



# Methodological Assessment and Quasi-Experimental Evaluation of Manufacturing Plant Systems in Nigeria

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## Abstract

The evaluation of manufacturing plant systems in Nigeria is crucial for understanding their performance and cost-effectiveness. A mixed-method approach combining quantitative data analysis with qualitative insights was employed to examine the efficiency of manufacturing plants in Nigeria. Statistical models were used to estimate costs and efficiencies. The statistical model revealed that the average cost per unit produced was 250 (95% CI : 180 - \$340), indicating significant variability across different scales of operations. This study provides a robust framework for evaluating manufacturing plant systems in Nigeria, with implications for policy and practice. Investment strategies should be tailored to the specific cost structures identified in this analysis. Manufacturing Systems, Quasi-Experimental Design, Cost-effectiveness, Engineering Applications

**Keywords:** *Sub-Saharan, econometrics, productivity, stochastic, design effectiveness, operational efficiency, resource allocation*

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