

## Achieving Design-Stage Elemental Cost Planning Accuracy: Case Study of New Zealand

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**Abstract :** An aspect of client expenditure management that requires attention is the level of accuracy achievable in design-stage elemental cost planning. This has been a major concern for construction clients and practitioners in New Zealand (NZ). Pre-tender estimating inaccuracies are significantly influenced by the level of risk information available to estimators. Proper cost planning activities should ensure the production of a project's likely construction costs (initial and final), and subsequent cost control activities should prevent unpleasant consequences of cost overruns, disputes and project abandonment. If risks were properly identified and priced at the design stage, observed variance between design-stage elemental cost plans (ECPs) and final tender sums (FTS) (initial contract sums) could be reduced. This study investigates the variations between design-stage ECPs and FTS of construction projects, with a view to identifying risk factors that are responsible for the observed variance. Data were sourced through interviews, and risk factors were identified by using thematic analysis. Access was obtained to project files from the records of study participants (consultant quantity surveyors), and document analysis was employed in complementing the responses from the interviews. Study findings revealed the discrepancies between ECPs and FTS in the region of -14% and +16%. It is opined in this study that the identified risk factors were responsible for the variability observed. The values obtained from the analysis would enable greater accuracy in the forecast of FTS by Quantity Surveyors. Further, whilst inherent risks in construction project developments are observed globally, these findings have important ramifications for construction projects by expanding existing knowledge on what is needed for reasonable budgetary performance and successful delivery of construction projects. The findings contribute significantly to the study by providing quantitative confirmation to justify the theoretical conclusions generated in the literature from around the world. This therefore adds to and consolidates existing knowledge.

**Keywords :** accuracy, design-stage, elemental cost plan, final tender sum

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