ABSTRACT

Construction industry is one of the developing sectors of today. It is where the more careful planning is needed, especially in terms of risk planning that the management of construction business is thoroughly able to compete in this era of globalization. Risk is the aspect that should be considered in the construction project planning. Many factors of uncertainty in construction projects, making risk analysis desperately need to be considered in project planning of project cost management. 1st research probem will identify and classify factors and variables on preliminary cost with high risk level. 2nd research problem will discover the result of risk analysis based on previous problem. 3rd research problem will give recommendations on improvement based on the result of risk analysis. Preliminary cost will be analyzed in considering the uncertainty factors. The research instruments used include 5 factors, 35 independent variables and 1 dependent variable in connection with the level of risk to project cost management performance. Risk identification and risk classification on 1st research problem determined by using qualitative analysis on literature review. Risk analysis on 2nd research problem used quantitative method with statistical analysis with the help of SPSS program (Statistical Package for the Social Sciences) version 23. The research object studied is limited to preliminary cost which has high risk to the change of cost performance in high-rise building project in DKI Jakarta. The data will be analyzed by correlation, linear regression method, model test and R2 test as statistical analysis. The results of statistical analysis will be continued with Monte Carlo simulations and conditional variance based analysis to determine the contingency costs that can be considered by observing the variable of risk that may occur. Recommendation on 3rd research problem will be suggested by using literature review, interview and respondent discussion. Based on risk identification and risk classification results, 35 variables and 5 factors of preliminary cost have been determined. Based on risk analysis results, 85.2 % of cost performance can be explained by 4 main varibles such as site management cost, main contractor's site office cost, additional structure cost and protection of works and project area cost. Due to Monte Carlo simulation and conditional variance based analysis method, the highest contingency allocation for site management cost is 38.976 % from total contingency and the lowest contingency allocation for additional structure cost is 0.394 % from total contingency. At the end of this research, recommendation and improvement will be given.

Keywords: High-Rise Building, Risk Analysis, Project Cost Management, Preliminary Cost, Contingency Cost