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Critical Success Factors for the 'Start-up Projects' in India

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Abstract: This study deals with exploration, identification and study of Critical Success Factors (CSFs) that influence the project performance with particular reference to 'Start-up Projects' in select industry sectors such as engineering, infrastructure, construction, telecom and software projects, especially in India. It is clear that the 'strategic intent' that gives birth to a project, is to bring about certain changes that are necessary for organizational effectiveness. Thus, the projects, particularly the start-up projects, must have a strong link with the 'Business Strategy' of an organization. In practice, however, the 'Project Performance' is influenced by the 'Business Environment', technology changes and notably the market factors and the expectations of a variety of stakeholders.

The research undertaken is based on 30 case studies across a few industry verticals. The main aim of this study is to understand Critical Success Factors (CSFs) that affect the success probability of the start-up projects, especially in India. It was additionally important to find out if the conventional CSFs are adequate to manage project progress, or, if there is a need to enlist additional success factors for start-up projects, especially in India. The data about the 30 cases was compiled based on field work, questionnaire and personal interviews with project personnel. The data compiled was thoroughly analyzed and subjected to statistical analysis for validation of the results obtained from the study.

The analysis indicates that there is a strong case for incorporating two additional CSFs namely, 'Flexibility in Planning' and 'Dynamic Feasibility Study' for inclusion in the list of CSFs, especially for Indian Start-up Projects. Inclusion of 'Flexibility in Planning' envisages multiple levels, namely organizational, strategic, and operational levels. 'Dynamic Feasibility Study' is essential since the current static; one time approach to feasibility assessment is no longer valid when the project environment undergoes major changes. Additionally, it is seen that 'Risk Management' and diligent analysis of 'Scope' need specific formal attention from the project teams.

Keywords: Start-up Projects, Project Success, Success Criteria, Critical Success Factors, Engineering Projects, Developing Economy, Flexibility, Dynamic Feasibility Study (DFS), Preliminary Project Feasibility Study (PPFS)

Introduction

This study deals with identification and analysis of some critical success factors with particular reference to large infrastructure/ construction projects and start-up projects in select sectors (such as engineering, infrastructure, and software projects) and a few projects in infrastructure/ construction industry. The research is motivated by a need to understand the issues and difficulties faced by project managers responsible for executing large infrastructure/ construction projects as well as start-up projects in developing countries, specifically in India.

Motivation for Research Study

The notion of a project is obtained through various 'definitions' available in the literature. Turner (1999) in his *Handbook on Project Management* states, 'a project is a temporary organization to which resources are assigned to do work to deliver beneficial changes.' According to the Project Management Body of Knowledge (PMBOK, PMI USA 2013) of the Project Management Institute (PMI), a project is a 'temporary endeavour undertaken to create a unique product or service'. Implicit in these and other similar definitions is that a project is undertaken to bring about beneficial change to the organization or society, and that it has a definite beginning and end. While a project is usually time-constrained, it can often be constrained by funding or technical resources as well.

The 'Strategic Intent' for taking up a project is to bring about certain changes that are necessary for organizational effectiveness and improving the competitive edge in the market place. Thus, the projects undertaken will have a strong link with the business strategy of an organisation. In this sense, the success of a project decides the strategic change in organizational positioning and stance. Additionally, since projects are taken up for executing organizational strategies, 'Project Performance' is influenced by the business environment, notably the market factors and the expectations of a variety of stake holders. Hence, it is crucial that the projects undertaken must succeed to ensure achievement of the organizational goals set by the management, based on the 'Strategic Intent' that gives birth to a project.

Objectives Concerning Study on CSFs

- To examine the conventional notions about Critical Success Factors (CSFs) for projects (conventional parameters such as Scope/ Time/ Costs/ Quality/ Risk and Customer satisfaction) be used for predicting success of large Indian projects or there is a need for few additional factors that may be useful in the Indian context.
- To identify and define/ conceptualize additional CSFs for evaluation of Indian projects, if need be, that truly represent the CSFs for large Indian projects and start-up projects.
- To rank basic CSFs and generate list of context specific CSFs for the select industry segments (mainly for infrastructure/ construction industry and start-up projects in India).

