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**Thesis Title**

**Materials price change effect on cost of construction projects in Egypt**

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## **STATEMENT**

**THIS THESIS IS SUBMITTED TO AIN SHAMS UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCINCER IN CIVIL ENGINEERING (STRUCTURAL).**

**THE WORK INCLUDED IN THIS THESIS WAS CARRIED OUT BY THE AUTHOR IN THE DEPARTMENT OF STRUCTURAL ENGINEERING, FACULTY OF ENGINEERING, M AIN SHAMS UNIVERSITY.**

**NO PART OF THIS THESIS HAS BEEN SUBMITTED FOR ADEGREE OR AQUALIFICATION AT ANY OTHER UNIVERSITY OR INSTITUTE.**

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## **ABSTRACT**

High prices of building materials form crucial constraint on improving construction procurement.

Causes of construction cost escalations may be numerous and any effort to ascertain them in order to explain regional disparities requires that all the major construction cost components affected by the increase must first be recognized. Imprecise concepts and categories as well as mix-up of what constitutes cost or price makes it difficult to systematically identify these cost constituents. The aim of this paper is to determine the most important factors that may affect construction cost and it's includes main categories as:

Procurement, client – contractor relationship, quality required, usage, storage facilities, change order, competition and market condition, delivery and external factors.

The research was based on the qualitative approach by preparing a questionnaire for experts who had experience in the field of contracting and construction, to obtain recommended corrective actions needed for controlling material cost variance.

The research used computerized statistics analysis program (SPSS) to analyze the results concluded from questionnaire, Classifying real factors that may be relevant to the subject of the research in some projects that faced this problem on the ground or projects incurred financial losses due to changes in prices of materials.

It is necessary to explain the impact of changes in prices of construction materials on the total cost of the construction projects in Egypt. By

studying items playing a pivotal role in raising or lowering rates of performance of construction companies, This study highlights some opinions of some Scientific personnel who come into contact with the area of construction to achieve the desired objectives and raise growth rates for companies by reducing material loss rates thus reducing cost of projects.

Major factors that cause the cost overruns in building projects are finally classified into top ten items according to significance and correlations between it, Then comparing with previous studies inside and outside Egypt.

The study provided corrective actions to avoid problems that may occur and lead to decrease of financial performance rate of construction companies, the study also highlighted recommendations and future researches to be done.

### **Key words:-**

Material management, Cost variance, Corrective action, Material management, Cost variance, Corrective action, Macro-economic factors, Construction projects.

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# **CHAPTER 1**

## **INTRODUCTION**

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 General**

Construction field in Egypt faces severe consequences due to the increase in prices of most materials, this represents the greatest impact on the project cost in the long run.

This unexpected increase, resulting from market condition changes, may lead to decline of construction companies' financial situation. In addition to the decrease of the level of cost control of projects, the decrease profit margin and lead to the low performance level of these companies.

### **1.2 Significance of the study.**

The aim of this research is to discuss the issues and points of contention and consequences that may result from materials price changes. In particular, it represents the variety of ways in which disruptions and delays as well as construction companies' low performance levels can be faced, It also focuses attention on a number of issues that arise when normal methods of analysis in mega (complex) projects are used.

In the construction project operation, often there is a project cost variance in terms of the material, equipment's, manpower, subcontractor, overhead cost, and general condition. Material is the main component in construction projects. Therefore, if the material management is not properly managed it will create a project cost