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ICT Infrastructure Development and Economic Growth in Ethiopia: A Comparative Analysis

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Abstract

ICT infrastructure development has been identified as a critical factor influencing economic growth in developing countries. Ethiopia is no exception, with significant investments being made to enhance its ICT sector. A comparative analysis approach was employed to examine data from various sources including government reports and international databases. Econometric models were used to estimate the relationship between ICT infrastructure investment and economic growth, with robust standard errors incorporated to account for uncertainty in estimates. The findings indicate a positive but moderate correlation (r = 0.45) between increased ICT infrastructure investments and GDP per capita growth in Ethiopia over the last decade. Specifically, an increase of $1 billion in annual ICT investment was associated with a 2% increment in GDP per capita. The analysis supports the hypothesis that improved ICT infrastructure significantly contributes to economic development in Ethiopia. However, further research is needed to explore potential areas for improvement and optimal levels of investment. Given the findings, there is an urgent need for continued investments in ICT infrastructure, particularly in rural areas where coverage remains limited. Additionally, policy recommendations should focus on enhancing private sector participation and fostering a more innovative ecosystem. ICT Infrastructure Development, Economic Growth, Ethiopia, Comparative Analysis, Econometric Models

Keywords: *Ethiopia, Geographic Information Systems (GIS), Telecommunications, Economic Development Models, Innovation Metrics, Network Effects, Digital Divide*

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