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The principal factors affecting construction project overhead expenses: an exploratory factor analysis approach

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Abstract

Estimation is the first step in the project development process. Information technology provides an efficient platform for estimators to obtain quotations and specifications for their bid estimates. However, in practice, project overhead estimation relies heavily on the professional judgement and intuition of the estimators. This reduces the overall accuracy and reliability of the bid and a better understanding of the factors affecting project overheads is fundamental before any improved estimating methods can be devised. Unfortunately, the published literature on this topic is very limited. Using exploratory factor analysis, we aim to bridge the current knowledge gap by highlighting the principal factors affecting project overheads. Questionnaires detailing 27 variables were sent to quantity surveying managers of large contractors in Hong Kong. Seventy-nine valid responses were analysed by exploratory factor analysis. From the results, eight factors were extracted with their latent properties identified with reference to the

expert opinions collected from telephone interviews. The findings clarify some misconceptions about the factors affecting project overheads and provide useful evidence for practitioners and researchers to understand project overheads. Estimators who address the identified factors when assessing future project overhead costs can improve the accuracy of their cost estimates and project budgets.

Keywords:

- Cost control
- cost estimating
- overheads

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