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## Modeling a conceptual framework for owner-contractor relationship and time-cost trade-off using fuzzy logic techniques (Conference Paper)

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### Abstract

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This paper proposes a conceptual framework for owner-contractor relationship and time-cost trade-off analysis of construction project control system using fuzzy logic approach. Construction projects require a well-defined starting point and well-defined finish point with accurate resource allocation to avoid any cost overrun. During the lifecycle of the project, different problems can appear. The most important ones are delay and construction cost overrun during the executing phase of the project. To avoid that, an effective planning system with effective control technique is a crucial issue. The main objectives of this research are to develop and design a conceptual framework that may be a guide for the contractor and the owner for controlling the construction projects. The results show that a good conceptual framework need to start with breaking down the project in conjunction with analyzing the cost and time to have both the contractor and the owner the better and less risk in having a good proposal in time, cost and quality. However the final framework show that a need for continuous feedback from the owner to the contractor during the planning process and also can help in designing and developing a proposal that satisfy both the contractor and the owner in terms in time, cost and quality. Risk assessment should be one of the main factors that should be considered during all steps in monitoring, planning and controlling the project. Finally a simulation has been done using the Fuzzy logic approach to validate the conceptual framework) © 2014 IEEE.

### Author keywords

component; construction project conceptual framework fuzzy logic Modeling

### Indexed keywords

Engineering controlled terms: Contractors Costs Distributed computer systems Economic and social effects Models Project management Risk assessment

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