

Causes of Time and Cost Overruns in Transportation Sector Projects in Bangladesh

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ABSTRACT

The case of time and cost overruns in any sort of projects is a longstanding one. However, reviewing the existing literature reveals that most of the projects in developing countries often encounter problems with delays and cost overruns. While a significant number of transportation projects in Bangladesh experience several puzzles with delays in completion and cost overruns, there hardly exist any investigations on these major concerns. The purpose of this study is to identify the important causes of cost and schedule overruns in transportation sector projects of Bangladesh and to suggest possible solutions for reducing such overruns.

Keywords: Cost overrun, Time overrun, Transportation sector projects, Bangladesh.

1. Introduction

The case of delays and cost overruns in public sector projects is a global phenomenon. Although time and cost performance is considered as the fundamental criterion for success of any project, it rarely happens that projects get delivered on time and within the estimated cost. Azhar (2008), for example, reports that the trend of cost overruns is common worldwide and is worsening in developing countries. Singh (2010) also documents that infrastructure projects in a developing country like India are infamous for delays and cost overruns.

Delays in projects occur when the progress of a contract falls behind its planned schedule, i.e., late completion of works as compared to the scheduled program results in time overrun (see Abbas, 2006). Cost overrun, on the other hand, can be defined as the difference between the actual cost of a project and its estimated cost. Jackson and Steven (2001) report that cost overrun occurs when the resultant cost target of a project exceeds its cost limits where cost limit of a project is the maximum expenditure that the client is

prepared to incur on a completed project, while cost target indicates the recommended expenditure for each element of a project.

Singh (2010), however, demonstrates that time and cost overruns have significant impact on the national economy. He argues that if the completion of a project exceeds the planned schedule, the people as well as the economy have to wait for the provisions of public goods and services longer than is necessary and hence delays limit the growth potential of the economy. Similarly, cost overruns in public sector projects seem to reduce competitiveness of the economy. Thus, how to minimize or eliminate delays and cost overruns in certain governmental projects has become a major concern over the years.

The inability to complete projects on time and within the budget is one of the prime concerns in Bangladesh. While Time and cost overruns have become the major problem affecting the transportation sector projects of Bangladesh, the causes of delays and cost overruns have remained understudied. Consequently, no policy interventions required to rectify such problems have been identified.

The objectives of this research are two-fold. The prime purpose is to identify the main causes of delays and cost overruns in transportation sector projects of Bangladesh. The study then makes an attempt to suggest possible solutions for reducing time and cost overruns. Since it is almost impossible to control all the causes behind cost and schedule overruns, it would be rational to identify the most important variables of such overruns so that appropriate measures can be adopted as remedies.

The remainder of this research proposal is organized as follows: Section 2 reviews the prior literature. Possible causes of delays and cost overruns in public sector projects of Bangladesh are discussed in Section 3. Section 4 concludes the paper.

2. Literature Review

Many recent studies address the issues of delays and cost overruns in different types of projects. Flyvbjerg, Holm and Buhl (2002, 2003, and 2004), for instance, study 258 transportation infrastructure projects from 20 countries across the world and report that ninety percent of large transport projects exceed the cost limit. Some other studies such as Kain (1990), Pickrell (1990), Skamris and Flyvbjerg (1997) also document the same.

In an empirical research on Indian infrastructure projects, Ram Singh (2010) documents that delays are one of the crucial causes behind the cost overruns. He also reports that bigger projects experience much higher cost overruns compared to smaller ones. His analysis further reveals that compared to other sectors, projects in road, railways, urban-development sectors, as well as those in civil aviation, shipping and ports, and power sectors experience much longer delays. However, a significant number of works claim that delays and cost overruns are due to imperfect information and technical constraints. For example, Morris and Hough (1987), Gaspar and Leite (1989), Arvan and Leite (1990) and Ganuza (2007) report that the difference between estimated costs and actual project costs can be attributed to imperfect estimation techniques and the lack of data.

Although the investigation on delays and cost overruns in transportation sector projects has an extensive history over the years, not a single work, which is entirely focused on Bangladesh, is observed in the existing literature. In addition, reviewing the prior research suggests that the underlying causes as well as the remedies differ from country to country and hence arises the need for conducting a Bangladesh-based study to deeply understand the factors causing such concerns.

3. Possible causes of Delays and Cost Overruns

This section presents a modest attempt to identify the major causes of time and cost overruns in transportation sector projects of Bangladesh. As mentioned earlier, the study is aimed at identifying the most important variables of such overruns rather than investigating all possible factors causing these concerns. To serve this purpose, the following causes have been identified.

Technical and Natural Factors

In the literature review section, it is documented that a large body of prior literature attributes delays and cost overruns to imperfect information and technical constraints. For example, while implementing a highway construction, the workers suddenly identify the poor quality of soil and this may lead to significant changes in the plan. Therefore, extra time and costs are involved in such changes. In addition, a good number of natural calamities hit Bangladesh every year. For instance, flood, heavy rainfall and similar type of uncontrolled events often cause delays as well as destroy the project assets. Therefore, due to technical and natural constraints, the original project time and cost usually exceed their estimated values.

Project size

Project size is one of the important factors causing delays and cost overruns. Rowland (1981) and Jahren and Ashe (1990), for example, document that *project size* is a significant variable in time delays. Singh (2010) also argues that the contractual incompleteness seems to increase with the size of a project as bigger projects involve more works. Therefore, the resulting cost overruns are also expected to grow with the project size. However, the size of a project can be understood as its initial cost or duration. Since big-budget projects are likely to have a long contract duration and vice versa, both *initial cost* (IC) and *project duration* (PD) should have impacts on cost and time overruns.

Organizational Failures

In Bangladesh, different project activities are performed by different government departments. Since these government departments are hierarchical organizations, disagreements between the individual and the organizational objectives often arise at every stage of hierarchy. For example, Bolton and Dewatripont (2005) document that hierarchical organizations are inherently weak in inducing the desired efforts from the people involved. Public sector projects, therefore, encounter a series of consequences due to the organizational failures. As a result, delays in implementation and cost overruns occur.

Economic Factors

Bangladesh is a small country and the number of big cities is very few. Now each project is located in a particular city and Dhaka, being the capital city of

Bangladesh, enjoys more developments than other parts of the country. Since Dhaka possesses a better infrastructure in every important public sector, its economy is far better than that of other big cities of Bangladesh. The economic factor thus plays a key role in the present study.

4. Conclusions

The problem of time and cost overruns in any sort of projects is a longstanding one. Researchers, therefore, always pay keen attention to the identification of major causes of delays and cost overruns in order to alleviate or reduce their impacts. However, most of the projects in developing countries usually encounter problems with delays in completion and cost overruns. Although a large number of transportation sector projects in Bangladesh experience several puzzles with delays and cost overruns, investigation on these major concerns is almost non-existent. The purpose of this research is to identify the major causes of delays and cost overruns in transportation sector projects of Bangladesh. The study then aims to suggest possible solutions to deal with such concerns. It is hoped that the current work of this empirical research would improve the effectiveness and efficiency of public sector projects in Bangladesh and carry great significance to project managers, consultants and contractors working in such projects.

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