Literature Survey (Project Success and Failures along with Critical Success factors)

The classical view of project management is based on the control paradigm. Accordingly, several researchers have devoted the attention to identifying, monitoring, measuring, and controlling some critical parameters that can lead to project success. Some of the control processes are: set standards, design review metrics and mechanisms, MIS design with progress reporting tools, and assignment of expert personnel to take critical decisions during execution. With the control

function in place, it is hoped that the desired project outcome is ensured. Through intricate incentives, the project control group endeavours to help the project team achieve and exceed the expectations of the owners and users for overall satisfaction of all the stake holders of the project.

However, in practice, the design of Project Control function faces additional challenges in comparison to operational control. Since projects are generally woven around changes in the business environment, they carry the seeds of 'Uncertainty' throughout the life cycle. This makes the task of Project Control function ever challenging and interesting at the same time. From this point of view, the current research context on Project Control activity to identify metrics around Critical Success Factors (CSFs) assumes both theoretical and practical importance. A deep knowledge of relevant CSFs can help anticipate problem areas and mitigate the project impediments/ risks right from the beginning and improve probability of success for the projects at large.

The authors have carried out study of over 250 articles and few theses and have shortlisted over 184 factors that are indicated important for project success. These CSFs were further analyzed and grouped in 19 CSF groups after avoiding duplications and logically organizing the groups. 19 CSF groups cover over 72 (68 sub-factors and 4 factors for Diamond analysis). Such factors were covered in the special questionnaire designed for the study. The basic data was compiled based on the questionnaire and personal interviews during the process of field work.

Project Success and Failure

In spite of research on project management theory and practice over the past five decades, there is no consensus on what project success means. Guru Prakash Prabhakar, (2008) has carried out extensive research project success and has pointed to many aspects where there is no specific agreement about exact definition of 'Project Success'. Every researcher has seen different aspects from unique perspective about project success. Some of these opinions are specified below for reference. The project success review carried out by Guru P. Prabhakar (2008) has provided rich inputs for the listing of issues that lead the project towards success or failure. Similar research study has been carried out by Lavagnon (2009) and his findings are also very useful in understanding concepts and ideas that determine success or failure of projects and help in compiling the list of CSFs for the study. The literature review indicates that 'Project Success' has to be seen from 'Project Success of the Project Outcome' and also from the point of view of 'Project Management Processes' point of view. This aspect has been studied well and has been incorporated in the analysis and conclusions of this research.

Critical Success Factors

Critical Success Factors (CSFs) are such parameters and issues concerning project that have significant impact on the outcome of the project in a competitive market environment. Critical success factors (CSFs) are characteristics, conditions or parameters that can significantly improve probability of success of the project. Obviously, CSFs have to be only few and manageable so that

they are useful and effective for the Project Managers (PMs). It is expected that close watch on these factors can improve control over the project activities so that the set goals can be achieved.

The concept of CSFs was originally provided by Ronald (1960) and was further studied by Rockart (1970). Rockart (1970) defined CSFs as: 'CSFs are a limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organization/ project. They are the few key areas where thing must go right for the business to flourish. If the results in these areas are not adequate, the organizations' efforts for the period will be less than desired.'

Effective control over CSFs helps improve the probability of success of the business endeavour or the project. Some of the CSFs help determine success of the project directly, while others help improve the value of the outcome of the project as such. This distinction is relevant while classifying the CSFs into various classes for further analysis. CSFs that are useful for deciding the strategy for the organizational project initiatives are the core CSFs and the other CSFs in the supportive group help in improving operational efficiency and help in bring clarity and purpose in every step of the project activity in the light of the overall value of the project.

