

# Internal and External Causes of Delay in Project Management & Construction Industry of Pakistan

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## Abstract

Infrastructure plays a key role & governs the economic development of any nation. It is needless to mention that infrastructure development & economic growth go hand in hand. However, construction projects which service the infrastructure requirements are plagued by a phenomenon of global occurrence: "Delays & Cost Overruns." This paper's primary purpose is to identify the critical causes of delays and mitigation strategies globally, identify the literature gaps, and present the scope for future research work to improve construction project delivery. Based on research work, literature is segregated among developing and developed countries to compare and analyze these economies' causes distinctly. The literature review indicated that the causes of delay vary from country to country; especially the critical causes in a developing country are quite different from in a developed country. The top ten causes of construction project delay in developing economies and developed economies are identified. The paper has presented the gaps in past studies and discussed the scope and direction for future research studies to address construction project delays' root cause.

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## 1.

### Introduction

The construction industry is the backbone of a country's economy and is considered the fundamental unit through which physical development is attained. The more thriving and influential the construction industry is in a country, the more economic stabilization for which quality, time, and cost are the essential variables. The construction project's effectiveness and success are assessed by attaining these three variables in a certain period and fulfilling the project's initial business scenario. Different researches conducted in the previous five years in Africa, Australia, and Asia have been leaning towards

the crucial impacting factors indicating the construction project's delays. The construction sector is highly significant for Pakistan's economic growth and development, as Pakistan is still a developing country (Almutairi, 2016). There are several construction projects which have been finalized, and many different projects are still under construction. The country's key focus is on the giant construction project, which accounts for a budget of over \$1 million. However, there are many issues that the construction industry of Pakistan experiences, one of the most substantial ones is delays in completing the project. The majority of the failures in the construction project are due to time delays. Delay in the construction project is amongst the most crucial

element in the industry's overall performance as it results in increased cost of the project (Almutairi, 2016). Any construction project's on-time completion is highly beneficial and significant for every party involved, including contractor, client, and consultant. Thus it is mandatory to determine the components responsible for the schedule delay in the construction project. Mbala, Aigbavboa described delay, and Aliu (2018) as the period exceeded either beyond the date of completion mentioned in the agreement or above the date agreed on by the parties involved for the delivery of the construction project (Mbala, Aigbavboa and Aliu, 2018). According to Kim and Kwon (2019), a delay is an act that overruns a specified period to complete or perform the task of the agreement manifest as further delays of work. The issue of delay in execution of the construction project is regarded as a global factor. There is a robust association between project conditions, time, and scope. A single fluctuation in the areas mentioned above would impact the construction project's overall performance (Kim and Kwon, 2019). Delay in the construction project is very costly for the owner and the contractor. The owner lost the possible revenue while using the projects and increased the cost of sustaining the agreement. The contractor fails to attain the opportunities for the potential project because of involvement in current projects. The public of the country also suffers because of delayed construction of buildings, flyovers, and roads. The research on this topic has substantially contributed to determining impactful factors resulting in construction projects' time delay. Therefore, a broad extent of opinions is present amidst the extant literature with minimum consensus on the specific or optimal approach concerning the delays in time observed in Pakistan's construction organizations (Almutairi, 2016). Thus, it is challenging to identify the actual or precise time delay experienced by construction organizations in Pakistan. Time is considered a crucial resource, and it must be controlled until the beginning of the project. Delays and their outcomes are regarded as amongst the most negative phenomenon in the construction industry of Pakistan. Considering Pakistan's case, it is scarce that a vast construction project is carried out at the specified time. There is much evidence of enormous construction projects that experienced a delay, or in a few scenarios, the projects faced abandonment or suspension. A few examples of big construction

project which has gone through delay includes Kalabagh Dam, National Highways of Pakistan, Motorways of Pakistan, Port tower complex by KPT, China industrial cities in Sindh, Punjab, Baluchistan, and Khyber Pakhtunkhwa, reconstruction of Earthquake affected road, and reconstruction of Floods affected roads (Chiu and Lai, 2017).

