APPLICATION OF LEARNING CURVE THEORY IN CONSTRUCTION PROJECT

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by

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ABSTRACT

This study was conducted to examine the effectiveness of the learning curve theory in labor cost of construction project. It also identifies the factors from literature survey as well as respondents. That affect the labor learning development by conducting a questionnaire survey. Learning curve theory is based on the phenomenon that learning development improves through the repetitive tasks. In construction planning, the evolution of repetitive scheduling methods led to the introduction of learning concept. It is a common knowledge that execution of the same activity repeatedly, and in the same condition takes less time as the activity is repetitive in nature. This phenomenon is clear in many construction activities and is known as learning experience or learning effect. It contributes a development of algorithm for predicting construction activity time based on learning curve theory. This technique used widely to forecast cost. Learning curve is a geometrical progression which reveals that there is steady decrease in cost for the accomplishment of a given repetitive operation, as identical operation is increasingly repeated. It was discovered that the learning curve effect brings about a decline in labor cost and consequently operational costs hence, a low contract price. ANOVA, CHI Square, Criticality index, Frequency test and Pot Hoc analysis were used to analyze the identified influenced factors on learning curve theory.

Keywords: Construction Project, Labor, Manpower, Questionnaire survey, Learning curve theory, Learning curve effects, Factors.