Flexibility for Better Success of Projects

It has been noticed (based on the case studies carried out) that 'flexibility' for effective project management in terms of approach, methods and plans could help improve the probability of success for projects in general and for Indian projects in particular. It is abundantly clear that flexibility does not mean Laissez-Faire approach to project management and methods. 'Flexibility' appears to be a critical success factor (CSF) for better project management based on the observations from the field work carried out for 30 case studies. The analysis of the data and statistical analysis of the same strongly indicates the need to include "Change Management and Flexibility' appears to be a potent candidate for inclusion in the list of 'Basic' CSFs list. The following sections give more specific details of the observations and some comments and discussions about the issues identified. It is suggested that 'flexibility' needs to be provided at three levels, organizational, strategic, and execution levels in the project life cycle. The type of flexibility and the organizational level at which it can be allowed to operate are indicated below:

For the 'flexible' approach, the project personnel must have the following organizational roles at suitable levels in the project organizations:

- Organizational Level Flexibility should be at Level of the Board of Directors for the project performing organization
    - Organizational structure for the project
    - Organizational policies and work norms
    - Finance and re-finance based on revised feasibility studies

- Strategic Level Flexibility should be managed by the 'Project/ Program' Director/ Managers who should raise a particular issue with Board Members if the need be.
    - Strategic Flexibility—due to significant changes in market/ economic conditions
    - Strategic Flexibility—Technology changes and technical environment
    - Strategic Flexibility—Proactive actions by competitions for market leadership
    - Strategic Flexibility—Availability of funds and access to additional funds
    - Strategic Flexibility—Choice of partners and investors
- Execution Level Flexibility can be managed by Project/ Program Managers.
    - Operational Flexibility—Scope Management (when there is significant changes in scope)
    - Operational Flexibility—Risk Management (when there is unprecedented risk)
    - Operational Flexibility—HR issues to ensure motivation and satisfaction of teams
    - Operational Flexibility—Provision of right infrastructure

The authors would like to point out that these ideas look very normal and logical in theory but is hardly observed in reality. The future project managers will have to learn to pay specific attention to this aspect (and at times demand the appropriate authority and flexibility in decision making) if projects have to complete successfully. Flexibility has to be used in case of very major changes in the project environments and has to be used in consultations with the appropriate project authority at an appropriate level. The following paragraphs explain the background and situations involved.

Role of Flexibility as a CSF

Although one can say that the scope of the new start-up and infrastructure projects must be frozen in advance and there should be good clarity about what is the expectation from the project, in practice the truth is far from such considerations. While the scope of the work need not be cast in stone and needs some flexibility, a self-correcting mechanism is also needed. It may be noted that 'flexibility' as a CSF is not emphasized by any of the previous research to the best of our knowledge. Although it is understood that flexibility can be useful in managing uncertainty in project environments (Pundir *et al.*, 2012 and Shahu *et al.*, 2013, *Kelkar et al.* 2015, 2016), not much research is available in the precise mechanisms for using flexibility to manage uncertainty in start-up projects.

Our proposed inclusion of 'Flexibility' as one of the key CSF is based on the insights gained during the analysis of the case data compiled. Flexibility in this regard may mean alterations/

tweaking of the 'strategic intent' itself for the project due to specific new project environment that will lead to drastic changes. One has to admit that such occasions are few but if there is one on the horizon then flexibility helps the PM to address changes to the scope/ time/ cost/ quality/ risks and customer satisfaction (that are already accepted conventional factors chosen as CSFs) for the projects. The 30 case studies undertaken clearly point to a few projects where such drastic steps had to be taken.

