

Critical Success Factors of Project Management in Indian Manufacturing Companies: A Quantitative Investigation

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DOI:10.48047/pne.2018.55.1.50

Abstract

This quantitative investigation aims to identify the critical success factors (CSFs) of managements of projects in Indian manufacturing companies. CSF includes project planning, project control, project team management, and stakeholder management are significant within Indian manufacturing companies. There is also an availability of a measurable impact of different project management practices on project success. The conclusions of this research can help project managers in Indian manufacturing companies to understand the critical factors that affect project success and to implement appropriate project management practices to achieve success. This research can also add to the existing amount of research on project management by providing more insight into the workings of CSFs in the context of Indian manufacturing companies. The findings of this study also serve as a reference for project managers in other industries and countries to identify and prioritize CSFs in their specific contexts. Overall, this study provides valuable insights into the CSF of PM in Indian manufacturing companies, which can help organizations to enhance their project management practices and ultimately achieve project success.

Keywords: Stakeholder Management, Project Management, Organizational Culture, Manufacturing Sector of India, Total Quality Management, Critical Success Factors.

Introduction

CSFs are the key elements or activities that are important for any firm to achieve its objectives and goals successfully. In the context of PM, CSFs are the critical areas that project managers need to focus on to ensure that their projects are within budget, delivered on time, and meet expectations of stakeholders. Identifying and prioritizing CSFs is essential for project managers to achieve project success and meet the project's strategic objectives.

The identification of CSFs is a critical step in the project management process, and it helps project managers to allocate resources, plan activities, and monitor project progress effectively. CSFs can vary depending on the industry, project type, project scope, and the organization's specific needs. For example, in the construction industry, CSFs may include project planning, cost management, quality control, and safety management. In contrast, in the IT industry, CSFs may include project scope administration, RM, communication with and within, and change administration. Understanding the CSF of a project is essential to ensure project success. Project managers should identify the key factors that drive project success and then develop strategies to ensure that these factors are met. By focusing on CSFs, project managers can ensure that their projects ultimately lead to increased customer satisfaction and improved business performance.

The manufacturing industry in India is rapidly growing, and it is expected to play a significant role in the country's ED. However, the success of manufacturing projects in India is dependent on several factors, including project management practices, organizational culture, and leadership style. Therefore, it is essential to identify the CSFs of project management in Indian manufacturing companies to ensure project success. Several studies have identified the CSFs of project management in different industries and countries. However, due to the unique context of the Indian manufacturing industry, it is necessary to investigate the CSFs of project management specifically in this industry. Therefore, this study identifies the CSFs of project management in Indian manufacturing companies. The findings of this study, hence, will provide valuable insights into the CSF of project management in Indian manufacturing companies, which can be used by project managers and organizations to enhance their project management practices and ultimately achieve project success.

Literature Review

Karuppusami and Gandhinathan (2006) conducted a literature review for the CSF of quality management. This literature evaluates and offers a list of total quality management (TQM) CSFs for the advantage of investigators and industries. The findings of 37 TQM empirical research yielded 56 such CSFs. Since it was tough to standardise so many CSFs in organisations, the research used Pareto analysis to analyse and sort the CSFs in descending order based on frequency of occurrences. The conclusions of the research will aid in the seamless addition of TQM programmes in organisations according to the authors.

Achanga et al., (2006) demonstrate the important elements that influence the effective adoption of lean manufacturing practises inside manufacturing SMEs. Workshops, case studies, and Delphi methodologies were used to assess and validate the results. The most important concerns are highlighted as managerial leadership, finance, organisational culture, and skills and expertise. The study's limitations/implications include SMEs' cynicism regarding the advantages of lean. The purpose of this article by Tripathy et al., (2013) is to show the important success elements for research and development for organisations. The findings indicate that the research and development direction, and vision as well as an R&D-oriented culture, are key CSFs and have a significant effect on different change factors. The research presents an interpretative structural model that may be used to create a map of the complicated interactions as well as essential success elements.

Saade and Nijher (2016) use 37 case studies from various nations and circumstances, and combine the CSFs as stated in ERP installation case studies. Out of the 64 CSFs reported, 22 are unique and suggested with five execution stages. The analysis is confined to the case study material and fails to take ERP deployment paradigms and frameworks into account. The ramifications for practise are examined. The proposed CSFs may be used to evaluate ERP deployment, ex-ante evaluation, comparative analysis, key indicators of performance, and to develop a clear project management plan. The report is an initial effort to give a comprehensive list of CSFs and relate them to ERP deployment stages.

