



## Assessment of Change Orders Attributes in Preconstruction and Construction Phase

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### Abstract

Construction projects are very complex in nature. Each activity involves multiple varying tasks. Construction industry is the main source of economic growth. When change order occur performance of projects momentarily affected. Change orders often have a serious impact on the quality, time and cost. Eventually it results in disputes, delays, and dissatisfactions among stakeholders and ultimately results in failures of projects. In past several studies have been done to evaluate the causes of change order and its effects. Attempts have been made to quantify these impacts by many researchers, but the aim of this study is to identify the causes of change order in two different phases i.e. preconstruction and construction stage. Views were taken from relevant experts over included factors after in-depth literature review from past researches. A questionnaire was made and floated with different construction players from clients, consultants and contractors side. The data was analyzed by SPSS using average index technique. The analysis of data showed that, Mistakes in specifications, Mistakes in design and Lack of experience in selecting construction team by client are the most critical factors during preconstruction phase. Whereas, Design modification by owner, change in scope at later stage and Delays in payment by client are most critical factors of construction phase, responsible for change order. The extensive discussion of these factors revealed various parameters related to Pakistan construction. This study will enable the clients, consultants and contractors to be aware of factors which causes changes in orders and their consequences on project completion. By the identification of possible reasons, the right decisions can be made to mark the project successful.

*Keywords:* Change Orders; Client; Preconstruction; Construction; Pakistan.

### 1. Introduction

Construction industry being one of the potent industries plays significant role in economic stability and growth of country. Through the times of economic turmoil, it uplifts financial morbidity into a healthy wealthy state. Financial stability triggers infrastructure and holds backs the long term survivability with change of status from developing to developed country. Similarly, economy of United Kingdom is consisting of four sectors mainly: services, production, construction and agriculture. Whereas, services contribute 79.3% of GDP, construction 6.1%, production 14.0% and agriculture as 0.7% [1]. Contending the facts in developing country like Pakistan 30-35% of employment is affiliated with the construction industry, this proves as a tool for revival of economy[2]. Consorting, almost all construction projects up to some extent vary from original design, scope and definition depending upon the various factors; whether

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