Dynamic Feasibility Studies

A critical aspect of any feasibility study is to ensure that there are more than fair chances for the project to succeed and help fulfill the strategic intent of the organization. Feasibility studies are futuristic and provide basic guidelines for project team to prepare project plans and budgets for the proposed activity. In spite of good planning, there could be a gap between plans versus actual reality. Feasibility studies will help the PM to effectively manage the gap since the PM is made aware about possible impediments through the FS. This is the time one needs to realize that the project plans and scope should provide for flexibility to make suitable changes in the plans and scope, and tweak the expectations. This is crucial for many start-ups since even after lot of market surveys and analysis, the issues involved get clear only when the execution actually happens. Based on the findings of the 30 case studies, more than 15 PMs have suggested that some form of dynamic Feasibility Study should be included as one of the CSFs for Indian projects. It is therefore proposed to include 'Dynamic Feasibility Study (DFS)' as a CSF to be included in the list of CSFs for Indian projects, especially for start-up projects and Infrastructure/ Construction projects. Before even the formal project feasibility analysis, one can consider a 'Pre-Project Feasibility Study' (PPFS). Pre-project Feasibility Study (PPFS) is prepared before the project idea is formally selected and approved for the work to start. At this stage, the proposed business case is thoroughly analyzed and areas of concerns and issues that may pose as challenges/ risks in the tenure of the project are detailed out. The findings are then compiled in the form of a draft report and submitted to the senior management. Typically, at this stage, more than one possible way to handle the business problem are analyzed and presented to the senior management of the organization. Senior management along with the experts (Internal and External) reviews all the findings and then selects one of the approaches for further analysis. This part of the process could be iterative. The study team now carries out the detailed analysis (SWOT) of the chosen alternative and prepares the final PPFS for the approval of the senior management.

The Case Study based Data and Observations Support Such Findings

In order to avoid these traps, the concept of 'Dynamic Feasibility Study' (DFS) is recommended to be incorporated as an important step in the processes groups of project management. We define Dynamic Feasibility Study (DFS) as the recasting of the feasibility study when one faces unprecedented situations that call for 'revisiting the project plan by going back to the drawing board for recasting the entire project plans in such drastically challenged situation' to ensure project feasibility in the changed environment.

In reality, there are few situations that may call for such drastic measures in the project expectations where there is pressing need to go back to the drawing board and recast the entire project plan. The indicative situations that may need DFS approach are specified below for quick reference.

1. Major upheavals/ changes in the market need that renders the current project redundant unless the basic assumptions are modified to suit the new environment. Such changes are likely to affect the 'Strategic Intent' of the organization that gave birth to the project was given the birth may get nullified or needs to be tweaked due to the changes.
2. Introduction of 'Competitive Technologies or Competitive Strategies' introduced by the competition mid-way in the project execution may demand the need for recasting the feasibility all over again.
3. Major impact on the current project investments due to introduction of innovative technologies in the market place that change the economics of the project investments and leads to changes in ROI for the current project.
4. Major changes due to geo-political situations and its impact on the concerned country/ locations.
5. Unprecedented changes in the laws and regulations affecting the project environments.
6. Realization that the current technologies or the methods adopted for the project are not suitable to resolve the business problem, in the midway in project execution.
7. Impact of socio-political impact leading to threats for the proposed/ current project.
8. Realization that local project conditions becoming challenging to due to interference by terrorists groups or non-cooperation from the special interest groups (SIGs).
9. Non-clarity about 'Requirements/ Need and Scope' as explained for the overall 'Project Objectives' that compels a need to revisit 'Project Concept' or 'Project Plans' and go back all over again.
10. Failure of the current EPC contractors during the execution phase that warrants change in the contractors in spite of heavy losses in the current project progress. This can generate havoc for the project in mid-stream.
11. Sudden 'pulling off out of the project and stop funding' from one of the promoters/ sponsors of the project that leads to chaotic situation for the project.
12. Non-conformance to environmental/ legal and statutory requirements those were not well anticipated and provided for in the project sanctions and allocated budgets.
13. Non-availability of key resources (people or specific facilities and infrastructure needs) can lead to an impasse for the project to proceed can lead the project in for a toss.
14. Finally incomplete feasibility study (with inadequate/ incomplete issues or wrong assumptions) that calls for revisiting FS.

This list is only indicative. One may find many other issues that can merit a mention in the list. These drastically affect the basic strategic intent in the organization and will need a decision to:

- Stop the project
- Go ahead with the project with major modifications in scope/ time and budgets or
- Sanction of additional budgets to cope up with the changes in the project environments and still support the achievement of organizational 'strategic intent' that gave birth to the project in the first place.

