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Methodological Assessment of Industrial Machinery Fleets Systems in Ethiopia: Quasi-Experimental Design for Adoption Rates Analysis

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Abstract

Industrial machinery fleets play a crucial role in Ethiopia's economic development, particularly in manufacturing sectors such as food processing and construction. A mixed-method approach was employed, including surveys ($N = 150) \wedge interviews\ with\ stakeholders$. The study utilised logistic regression for predicting adoption outcomes. The analysis revealed that infrastructure availability significantly influences machinery fleet adoption in the construction sector (odds ratio: 2.3, CI: 1.2-4.6). This study provides a robust framework to understand and enhance machinery adoption rates in Ethiopia. Stakeholders should prioritise infrastructure development to facilitate wider adoption of industrial machinery fleets. industrial machinery, adoption rates, logistic regression, Ethiopia, quasi-experimental design

Keywords: *Ethiopia, Fleet Management, Methodology, Adoption Studies, Technological Diffusion, Regression Analysis, Case Study*