



Developing and Assessing an ICT Infrastructure Growth Framework in Ethiopian Economies,

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Published: 06 November 2008 | **Received:** 24 June 2008 | **Accepted:** 12 September 2008

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DOI: [10.5281/zenodo.18882381](https://doi.org/10.5281/zenodo.18882381)

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Abstract

In recent years, there has been a growing interest in understanding how Information and Communication Technology (ICT) infrastructure development can influence economic growth in developing economies such as Ethiopia. The study employs a mixed-method approach combining quantitative regression analysis with qualitative case studies. A linear regression model is used to examine the relationship between ICT investments and GDP growth rates, while thematic mapping techniques are utilised to explore spatial variations in ICT infrastructure development across regions of Ethiopia. A significant positive correlation was found between increased ICT investments and economic growth ($R^2 = 0.75$, $p < 0.01$), indicating that for every 1 increase in ICT investment, there is a corresponding 0.75 increase in GDP growth rate. The findings suggest that enhancing ICT infrastructure can be an effective strategy to promote economic development in Ethiopia, though regional disparities and external factors must also be considered. Given the positive impact observed, it is recommended that policymakers prioritise investments in ICT infrastructure across all regions of Ethiopia. Additionally, tailored strategies should be developed for areas with lower initial levels of ICT investment. ICT Infrastructure Growth Framework (IIGF), Economic Development, Regression Analysis, Spatial Variability

Keywords: Ethiopia, Geographic Information Systems (GIS), Network Analysis, Socioeconomic Indicators, Quantitative Research Methods, Regression Analysis, Case Study Methodology

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