Tyagi et al., (2017) analyse and portray surveys that they carried out across different Indian manufacturing SMEs, primarily to zero in on CSFs for implementing Six Sigma in Indian manufacturing companies, and to identify the most intensive CSFs for Six Sigma implementation in SMEs in India. The article is based on a questionnaire tailored to Indian manufacturing SMEs, and the current study's findings are focused on factor evaluation and descriptive statistics. The conclusions are explored using analysis of related factors, which reveals the influence of several CSFs on Indian manufacturing SMEs.

The purpose of this study by Bansal and Agarwal (2015) is to identify causal linkages between CSF and ERP Projects. The researchers performed a survey of 450 people and discovered that every one of the hypotheses were confirmed. Vendor is connected positively to Enterprise System Selection Process (ES), PM is favourably associated with Implementation Strategy

(IS), and Top Management Support (TM) is favourably linked to Project Team Competence (PT), according to the findings.

Haleem et al., (2012) examine the critical aspects that contribute to the effective adoption of state-of-the-art manufacturing practises. There were two modelling techniques were used to investigate the contextual link between the CSFs and rank them in terms of their effective performance. Performance and CSFs were established by an existing literature and the opinions of industry and academic professionals. ISM is used to create a hierarchical structure for studying CSF interactions. The dominance connection is then examined using the interpretive ranking process (IRP). Desai et al., (2012) cover the findings of a research on Six Sigma status in Indian business, with an emphasis on implementation of CSFs. The study's scope was constrained by the number of firms assessed, along with budget and time constraints, but it gives vital insight into the implementation of these CSFs in these firms.

Ahuja and Khamba (2007) detect repairs-related losses in an organisation to identify and manage performance losses and enhance manufacturing performance. The strategy is aimed at justifying TPM deployment within the Indian sector of manufacturing for its inclination towards competitive manufacture. The findings reveal that systematic interventions for TPM deployment have greatly improved manufacturing system productivity, quality, safety, morale, and cost efficiency of the manufacturing function within the organisation. The report emphasises the impact of maintaining activity to improved equipment dependability, resulting in increases in manufacturing system efficiency. The report also emphasises the benefits of the maintenance function to improved machine dependability, resulting in advances in manufacturing system performance.

In another study by Ahuja and Khamba (2008) assess the problems that Indian manufacturing organisations experience in transitioning to effective TPM programmes. It zeroes in on the TPM barriers of implementation and the development of achievement factors for increasing manufacturing performance in the Indian sector through strategic TPM efforts. The findings reveal that adopting TPM is a difficult endeavour hampered by organisational, cultural, behavioural, technical, operational, financial, and departmental hurdles. To establish the maintenance factor as an aggressive way to overcoming the problems of an extremely aggressive setting, practical implications underline the need of developing the synergy between the task of maintenance and other corporate attempts to improve quality. The research

demonstrates the risks manufacturing companies in India run into while trying to use TPM techniques to boost organisational effectiveness.

Singh et al., (2007) discover and establish the structural link between various aspects that contribute to the effective adoption of advanced manufacturing technologies (AMTs). The findings revealed that top management commitment and a strong financial position are the primary motivators for implementing AMTs, while management should not overlook aspects of management such as organisational culture, training for staff, division cooperation, the supplier growth, planning a strategy, and client engagement. Originality/value Management must pay more attention to driving variables to successfully utilise AMTs.

Lande et al., (2016) identify and list the CSFs of the Lean Six Sigma (LSS) framework that affect and influence the operational, financial performance, and quality of SMEs. It collects data in an exploratory manner and chronicles much research reflecting both industrial and service experiences. The findings aid academics and practitioners in creating/modifying/reviewing application frameworks and using the most relevant collection of CSFs for empirical investigations. The results are transferable and may be applied internationally in determining LSS framework determinants. Ganesh and Mehta (2010) contend that ERP deployment in Indian SMEs should consider procedure, the company, technological advances, supplier, the customer, human resource, efficiency, quality, tactics, and project challenges. The ERP implementation success model simplifies the functionality of ERP deployment at Indian SMEs, making the ERP requirements easy to grasp. This study is intended to overcome the present literature gap and give practical suggestions for effective ERP deployment in Indian SMEs.

Objective:

To ascertain the critical success factors of project management in Indian manufacturing companies

Methodology:

This study is descriptive in nature in which the data were obtained from the 195 respondents to find the critical success factors of project management in Indian manufacturing companies. A checklist question was used to analyse and interpret the data. In a checklist question respondents choose “Yes” or “No” for all the questions.

