



# ICT Infrastructure Development and Economic Growth Nexus in Ethiopia

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## Abstract

ICT infrastructure development in Ethiopia is crucial for economic growth, but its impact remains understudied. The analysis uses a Vector Autoregression (VAR) model with robust standard errors to estimate the causal effect of ICT investments on GDP growth. ICT investments have been found to positively influence GDP by an average annual rate of 2.5% within the study period, indicating significant economic benefits. The econometric results suggest that enhanced ICT infrastructure can significantly boost Ethiopia's economic output, highlighting its critical role in fostering growth. Government and private sector collaborations are recommended to accelerate ICT investments, thereby enhancing economic performance. ICT Infrastructure, Economic Growth, Vector Autoregression (VAR), GDP Model estimation used  $\hat{\theta} = \text{argmin} \{ \theta \} \text{sumiell} (y_i, f\theta(\xi)) + \lambda \text{Vert}\theta \text{rVert}^2$ , with performance evaluated using out-of-sample error.

**Keywords:** Sub-Saharan, econometric, productivity, growth, networks, diffusion, panel

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