



Navigating Digital Inclusion in Rural South Africa: Strategic Approaches and Practices

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Abstract

Rural areas in South Africa often face significant challenges in accessing digital technologies and services, exacerbating existing socioeconomic disparities. A mixed-methods approach combining quantitative surveys with qualitative interviews to assess current digital access levels and identify effective strategies for improving service delivery. The survey revealed that only 30% of rural households have internet connectivity, with significant disparities in availability across different regions. Qualitative insights highlighted the critical role of community-led initiatives in overcoming technological barriers. Community-based digital inclusion programmes and targeted infrastructure investments are crucial for bridging the gap between urban and rural populations in terms of digital access. Investment in broadband infrastructure should be prioritised, along with fostering partnerships between tech companies, government bodies, and local communities to ensure sustainable service delivery. Model estimation used $\hat{\theta} = \underset{\theta}{\operatorname{argmin}} \{ \theta \} \operatorname{sumiell} (y_i, f\theta(\xi)) + \lambda l \operatorname{Vert} \theta r \operatorname{Vert} 2^2$, with performance evaluated using out-of-sample error.

Keywords: *African Geography, Digital Divide, Indigenous Knowledge Systems, Participatory Action Research, Socioeconomic Indicators, Techno-Politics, Universal Services Framework*

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