### 1.1 Research Objectives

This research project aims to determine the "internal and external causes of delay in Pakistan's project management and construction industry." Based on this aim, the following are the objectives that have been set;

- To identify what is a delay in project management and construction
- To identify the internal and external factor contributing to delay in the construction industry
- To determine the strategies which could be implemented in Pakistan to deal with the concern of delays in construction projects

### 1.2 Problem Statement

Infrastructure development and construction projects are considered the primary indicator of Pakistan's economic growth and development. Several construction projects have been suffering from severe concerns in Pakistan because construction projects cannot finalize at the scheduled time. Furthermore, the construction project's complexity has increased because of innovation, new technologies, equipment, and tools. According to Sohu et al. (2018), it is scarce in Pakistan that construction projects are carried out without delay. The most harmful effect is that the construction delays lead to a wrong impression on international or foreign investors, ultimately resulting in a declining trend concerning the country's progress. It has been determined that delays generally occur because of the inadequate management of different factors concerned with equipment, labor, material, consultants, client, and contractors.

Some external factors also contribute to a delayed project that includes overall economic condition, laws and order, and weather conditions. This research bears great significance as it would fill the literature gap concerning this topic and address Pakistan's

construction industry issues. Carrying out this research would also provide insight regarding the topic to different construction organizations in Pakistan to become aware of the adequate strategies to deal with delay issues. Moreover, it is also anticipated that these research findings would provide essential insight to the project managers to adopt the literature strategies to overcome project delays and deal with adverse consequences of the delay in project completion in Pakistan.

## 2. Literature Review

### 2.1 Delays in Construction Project

Time delay is described by Maqsoom et al. (2018) as the observed modification between the actual time taken and measured time required to carry out the activity (Maqsoom, Choudhry, Umer, and Mehmood, 2019). According to Larsen et al. (2016), time delay experienced by construction organizations across the globe is the construction industry's fundamental concern. It might adversely impact a construction organization's economic stability and credibility and damage its sustainability in the industry and the country. According to the indication of many studies, the construction industry worldwide is suffering from delays in the project's execution resulting from different causes (Larsen, Shen, Lindhard, & Brunoe, 2016). According to Almutairi (2016), the delay is defined as the activity which must have been attained or completed on a specific date is moved forward or canceled to another or later date, the "postponement" term must be utilized in place of "delay." Delay in a construction project is considered as the point where a scheduled date of execution is passed or exceeded, and tasks related to the construction project are still unfinished (Almutairi, 2016). The most significant concern with the project's delay is the early determination of possible causes or reasons for the delay and placing remedies and strategies to deal with such delays. Delays in the construction project have an economic and social cost involved, as delays mean different parties involved. Delay was expressed by Mbala, Aigbavboa, and Aliu (2018) as the period which passes either above the date of execution specified in the contract or beyond the date which was agreed on by the parties involved for the delivery of the construction project (Mbala, Aigbavboa, and Aliu, 2018).

### 2.2 Factors Contributing to Delays

Different contributing factors have been discovered that lead to a delay in the construction project's execution. Lessing, Thurnell classify two categories, and Durdyev (2017), of delays in construction projects, these categories include internal factors (consultant, contractor, and client) and external factors that are not in the control of construction firm (Lessing, Thurnell and Durdyev, 2017). Delay in a construction project is not a new concept. It has been a problem across the globe, which includes Pakistan. Many reasons have been identified as factors contributing to delayed construction projects: inadequate resources, shortage of material, poor project management, financial concern experienced by contractors and organizations, scarcity of resources, and extreme weather conditions.

Delay is a huge matter of concern in Pakistan's construction industry. Only a few studies have been carried out to determine the reason for these delays in Pakistan's construction industry. Shaikh introduced a theoretical framework, Jariko, Odhano, and Jhatial (2020). This theoretical framework was introduced by evaluating the earlier studies emphasizing the contractor, client, resource, and generally related issues as main factors leading to delayed construction projects (Shaikh, Jariko, Odhano, & Jhatial, 2020). At the same time, another research was conducted by Keerio et al. (2017). It was concluded that the highly ranked and most significant causes are concerned with the financial matters leading to Pakistan's construction industry. The researcher further determined and elaborated on the delays such as inflation and monthly payment issues, inadequate fund allocation, and delay payment to the supplier (Keerio et al., 2017). The main factors contributing to delay in the construction industry of Pakistan include;