DFS approach helps in such situations and impasse. DFS can provide a judicious/ objective re-evaluation of the situation and save precious funds and embarrassments for all the concerned. Instead of spending good money after bad, it may be prudent to back to the drawing board and start all over again in the interest of the project success. Going back to the drawing board is a sensible alternative to proceeding on the earlier path.

This issue, namely introduction of PPFS and DFS concepts is based on the discussions with very senior PMs during the case study field work carried out by the author. This introduction/ addition in the list of CSFs may improve 'fate' of the projects in general. This could be very useful and practical CSF addition to the currently accepted list of CSFs in the profession of project management, especially applicable to Indian projects.

Conclusion

It is seen that there is a gap in knowledge about the dependencies between the organizational context and CSFs in project management. There is also a need to understand priorities of different types of projects in Indian industries and even NGO organizations. In the absence of empirical research about project success in different organizational conditions, there is a need to use 'Flexibility' as an important CSF for the projects, especially for the start-up projects in Indian conditions. Based on the observations made and the field data complied, one can conclude that PPFS and DFS can be included as important CSFs for better control over the project success and incorporate these as part of the project management process itself. This will provide flexibility to the project team to revisit DFS as and when the situation demands. This will help the PM in terms of alignment with 'strategic intent' of the organization and still improve chances of success for the project. Additionally, 'Scope' and 'Risks' are not well handled in many Indian Projects and this could lead to failures (for otherwise well executed projects).

Finalized Basic CSF Group Rankings (based on the Research Study Carried Out)

Basic group covers such CSF aspects that appear to be common for 'Start-up Projects' as indicated from the analysis of the results and feedback from the field data collected and interviews during the process.

Basic Ranking of CSFs Groups Defined as above Sections				
Sr. No.	**CSFs Groups as per the Questionnaire**	**Sub Factors in Each of the Groups under Consideration**	**Final Rank**	**Remarks**
1	Support from Senior Mgt/Sponsor	• Strategic Support • Operational Support • Funding & Financial Support • Motivational Support • Participation and Support from the sponsors • Site Support during the Execution	1	This is a basic group of CSF for any type of projects.
2	Project Feasibility	• Market Feasibility • Technical Feasibility • Financial Feasibility • Infra-structure Feasibility • Operational Feasibility • Competencies Availability/ Feasibility	2	This is a basic group of CSF for any type of projects. This is a newly added CSF group based on the current research.
3	Clear Realistic Objectives/ Goals	• Customer focus • Strong Business Case/ Clear Scope • Flexibility to change the Effective Change Mgt/Adoptive culture • Clear Communication about mission/ goals • Development of realistic Plans/ Schedules	3	This is a basic group of CSF for any type of projects
4	Technology Management	• Technology Maturity • Organizational Maturity/ Competency in Technology • Technology Partnership and • Experienced Consultants with trouble shooting abilities • Domain Knowledge and troubleshooting abilities	4	This is a basic group of CSF for any type of projects
5	Change Management and Flexibility	• Effective Change Control • Organizational Culture and Adoptability • Effective Management of Change • Management Strategy to Changes • Flexibility in Approach to Projects	5	This is a basic group of CSF for any type of projects
6	Team Management	• Team Leadership/ Competent Project Manager • Trust amongst Members to Commitment to the Project • Project Champion/ Competent PM • Team Composition/ Skills	6	This is a basic group of CSF for any type of projects
7	Quality Control Process Management	• Process Quality Parameters • Safety and Health Standards • Other Control Parameters	7	This is a basic group of CSF for any type of projects
8	Risk Management	• Formal Risk Management Approach/ Methodology • Risk Appetite and Band-width to Manage Risks • Type of Risks	8	This is a basic group of CSF for any type of projects
9	Performance-Progress Reviews—KRAs	• Project Process Parameters/ Methodology (PMBoK) • Special Monitoring parameters • Review and Monitoring Systems/ MIS • Audit (internal/ external)	9	This is a basic group of CSF for any type of projects

These 9 CSF groups have been chosen based on discussions with respondents and few veterans from project management profession.

