



Strategic Approaches to Enhancing Digital Accessibility in Rural South Africa: A Comparative Study

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Enhancing Digital
Accessibility

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Abstract

Digital accessibility in rural South Africa remains a significant challenge due to limited internet connectivity, technological infrastructure, and digital literacy among residents. A comparative study design was employed, involving quantitative data collection through structured interviews and surveys among 200 participants from three rural sites. Qualitative content analysis supplemented the findings. Community-led initiatives showed a 45% higher likelihood of technology adoption compared to externally driven programmes (95% CI: 38-51%). Strategic partnerships between local communities and external organizations are crucial for successful digital accessibility efforts in rural settings. Policy makers should prioritise community engagement and invest in infrastructure while fostering technological literacy among residents. Model estimation used $\hat{\theta} = \operatorname{argmin}\{\theta\} \operatorname{sumiell}(y_i, f\theta(\xi)) + \lambda \operatorname{Vert}\theta \operatorname{Vert}^2$, with performance evaluated using out-of-sample error.

Keywords: *Digital Divide, Geographic Information Systems (GIS), Participatory Action Research, Mobile Technology Adoption, E-Literacy Assessment*

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This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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