



Integrating Indigenous Knowledge Systems into AI Development in West Africa: A Tanzanian Perspective

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Abstract

Integrating Indigenous Knowledge Systems (IKS) into Artificial Intelligence (AI) development is increasingly recognised as a promising approach to address digital divide and enhance AI's inclusivity in developing regions such as West Africa. A mixed-methods approach was employed, including qualitative interviews and quantitative data analysis through a logistic regression model. The logistic regression revealed that incorporating IKS reduced AI development project failure rates by 20% (OR = 0.80, CI: 0.65-0.98). This study provides empirical evidence supporting the integration of indigenous knowledge in AI development as a viable strategy for enhancing project success and societal impact. Further research should focus on scaling up this approach with larger-scale studies to validate these findings across diverse contexts. Indigenous Knowledge Systems, Artificial Intelligence Development, Logistic Regression, West Africa, Tanzania

Keywords: Tanzania, West Africa, AI, Indigenous Knowledge Systems, Cultural Integration, Ethnographic Methods, Cognitive Computing

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