



ICT Infrastructure Development and Economic Growth Nexus in Ethiopia: A Technological Perspective

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Abstract

Ethiopia has been experiencing significant growth in information and communication technology (ICT) infrastructure over the past decade, with a focus on broadband connectivity and digital service delivery. The research employs a multivariate regression analysis model with an error-in-variables structure to examine the effects of ICT investment on economic growth. Data from the Ethiopian Central Statistical Agency (CSA) will be utilised for empirical testing. The findings indicate that a 1 increase \in ICT investment is associated with a 0.7% rise \in GDP, suggesting a robust positive correlation between $\hat{\theta} = \arg\min_{\theta} \sum_i \ell(y_i, f(\theta(x_i))) + \lambda \|\theta\|_2$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, African, Ethiopia, Spatial Economics, Network Effects, Information Technology Infrastructure, Regional Development Studies*

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