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Towards an Artificial Intelligence Readiness Index for Africa

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Abstract

The applications and benefits of Artificial Intelligence (AI) for socio-economic development are immense. AI is projected to contribute approximately USD 15.7 trillion to the global Gross Domestic Product (GDP) by 2030. However, countries need to be prepared to harness such benefits. Hence, assessing the AI readiness of a country is paramount. Africa is currently the only continent without an AI readiness index tailored to its needs. It relies on the existing global indices, which may not accurately measure the progress attained by individual African countries because of the different levels of development and unique context. This paper proposes an AI readiness index for Africa. It starts by exploring what the AI readiness index needs of Africa are, examines the extent to which existing AI readiness indices meet the needs, and then looks at indicators that should constitute the AI readiness index for Africa.

The study employed a systematic literature review that aimed to explore the AI readiness needs for Africa and the extent existing indices meet these. The review focused on papers published on the AI readiness index between January 2018 to August 2022. The search strategy retrieved 301 papers, of which seven papers were selected for a detailed analysis. The study revealed that the existing indices partially meet AI readiness needs for Africa. The study also found that AI readiness index dimensions pertinent to Africa's requirements are: Vision, Governance and Ethics, Digital Capacity, Size of the Technology Sector, Research and Development, Education, Infrastructure, Data Availability, general level of employment, employment in Data Science and AI roles, and Gross Domestic Product-Per Capita Purchasing Power Parity. This study contributes to the knowledge of AI readiness for Africa and globally. The results of this study will benefit governments, researchers, and practitioners of AI and its applications.

Keywords

Artificial intelligence; Readiness index; Africa; Digital technologies; Digital capacity