

# A STUDY ON THE DELAYS IN CONSTRUCTION PROJECTS IN AFGHANISTAN

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## ABSTRACT

These studies have a number of restrictions that cause construction projects in Afghanistan to be delayed. The delay during the implementation of the project is one of the main challenges and the late completion of the work or activity compared to the planned. A great many construction projects have been delayed in Afghanistan. This delay in project development affects adversely the prestige and dignity of public authorities and the weaknesses and failures of the projects that are creating a distance between the people and the government. There is widespread agreement that a large number of construction projects in Afghanistan are unfortunately unable for many reasons when a project finishes on time. The greatest problems are the delays of construction, and thus the slowdown of national development is sending a bad signal to foreign investors. A thorough survey therefore identified critical factors causing delays in the construction of different construction projects in Afghanistan in time. Productivity is a particularly important issue in Afghanistan, as in many developing economies. This is seen in the National Development Strategy for Afghanistan (ANDS) as a strategic target to achieve more than the post-conflict situation in the developing cycle in the country. A full range of literary studies has identified 83 causes of delays. 60 well-known construction stakeholders including Afghan customers, contractors and consultancies received and submitted questions. Questionnaires The findings show that the major causes of construction delay in Afghanistan are: security, corruption, poor technical skills of the contractor, financial account delays, poor site management and contractors' supervision. This research also looks at the impact of delays in construction on projects in Afghanistan and makes a few recommendations.

**Keywords:** Delay, Construction, Afghanistan, Cost Overrun.

## 1. INTRODUCTION

### 1.1 Introduction

Delay is a major problem in the construction industry. Trauner et al. (2009) define that construction later than expected, which means that nothing can be done later than expected or without scheduling. Delay can affect any scheduled work activity and lead to many issues between parties. Al Khalil and Al-Ghafly claim that delays can damage project actors such as customers, developers and contractors (1999). The customer will experience delays due to a lack of cost-effective space or facilities. Because the project lasts longer, more overhead costs, higher material costs and work costs can also be expected for the contractor. The project can be identified as an indicator of efficiency following its completion in due course (Assaf and Al-Hejry 2006), although works of construction have many unpredictable variables and factors derived from different sources. The conditions, the availability of resources, the performance of stakeholders and contract relations can be included. However, Trauner et al. (2009) stated that a construction project was not finished until the time frame was met.

### 1.2 Statement of the Problem

Many public construction projects in Afghanistan are not implemented in good time due to several factors. Majid (2006) shows that when completed within the budget and in compliance to specifications and project stakeholder satisfaction, a construction project is recognized as successful (Client, Consultant, and Contractor). Many construction projects in Afghanistan fail because they are not finished in good time and because the contract period does not meet which damages the country's development process.

The intervention of Taliban and Mujahedeen in India's Reconstruction Policy over Afghanistan has put India in a critical profile.

India's trade relationship with Afghanistan has been destabilized due to the blockage of a transit trade route to Afghanistan through Pakistan.

Pakistan-sponsored cross-border terrorism in India to distract its attention on Afghanistan reconstruction activities is also a bone of contention.

### 1.3 Aims and Objectives of the study

To achieve the research goals, the following objectives have been developed.

1. Identifying the causes of construction delays in Afghanistan
2. Studying the differences between the three key actors, including customers, entrepreneurs, and advisors.
3. Identify the cause of the construction delay in Afghanistan.
4. To differentiate between the important factors that cause construction delays in Afghanistan (Top ten factors).
5. Propose the solution applicable to prevent delays in Afghan construction projects.

The first aim is to identify factors that cause delays in construction, and the third aim is to focus on the top ten causes of delays in construction. The objective of this assurance/report is:

- Assess the completeness and accuracy of the information provided by participating procurement entities about the CoST Afghanistan Disclosure Manual.
- Identify issues of possible concern revealed by the information disclosed. This concerns individual projects and broader issues that are cause for concern. A more detailed evaluation of a project sample or, if necessary, reference to projects of concern.

## 2. LITERATURE REVIEW

### 2.1 General Review

Faqiri et al. (2018) examined the practices of risk management in Afghan construction projects. The study aimed at evaluating the impact of risk on construction projects in Afghanistan, based on several phases of the project life cycle. Risk management is a major effort to improve construction project performance. The conclusion is that from the stage of feasibility, clients,

constructors, and government agencies must collaborate to deal with potential risks in time, and contractors and subcontractors must work early in the process of preparing a sound delivery plan for efficient and high-quality construction. Construction services are available at a very high level.

