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Innovative Technologies in Construction Project Management for Performance Improvement

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A B S T R A C T

Construction delays are becoming the most important issue facing all organizations in the construction industry. The majority of building projects in Pakistan are dealing with a similar issue. The goals of the organizations involved in construction firms, including the client, contractor, consultant, management, and others, are to finish the work within the allotted time frame, within the allocated funds, and with high-quality results. Construction projects are heavily influenced by delays; if individuals are unaware of the reasons behind the delays, they will not be successful. The purpose of this study is to identify the causes that cause delays so that the organizations can enhance the project's success. To determine the duration issues, the construction group members—owners, contractors, consultants, engineers, etc.—are surveyed using a questionnaire.

Keywords: delay factors, contractor, engineer, consultant, owner

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1. INTRODUCTION

In the context of building initiatives, delays indicate that further tasks are not yet finished under the specified period or contract term. varied employees, which can include the seller, supplier, designers, or experts, have varied definitions of delay. For example, an owner's definition of delay could be a lower profit in the shortest possible period, while a consultant's view might be a larger task plan in a shorter amount of time. Thus, due to a lot to do in a short amount of time, costs may increase, job performance and security may suffer, and debris from materials may result from ineffective scheduling. As a result, all of these variables are connected to the reasons for delays, and by identifying these causes, the construction sector may improve project performance. The amounts needed for working capital for building projects are very high, thus owners must plan when and what to do with the funds to meet the demand. Proper preparation and the recognition of delay factors can help resolve this.

2. OBJECTIVE OF STUDY

These are the subsequent research's basic objectives.

- To determine what is causing delays in construction projects.
- To support project participants in achieving their goals

3. LITERATURE REVIEW

Megha Desai and Rajiv Bhatt (2013) This study highlights the reasons behind problems in the Indian construction sector's domestic development projects. Nine primary groupings comprised 58 probable factors in all. Twenty builders, seventeen contractors, and thirteen designers made up the total of 50 respondents who took part in this field study.

Ashwini Salunkhe and Rahul Patil (2014) Have determined that to enhance the project's efficiency, it is necessary to rationally investigate project delay sources and how to prevent or manage them. The construction delay variables were categorized into seven groups with the use of in-depth literature reviews and interviews. These categories provide the criteria that may directly affect the project's success.

Zarina Alias, E.M.A. Zawawi, Khalid Yusuf, Aris, NM (2014) to determine the degree to which CSFs and project performance are related, that was investigated. The organization will likely use the study's facts to help

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assess how well project management has been performing. Five variables— Personal variables, task processes, project leadership activities, Outside Problems, and Plan Associated Factors—were identified to construct the theoretical platform for a successful project.
Daniel F. Ofori (2013) investigated to determine and evaluate the standard of project management procedures and also the essential successful elements for projects in Ghana. The research employed an exploratory methodology and a survey technique to gather information on the project management practices of organizations in Ghana.

A.W. Shaikh, M.R. Muree, and A.S. Soomro (2010) investigated to determine the most important variables influencing the reasons behind building project delays.

4. RESEARCH METHODOLOGY

The present investigation's technique was derived from a review of literature, conference papers, publications, and international publications. The study aims to identify the factors that contribute to construction project delays. In the final stages, a questionnaire survey is used to determine the reasons behind the delays.
Megha Desai and Rajiv Bhatt's questionnaire is appropriate based on the type of construction projects in the field (2013)
These factors were categorized into nine main groups based on the nature and style of their occurrence.

5. DATA COLLECTION

To identify the determinants of delay, information was gathered from a variety of construction companies in the Lahore area as well as information from publications, conferences, websites, and other worldwide sources.
The survey was intended for the designers, builders, and builders of different Lahore-based companies.

5.1 DATA ANALYSIS

To identify the reasons for delays, information was gathered from a variety of construction companies in the Lahore area as well as information gleaned from books, articles, conference papers, the internet, and foreign periodicals.
Fifteen construction professionals, including owners, contractors, etc, were the focus of the investigation. Based on their evaluation, the RII approach was used to analyze the data.

Following research, only those delays with causes greater than 0.8 were chosen.
The following five-point grading system is created to assign a rank to the reasons for delay:

1 denotes very low, 2 lower, 3 moderate, 4 powerful, and 5 extremely powerful.
The RII approach was then used to analyze this data.
RII= ΣW/A*N
N = the number of participants; W = total weight provided by respondents; A = highest weight on the scale, or 5 in this case;

Table -1: Relative Importance Index

Rank	Index	Cause
1	0.94	Workers have extremely little or no skill.
2	0.91	lesser laborers against the demand
3	0.86	Contractor's lack of project planning and scheduling
4	0.84	Postponement resulting from obtaining authorization from governing bodies
5	0.84	Delay brought on by material transportation from source to location
6	0.83	Total lack of competent contractor site management and oversight
7	0.84	both the number and quality of efforts lacking

6. CONCLUSIONS

This article used the RII methods to analyse the most important delay reasons to enhance project performance, including reducing project duration, overspending, and material waste in the best possible way and with the highest level of quality.

The project's success might improve if any construction aims to reduce these sources of delay.
Below are the reasons why there are delays.

- Workers have extremely little or no skill.
- lesser labourers against the demand
- Contractor's lack of project planning and scheduling
- Postponement resulting from obtaining authorization from governing bodies
- Delay brought on by material transportation from source to location
- Total lack of competent contractor site management and oversight
- both the number and quality of efforts lacking

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