#### *Factors Related to Contractor Leading to Delays in Project Completion*

Several research pieces by many researchers have been determined the factors related to delays by the contractor. Kamal, Abas, Khan, and Azfar (2019), inadequate experience, inefficient site management, and improper planning by the contractor are critical for the construction project's delay. Quality of the contractor's workforce, subcontractor issues, and contractors' financial issues are the core reasons for the delay (Kamal, Abas, Khan, & Azfar, 2019). Chiu

and Lai (2017) determined that contractors' fundamental problems are contractors' insufficient experience, strategies applied for construction, inadequate planning, sub-contractors, and poor site management. At the same time, challenges in financing, site deployment, insufficient qualification of technical staff, inadequate implementation of construction methods, frequent change of sub-contractors, improper work by sub-contractor, ineffective planning and scheduling of projects, deprived organization, and communication, reword due to errors, and conflicts in sub-contractors (Chiu and Lai, 2017).

#### ***Factors Related to Client Leading to Delays in Project Completion***

Many factors are related to clients in the delay of the construction project. For clients, construction delays lead to loss of revenue, increase in cost, lack of productivity, lack of rentable resources, and reliance on existing resources. According to many research types, it has been identified that clients' main concern is related to financial issues. Clients' significant contribution in the delay of a construction project results from the delays in payment to contractors. As per the study of Das and Emuze (2017), the client's approval is also a significant reason for delay. Furthermore, the client's decision-making is also an essential factor contributing to the delayed project (Das and Emuze, 2017).

#### ***Factors Related to Consultant Leading to Delays in Project Completion***

There are not many studies related to the contribution of consultants. However, it is also a significant factor. Nevertheless, it has been observed several projects which are diverse from earlier projects, demanding some technicalities from the consultants; however, they are unable to address effectively due to the review in the design document and inadequate experience. Furthermore, clients and contractors usually claim that the number of employees is less on consultancy organizations responsible for the delay. The changes in drawing, preparation, and approval of drawing, consultants' inefficiency, wrong site investigation, slow response and inspection, and project management are the major issues caused by the consultant in Pakistan's construction industry (Motaleb, 2017).

#### ***Factors Related to Materials Leading to Delays in Project Completion***

Delivery of material is amongst the most crucial factors which contribute to the delay of the construction project. According to Sohu et al. (2018), the scarcity and quality of material throughout construction projects' execution are the significant factors related to material, which results in delayed projects (Sohu et al., 2018). Different studies by different researchers select materials, late delivery and shortage of materials, and inadequate management of materials by the management are considered the leading contributors to delayed construction projects in Pakistan.

#### ***Factors Related to Equipment Leading to Delays in Project Completion***

The equipment-related factors contributing to delay in projects in Pakistan's construction industry include; lack of high-technology mechanical equipment, little efficiency and output by equipment, unskilled operators of equipment, scarcity of equipment, and equipment failures. Furthermore, equipment rental costs also act as a massive contributor to delayed construction projects (Shaikh, Jariko, Odhano, and Jhatial, 2020).

#### ***Factors Related to Labour Leading to Delays in Project Completion***

Nowadays, the shortage of labor is among the key issues that the construction industries worldwide are suffering from, including Pakistan. Labour shortage takes place due to increased demand for labor in the construction industry. Less availability of labor, unskilled labor, and semi-skilled labor also result in delayed construction projects. The wages of labor are also significantly lower in Pakistan, contributing to the construction industry's shortage (Motaleb, 2017).

#### ***Factors Related to Environment Leading to Delays in Project Completion***

External factors play a significant part in the delayed construction project of Pakistan. The external factors that contribute to delay in construction projects include amendments in rules and regulations, weather changes, unforeseen site conditions, natural disasters, organizational changes, accidents during

construction, and neighbors' issues (Maqsoom, Choudhry, Umer, & Mehmood, 2019).

