

Identification of factors influencing the success of a construction projects

Ms. Ankita U. Kalwane¹, Prof. Ashish P. Waghmare²

¹ M.E student Dr. D.Y. Patil SOET Pune, Maharashtra, India

² Prof. Ashish P. Waghmare PG CO-ordinator Dept. Of Civil Engg. Dr. D.Y. Patil SOET Pune, Maharashtra, India

Abstract - : The investigation of critical success factors is a method for enhancing adequacy and productivity of projects. The concept of success of construction projects and literature review of critical success factors is discussed in this paper. Critical success factors have been recognized in different settings however there is no broad agreement. The vast majority of these reviews are excessively non specific and offer a conversation starter of relevance on a particular industry, for example, construction industry. Along these lines, the motivation behind this paper is to distinguish critical success factors through a critical writing with unique consideration on project execution phase of construction projects. The review looks to give a superior comprehension, understanding and investigation of the critical success factors that are basic to the achievement of any compelling construction project and the path forward. The research findings will be expected to assist the organization in evaluating the performance of project management. This paper concentrates the diverse elements influencing success of construction projects in view of literature survey.

Key Words: critical success factors, construction projects, Project Management, Project Success, project success criteria, contractors

1. INTRODUCTION

The construction industry is progressive in nature because of the expanding vulnerabilities in technology, budgets, and improvement forms. These days, building projects are turning out to be a great deal more unpredictable and troublesome. The project group is confronting exceptional changes. The investigation of project success and the critical success factors (CSFs) are thought to be a way to enhance the viability of project. However the idea of project success has remained equivocally characterized in the psyche of the construction experts. Different endeavours were made by various researchers to decide CSFs in construction. Various factors affecting project success have been proposed. A few factors are basic to more than one rundown, yet there is no broad concurrence on the factors.

Locally and in addition all around, construction industry faces critical difficulties and troubles, some of which are one of a kind to the particular industry and some are setting particular. Construction industry, by its temperament, is a mind boggling, extend arranged, high hazard, and focused business. Construction extend disappointments are progressively reported far and wide and making progress of construction projects is turning out to be to a great degree troublesome in today's turbulent surroundings. Along these lines, discoveries of this review will be instrumental for experts, professionals and for project management group of information.

At present, the world is seeing construction impacting. Benefit and success are viewed as the primary drivers of any organization. Making progress is generally in light of many factors which have coordinate impact on the execution of organizations. In construction organizations, it is more hard to accomplish or keep up a logical procedure to gauge their present success because of the differences and many-sided quality of construction organizations

2. LITERATURE REVIEW

2.1 Project management

Project management has developed over the past couple decades as researchers and professionals have endeavoured to recognize the reasons for project disappointment and the different factors that prompt to project success. Conventional project management abilities were produced from the prerequisites of construction and guard ventures to arrange, control and oversee substantial and complex "tangible" projects (Morris, 1994; Bourne and Walker, 2004). From these emerged the supposed "hard" ideas of project success criteria as controlling and overseeing timetable, cost and extension. Project Management can likewise be viewed as being about overseeing change (Cleland, 1995; Bourne and Walker, 2004) also, project administrators ought to view themselves as change operators adding to the Project Management part an extra concentrate on alleged "soft" parts of relationship management (Bourne and Walker, 2004). Moreover, according to Bourne and Walker (2004) in many associations, project administrators are responsible for the

successful conveyance of finish projects. Progressively, this success relies on upon project administrators' handling and using abilities and skills that may at first seem opposing. A successful project director must show adaptability and competency in numerous territory, hard and soft abilities, independent and intelligent, outgoing and social conduct. A significant number of the activities for enhancing the practice and calling of project management have been centered around upgrading systems and technique connected with abilities that included viable management of time, cost and degree. Hendrickson and Au (1989) called attention to that the management of construction project requires information of cutting edge management and in addition a comprehension of the outline what's more, construction process. In particular, project management in construction includes an arrangement of destinations which might be refined by actualizing a progression of operations subject to assets requirements.

