

DIGITAL INFRASTRUCTURE INDUSTRY IN AFRICA NEED PROGRESSIVE HUMAN CAPITAL DEVELOPMENT

The need for rapid human capital development in Africa for its digital economy growth cannot be over-emphasized, especially with the AI megatrends, industrialists are now tagging this as the 5th Industrial Revolution. Undeniably, a lot of emphasis is required on creating the basic templates of government policy to elevate digital transformations.

Africa must catch up with the rest of the world with pure determination, even if it will take blood, sweat, and tears. Substandard social amenities and limited enabling infrastructure may seem like hindrances to tech advancements, but Africans graced with tenacity, ingenuity and sheer doggedness have managed to shape the present deployment of digital technologies over 2 decades now.

Developed nations may have a head start in promulgating smart technologies, and this is the time for the precise and intentional programmes needed by the African public sector to stay afloat in the digital economy. We have harped on the requirements for digital literacy for some time now and some government agencies are trying their very best.

In Nigeria for example, the 3MTT programme, run by the Federal Ministry of Culture, Innovation and Digital Economy under the leadership of Hon 'Bosun Tijani is a great example of such a dedicated government training scheme and it should ignite a multiplier effect in knowledge acquisition and digital services' entrepreneurship in the country.

The world is getting super digitized without a shadow of a doubt and the next few years will see millions of AI apps orchestrating compute functions in a complex weave of IOT with 5G and 6G networks, super Tb/s highways for billions of endpoints. The epicentre of digital infrastructures is the Data Centre (DC) which facilitates housing the enterprise systems and data storage devices alongside the data networks that keep the ones and zeroes flowing. The DCs and fibre optic connectivity are the bones and nerves of the digital infrastructure ecosystem.

Requirements of the Next Generation Data Centres

Integral to Africa's economic growth plans is the creation of more DC outlets to power businesses in all industrial sectors. In the last five years, we have been coming to terms with IOT and 5G networks as tech disruptors and little did we know that AI is about to disrupt with a thunderous affirmation. The AI revolution will reinvent digital infrastructures, and we must be prepared to pull all the stops to make it work!

The influence of AI on networking technologies will extend Software Defined Networks capable of increasing network complexity and advancement of cyber-security measures.

The future of digital services, especially running AI workloads, requires connected and scalable DCs using enhanced Ethernet fabrics. The present DCs will no doubt undergo some amount of refreshing

to modernise for more sustainable environments because a majority of the DCs built in the past 2 to 5 years is rapidly turning legacy.

Abundant power is key to DC service availability and power generation of all kinds now requires an intentional approach.

Data Centre Tech skills requirement

The growth of the Data Centre industry in Africa demands a skilled workforce proficient in:

- Data Centre Management: Operations, maintenance, and optimization of facilities
- Network Engineering: Design and management of high-speed networks and connectivity solutions
- Cyber-security: Protecting data and infrastructure from cyber threats
- Cloud Computing: Expertise in cloud technologies and services
- Project Management: Efficiently managing Data Centre projects and deployments

There is a paramount necessity to accelerate extensive learning programmes for the digital infrastructure arena. Recent findings indicate that the education system in Nigeria is lacking severely in modern digital technology subjects and courses. This applies to both secondary and tertiary institutions. 'Catching them young' has been an unending watchword in the emerging world and the lack of it will simply stifle growth.

Immediate curriculum adjustments are required in schools, and DC skills development centres, especially could only be the way to lay the foundations to building the necessary human capital. With the significant footprint of DCs required in the country to accommodate the growing advanced technologies, DC technology mastery requires covering a myriad of knowledge areas now than what was considered adequate. DC playgrounds for research and innovation practices are essential for the young tech-savvy minds that will help to bridge technical knowledge gaps.

Facilities engineering courses such as Mechanical and Electrical engineering, and Data networking, Cloud computing with Cyber-security are mostly standard in the digital world but beyond these are intelligent DC construction skills acquisition in areas like Civil, Structural and Buildings architectural works, Planning and Surveying and REIT (Real Estate Investment Trusts) which are all key areas of DC skills mastery.

The Africa digital economy should consider room for manufacturing capabilities and building entrepreneurship in the vertical market for device assembling (Network switches, Semiconductors, Photovoltaic, Battery plants etc), Cable making (UTP and Fibre optic cables) and Chip making (GPU and AI).

A major benefit of a functioning human capital strategy is the development of local entrepreneurship, thought leaders, and vertical markets.