Niazi and Noel (2017) studied one criterion for evaluating the success of a construction project is generally recognized as the extent to which it is completed in the budget. This is often a challenge in developing countries because of several factors where budget issues are only one factor and often lead to poor project performance. Construction costs are the biggest problem in Afghanistan (facing all parties to a project; suppliers, subcontractors, main contractors, and clients). Overriding project costs are a major challenge for the Afghan construction industry. 69 reasons for construction costs were identified by the thorough literature review. For collecting data in Afghanistan, a structured questionnaire survey was used. A total of 75 questionnaires were received and analyzed by selected customers, contractors and consultants.

### 2.2 Reviews on causes of delay

In order to assess the reasons for construction delay, Arditi et al. (1985) underwent a questionnaire survey. Data were obtained for 126 contractors and 258 public agency projects. The results show, via a questionnaire survey, that delays in design work, large amounts of additional work and frequent modifications appear to cause construction delays.

Kraiem et al. (1987) investigated the responses of the contractors with respect to work schedules. The authors developed a tool CRIDEL which is proved to be more significant in finding the causes of delay in the construction work schedule.

By considering the responsible parties in the design and construction process, Bramble and Callahan (1992) looked into the reason for the delays. The authors acknowledged and listed owner-caused delays, design-related problems and contractor related issues. The authors represented and listed owner-caused delays, design-related problems and contractor related issues.

The 16 predominant factors induce delays and price rises in Nigeria have been identified by Mansfield and others (1994). In Nigeria, contractors, experts and customers completed an inquiry. The authors stated that financial and payments, poor contract controls, shortages of material, defective estimates and common variation in quantity were credited with details on delays and price increases in Nigerian construction work.

### 3. RESEARCH METHODOLOGY

The study is mainly exploratory in nature. The main data and the questionnaire were collected from two main paths in this research: the desk research and the questionnaire. Firstly, a large body of literature studies and discussions, as presented in Table 3.1, identify 83 causes for late delay. In order to assess the impact of construction time factors, the questionnaire has been developed.

Firstly, a pilot study was conducted to assess the relevance of problems to the study's goals. The study, conducted by pilot at Brighton University, was discussed by two senior lecturers. The questionnaires were received with the cover letter from 60 construction managers including clients, contractors and consultants. Construction parties active in the construction industry in Afghanistan had to answer the questionnaires.

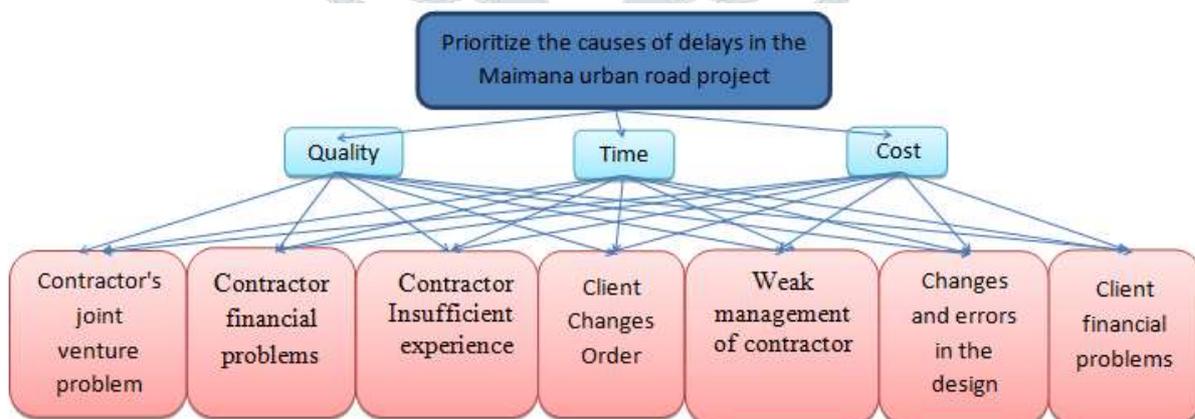
#### 3.1 Summarizing and presenting the conceptual model