2.2 The practice of project management

According to Tan (1996), project management idea and systems can be connected to any project extending from basic assignment, office redesigns or restoration to mind boggling and convoluted projects like the outline and construction of an airplane terminal or healing center complex. Any project requires the application of workmanship and exploration of project management. The level of technology required the level of complexity of the devices and strategies in addition to the sorts and number of work force included will rely on upon the size multifaceted nature or nature of the project. Hendrickson and Au (1989) called attention to that the management procedure approach accentuates the precise investigation of management by recognizing management works in an association and after that inspecting each in detail. There is general assent with respect to the elements of arranging, sorting out and controlling. The project director's employment is viewed as planning a procedure of interrelated capacities that are neither absolutely arbitrary nor inflexibly foreordained however are changing as the procedure advances. Besides, the management science and choice bolster approach adds to the advancement of an assemblage of quantitative strategies intended to helps chiefs in settling on complex choices identified with operations and creation. In choice emotionally supportive network accentuation is set on giving supervisors with significant data.

2.3 Critical success factors (CSFs)

From a Project Management point of view, critical success factors (CSFs) are qualities, conditions, on the other hand factors that can significantly affect the success of the project when legitimately supported, kept up, or oversaw (Milosevic and Patanakul, 2005). Diverse reviews have distinguished distinctive CSFs furthermore, an absence of accord among researchers on the criteria for judging project success and

the factors that impact that success (Fortune and White, 2006). What's more, a few reviews tending to CSFs have watched the effect of setting on which factors are viewed as most critical and in addition whether certain CSFs are for sure identified with success. In most construction organizations, management exercises in construction project can be a superior comprehension by investigating the critical success factors (CSFs) for enhancing the execution of their building projects. The CSFs approach has been set up and advanced in the course of the most recent 20 years (Chan, et al. 2004). The greater part of the reviews just stressed the critical project ascribes special to green building projects, for example, early association of the project colleagues and coordinated project conveyance techniques, which are typically not distinguished as imperative success factors for making strides project execution as far as cost, time and quality by most past researchers (Lapinski et al. 2006).

3. RESEARCH METHODOLOGY

The findings of the research will be mainly through literature review and questionnaire survey. A questionnaire will be sent to experts in the construction industry to get response for which factors affect the success of construction projects according to their professional experience. Further, for future study to analyse the critical success factors for construction projects, factor analysis and regression analysis methods can be used. As the critical success factors will be identified, proper recommendations will be given to improve the success factor of construction projects. The different factors affecting the success which were added in questionnaire are given in Table 1.

Table -1: Critical success factors

Categories	Critical Success Factors
Project Characteristics	Political Support
	Social Support
	Technical Approval Authorities
	Economic environment
	Physical environment
	Adequacy of Funding
	Constructability
	Project Size
	Project value

	Project nature
	Site Condition
	Project Planning
	Project Control
	Project Technical Feasibility
	Attempting to deliver projects systematically
	Favourable location of project
	Competition in market
	Delay in material delivery
	Damage of materials when it's need urgently
	Complexity of the project
	Developing an appropriate organisation structure
	Effective planning
	Proper coordination of projects
	Cross project coordination
	Simplicity of programme
	Subcontractors' support
	Rapid changes in the national economy/ economic environment
	Bribe/corruption and favourism
Technical Factors	Geotechnical conditions
	Advanced technology
	Quality of work
	Workmanship and work

	method
	Availability of resources
	Changes in material types and specifications during construction
	Shortage of construction materials
	Strategic focus on programme
	Easiness of techniques used
	Reluctant in using innovative building materials
Contractual Arrangement	Risk identification & Allocation
	Adequacy of plans & Specification
	Formal Dispute Resolution Process
	Realistic cost & Time Estimates
	Formation of strong partnership
	Delay in project approval
	Selecting right partner
	Pricing method
	Tendering method
	Instability and inefficiency of government policies and legal system
	Construction regulations and standards
Financial Characteristics	Availability of financial resources before project execution

