

A STUDY OF
PLANT AND EQUIPMENT UTILIZATION ON SELECTED
CONSTRUCTION SITES IN LAGOS STATE

A THESIS
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ABSTRACT

The study examined the level of utilization of plant and equipment and its impacts on site operations in Lagos State with a view to optimising output levels on construction sites.

One hundred and twenty (120) construction companies were selected from a population of two hundred and eighty five (285) construction companies that were registered with Federation of Construction Industry (FOCI) in Lagos state. Primary data were obtained on plant and equipment acquisition methods, selection factors, extent of mechanization of site operations and effect of plant and equipment on performance with the use of questionnaire.

The results revealed that construction companies acquired plant and equipment through hiring (64%) and leasing (17%) respectively. Using the Relative Importance Index, the selection criteria were identified to be technicality involved (RII = 4.20; N = 6), output required (RII = 4.10; N = 6), complexity of job (RII = 4.00; N = 6), site characteristics (RII = 3.60; N = 6), job accessibility (RII = 3.40; N = 6), and cost of procurement (RII = 2.80; N = 6). The frequency of plant and equipment usage was significantly related to the level of output achieved. ($\chi^2 = 7.990$; $P < 0.05$). The utilization of plant and equipment significantly affected output rate on each of the selected

operations; namely: excavation operation ($t = 14.717$; $P < 0.05$); soil stabilization operation ($t = 4.027$; $P < 0.05$); concrete batching operation ($t = 3.883$, $P < 0.05$), and asphaltting operation ($t = 4.116$; $P < 0.05$) respectively.

The study concluded that the level of utilization of plant and equipment by construction companies were below average, however the use of plant and equipment led to higher output levels except where low scale of operations such as site clearance was considered.