According to the library research and the results obtained from research conducted by domestic and foreign researchers (a total of 60 articles including 18 foreign articles, 19 domestic articles related to before 2011 and 23 internal articles from 2011 onwards) of the 23 factors identifying the effective delay in construction projects mentioned in these articles, due to the fact that for data analysis by AHP phase to phase hierarchical method, 23 factors affecting the delay as an analysis

option and due to the problem The extent of the calculations makes it very difficult to study them, and it can even be said that prioritizing these factors in a very time-consuming phase to phase hierarchical method greatly increases the errors, so considering these cases and also considering that these factors It has an overlap with each other and these factors can be combined to reduce the options in terms of all the factors. Therefore, according to the above, the seven main factors that have been identified in this study and were selected as the most important factors to cause delay in order to prioritize them in phase-to-phase hierarchical analysis are:

1. Client financial problems
2. Changes and errors in design
3. Contractor Weakness management
4. Client change order
5. Insufficient experience of contractor
6. Contractor financial problems
7. Contractor's joint venture problems

In a similar action, the criteria that researchers have presented to prioritize the factors affecting the delay in their research have been in the form of three criteria of time, cost and quality, which according to the above cases, the conceptual model of the present study is presented as follows:



**Figure3.1: Conceptual model of research according to AHP method.**

The choice of research is determined by the goals, the nature and the possibilities of the research. The present research is descriptive-analytical and applied in terms of purpose. Two methods, the library and field, have been used to collect the data in this research. Information has been collected through library research, study and

review of articles presented in seminars and journals across the countries about the problems of development projects and review of documents of projects of the urban asphalt road Companies.

Then, to assess the importance and priority of the factors influencing the delay in the urban asphalt road project, a questionnaire was designed according to the phase-to-phase expert questionnaire format and provided to 15 experts including 5 employers, 5 consultants and 5 project contractors. One of them have a doctorate degree and 14 of them have a master's degree and are senior managers of their collection and have a history of more than 20 years. A questionnaire containing the criteria and options specified in the conceptual model of the research.

### 3.2 Research Questionnaires

The research question attempted to analyze and understand what is happening and to acquire new knowledge of the traditional way in which Afghan construction projects are constructed through a strict evaluation.

- What is the result of a construction delay?
- Do the project costs suffer as a result of the delay?
- What are the problems which are faced by delay?
- Is the traditional project construction method in Afghanistan satisfactory?
- Are the projects in Afghanistan expected to produce cost-effective results in a timely manner?

The risk assessment for the risks facing construction industries in Afghanistan is carried out in this study. Figure 3.2 summarizes the risk management process. The identification, analysis, and evaluation are three phases, as can be seen in the figure Risk Assessment.

### 3.3 Data collection method

Data have been gathered from an accredited construction company as a case study. The aim was to examine how projects in the Afghan construction industry were constructed in the traditional way.

A total of 18 respondents were surveyed in the predetermined places. Of these samples, 14 were local governments, and two were government departments. Other 2 respondents.

### 3.4 Method of analysis

There are two phases of the method of analysis. The first phase consisted of the second phase of data preparation. The processes and steps for data preparation include editing, coding, interpretation, and summary, while analysis includes the collection and collection of the information interviewed in real and analytical terms. A few researchers have described an analytical procedure as a process in which raw data were analyzed and Corbin and Strauss mentioned data entry as a process for the translation into a medium for viewing and

manipulating information obtained from primary sources. In order to discuss all research questions, a segmented analysis is also used in the examination, analysis and interpretation of data.

## 4. DATA COLLECTION AND ANALYSIS

### 4.1 Introduction

In this stage of the study, the analysis of questions from research distributed to construction participants will be determined by selecting the major factors for cost overruns in Afghanistan.

### 4.2 Data Collection

Data collecting from the questionnaires was intended for this study, and that have been distributed to some public and private organizations of Afghanistan, and the respondents were mainly involved in infrastructure projects all around the country. 24 questionnaires have been distributed to the related Ministries (MOUDH, MOE, MOPW, and MEW) and organizations in Afghanistan, and 18 out of 24 questionnaires, were responded and returned properly for analysis, where 4 were not replied and 2 of them were not valid for the analysis of the study. For the distribution of the questionnaire the researcher didn't personally visit each organization because the researcher was not existing in Afghanistan, therefore the questionnaires have been sent and recollected through emails and cloud online platforms from some officials. The time limit of the questionnaire was scheduled (18 days) for both researcher and respondent from 20, April 2020 – 7, May 2020.

