

**ASSESSMENT OF CONTRACTORS' PERFORMANCE FAILURE BY
IMPORTANCE INDEX**Mr. Vimal kumar Patel¹, Asst. Prof. Neetu Yadav² and Asst. Prof. Vyom Pathak³ME Second year Student, Civil Dept. S.N.P.I.T & RC, Umarakh, Bardoli, Gujarat¹Asst. Prof., Civil Dept. S.N.P.I.T & RC, Umarakh, Bardoli, Gujarat²Asst. Prof., Civil Dept. S.N.P.I.T & RC, Umarakh, Bardoli, Gujarat³

Abstract: Construction projects overall failure and success is ultimately depends on performance of contractor. As we know that every construction project having unique characteristics but its completion is depends on Contractors efforts to complete the same within the prescribed timeline by putting best efforts. If he fails to do so then contract can't complete the project. With rapid growth and infrastructure development of India, Construction sector is also becoming very risky. What are the key reasons of contractor failure and his non-performance to commence the work? In this research author defined what are the various factor influences on the failure of the Contractor. His Non-performance and failure to complete the allotted work within time frame is due to poor specifications, Low margin profit due to competition, labor shortage, financial issues, etc. Based on the feedback of Interviews and pilot study subsequently a questionnaire has been designed and distribute to total 260 construction work experts who represent contractor, site engineer among that we received 160 responses. The study limits to Surat and Navsari district of South Gujarat region. The method which is used to analysis the responses by Important Index. Then ranking have been done to top 10 factors of contractor failure. Based on those factors the recommendations are given to improve the current practices.

Keywords: Contractor's failure, Factor of Contractor's failure, Project delivery, Quality, performance.

I. INTRODUCTION

Construction is complicated business day by day its representatives face new challenges with changing working Conditions. We all know that in construction every project having unique site conditions and challenges so who are well experienced only can come out and solve their problems but others face many troubles and ultimately project can't complete with desired pre requisites. Public and private construction project owners can mitigate the risk of contractor failure by requiring bid, performance and payment bonds. Contractor failure usually is the result of multiple causes, contractors may default if there is finance change due to the economy, unforeseen changes in job site conditions, or death or illness of a key employee. Other factors include: accounting issues, management issues, unrealistic grown changes in the type of work performed, expansion and performance issues, inadequately trained personnel or insufficient personnel. In construction, there are three parties involved, namely, owner, consultant, and contractor. The relationship and communication between these parties is adversarial because each party has goals which conflict with the other party's goals. For example, the owner wants his project to be of a good quality and low cost, but this will reduce the profit of the contractor. The consultant wants the project to be safe and attractive which could cause both the contractor and the owner extra expenses. Also, the labourers hired by the contractor want their salary to be higher, which is not possible given the competitive prices in the contracting business. The week relation and communication among parties could be a major source of a contractor's failure. This research helps to define causes affects perfectly healthy to collapse or fail. Understanding this mechanism can improve current practices with better understanding prevent their failure.

II. OBJECTIVE

To Identify and analyze the most frequent and sever cause of contractor's failure.

III. SCOPE

The scope of this study is limited to south Gujarat region.

IV. LITURATURE REVIEW:

Jeffrey S. Russell defines Contractor's failure occurs when a Contractor is unable to perform his/her contractual duties. And say that requiring the facility owner to invoke the contract's non-performance clause. Contractor failure represents a large cost to the construction industry through decreased productivity, increased project costs, and schedule overruns. To account for these losses and inefficiencies, future facilities are affected by inflated construction costs.

According to Frederikslust (1978), failure is the inability of a firm to pay its obligations when they are due. It mostly appears in a critical situation as consequences of a sharp decline in sales, as a result of recession, the loss of an important customer, shortage of raw materials, deficiencies of management etc.

Adnan Enshassi, Khalid Al-Hallaq and Sherif Mohamed says that the construction industry has unique characteristics that sharply distinguish it from other sectors of the economy. It is fragmented, very sensitive to the economic cycles and political environment, and has a significantly high rate of business failure. Business failure, collapse and bankruptcy are common terms in the industry due to the many risks inherited in how the industry operates. Throughout the world, the relative ease of entry gives rise to a large number of contracting firms competing fiercely in the market exposing many of them to business failure, Palestine is no exception.