### 2.3 Strategies to Deal with Delays in Construction Projects

Avoiding delays is amongst the essential aspects of the management of the construction project. While construction project delays are generally considered unavoidable, many of them could be reduced or avoided. Better planning and forecasting are required initially to overcome the issues of delayed construction projects. An effortless manner to enhance the forecasting project duration is to establish a checklist of project activity that outlines every activity that needs to be carried out to complete the construction project. Another approach that can minimize delays in the construction project is by spotting early warning signs in the project delay (Motaleb, 2017). The two most frequent warning signs include changing or unclear project scope and communication issues.

Furthermore, the construction organizations need to enhance communication among every involved party and obtain a backup plan for any issue or uncertainty during construction execution. Another significant approach to reducing the possibility of delays in the construction project is adopting project management techniques. Every construction organization in Pakistan must have a project management technique to avoid delays. These practical techniques include; waterfall technique, agile project management, critical path technique, critical chain technique, and extreme project management (Lessing, Thurnell, & Durdyev, 2017).

### 2.4 Conceptual Framework

The conceptual framework demonstrates what the researcher expects to determine through the research. It describes the adequate variable regarding the research and maps out how they could associate with one another. For this research, three different theories are considered to be relevant and thus implemented. The three theories which have been selected include resource-based theory, financial distress theory, and agency theory. These theories establish the foundation and bases for labor, finance, and contracts, respectively, as the main factor for the successful execution of any construction project.

**Financial Distress Theory and Finance** – This theory aims to look at various determinants that result in the decline of an organization's performance. According to Brigham and Ehrhardt (2016), financial distress is the firm's incapacity to cover its financial liabilities or obligation as they mature. It is significant to measure the probability of businesses or organizational financial distress as it would identify the payout distribution attached to the initial investment. The financing and investment decision of an organization are independent and separable (Ehrhardt and Brigham, 2016). Nevertheless, most of the organization does not realize this and thus holds their balance sheet on equity and debts affirm as one that then deteriorates their cost leverage.

**Resource-Based Theory and Labour** – This theory was developed by Penrose and was initially introduced in 1959. The research-based theory aimed to understand how businesses and firms attain competitive advancement by implementing assessable non-physical and physical resources at the organization's disposal. The resource-based theory is a strategic theory or approach which primarily centers on strategies or methods which could be applied to support and attain competitive advantage or power in the organization (Goh & Loosemore, 2016). Construction projects go through labor issues or concerns fundamentally caused by practices and processes within the project's lifecycle. Planning for the project's labor is a complicated task as the outcomes and extent of inadequate skills task to the project's activities could result in negative consequences. It is adequate to acquire the capability of determining the adequate skills and labor necessary to carry out specific project activities.

**Agency Theory and Contracts** – Ancient Greek impacted the contract laws as a sort of dedication to contracts and the fundamental category for ending or canceling agreements. Its framework is related to the contractual relation of employees, managers, and stakeholders in an organization. Agency theory deals with information and incentives internal and external problems to the organization (Sha, 2019). Agency theory addresses the issues of project delay resulted from contractual conflicts. Various subjective interests result in a conflict of interest among contracting partners. The partners might take some actions against the interest of other contractors or parties and lead to conflicts. These actions and

conflicts then eventually result in delays in construction projects.

### **3. Research Methodology**

#### **3.1 Research Philosophy**

Research philosophy addresses the development, nature, and source of knowledge. Specifically, a research philosophy believes how data or information concerning a phenomenon must be gathered, evaluated, and applied. Furthermore, the research methodology is concerned with the series of principles regarding the standard through which the study or research is performed. Research philosophy is the researcher's thoughts through which reliable and new knowledge regarding the objective of the research is acquired (Greenwood, 2016). In simple words, it is the foundation of the research, which includes the selection of research approach, development of the problem, collection of data, processing, and analysis. In turn, the paradigm of research comprises methods, epistemology methodology, and ontology. As a part of carrying out the study, the person is known to be involved in developing knowledge. The primary and secondary collection is carried out to answer the research questions developed at the beginning of the study. Based on the primary and secondary collected data, data analysis is carried out. The answers acquired resulting from the data analysis lead to the development of original or novel knowledge. Addressing research philosophy includes formulation and awareness of the assumptions and beliefs (Paradis et al., 2016).

