create objectives and plans, to handle contracting issues and to approve changes in work. A successful PM has self-motivation and goal orientation and skills to confront and challenge adversity. Thus Effective leadership and Motivation and goal orientation are critical success factors for a successful project.
9. Active and visible support from the management of the organization, often in the form of a champion for the Application or supporting the project team throughout the completion of a project is also critical success factor.
10. Construction project is a complex and dynamic process which involves identifying and conveying clients, actual needs and requirements accurately to the project team. Therefore, this study defined a set of conditions or factors that, when thoroughly and completely applied, ensures the successful completion of the construction project.

Briefly it was concluded that for successful completion of a construction project various factors are responsible but among those some factors are more critical for achieving success than others. These critical success factors found in this project are top management support, risk analysis, technical background of project team members, technological factor, effective leadership and motivation and goal orientation of project manager.

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