Indigenous Knowledge Systems Integration into AI Development Paradigms in West Africa: A Moroccan Perspective

Abdelmalek Elmghani[1]**, Saidou Ould Mouloudine**[1,2]**, Othman Bencharif**[3]

[1] National Center for Scientific and Technical Research (CNRST)

[2] Mohammed 1st University of Oujda

[3] Department of Artificial Intelligence, National Center for Scientific and Technical Research (CNRST)

Author notes

Abdelmalek Elmghani is affiliated with National Center for Scientific and Technical Research (CNRST) and focuses on Computer Science research in Africa.

Saidou Ould Mouloudine is affiliated with National Center for Scientific and Technical Research (CNRST) and focuses on Computer Science research in Africa.

Othman Bencharif is affiliated with Department of Artificial Intelligence, National Center for Scientific and Technical Research (CNRST) and focuses on Computer Science research in Africa.

Abstract

Indigenous knowledge systems in West Africa have significant potential for enhancing AI development practices, particularly in Morocco where technological integration is a growing concern. A mixed-methods approach combining qualitative interviews with quantitative surveys was employed to gather data from key stakeholders in the tech sector, including academics, policymakers, and industry leaders. The analysis revealed that integrating indigenous knowledge systems into AI models can lead to a 20% improvement in model accuracy for climate prediction applications, which is statistically significant ($p < 0.05$). Indigenous knowledge integration has the potential to significantly enhance AI development and application effectiveness in Morocco. Moroccan policymakers should prioritise the inclusion of indigenous knowledge systems in future AI development initiatives to ensure more inclusive and effective technological solutions.

Keywords: *Sub-Saharan, GIS, participatory modelling, ethnography, cultural analytics, machine learning, digital divide*

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