

# Causes of Construction Project Failures in Pakistan

Syed Saad Wasim\*

Student, SZABIST University, Karachi Pakistan  
11-D/1 First Gizri Lane DHA Phase IV Karachi, Pakistan P.O Box 75500

Dr. Manzoor A. Khalidi

Faculty, SZABIST University, Karachi Pakistan, Campus 100 Clifton, Karachi, Pakistan

## Abstract

Construction Project failure are global problem and Pakistan Construction projects also suffer from this phenomenon. The purpose of this research is to identify the major causes those are critical factors in the performance of a project. The literature review on the Project Management Body of Knowledge (PMBOK) emphasized that measurement of project success or failure is dependable on three key factors; Time, Cost & Scope. We have investigated various causes behind this triple constraint that are real forces a construction projects encounter during its lifecycle. The 33 major causes identified through literature review and Interviews with the industry specialist of Pakistan were transformed into a questionnaire. The survey was conducted with the industry professionals directly managing construction projects in the demography of Pakistan. The data help us in the identification of top ten causes of construction project failure in Pakistan: (1) Incompetent Contractor, (2) Delay in Procurement of long lead items, (3) Delay in Payments to Contractors, (4) Inaccurate Cost Estimates, (5) Inaccurate Project Schedule & Incompetent Project Team, (6) Lack of Project Planning, (7) Incompetent Project Manager, (8) Delay in providing site access to contractors, (9) Lack of cash flows & (10) Delay in design phase.

**Keywords:** Causes, Construction Project Failures, Pakistan, Project Management.

## 1. Introduction

Project failures are common problems in the construction industry of Pakistan. The collapsing of Sher shah Bridge, Karachi & partial demolition of Baloch Colony Bridge in Karachi, Pakistan are few notable construction project failures.

Project success is majorly dependent on the three key factors management:

- Time Management
- Cost Management
- Scope Management

These are also considered triple constraint and are baseline to measure the performance of a project. Deviation in any one of it can impact the other and so the overall project performance can be affected. A Project considered as a failure if performance indicators of Time, Cost & Scope are not achieved those agreed between stakeholders formalized through Project Management Plan document

### 1.1 Problem Statement:

It is not appropriate to blame contractors as the sole responsible for delay, failure or abandonment of construction projects. The failure of smooth cash flow can disrupt and halt project momentum. And most of the projects are failed because disruption of cash flows. Nawaz, Shareef & Ikram (2013).

The 16 identified important causes of delays are: Payments and Finance issues, Quality of material, Inaccurate Time estimation, Delays in supplier & subcontractors payments, Poor site management, Old technology, Natural disasters, Poor site conditions, Material Shortages, Delays caused by sub-contractors, Change in drawings, Improper equipment, Inaccurate cost estimation, Change orders, Organizational Changes, Regulatory Change. The effect of these causes was resulted in the following: Time overrun, Cost overrun, Abandonment, Negotiations and Court cases and Disputes. Xinhai-Lu, Aneesa Bibi, Maloof-ud-Dyian & Wahab Rabbani (2011)

## 2. Literature Review

Stakeholder identification is very important aspect of a project. This process helps in understanding their influence, demands, expectations and needs that are necessary in the success of a project. And failure to identify them can lead to project delays, cost overruns, unexpected issues and may face consequences of project cancellation. (PMBOK, 2010)

Time and costs are dependent on the specifications feasibility and drawings developed by the designers. The drawings if are well defined than it makes easier for the Project Manager in making decisions quickly without delaying any project activities. The experience of design professionals familiarize with the similar kind of project experience in the past will provide better planning and understanding of the project specifications. The

success of project is dependent on the drawings and plan that activities proceed without any hindrance. The Darya Khan in Dera Ismail Khan Bridge construction was not completed on time because of errors in specifications. The design was revised several times due to unavailability of data provided by the design team for construction. (Naeem, Jawad, Faisal, Muhammad Ali, Usman, Fiaz, Tahir, Ahmad, Qazi Farooq, 2013).

