Management Journal for Advanced Research
ISSN (Online): 2583-1747
Volume-2 Issue-2 || April 2022 || PP. 15-18 DOI: 10.54741/mjar.2.2.3

Crisis Management in Indian Construction Industry

P.Srinivasan
P.G. Student, Department of Management, Kongu Engineering College, Erode, Tamilnadu, India

Corresponding Author: psri2003@rediffmail.com

Received: 05-04-2022	Revised: 15-04-2022	Accepted: 25-04-2022

ABSTRACT
When working on a construction project, you're likely to come across many different kinds of technology, materials, and equipment, which could cause a number of problems. Owners, managers, and engineers, who are the main people involved in building projects, have had to learn how to handle and prevent crises by using crisis management. A critical analysis of the primary elements influencing Crises management in the construction of new buildings has been conducted in this paper. Owners , engineers, managers, and can fill out questionnaires to help get the information they need. Statistical tools are used to identify and analyse the most important variables. Supplier relations, management strategies, crisis management team unavailability, manpower availability, design changes, safety issues, time contingency, and environmental factors are all included in this category.

Keywords: *construction, projects, crises, supplier relationship*

I. INTRODUCTION

Demonstrating the nation's infrastructure relies heavily on the work being done on construction projects. Because of the length of time involved and the wide range of sectors that will be affected by the project's completion, long-term initiatives like these are rife with complications and unknowns. As is inevitable in any process involving complicated circumstances, these uncertain events frequently lead to crisis. During a crisis, an organisation appears to lose the ability to perform complex situations with regular practises. As the name suggests, crisis management is a process that involves taking small, incremental steps over time in order to avoid or minimise the consequences of any given crisis. Due to the many complexities involved in the construction process, construction projects are more susceptible to crisis situations. Crises can be managed with the least amount of harm by any organisation that employs effective crisis management strategies. Construction companies must have a crisis management plan to deal with any issues that arise. Through the identification of potential crisis triggers, this paper attempts to put crisis management into practise in building projects. This study, as stated above, aims to identify the factors that could lead to a construction project crisis. Various engineering and management personnel involved in the construction industry were tasked with answering a survey in order to identify the factors.

II. LITERATURE REVIEW

The research has been carried out with the help of literature study made from various literatures related to crisis management implementation in construction projects. The literature findings revealed about the features of crisis and decision making with the help of types of leadership (Abdullah et al., 2014), Achieving success amid a time of crisis in the Turkish construction industry, learning process involved in crisis management for complex organizations (Lagadec P. 1999), crisis preparedness for effective crisis management in construction companies, the development and application of situational crisis communication theory in protecting organization reputation during a crisis, crisis management model and recommendation system for construction industry, the nature and management of crisis in construction projects as projects-as-practice observations, planning for crisis management in project management, Communication and organizational crisis management, relevant vision, purpose, and strategic management's impact on crisis resolution, crisis management in planning and media relations for the design and construction industry (Reid J. 2007), crisis management from global crisis to national crisis in the case of the European Union Countries, the preliminary study on improving the efficiency of the Government crisis management, Anatomy of organizational crisis in contingencies crisis management, the status of crisis statement in effectice crisis management of structure projects (Michal Vondruska, 2014) and approaches and process for innovative crisis management in construction projects

III. RESEARCH METHODOLOGY

3.1 Objective

In order to properly apply crisis management in construction projects, it is necessary to first identify the important elements that influence this process.

3.2 Scope

Construction project owners, engineers, and managers only are the focus of this investigation.

3.3 Data Collection

Questionnaire surveys are used to gather data from owners, engineers, and management staff involved in various construction projects. Thirty statements about application of crisis management in building projects: things to consider made up the second half of this questionnaire, which included demographic information about the respondents. They are asked to rate their experiences with crisis management in construction projects on a five-point scale.

3.4 Descriptive Statistics

There were 134 valid comments from a variety of construction project owners, engineers, and managers in southern India after the questionnaire survey was completed.

3.5 Factors Considered for the Study

Various variables play a role in how well crisis management in building projects is implemented will be studied using findings from literature and real-time observations.

