

## ABSTRACT

Constraints of cost, time and quality on a construction project becomes an indicator of success of the construction services. The use of a proper cost estimate is usually identified with the advantage of the success of construction projects including building construction project. This study begins with the gaps that occur in building construction project activity, then set the relevant previous research, and based on the literature study underlying this research.

This research objective to create a cost estimation model building project, identify the factors that influence the cost estimation model of a building project, and look for factors that strongly influence the model estimate the cost of a building project.

This study uses a survey technique, by examining eleven independent variables consisting of building area ( $X_1$ ), building height ( $X_2$ ), number of floors ( $X_3$ ), foundation type ( $X_4$ ), foundation depth ( $X_5$ ), material of the building structure ( $X_6$ ), number of specialist work ( $X_7$ ), function of the building ( $X_8$ ), type of contract ( $X_9$ ), project owner ( $X_{10}$ ), and implementation time ( $X_{11}$ ).

The population used is the building construction projects were implemented in 2010-2015, which is in the region of Central Java province with selected through probability sampling. The reason for choosing Central Java as the location because it is strategically located and is expected to represent Indonesia, located in the middle of the other major provinces and had a number of construction companies as much as 13.172 companies. The samples used 140 building projects. Analysis of data using statistical analysis in the form of descriptive analysis and inferential analysis.

The result obtained is a cost estimate for construction projects as  $Y = -3314.963_{(-7.591)} + 2.104 * X1_{(20.619)} + 101.516 * X2_{(4.428)} + 346.386 * X8_{(3.779)} + 230.964 * X10_{(2.461)} + 14.760 * X11_{(5.995)}$ . In which  $X_1$  is building area ( $m^2$ ),  $X_2$  is building height (m),  $X_8$  is function of the building,  $X_{10}$  is project owner, and  $X_{11}$  is implementation time (days), while  $Y$  is for the cost estimate (IDR million). Limitation of each variable is as follows: the minimum building area is  $165 m^2$  and the maximum is  $5,991 m^2$ ; the minimum building height is 3.9 m and the maximum is 34.5 m; functions of the building are commercial function (level 1), residential function (level 2), and social and cultural functions (level 3); project owners are local government (level 1), central government (level 2), private (level 3), and personal (level 4); and minimum project implementation time is 90 days and maximum is 360 days. Factors that influence the formation of a project cost estimate are building area, building height, building functions, the project owner and implementation time. The factors that strongly influence the model estimates the cost of a building project generated is building area. Therefore, when it will make a project cost estimation model building, the building area is a top priority that need attention.

In the establishment of a project cost estimation model building, required the physical factors and non-physical factors.

Keywords : Cost estimates, Projects, Buildings