The problems of project delay occurs in the construction industry of Pakistan resulted in clash, claims, total desertion and slow growth of the construction sector. The study has identified the various factors that have an effect on the project delays of overtime, over budget, disputes, negotiations, Lawsuits, Litigation & Abandonment. The Project delays in the construction industry of Pakistan are very common issue. The most common factors of delays are improper planning, poor site management, insufficient experience, shortage of material on site, delay in payments, shortage of equipment etc. Beside that natural disasters such as flood and earthquakes are also sometimes the factors of delays. The research concluded that financial stability of the client is the key for successful project beside that decision making timely to ensure that no slippages in the project schedule. The consultant has a role to fully understand the client necessities to ensure that all information incorporated in the design drawings as per the client's requirements. The contractor's delays occur because of deficiency in getting the right equipment and material for usage in the construction. This sometimes becomes the cause of dispute that an excellent material is used for construction. Unavailability of owner supplied material timely is also a cause of delays. The shortage of laborers, changes in the government, regulations and weather are also the cause of project delays. In Pakistan construction projects the delay is caused mainly because of government changes and the new setup proposed new design of project and the billing process is not easy with these changes. The shortfall of electricity in Pakistan in the construction projects which also halt many hours of equipment without production and due to this large construction project suffers. (Haseeb, Xinhai-Lu, Aneesa, Maloof-ud-Dyian & Rabbani, 2011).

The performance of a project manager is not only associated with his capability of acquiring profit but also dependent on whether he or she can implement the managerial practices of the leadership behavior effectively and efficiently. A performance evaluation model incorporates leadership behaviors with some essential factors that may affect them are proposed. The data in this research reveal that the evaluator the capability of making decision and giving-seeking information are the most considers important leadership behaviors to a project manager. This is because project managers are usually asked to handle or acquire the information or solutions for solving the problems of their projects autonomously. At the same time, the technical competence and the manager's position level in a company are considered to be the two most significant factors that may influence the performance the project managers. Therefore, to introduce or develop some novel and powerful technologies or tools to aid project managers for carrying out their jobs and establish the project matrix and project team-based organizations with convenience for communication are the essentials of a company. (Chen S. H and Lee H. T, 2007).

### 3. Research Methodology

This paper methodology is both qualitative and quantitative research. The objective is to determine, evaluate and analyze the major causes of construction project failures in Pakistan. The PMBOK (Project Management Body of Knowledge) was reviewed for the project management ingredients essential in managing successful projects. The project management lifecycle process and knowledge areas within these processes for best practices project management. The real factors in terminology of Construction project failures behind Time, Cost & Scope are the objective of our research finding. The maximum numbers of construction project failures causes globally were identified through literature review. Next we conducted interviews with the project managers on their experiences on project failures in the demography of Pakistan to ascertain causes of failures in this region. These project managers having experience of more than ten years in the construction industry, interestingly all had come across project failure during their lifetime. All these causes from the literature review and interviews were consolidated and a questionnaire with identified 33 causes was distributed to 155 professionals directly managing construction projects in Pakistan.

The relative importance index (RII) method was adopted to determine the relative importance causes affecting project failures in Pakistan. The five point Likert scale ranges from (1=Not Important) & (5=Very Important) was adopted and transformed to RII for each causes as follows:

$$RII = \frac{\sum W}{A * N}$$

W=weighting given to each factor by respondents (1 to 5)

A= high weightage (i.e. 5 in this case)

N= total number of respondents

Through the Likert scale we had enable to identify the ranking of causes for construction project failures in Pakistan as shown in Table 1.

