African Organizational Communication (Media/Social)

Infrastructure Evolution and Measurement in Ethiopian Economic Dynamics

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Abstract

This study examines the development of Information and Communication Technology (ICT) infrastructure in Ethiopia and its impact on economic growth. An integrated approach combining qualitative and quantitative data was employed. A composite index of ICT infrastructure development was constructed using a modified Delphi method for expert consultation. Econometric techniques, including regression analysis with robust standard errors, were used to assess the relationship between ICT investment and economic growth. The composite index revealed that investments in broadband networks have been significantly higher than those in other forms of ICT infrastructure over the past decade, contributing to a positive correlation with GDP growth at a significance level of $p < 0.05$. This study provides evidence for the critical role of broadband network investment in driving economic expansion in Ethiopia. Policy makers should prioritise investments in broadband networks as a strategic tool for fostering ICT infrastructure development and promoting sustainable economic growth. ICT Infrastructure, Economic Growth, Regression Analysis, Composite Index 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: *Geographic, Sub-Saharan, Network, Metrics, Evolution, Analytics, Development*

ABSTRACT-ONLY PUBLICATION

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