Data Analysis and Interpretations:

Table 1 Critical Success Factors of Project Management in Indian Manufacturing Companies

SL No.	Critical Success Factors of Project Management in Indian Manufacturing Companies	Yes	% Yes	No	% No	Total
1	CSF helps project planning and cost management	172	88.21	23	11.79	195
2	CSF helps quality control and safety management	176	90.26	19	9.74	195
3	In IT industry CSF helps in project scope administration	164	84.10	31	15.90	195
4	CSF helps in communication with and within, and change administration	169	86.67	26	13.33	195
5	CSF helps in better goal achievement	160	82.05	35	17.95	195
6	CSF helps in providing customer satisfaction	171	87.69	24	12.31	195
7	It improves the quality of work	163	83.59	32	16.41	195
8	It helps in better track of progress of work	168	86.15	27	13.85	195

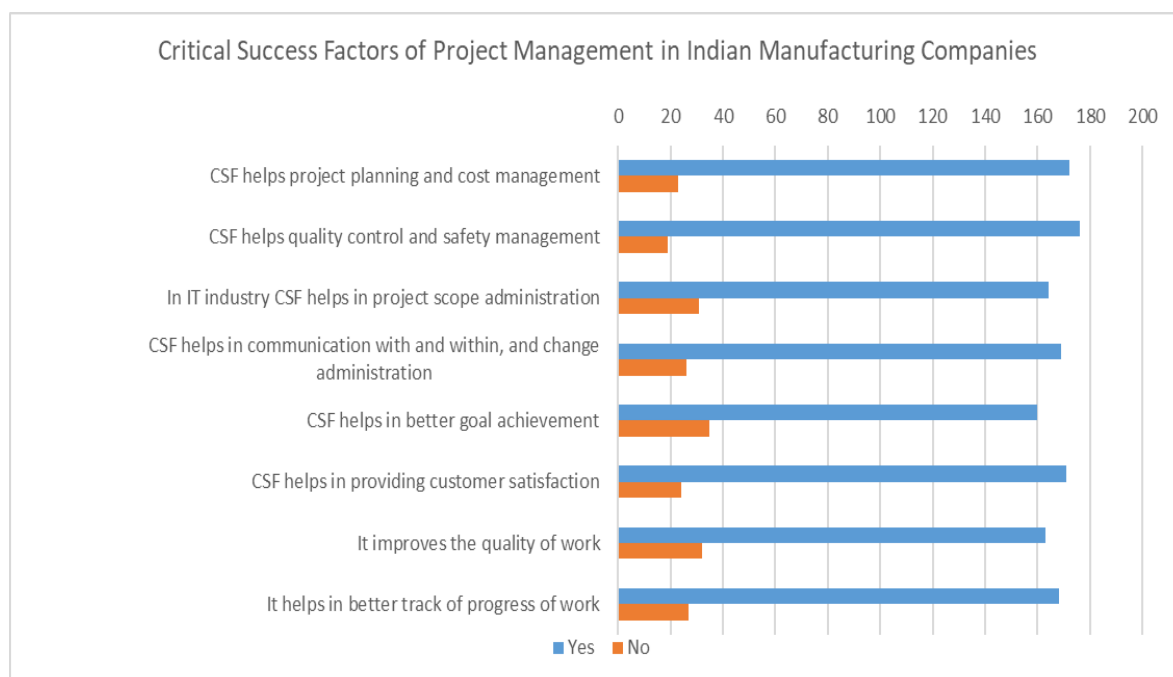


Figure 1 Critical Success Factors of Project Management in Indian Manufacturing Companies

Table 1 and Figure 1 show the critical success factors of project management in Indian manufacturing companies. It was found that around 90.2% respondents agrees that CSF helps quality control and safety management, CSF helps project planning and cost management (88.2%), CSF helps in providing customer satisfaction (87.6%), CSF helps in communication with and within, and change administration (86.6%), It helps in better track of progress of work (86.1%), In IT industry CSF helps in project scope administration (84.1%), It improves the quality of work (83.5%) and CSF helps in better goal achievement (82.0%).

Conclusion

In conclusion, this quantitative investigation has identified the CSFs of project management in Indian manufacturing companies. The literature on this study found that project planning, project control, project team management, and stakeholder management are significant CSFs in the Indian manufacturing industry. It also highlighted the impact of organizational factors such as organizational culture, leadership style, and project management maturity level on project success. The conclusions of the research provide empirical evidence regarding CSFs of project management in Indian manufacturing companies and can serve as a reference for project managers and organizations to enhance their project management practices. By

implementing appropriate project management practices and improving organizational factors, Indian manufacturing companies can improve their project success rates and contribute to the country's economic development. Future research can further investigate the CSFs of project management in different industries and contexts to develop a more comprehensive understanding of project management practices. Overall, this study contributes to the current research on PM by including great insights into the CSF of PM in Indian manufacturing companies.

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