



# Bridging Digital Inclusion Gaps in Rural South Africa Through Strategic Interventions

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### Abstract

This study addresses a current research gap in Computer Science concerning Strategies for Bridging the Digital Inclusion Gap in Rural South Africa in South Africa. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A mixed-methods design was used, combining survey and interview data collected over the study period. The results establish bounded error under perturbation, a convergent estimation process under stated assumptions, and a stable link between the proposed metric and observed outcomes. The findings provide a reproducible analytical basis for subsequent theoretical and applied extensions. Stakeholders should prioritise inclusive, locally grounded strategies and improve data transparency. Strategies for Bridging the Digital Inclusion Gap in Rural South Africa, South Africa, Africa, Computer Science, original research This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Model estimation used  $\hat{\theta} = \operatorname{argmin} \{ \theta \} \operatorname{sumiell} ( y_i, f\theta ( \xi ) ) + \lambda l \operatorname{Vert} \theta r \operatorname{Vert} 2^2$ , with performance evaluated using out-of-sample error.

**Keywords:** *Sub-Saharan, Ruralization, Technogenesis, Empowerment Studies, Digital Divide, Accessible Technologies, Community Engagement*

## ABSTRACT-ONLY PUBLICATION

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