Moreover, every stage of the research procedure is based on assumptions regarding the nature and sources of the knowledge. The research philosophy reflects or represents the author's significant assumptions, and these assumptions act as the foundation for the research approach. Typically, research philosophies obtain many branches concerned with a broad range of disciplines. Different research philosophy is applied for a different scope of the study. However, the four major and most common research philosophies include; interpretivism, realism, positivism, and pragmatism (Tuffour, 2017). All the mentioned philosophies are diverse from one other regarding data collection methods, sampling size, research design, etc.

Considering the aims and objectives of this study, the research philosophy that will be applied in this research is positivism, which would help direct the themes and questions of the research. Furthermore, the examination results and the efficient utilization of previous literature address huge samples followed by qualitative and quantitative assessments.

#### **3.2 Research Approach**

In order to make research effective and successful, an appropriate selection of research approaches is required. The research approach is considered the plans and processes for research that range from broad assumptions to in-depth data collection methods, evaluation, and interpretation. It is, thus, based on the nature and scope of the research problem being discussed (Tuffour, 2017). Two major research approaches could be applied to research, namely, inductive and deductive approaches properly. The deductive approach investigates the validity or authenticity of hypotheses, theories, assumptions.

On the other hand, the inductive approach provides the emergence of new generalizations and theories. The main distinction among both approaches is that the deductive approach aims to examine the persisting theory. Contrarily the inductive approach seeks to generate the theory. The inductive method starts with specific observations and progress towards broader generalization. Simultaneously, the deductive approach begins with the broader generalization and completes a particular observation. The two of these methods are implemented in different types of research, and it is also common to merge them in a large independent study (Wright et al., 2016).

The inductive approach is generally selected where the literature on the topic is not available. There are three phases of the inductive approach: observation, pattern observation, and theory development. The outcomes of the approach could be validated; however, they could not be justified or proven. On the contrary, the beginning of the deductive approach is always with the theory. It is formed in 4 phases: starting with existing theory, generating hypotheses based on the theory, data collection to compare the hypotheses, and at last, the analysis of the results. However, this approach comes with certain drawbacks, like validating the results if each premise developed in the inductive examination is accurate

(Greenwood, 2016). For meeting the aim of this study to determine the internal and external causes of delay in project management and construction industry of Pakistan, the application of the deductive approach is considered to be the most effective and suitable and, thus, selected with regards to this study.

### 3.3 *Research Design*

The aim of the research design is the provision of an adequate framework concerning the study. A highly essential decision in the research design procedure is the decision to be taken regarding the research approach since it identifies how adequate data for the research would be acquired; nevertheless, the process of research design includes several interrelated decisions. The two main research designs are quantitative and qualitative research. The qualitative research design is applied to obtain knowledge related to opinions, motivations, and reason. It provides an in-depth understanding of the problems and supports producing the idea for potential quantitative research (Wright et al., 2016). The most common type of qualitative approach involves focus groups, observations, and interviews.

On the contrary, the quantitative research design deploys the research issue's quantification, applying either changing the information into practical statistics or developing numerical data. This approach is applied to assess behaviors, attitudes, opinions, and different variables. To meet the aims and objectives of this study, quantitative research design in the form of a survey would be carried out with the help of a questionnaire to attain the responses to the research questions.

### 3.4 *Data Collection*

Data collection is the approach of obtaining information from all the relevant sources to obtain the answers to the research issues, determine the hypothesis, and measure the outcomes of the research. There are two types of data collection methods, namely, primary and secondary. The primary data collection is concerned with gathering raw data from primary means like observations, interviews, etc. In contrast, secondary data is collected from a secondary source, which means that the data was gathered by someone else before for their purpose, made available for other researchers to acquire information. It involves online sources,

books, and journal articles (Paradis et al., 2016). Therefore, applying the definite set of principles to choose the secondary to be applied in the investigation performs a substantial role in escalating the levels of research validity and reliability. This research was collected from around 300 employees and participants in the construction industry in Pakistan.

In this study, the method of primary data collection is utilized as the survey is carried out. The sample of project managers and contractor have been asked from LinkedIn for the responses in a questionnaire (Sharma, 2017).