### 4.3 Data Analysis

For analysis of the data cloud-based software (google form) was used where the questionnaire was developed, also use of excel sheet and SPSS, the main method used to obtain effective results and to identify important factors out of a 126 factors questioned in the survey questionnaire, the factors were ranked and the literature review found the 126 factors identified, and were categorized in 7 management groups related, client, related, and c groups of management, according to the literature review.

**The relative importance index (RII) is calculated as follow:**

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

Where; W = weight given to each factor by respondents  
A = highest weight N = total number of respondents.

### 4.4 Questionnaire Characteristics Analysis

Since the analysis of this research has been made from the data gathered out of questionnaire, analysis was commenced from the specification of the respondent, where after the first section of a questionnaire which was the introduction, respondent’s characteristics (general information), has been the second section of the

questionnaire, that includes 7 parts, each of the parts has been defined and analyzed bellow.

- Part 1. A large number of respondents were Engineers/Architects, some owners, and few contractors. Following figure 4.1, and table 4.1, describes individuals by their type of organization who responded to the questionnaire.

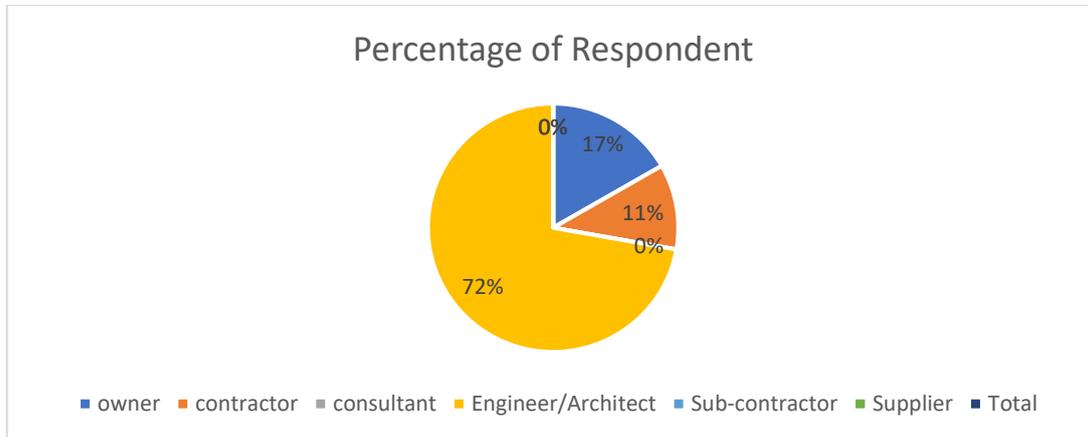


Figure 4.1: Type of organization in a pie chart

- Part 2. Most of the organizations in Afghanistan are involved in infrastructures projects, and as shown in table 4.2, below half of the respondents worked for infrastructure type of projects and some of them have experience in residential projects and commercial, but no one had involvement in industrial project

