



7th International Conference on Engineering, Project, and Production Management

## Significant Factors Causing Cost Overruns in the Construction Industry in Afghanistan

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### Abstract

It is generally acknowledged that one criterion for judging the success of a construction project is whether it is completed within budget. Due to various factors, this is often more of a challenge in developing countries where budget problems are just one factor in often poor project performance. In Afghanistan, construction cost overruns are the most substantial problem (facing all parties to a project; suppliers, subcontractors, main contractors and clients). This research aims to identify the significant factors that lead to construction cost overruns in Afghanistan. The finding of the research is that the key critical causes that potentially result in construction cost overruns in Afghanistan are: corruption, delay in progress payment by owner, difficulties in financing project by contractors, security, change the order by the owner during construction and market inflation.

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Peer-review under responsibility of the organizing committee of EPPM2016

*Keywords:* Afghanistan; cost overrun; construction projects

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### 1. Introduction

The inability of the construction industry to complete the projects on time and within budget has become the major concerns of the clients [1]. Cost overrun is a common problem worldwide, but it is a significant challenge in developing countries [2]. The construction industry is a significant contributor of economic and social development in developed and developing countries. As the Afghanistan construction industry continues to grow in size, it even more important projects to be finished within planned budget. Unfortunately, most construction projects still fail to

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meet the deadlines and also exceed initial estimated budget. Flyvbjerg et al. [3] indicates that construction cost overruns is a major challenge, where 9 out of 10 construction projects encounter cost overruns. Moreover, the cost overrun can be as high as 183% more than planned estimated budget [4, 5].

The Construction industry in developed countries, including the United Kingdom also suffer from cost overrun because about one third of employers complain that construction projects experience budget overrun [6]. Furthermore, the clients reported that nearly sixty percent of the projects did not meet the planned budget [7]. Cost overrun in the UK construction industry has become a common problem [8].

In developing countries, like Afghanistan, the construction industry is the backbone of the economic and social development. The construction industry is the main contributor to economic development and constitutes around 10% of country GDP. The construction industry is a significant contributor to the economic development but encounters with various challenges, such as lack of productivity, cost overruns and client dissatisfaction [9]. Such issues significantly affect the economic development of the country, and slow down the foreign direct investment in the construction industry.

The aim of this research, therefore, is to assess and identify the critical factors that result in project cost overruns in Afghanistan construction industry.

## 2. Literature Review

A major factor in project success is completion on budget [3]. Furthermore, cost performance is the key measurement of an organization's productivity and profitability [8]. Project cost overrun is measured as the difference between the planned cost (estimate) and actual construction cost on completion. The construction industry in Afghanistan is generally unable to complete projects within the original estimated cost [10].

A number studies have been conducted to address the issue and factors that cause project cost overruns. A research by Flyvbjerg et al. [3] revealed that 9 out of 10 construction projects experienced cost overrun with an average budget overrun of 28%. 258 construction projects in 20 countries were studied where the cost performance were very poor. Another study conducted by Cantarelli et al. [11] showed that cost overrun is a common issue in construction projects, which investigated 87 projects and found that on average 10.3% of projects faced cost overruns. In Malaysia, 359 projects (308 public and 51 private projects) were evaluated, with the findings showing that only 46.8% of public projects and 37.2% of private projects were delivered within contract amount [12].

A research was carried out by Kaming et al. [13] aiming at identifying the significant cost overrun factors. The results indicated that the key factors are, material cost increases due to inflation, inaccurate materials estimating and the degree of project complexity. In Saudi Arabia a construction industry study indicated that the main factors that led to cost overruns were the effects of weather, social and cultural impacts, level of competitors, project location, lack of productivity standards, supplier manipulation, economic stability, inadequate production of raw materials by the country and finally absence of construction cost data [14]. In Botswana, a study was carried out by Chimwaso [15] to assess the cost performance of construction projects, with findings indicating that the most significant cause of cost overruns are, variations, measurement of provisional works, contractual claims and fluctuations in the cost of labor and materials. A study on Ghana ground water projects identified that the 5 main cost overruns factors are poor contractor management, monthly payment difficulties from agencies, material procurement, poor technical performances, and escalation of material prices [16].

In India, a study was conducted by Iyer and Jha [17] found that 10 significant factors result in cost overrun: conflict among project participants, ignorance and lack of knowledge, presence of poor project specific attributes, non-existence of cooperation, hostile socio-economic, climatic conditions, reluctance in timely decision, aggressive competition at tender stage; and short bid preparation time. In the Gaza Strip, a research on cost overruns revealed the major causes being material shortage, late procurement of materials and equipment, fluctuation of material prices, delay in progress payment, differentiation of currency prices, rework, poor control of cost, poor site management, poor communication and coordination between stakeholders, inadequate planning and scheduling, mistakes in design documents, project complexity and delay in design approval [18].

In Nigeria, in infrastructure projects the key causes of cost overruns are: poor contract management, price fluctuation, material shortage, frequent design change, weather, financing and late issuing of payments [19]. Another research by Le-Hoai et al. [20] in Vietnam in large construction projects found that the significant factors that resulted

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