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John E. Schaufelberger research that there were some external economic factors identified that influence the profitability of a firm, but most of the causes identified relate to the business practices of the company and the lack of an effective business plan. The primary causes of business failure identified were insufficient capital/excessive debt, lack of managerial maturity, lack of early warning measures, increase in project scope, poor billing procedures, failure to evaluate project profitability, unfamiliarity with new geographical areas, and poor use of accounting systems. Based on the results of this analysis, risk management strategies were developed for small, mid-size and large firms.

V. RESEARCH METHODOLOGY

After conducting pilot study we had identified some major influenced causes of contractor failure. Then detail analysis is done by Importance Index method which gives frequency index and severity of the occurrence of particular cause and how it influence of the performance of contractor.

VI. PERCENTAGE OF QUESTIONNAIRE DISTRIBUTED AND RESPONSE RECEIVED

Sr. No.	Respondent	Questionnaires Distributed	Questionnaires Received	% of Response
1	Contractors	150	92	41.33 %
2	Engineers	110	68	61.82 %
3	Total	260	160	61.54 %

VII. ANALYSIS METHOD

- (1) **Frequency index:** A formula is used to rank causes of contractor failure based on frequency of occurrence as identified by the participants.

$$\text{Frequency Index (F.I) \%} = [\sum a (n \div N) \times 100] \div 4]$$

Where,

a = constant expressing weighting given to each response (ranges from 1 for rarely up to 4 for always),

n = frequency of the responses,

N = total number of responses.

- (2) **Severity index:** A formula is used to rank causes of contractor failure based on severity as indicated by the participants.

$$\text{Severity Index (S.I) \%} = [\sum a (n \div N) \times 100] \div 4]$$

Where,

a = constant expressing weighting given to each response (ranges from I for little up to 4 for severe),

n = frequency of the responses,

N = total number of responses.

- (3) **Importance index:** The importance index of each cause is calculated as a function of both frequency and severity indices, as follows:

$$\text{Importance index (IMPI) \%} = [(F.I. \times S.I)/100]$$

VIII. ANALYSIS BY IMPI AND OVERALL RANKING OF TOP TEN CAUSES

Table 1: The ranking of the causes of failure as agreed by the combined sample of Engineer contractors and Site Engineer.

Rank	Causes of contractor failure	IMPI Raking	Group
1	Low margin profit due to Competition	89.87	Financial Aspect
2	Lack of Experience	82.82	Managerial Aspect
3	Poor estimating practices	75.04	Financial Aspect
4	Cash flow management	69.22	Financial Aspect
5	Expanding in new Exposure condition	66.78	Expansion
6	One man rule	65.00	Managerial Aspect
7	Type of Contract	62.38	Uncontrolled causes
8	Recruitment dependency	58.62	Managerial Aspect
9	Change in the type of work	53.46	Expansion
10	Communication System	50.21	Managerial Aspect

IX. CONCLUSION

Base of the overall assessment and ranking of factor by combining samples of Engineers and Contractors the following set of funding could be concluded: Contracting companies have less experience. This may give an indication that the rate of failure in the coming years will be high since studies showed that 50-60% of failures was for companies of age less than 8 years. The majority of contracting companies in South Gujarat are small in size that there will be one-man rule for the simple reason that, in most cases, the company may only have one manager at that early stage of existence and there will also be a lack of managerial depth. The construction industry has characteristics that sharply distinguish it from other sectors of the economy. It is fragmented, very sensitive to economic cycles, and highly competitive because of the large number of firms and relative ease of entry. It is basically due to these unique characteristics that the rate of construction business failure has become very high.

In this study, understanding the mechanism of failure is based on collecting information about the causes of failures and then corrective actions may be done to prevent or reverse the company's collapse. Identification of the severity of causes of failure was a major result of this research.

X. RECOMMENDATION:

From the above study, we can able to say that strictly follow up of SOR and quality specifications helps to reduce gradual ups and down in low margin profits in tendering or in the bidding process.

Work should be allotted to those who, having the sufficient field experience and practice so during the commencement of work it roadblocks come then they can easily solve it and can progress.

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