

## Pengaruh penerapan estimasi biaya berbantuan komputer terhadap akurasi estimasi biaya bagi proyek gedung di Indonesia

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### Abstrak

*The Impact Of Computerization In Estimating Costs On The Accuracy Of Cost Estimate For Building Projects In Indonesia*

Construction market is becoming tougher and more competitive. This situation makes accurate cost estimates vital for contractor survival. Inadequate time to prepare cost estimates and incomplete project scope definition because of the lack of historical data for similar jobs are problems that have to be handled by contractor's estimators. The problems can decrease accurateness of the estimates. Computer's role in decreasing these problems is becoming obvious. The other role in providing much important information helps to increase the accuracy. This research is to study whether appropriate computerization in estimating costs will increase the accuracy of cost estimates. The other aim is to find which of the aspects of computerization that strongly correlate with the accuracy of the estimates.

The qualitative data that are used in this research are ordinally quantified to facilitate the statistical analysis. Because of the size of data, the shape of the population distribution from which the sample is drawn can not be assumed to approximate the normal distribution. Therefore, nonparametric method is used in this research. First, the aspect of computerization is analyzed if they might be grouped into appropriate factors. Then, the representativeness of these aspects is calculated by correlation analysis. Sensitivity of the accuracy to the aspects is also investigated. Finally, the factors are compared to each other based on the representativeness and the sensitivity.

The result explains that computerization in estimating costs consists of two important factors. The factors are human or management factor (computer users' behavior in exploiting computers) and computer factor itself. Both of these factors can be seen that they increase the accuracy of cost estimates. However, the management factor is more sensitive than the other one to the accuracy of cost estimates. This factor is significantly correlated (has strong positive correlation) with the accuracy. The use of historical data for similar works has the strongest correlation with the accuracy. The other factor has positive correlation with the accuracy, but the correlation is not as strong as the human factor has. The computer factor would have stronger correlation with the accuracy if the computer's abilities were maximally exploited. On the whole, the impact of the computerization increases the accuracy. The important thing is both factors should be well coordinated.