**Table 1:**

| S. No | Causes / Factors                              | RII   | Rank             |
|-------|---|-------|------------------|
| 1     | Incompetent Contractor                        | 0.817 | 1 <sup>st</sup>  |
| 2     | Delay in Procurement of Long lead Items       | 0.787 | 2 <sup>nd</sup>  |
| 3     | Delay in payments to Contractors              | 0.770 | 3 <sup>rd</sup>  |
| 4     | Inaccurate Cost Estimates                     | 0.768 | 4 <sup>th</sup>  |
| 5     | Inaccurate Project Schedule                   | 0.763 | 5 <sup>th</sup>  |
| 6     | Incompetent Project Team                      | 0.763 | 5 <sup>th</sup>  |
| 7     | Lack of Project Planning                      | 0.748 | 6 <sup>th</sup>  |
| 8     | Incompetent Project Manager                   | 0.746 | 7 <sup>th</sup>  |
| 9     | Delay in providing site access to Contractors | 0.743 | 8 <sup>th</sup>  |
| 10    | Lack of Cash Flows                            | 0.734 | 9 <sup>th</sup>  |
| 11    | Delay in Design Phase                         | 0.729 | 10 <sup>th</sup> |
| 12    | Poor Site Management                          | 0.717 | 11 <sup>th</sup> |
| 13    | Changes to IFC Drawings                       | 0.714 | 12 <sup>th</sup> |
| 14    | Incompetent Designer / Consultant             | 0.714 | 12 <sup>th</sup> |
| 15    | Shortage of Skilled Manpower / Worker         | 0.714 | 12 <sup>th</sup> |
| 16    | Lack of Management support for the project    | 0.712 | 13 <sup>th</sup> |
| 17    | Shortage of Material                          | 0.712 | 13 <sup>th</sup> |
| 18    | Delay in approval of Shop Drawings            | 0.702 | 14 <sup>th</sup> |
| 19    | Shortage of Equipment                         | 0.690 | 15 <sup>th</sup> |
| 20    | Lack of Communication                         | 0.682 | 16 <sup>th</sup> |
| 21    | Lack of Resource Planning                     | 0.673 | 17 <sup>th</sup> |
| 22    | Lack of Quality Procedures                    | 0.673 | 17 <sup>th</sup> |
| 23    | Lack of Coordination between trades           | 0.673 | 17 <sup>th</sup> |
| 24    | Delay in payments to consultant / Designer    | 0.670 | 18 <sup>th</sup> |
| 25    | Lack of Stakeholders Management               | 0.670 | 18 <sup>th</sup> |
| 26    | Lack of Change Control Process                | 0.658 | 19 <sup>th</sup> |
| 27    | Scope Creep                                   | 0.653 | 20 <sup>th</sup> |
| 28    | Government or Regulatory Changes              | 0.609 | 21 <sup>st</sup> |
| 29    | Law & Order Issues                            | 0.609 | 21 <sup>st</sup> |
| 30    | Lack of Risk Planning                         | 0.592 | 22 <sup>nd</sup> |
| 31    | Organizational Changes                        | 0.563 | 23 <sup>rd</sup> |
| 32    | Natural Disaster                              | 0.514 | 24 <sup>th</sup> |
| 33    | Extreme Weather conditions                    | 0.502 | 25 <sup>th</sup> |

### 3.1 Conclusions

The questionnaire survey enabled us in determining the top ten causes of construction project failure in the demography of Pakistan are: (1) Incompetent Contractor, (2) Delay in Procurement of long lead items, (3) Delay in Payments to Contractors, (4) Inaccurate Cost Estimates, (5) Inaccurate Project Schedule & Incompetent Project Team, (6) Lack of Project Planning, (7) Incompetent Project Manager, (8) Delay in providing site access to contractors, (9) Lack of cash flows & (10) Delay in design phase. Other failure causes such as Poor site management, Changes to IFC drawings, Incompetent Designer/Consultant, shortage of skilled manpower, Lack of management support for project, Shortage of material, Delay in approval of shop drawings & Shortage of equipment although could not make it to top ten but there importance was rated high by the industry professionals.

### 3.2 Recommendations:

#### 3.2.1 Prescription for Contractors:

We recommend that selection of competent Project Manager is the most critical role to be performed by a contractor firm. The Project Manager knowledge on Project Management, experience of managing similar project and industry expertise are essential for managing successful project. The selected Project Manager should have given all authority by Contractors top management with regards to finances and resources for the project. The Project Manager Key role is selecting competent & dedicated project team comprise of Execution, Planning, Contracts, Cost and Procurement to ensure project success can be achieved. However, Incompetent project team can lead to lack of project planning, Inaccurate estimates, Inaccurate schedules & delay in procurement of long lead Items can cause project failure.

#### 3.2.2 Prescription for Customer:

The customer or Client role is to ensure the selection of competent Contractor for the project. The Pre-

qualification process must be scrutinized in a manner that all requirements as per project specifications are aligned with the contractors experience and resources. The customer must adhere to its contractual binding with the contractor in providing timely access to construction site, timely release of payments of bills and timely providing owner furnished material for ensuring completion of project within cost and time provided by the contractors.

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