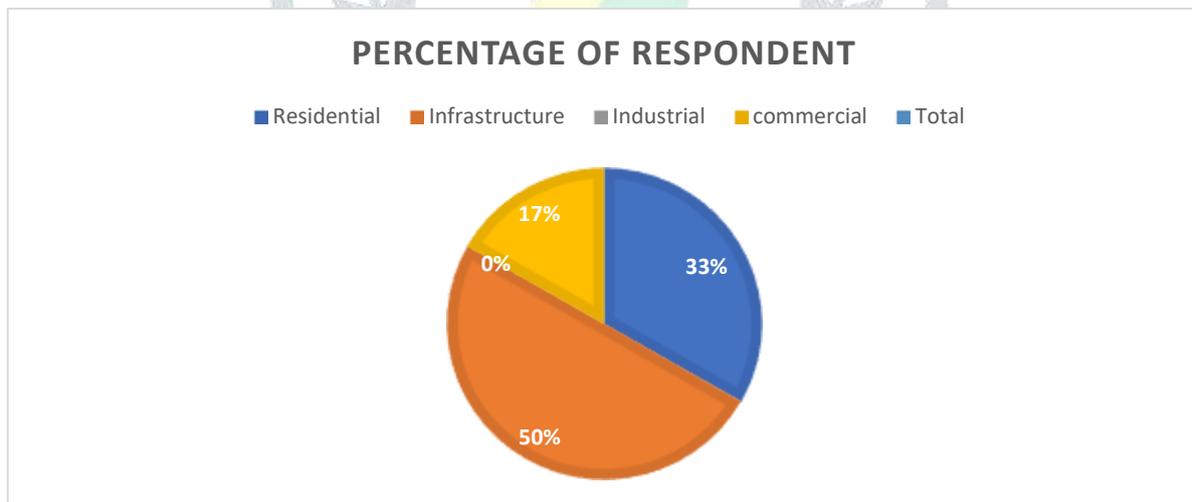


Figure 4.2: project industry type in a pie chart

Part 3. This part analysis the job title of the respondents, several respondents were project managers and construction engineers, and