Ranking Context Specific Groups of CSFs

This list of CSF groups has to be used based on the assessment of the project environment in a judicious way considering industry vertical and specific environment of the project at hand.

Context Specific Groups of CSFs				
Sr. No.	**CSFs Groups as per the Questionnaire**	**Sub-factors in Each of the Groups under Consideration**	**Final Rank**	**Remarks**
10	Administrative issues/ Clearances	• Licenses/ Clearances etc. • Delays and constraints	10	Key issue for infrastructure/ construction projects. Similarly NGO projects will find a place for this CSF for their projects.
11	Infra-Structure and Resources	• Adequacy of Infra-Structure • Adequacy of Resources	11	Important issue for R&D projects/ Start-up projects/ Large sized and complex Infrastructure/ Construction projects
12	Project Characteristics	• Perceived "Value" for the customer organization based on "Strategic intent" • Urgency of the project • Past Experience (learning from similar projects) • Domain knowledge, competencies and skills (including soft skills) • Size of the projects/ Team size • Logistics Challenges	12	Very useful for large/ costly projects as well as Start-up Projects. Useful for Mission critical projects of any kind. Technically complex and the first of its kind projects.
13	Enduring and Temporal Factors	Enduring Factors • Organizational Structure • Organizational Values • Management Strategy and willingness to adopt changes Temporal Factors: • Diamond Analysis Matrices (Tech difficulty/ Novelty/ Complexity/ Speed) • Longevity of timelines and pressure for timely completion • Overall size of the project and strategic significance of the project for the parent organization		This will be useful for Complex projects with large sums and long time frames. Generally useful for such projects where domain is known to the team Useful projects where Novelty is low but complexity id high Useful for project where output of the project is reasonable known
14	Current and Future Parameters	• Standards and common place project parameters such as scope/ time/ costs/ quality/ risk • Customer Satisfaction/ User satisfaction and acceptance		Useful for rather conventional projects where domain and technology are well established Customer satisfaction is applicable for any kind of projects.
15	Contract Management	• Effective Contract Management • Active Contract administration		This is critical for Infrastructure/ Construction projects.

Table (Contd.)…

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Context Specific Groups of CSFs				
Sr. No.	**CSFs Groups as per the Questionnaire**	**Sub-factors in Each of the Groups under Consideration**	**Final Rank**	**Remarks**
16	Training and Development Plans	• Training of Project Personnel • Orientation of Stake-holders		This is very useful for Start-up projects/ NGO projects and also for the R&D projects.
17	Commitment by Suppliers/ Contractors/ Consultants	• Good response and services from suppliers • Good relationship and Partnership		This is critical for Infrastructure/ Construction projects as well as for R&D projects.
18	Overall Influences in the project environment	• External Influences • Internal Influences • Political Influences from outside the project organization • Politics within/ discord within the organization		This is important for NGO projects/ Infrastructure and Construction projects and also for Start-up projects in backward areas.
19	Changes in Global/ Industry Market Factors	• Change in Global/ Industry Environment • Competition		This is critical for R&D projects and Start-up projects

It is hoped that this model will be very useful for the future Project managers, especially in Indian Project environments and will help the project managers to improve the probability of success for the projects in India. Additional research in this area will help further improve utility of the model in times to come.

