



ICT Infrastructural Evolution and Economic Expansion in Ethiopia: A Comprehensive Analysis

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Abstract

The rapid development of Information and Communication Technology (ICT) infrastructure in Ethiopia has been a focal point for economic growth strategies. With significant investment in ICT, there is an increasing need to understand its impact on various sectors. The analysis employs econometric techniques to examine the relationship between ICT investment and GDP growth. Data from the Ethiopian Bureau of Statistics are used for regression analysis. A preliminary finding suggests that an increase in ICT investments by 10 per capita leads to a 2% rise in GDP, with robust standard errors indicating statistical significance. The study concludes that $\hat{\theta} = \arg\min_{\theta} \sum_i \ell(y_i, f(\theta(x_i))) + \lambda \|\theta\|_2^2$, with performance evaluated using out-of-sample error.

Keywords: Ethiopia, Geographic Information Systems (GIS), Telecommunications, Network Analysis, Development Economics, Supply Chain Management, Digital Divide

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