African Construction Management and Engineering
(Engineering focus)

Quasi-Experimental Assessment of Process-Control Systems Yield Improvement in South African Construction Projects

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Abstract

The construction industry in South Africa faces significant challenges related to project delays, cost overruns, and quality issues. A mixed-methods approach combining data from case studies and interviews was employed to assess PCS implementation across various project phases. In one specific case study, the application of PCS led to an average yield improvement of 15% in terms of on-time completion rates compared to projects without PCS. The quasi-experimental design demonstrated that process-control systems can contribute significantly to enhancing project yields in South African construction environments. Further research should be conducted to explore the scalability and sustainability of these findings across different regions and sectors within South Africa. South Africa, Quasi-Experimental Design, Process-Control Systems, Construction Project Yield The maintenance outcome was modelled as $Y\{\} = beta0 + beta1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *African Construction, Quasi-Experimental Design, Process-Control Systems, Yield Analysis, Methodological Evaluation, Quality Assurance, Project Management Theory*

ABSTRACT-ONLY PUBLICATION

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