- Material Costs
- Supplier Relationship
- Financial Aspects
- Manpower Availability
- Crisis Prediction
- Change or Appointment of Managerial Personnel
- Contingency Plan
- Cultural Differences
- Satisfactory Employee Performance
- Contractors Performance
- Environmental Factors
- Government Norms
- Design Changes
- Information System
- Psychological Counselling
- Control Over Possible Human Errors
- Feedback on Field Operation
- Scheduling Variances
- Learning from Past
- Safety Issues
- Hostile Client Approach

IV. DATA ANALYSIS

4.1 General

The statistical software tool SPSS (Statistical Package for Social Sciences) is used to analyse the data.

4.2 Reliability statistics

Cronbach's alpha method is used to examine the reliability of the data before it is analysed. This is a common technique for determining whether or not the data is reliable. The recommended alpha value of 0.839, as stated by Nunnaly, showed a high degree of internal consistency in the results (1978).

4.3 Principal Component Analysis

It is possible to reduce a large set of data to a smaller number of variables using principal components analysis. Components analysis aims to explain as much variance as possible with as few as possible primary components. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is used to ensure that the sample size is adequate prior to the analysis. The sampling adequacy was found to be 0.728, which is acceptable. Since the data is spherical, it can be reduced using Barlett's sphericity test. SPSS software was used to extract data, and initial eigen values were used to measure variance. In principle components analysis, the varimax extraction technique was used for rotation. We started with 30 factors, but after eliminating those with low loadings, we now have 8 major factors. The following are some of the most important considerations that were made.

- Manpower Utility
- Design Changes
- Time Contingency
- Management Strategies
- Safety Issues
- Environmental Factors
- Supplier Relationship

Table 1: Principal Components Analysis

Factors	No. of factors	Eigen values	% variance	Cumulative % variance
Supplier Relationship	5	5.338	17.793	17.193
Manpower Availability	5	4.149	13.831	31.625
Design Changes	4	2.306	7.687	39.312
Time Contingency	3	1.716	5.718	45.031
Management Strategies	4	1.521	5.069	50.100
Crisis Management Team Unavailability	4	1.324	4.414	54.514
Safety Issues	2	1.221	4.069	58.582
Environmental Factor	3	1.105	3.684	62.266
KMO Measures of sampling Adequacy: 0 .9254		Value: 1362.754		

4.4 Mean Score Analysis

The mean score analysis of the identified significant factors is carried out using the descriptive statistics method of frequency distribution. The following paragraphs go over the findings of the mean score analysis.

Table 2: Analyzing the Mean Value

Factors	Mean score	Standard deviation	Co efficient of variation
Supplier relationship	2.63	0.696	0.265
Manpower availability	2.29	0.678	0.296
Design changes	3.66	0.895	0.245
Time contingency	2.79	0.725	0.256
Management strategies	3.05	0.471	0.154
Crisis management team unavailability	3.53	0.976	0.276
Safety issues	2.06	0.753	0.365
Environmental factors	2.62	0.675	0.258

The unavailability of the crisis management team and design changes have the highest mean scores of the eight major factors, with a combined score of 3.66. Managerial strategies, time contingency, supplier relationship, environmental factors, manpower availability and safety issues are all included in the following sections (2.06).

V. CONCLUSION

According to the findings of this study, eight varieties of variables influence how crisis management is implemented in the construction industry. projects: supplier relationships, availability of manpower, modifications in the design, time contingency, strategies for managers, absence of a crisis management team, safety concerns, and environmental considerations. In addition, descriptive statistics were used to calculate the mean score. Changes in design and a lack of a crisis management team were found to have the highest mean scores when analysed alongside other significant factors. Consequently, owners, engineers, and managers of construction projects view design changes and the lack of a crisis management team as critical factors in crisis management implementation.

REFERENCES

1. Coombs W. T. (2007). Protecting organization reputation during a Crisis: The development and application of situational crisis communication theory. *Corporate Reputation Review, 10*, 163-176.
2. Emin Ocal, Emel Laptali Oral, & Ercan Erdis. (2006). Crisis management in Turkish construction industry. *Building and Environment, 41*, 1498–1503.
3. Genti Beqiri. (2014). Innovative business models and crisis management. *Procedia Economics and Finance, 9*, 361-368.
4. Granville King. (2002). Crisis management & team effectiveness: A closer examination. *Journal of Business Ethics, 41*, 235–249.
5. Hwang P, & Lichtenthal JD. (2000). Anatomy of organizational crisis. *Contingencies Crisis Management, 8*, 29-140.
6. Ian I. Mitroff, Paul Shrivastava, & Firdaus E. Udwadia. (1987). Effective crisis management. *The Academy of Management Executive, 1*(3), 283-292.