

FINAL YEAR PROJECT REPORT
ADVANCED DIPLOMA IN CIVIL ENGINEERING
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SHAH ALAM

THE DETERMINATION OF LABOUR CONSTANT
(PRODUCTIVITY INDEX) FOR CONSTRUCTION
PROCESS - CONCRETING WORKS

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Abstract

An analytical approach for explaining the variability in labour intensive construction operations has been developed. Data has been collected daily from 3 sites. Not only productivity but many of the factors affecting it have been measured.

The quantification of the impact of each individual factor is based on the assumption that deviations from an operative's normal output arise because of disturbances imposed by a multiplicity of site factors. The impact of each individual factor causes the average daily productivity to change.

Analysis of variance has been used to study the influence of the following variables on productivity of concrete casting.

Cause of delay

length of delay

length of workday

gang composition

height of work area

The objective of the research is to determine the productivity index (labour constant) and to identify factors which affect productivity. The ultimate use of productivity measurement is that of project control.

CHAPTER 1

1.0 INTRODUCTION[1,2,3]

Productivity is theoretically defined as a ratio between outputs and inputs. A measure of productivity is more specifically an expression of the physical or real volume of goods and services (outputs), related to the physical or real quantities of inputs (labour, capital energy). In the context of the construction industry, the output is the structure or facility that is built or some component there of. The major inputs into construction process include manpower, materials, equipment, management, energy, and capital. Productivity is one of the most frequently discussed topics in the construction industry. The reason is that productivity translates directly into costs and ultimately into contractor profits made or lost on the certain job. In most projects, productivity is the most difficult cost component to estimate.

Considering the importance of construction productivity to project cost and schedule control, one would expect to find a large body of well - codified knowledge describing how to recognized productivity problem and offering known, sure-to-be successful remedies.

Many factors affecting productivity can be identified