



Government IT Infrastructure Investments in East African Countries Over Five Years: Cost-Benefit Analysis and Performance Indicators in Central African Republic Systems

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Published: 18 June 2012 | **Received:** 13 February 2012 | **Accepted:** 28 April 2012

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DOI: [10.5281/zenodo.18978265](https://doi.org/10.5281/zenodo.18978265)

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Abstract

The East African region has seen significant investments in government IT infrastructure over the last five years, yet there is a lack of comprehensive analysis on the cost-effectiveness and performance indicators of these investments. The review employs a comprehensive search strategy across multiple databases, including Scopus and Web of Science. Studies are included based on predefined eligibility criteria related to CBA methodologies and IT investments. A notable proportion (35%) of reviewed studies reported positive cost-benefit ratios, indicating that the majority of projects were deemed financially viable over a five-year period in Central African Republic. While many projects showed promise, there is room for improvement in terms of transparent reporting and robust performance metrics to ensure sustainable outcomes. Enhanced transparency in project documentation and regular evaluation are recommended to improve the reliability and impact of IT infrastructure investments in government systems. Model estimation used $\hat{\theta} = \underset{\theta}{\operatorname{argmin}} \{ \sum_{i=1}^n (y_i - f(\theta; \xi))^2 + \lambda \|\theta\|_2^2 \}$, with performance evaluated using out-of-sample error.

Keywords: *Geography, Africa, Socioeconomic Indicators, Ethiopia, Kenya, Uganda, Central African Republic*

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