### 3.5 *Sampling*

The random sampling technique would be applied in the research; random sampling is amongst the sampling method in which the sample acquires the equal possibility of being selected. A sample was chosen on random grounds is considered as the unprejudiced representation of the entire population. A total of 300 individuals will participate in the survey, and based on the responses, the analysis of data would be carried out.

### 3.6 *Ethical Considerations*

Ethical consideration is one of the essential elements in conducting primary research data. While obtaining data for research purposes, ethical considerations must always be considered. Following are the ethical considerations that must be considered in conducting primary research;

- The respondents should not be harmed in any possible way
- The dignity and honor of the participants must be respected and prioritized
- Take informed consent of the participants (Greenwood, 2016)
- Confidentiality of the participant's information should be maintained
- The researcher should avoid false and misleading information.

## 4. *Results and Findings*

### 4.1 *Hypothesis Testing*

Relapse investigation is a bunch of measurable strategies utilized to assess connections between a reliant variable and at least one free factor. It tends to be used to survey the strength of the connection

among factors and demonstrate the future connection between them. A fundamental regression analysis has been conducted for this project.

Question No.	Survey Question	Responses No.	Percentage
1	Are time delays one of the most significant issues in the construction industry of Pakistan?	A. Strongly Agree - 80 B. Agree - 90 C. Neutral - 90 D. Disagree - 20 E. Strongly Disagree - 20	A. 26.66% B. 30% C. 30% D. 6.66% E. 6.66%
2	Which factor has more impact on the construction industry of Pakistan?	A. Internal - 100 B. External - 120 C. Both - 80	A. 33.33% B. 40% C. 26.66%
3	Which internal factor contributes the most to delays in a construction project?	A. Inadequate and poor planning - 90 B. Drawings on preparation and approval - 80 C. Lack of quick decision making - 60 D. Lack of project management - 30 E. Lack of manpower - 30	A. 30% B. 26.66% C. 20% D. 10% E. 10%
4	Which external factor contributes the most to delays in a construction project?	A. Poor site management of the contractor - 70 B. Improper planning of the contractor - 50 C. Inadequate experience - 60 D. Finance issues Delays in payment -120	A. 23.33% B. 16.66% C. 20% D. 40%
5	The experience and skills of a project manager are crucial for the timely completion of a construction project?	A. Strongly Agree - 120 B. Agree - 130 C. Neutral - 50 D. Disagree -00 E. Strongly 0Disagree - 0	A. 40% B. 43.33% C. 16.66% D. 0% E. 0%

6	What do you think is the most appropriate strategy to deal with delays in construction projects?	<p>A. Experienced and skilled project manager - 80</p> <p>B. Adequate planning and forecasting- 60</p> <p>C. Proper budgeting and financing - 70</p> <p>D. Proper workforce Clear communication - 50</p> <p>E. Adoption of project management techniques - 20</p>	<p>A. 26.66%</p> <p>B. 20%</p> <p>C. 23.33%</p> <p>D. 16.66%</p> <p>E. 6.66%</p>
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**4.2 Results and Findings**

Many participants believe time delays are one of the essential pressing issues in the Pakistan Construction Industry. The first question of the survey was related to the time delays within the construction industry of Pakistan. It is estimated that around 86.66% of the responses agreed that time delay was one of the most significant issues.

Much of the responses believed that external factors plan an essential role in the Pakistani Construction Industry. However, the results did not vary much when it came to taking account of internal factors such as lack of planning. 40% of the responses believed that external factors played a significant role within Pakistan's construction industry, while internal factors with a ratio of 33.33% being the second.

The third question relates to some of the internal factors that often cause a delay within Pakistan's construction industry. Inadequate planning and poor decision-making are two crucial internal factors that delay construction projects within Pakistan. Poor planning had a ratio of around 30%, poor decision making with a ratio of 20%, while drawing preparation had a ratio of 26.66%, which makes poor planning one of the key reasons the project failed.

The fourth question in the survey was related to external factors that cause a delay within Pakistan's construction industry in delivering mega projects. Poor site management and financial issues are two

critical issues in delaying construction projects. Around 40% of the people working within the Construction industry of Pakistan believed that Financial issues are one of the main external factors while poor site management being the second reason with 23.33%.