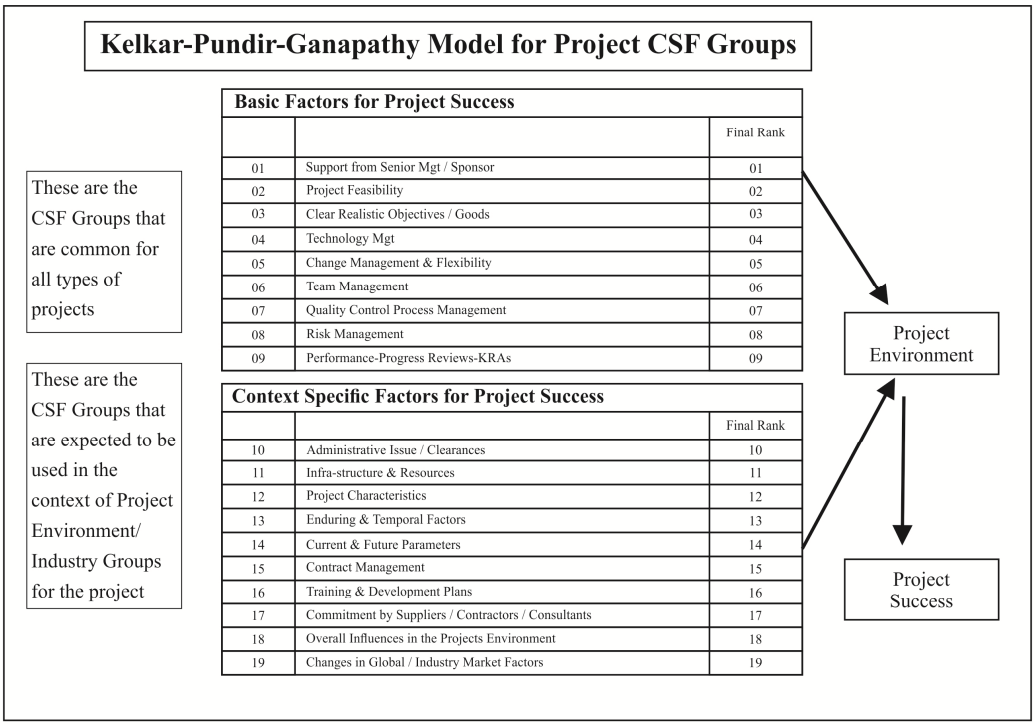
One has to note that the 'ranking is relative and not at all absolute' and hence has to be used based on the judiciously based on the specific context of the project.

Proposed Model Framework for CSF Groups for Indian Projects

(Model framework suggested for CSF as guidance for the future Project/ Program Managers in the context of CSF groups identified in the process of the study undertaken).

The research team here would like to propose the use of the following 'Kelkar-Pundir-Ganapathy Model Framework' (KePuGa Model Framework) for 'effective project control' using CSF groups in future projects, especially for Indian projects. This model is the outcome of the elaborate research study carried out by the researchers. The researchers believe that this Model Framework may be suitable for a variety of projects in developing countries where 'project environments' are similar to Indian conditions.

Based on the research carried out and based on the observations/ conclusions the following model has been suggested for ensuring the success of future projects. The future Project Managers/ Program Managers and Project Directors will find this model very useful in controlling the project progress and address the CSF and Sub-Factors right from the beginning. The researchers are sure that use of this model will prove very useful in ensuring success probability and predictability for success of projects in days to come.



Basic Factors for Project Success

		Final Rank
01	Support from Senior Mgt / Sponsor	01
02	Project Feasibility	02
03	Clear Realistic Objectives / Goods	03
04	Technology Mgt	04
05	Change Management & Flexibility	05
06	Team Management	06
07	Quality Control Process Management	07
08	Risk Management	08
09	Performance-Progress Reviews-KRAs	09

Context Specific Factors for Project Success

		Final Rank
10	Administrative Issue / Clearances	10
11	Infra-structure & Resources	11
12	Project Characteristics	12
13	Enduring & Temporal Factors	13
14	Current & Future Parameters	14
15	Contract Management	15
16	Training & Development Plans	16
17	Commitment by Suppliers / Contractors / Consultants	17
18	Overall Influences in the Projects Environment	18
19	Changes in Global / Industry Market Factors	19

Fig. 1: 'Kelkar-Pundir-Ganapathy Model' (KePuGa Model) for Project CSFs

Further Scope of Work to be Carried Out for Research Study

Further work will be carried out based on the extensive data compiled for the 24 case studies carried out for the research work carried out. The statistical analysis will include the following steps:

- There is an obvious need to select few additional sample cases for NGO group (currently only 5 cases were selected. This may generate better results for such projects in future.
- Major CSFs are classified in 19 groups and the effective use of these groups can be determined using statistical analysis.
- Finally, all such factors can be validated based on the Project Success Criteria.

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