particulars of them were owners which have been described in table 4.3.

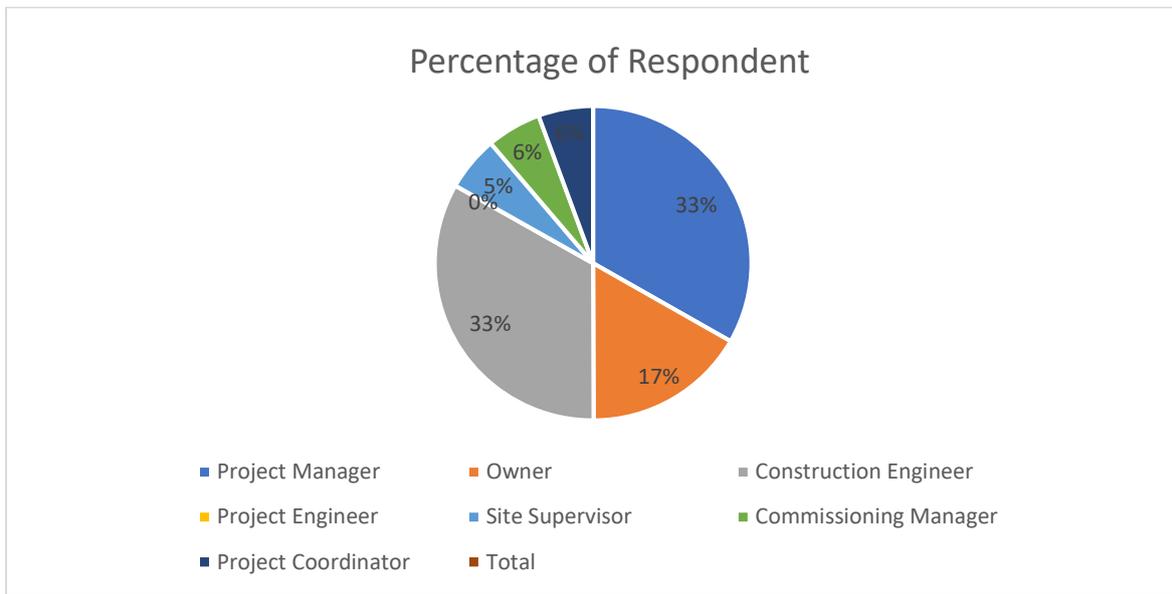
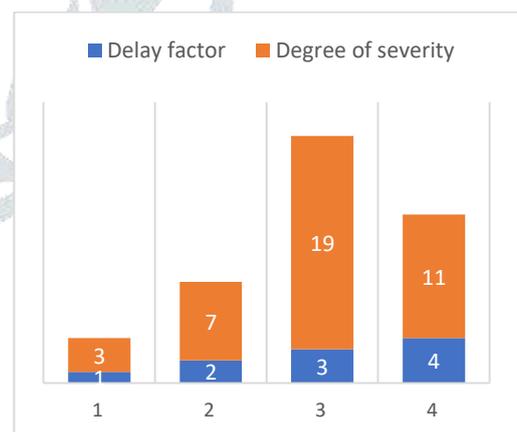
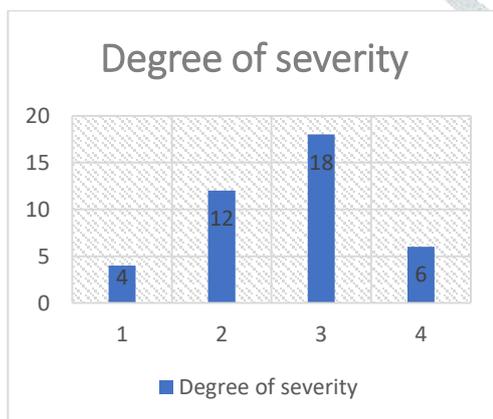
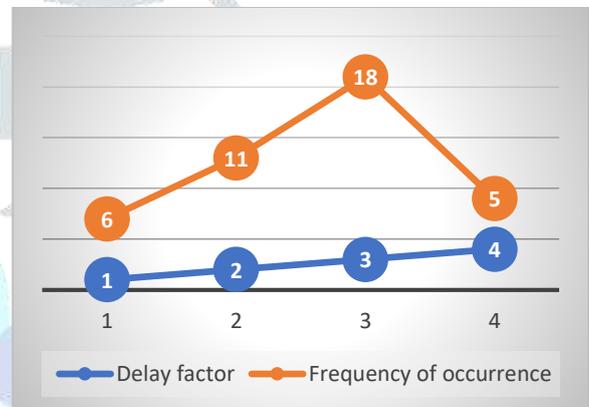
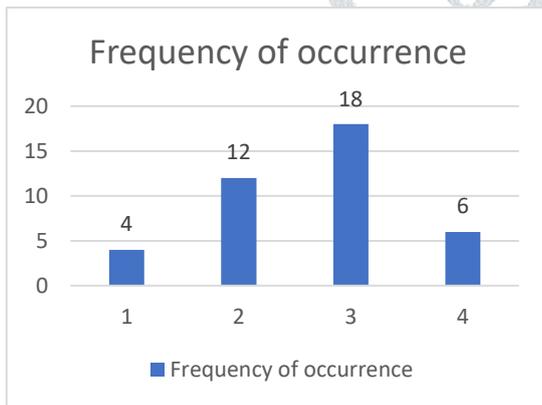


