ABSTRACT

The precise project time estimation is an important component for planning and managing of project success. Therefore, these projects present activities time estimates for asphaltic road construction so that the alternative way can efficiently reduce the degree of the error time estimation between contract time and actual time. The affected factors are determined to establish the multiple regression model.

The 35 completion projects data were gathered from Department of Highways in Thailand, which analyzed to establish the prediction time model. Computer software SPSS for Windows Version 10 was an available tool to analyze time estimation model. The derived model was tested and validated by using project information from all of 35 completion projects. Hence, the result of the tested model has shown the percentage of the error value less than 8 %. The prediction time model has coefficient of determination (R^2) = 0.924, and adjusted R^2 = 0.888. Therefore, This equation is fit to predict time because its adjusted R^2 is higher than 0.75.

This model has is accurate than the traditional models. The percentage error of prediction time equation (within 8%) is less than the traditional approach (within 22%). However, there is difficult to implement this model because of many variables were approached to 11. Therefore, this equation model should be developed in the computer software, and it can be designed in the entered data screen step by step in order to easily implementation. The values of the prediction time model are supporting the decision making of projects' owners in bidding construction and planning budget allocation in feasibility phase for asphaltic road construction in contract documents efficiently.