



5G and Digital Transformation in African Cities: A Malawi Perspective

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Abstract

The rapid urbanization in African cities necessitates robust ICT frameworks to support digital transformation. A qualitative analysis of current telecommunications policies, stakeholder interviews, and a review of existing ICT initiatives in Malawi's cities. The integration of 5G technology is projected to increase internet speeds by up to 10x within urban networks, supporting the growth of e-commerce, smart city applications, and remote healthcare services. While there are challenges related to infrastructure investment and regulatory frameworks, the potential benefits for digital transformation in Malawi's cities are significant. Develop a strategic plan that includes targeted investments in 5G technology, alongside supportive policies and public-private partnerships. Model estimation used $\hat{\theta} = \operatorname{argmin}\{\theta\} \operatorname{sumiell}(y_i, f\theta(\xi)) + \lambda \operatorname{Vert}\theta \operatorname{rVert} 2^2$, with performance evaluated using out-of-sample error.

Keywords: *Africanization, Digital Economy, ICT Policy, Network Architecture, Urban Informatics, Stakeholder Analysis, Telecommunications Reform*

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