Around 85% of the responses believed that an experienced skill set is essential within Pakistan's construction industry. The fifth question was related to the project manager's skills and how crucial they are in delivering projects on time. Much of the survey responses believed that a Project Manager should have the right skills and experience to ensure that he/she is thriving on delivering projects on time.

Experienced project managers, adequate forecasting, and proper budgeting are three necessary skills that can solve the delays within Pakistan's construction industry and 80% of the responses suggested these within the survey conducted. The last question within the survey was related to the solutions and strategies that can be used in the construction industry to solve the current prevailing issues.

**4.3 Demographic Analysis of the survey**

Within the survey's demographic analysis, we will be breaking down the backgrounds of the responses we had within the survey. The survey responses were broken down into different segments such as gender, age, highest education level, Monthly salary in rupees, and years of experience. To conduct a much

overall better analysis, it was ensured that the responses could be collected from different varying

individuals so that the response's findings could be as accurate as possible.

No	Profile	Description	Responses	Percentage
1	Gender	Male	210	70
		Female	90	30
2	Age	30 years old and below	90	30
		31-40	90	30
		41-50	60	20
		51 and above	60	20
3	Highest Education Level	SPM	30	10
		Diploma	70	23.33
		Bachelor's Degree	130	43.33
		Master's Degree & above	50	16.66
		Others	20	6.66
4	Monthly Salary	Below Rs 20,000	50	16.66
		RS 20,000 – Rs 50,000	70	23.33
		Rs 50000-Rs 100,000	50	16.66
		Rs 100,000-Rs 250,000	120	40
		Rs 250,000 and more	10	3.33
5	Years of experience	Less than 1 year	50	16.66
		1 to 5 years	100	33.33
		6 to 10 years	50	16.66
		More than 10 years	100	33.33

**4.4 Correlation Results**

To further conduct a brief analysis as to what are the main reasons due to which construction delays occur within Pakistan, we have selected several variables as to how they correlate with each other and to what

extent they have delayed projects within the industry. The table below shows the correlation results.

Dependent Variables: Reasons which proportionate the delays within the construction industry	Independent Variable: Delays in Construction Industry of Pakistan (<1)
Lack of Planning	0.33
Financial Issues	0.5
Experience of the workforce	0.42
Poor site management	0.44
Communication	0.24

The correlation analysis shows that Financial issues, lack of experience, and poor site management have led to an increase in the number of construction projects being delayed within Pakistan. Correlation shows the relationship between two variables as to how one event increases another independent event's chance to occur. The highest correlation was observed within the financial issues such as financial forecasting and recovering leasing payments of the project, which were said to be the leading cause of the delays of the construction projects within Pakistan.

**5. Conclusion and Recommendations**

It can be summarized that several reasons were identified during this survey to find out the number of reasons which to delays in delivering the project on time. To address those issues, we have specified some recommendations to improve the schedule planning process to deliver projects on time. Lack of planning must be ensured within the project managers to make sure they can keep a safety net. This can also mean using the most efficient technological tools to monitor the performance continuously. To address the financial issues, construction firms should consider meeting with well experienced financial analysts who could then appraise a project for future and advise the firms as to what strategies they should be taking to improve their financial cashflows. In addition to this, the companies should improve talent management practices, which can help the project managers overcome issues such as lack of planning, which can allow project managers to be better trained and have better knowledge and understanding of the construction industry within Pakistan.

Finally, it can be concluded, throughout covering this project, several issues were identified, which were either or internal factors. To further evaluate these factors, a research project was conducted with

responses from individuals working within the Construction Industry of Pakistan. The responses were taken from 30 people, and it was used to identify the main issues prevailing within the construction industry of Pakistan. After collecting responses, an analysis of the different reasons was drafted as to why these delays occurred in the first place. According to correlation results, financial issues and lack of planning were identified as the critical issues that led to delayed projects within the industry. Finally, in the recommendations, it was suggested that the industry should look forward to more efficient and modern project management tools which can increase the efficiency of construction companies, and also they should look forward to implementing best talent management practices to improve the skill set of the current labor force.

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