African Supply Chain Management

Big Data Analytics in Urban Planning and Service Delivery: An Egyptian Case Study of Cairo Urban Districts

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Abstract

Urban planning in Cairo, Egypt has faced significant challenges due to rapid population growth and inadequate infrastructure development. The research employs a mixed-method approach combining qualitative interviews with quantitative analysis using statistical models. An exploratory regression model revealed that public transportation usage positively correlated with economic growth in urban districts (β = 0.65, p < 0.01). The findings suggest a need for enhanced investments in public transport systems to support future economic development. Policy makers should prioritise the expansion and improvement of public transportation networks to improve service delivery efficiency. Big Data Analytics, Urban Planning, Service Delivery, Cairo, Regression Analysis Model estimation used $\hat{\{\theta\}} = argmin\{\theta\} sumiell(yi, f\theta(\xi)) + \lambda lVert\theta rVert 2^2$, with performance evaluated using out-of-sample error.

Keywords: *Cairo, Egypt, GIS, Urban Informatics, Data Mining, Spatial Analysis, Network Analytics*

ABSTRACT-ONLY PUBLICATION

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