Figure 4.3: Job title of respondent in pie chart

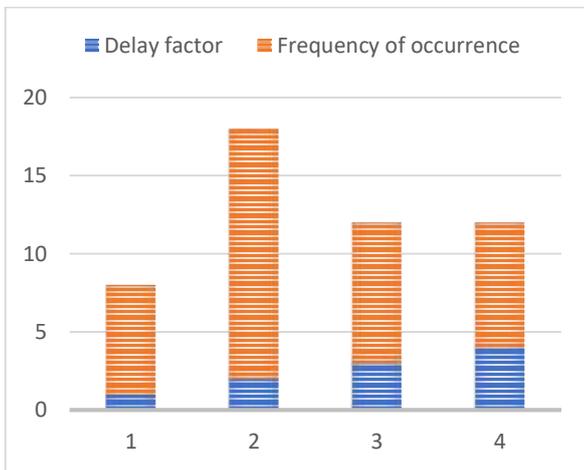
## 5. RESULTS AND ANALYSIS

### 1-Delay factor related to the contractor.

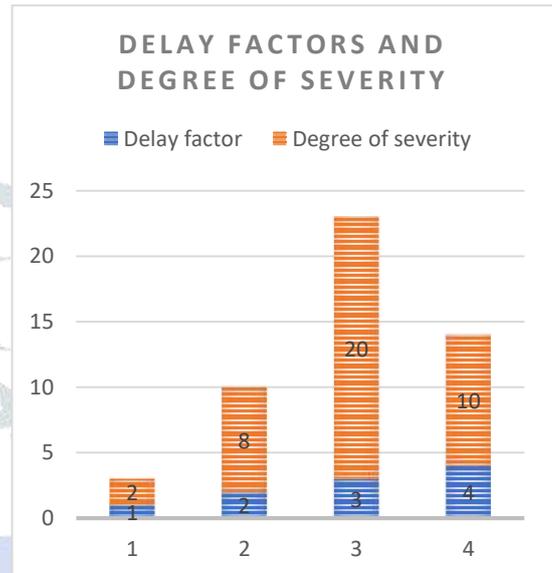
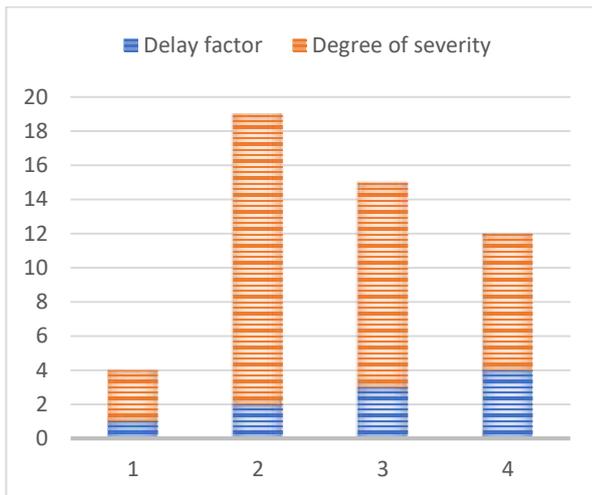
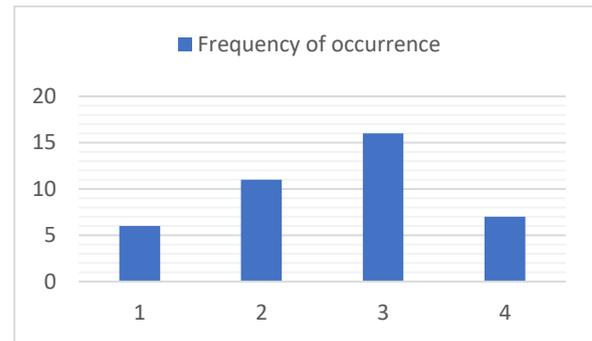


### Contractors with political clout.

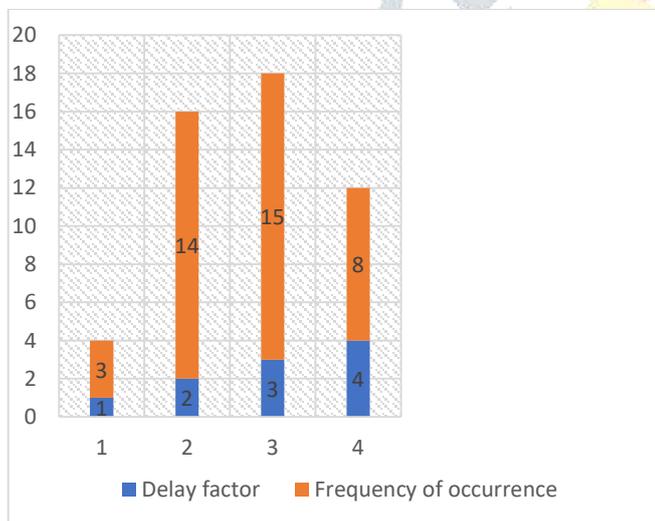
### Non-availability of the experienced technical staff of contractor.



Poor site management and supervision of contractors by consultant and client.



Inadequate contractor experience.



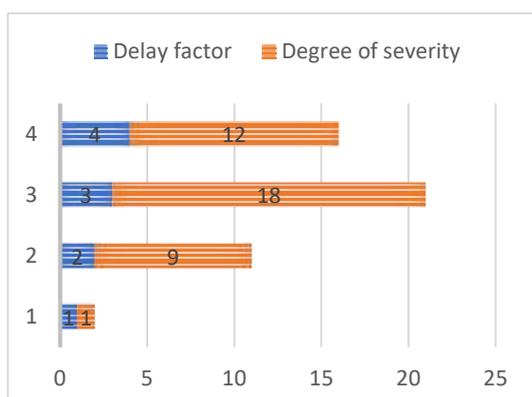
### CONCLUSION

- The causes of delays in the construction of Maimana city urban asphalt road 32.805 km projects have been identified. Numerous factors such as insecurity, corruption, the low experience of the contractor's technical team, late payment of invoices by the project owner, poor management and monitoring of the site by the contractor, and the Contractor's joint venture can cause delays in projects.

- The main causes of costs in the Afghan construction industry include corruption, delays in customer payments, problems in contraction financing, security, and customer order during construction.

- In general, failures and project failures have distanced the population from the government and show the government's weakness in the execution of projects across Afghanistan.

- The findings require the necessary awareness in the development of the capacity and performance of the Afghan construction industry to perform risk management on its projects to mitigate further project failure.



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