	Estimated financial budget
	Bank's policy for the type and quantity of financial recourses
	Company's cash availability during construction
	Client's availability of funding during construction
	Client's emphasis on low construction cost
	Regular budget update
	High inflation rate/ fluctuation rate of material price
Project participants	Clarity of roles and responsibilities
	Project team leader's experience
	Competency of project team member
	Technical skills of project team leaders
	Project manager commitment & involvement
	Capability of project team member
	Top management support
	Project team track record
	Project team level of service
	Project leader stability
	Motivating skills of project team leaders
	Project team members adaptability to

	changes in the project plan
	Awareness and knowledge of the process for implementation of project
	Education and training of risk management
	Cross discipline coordination
	Effective performance management
	Cross discipline problem solving
	Positive attitude of project participants
	Timely decision by the client or his engineer
	Provision of project guidelines to project participants
	Encouraging new ideas by project participants
	Effective monitoring and feedback of project participants
	Frequent project monitoring/ progress meetings
	Effective allocation and control of manpower
	High degree of trust shared by project participants
Interactive Process	Construction Communication
	Functional plan
	Design complete at construction start

Level of skilled labour required
Report updates
Budget updates
Design control meetings
Construction control meetings
Site inspection
Work organization chart
Motivational factor
Relationships
Quality control & assurance
Health and safety programme
Technology transfer
Access to risk management system's consultants
Client satisfaction
Unclear and inadequate details by the client
Interference of client in contractor's construction methods
Feedback capabilities of client
Clients emphasis on high quality construction
Clients emphasis on quick construction

CSFs may likewise be connected, in any case, may never be the same. To successfully oversee construction programs, the program management groups are required to nearly inspect and set up those factors that are critical to the success of their projects. In accordance with these surges of thought and the results of the discourses above, more observational looks into are required on the relationship of human resource management related critical success factors with project success and authoritative success in construction project management setting. Contemporary experimental research on inside administrative factors will enormously instrumental for the advancement of the industry.

REFERENCES

[1]Chan, A.P.C., Ho, D.C.K. and Tam, C.M. (2001). "Design and Build project success factors; Multivariate analysis." *Journal of Construction Engineering Management*, 127(2), 93-100.

[2]Chan, A.P.C., Scott, D. and Chan, A.P.L. (2004). "Factors affecting the success of a construction project." *Journal of Construction Engineering Management*, 130(1), 153-155.

[3]Chan, D.W.M., and Kumaraswamy, M.M. (2002). "Compressing construction durations: Lessons learned from Hong Kong building projects." *Int.J. Proj. Manage.* 20(1), 23-35.

[4]Lapinski, A., Horman, M. and Riley, D. (2006). "Lean processes for sustainable project delivery." *Journal of Construction Engineering Management*, 132(10), 1083-1091.

[5]Forcada, N. et al. (2008). "Experiences of Success in Industrial Plant Projects." *Revista Ingeniera de Construction*, 23(1), 82- 89.

[6]Jha, K. N. and Iyer, K. C. (2006). "Critical Factors Affecting Quality Performance in Construction Projects." *Total Quality Management*. 17(9), 1155-1170.

[7]Munns, A. K., and Bjeirmi, B. F. (1996). "The role of project management in achieving project success." *International Journal of Project Management*. 14(2), 81-87.

[8]Ofori, G., Brittfett, C., Gu, G., and Ranasinghe, M. (2000). "Impact of ISO 14000 on construction enterprises in Singapore." *Construction Management Economy*, 18(8), 935-947.

[9]Pinto, J. K. and Slevin D. P. (1989). "Critical success factors in R&D projects". *Research Technology Management*, 32(1), 31-35.

[10]Pinto, J. K. and Slevin D. P. (1988). "Critical success factors in effective project implementation." *Project management handbook*, D.I. Cleland and W. R. King, eds, Van Nostrand Reinhold, New York, 479-512.

3. CONCLUSIONS

The effective program management however has its foundations in the project management, however the two are not the same; thus the two however are connected yet their