DATA CENTER DEMAND FOR AFRICA

Strategy for growth Vertical industry Investments

INTRODUCTION

The digital boom in Africa is nothing to be underestimated. There are rising numbers of businesses incorporating cloud-based services for higher levels of operating efficiencies and internet penetration is also growing with increasing mobile app usage. New data sovereignty and regulatory requirements are compelling the use of local DCs. Integral to this ongoing digital transformation are Data Centre (DC) developments which in recent times has been classified as Critical Infrastructure in government quarters. It was expressed in a forum that the African continent, which consists of 54 countries, requires up to 750 DCs to compete in the global economy. Presently, there are only 150 DCs in its 15 countries; therefore, Africa significantly lacks digital infrastructure. In the past decade, DCs in Africa have been created progressively according to demand, where digital technologies have been introduced as enablers servicing the growing economy. With the African population rising at an alarming rate and the emerging markets in Africa positioned to embrace rapid and robust digital revolution, DC development strategies require a major uplift.

The leading countries with their respective DC numbers are below: -

South Africa - 41 Nigeria- 15 Kenya - 16 Morocco - 21 Egypt - 15 Uganda - 6

Data traffic was assumed to soar with the Internet of Things (IoT) disruption in the last 5 years. The adoption of 5G networks was also slated to complement both IoT and Edge network deployments for greater user experience. We never anticipated the expansive AI megatrend, which will surprisingly explode to redefine standards for digital infrastructure development and management, and the connecting wires will be heating up in the wake of AI-enabled traffic.

I think the value chain will ignite a shift in DC operational standards in the following areas: -

- Refresh cycles
- Re-tooling
- Hyper distributed infrastructure capability
- Carrier neutral capability
- Rack density 20Kw to 40Kw
- Renewable energy

DC LOCATIONS

DCs have typically been located within proximity of sources of power and low latency connectivity to customer end points. The consideration for DC placements may have also factored in environmental conditions like air humidity, temperature, and ambient cooling possibilities.

The past decade has seen several subsea optical cables connecting the continent to Europe, et al, with termination points along coastal countries like Guinea, Liberia, Senegal, Ghana, Nigeria, and South Africa, and has further boosted Africa's digital economy. Some landlocked countries like Mali, Chad, Zambia, and Botswana, for example, will require peering with neighbouring countries to boost their capacity and general cross-border businesses.

As much as these high-speed optical links enable faster IT connectivity, the benefits inland are yet to be realised due to the limited optical fibre distribution.

The growing numbers of DC developments mostly along the coastlines of West and East Africa are due to the subsea optical cable advantage, but one must pause and realise that DC space availability will eventually saturate in those regions, leaving land and power to be sought inland well away from the coastal planes. Edge DC solutions are being deployed by some operators to narrow the gap to users outside the main metropolis regions due to their footprint and rapid deployment timescales, but the solution could only be effective for the short to medium term. Edge environments should in the interim be planned for scalable footprints with capability for future growth.

ALIGNMENT WITH URBANISATION PROGRAMS

In Nigeria, for example, a strategy for scaling digital capacity will require a rethink alongside environmental concerns, urbanisation and internet penetration. The top choice for a DC location is Lagos, and several developments could be observed along the Lekki axis. Fibre distribution around the area is comparatively higher than anywhere else in the country. The economy is undoubtedly buoyant in this coastal location with bustling digital activities and as a result, the population of Lagos, its environs and like other megacities, keep growing at a startling rate.

The colossal effect of a dense digital capability and high population sparks health and safety concerns primarily, and less stimulus to expand into rural lands useful for renewable power generation and healthier lifestyles. The general infrastructural expansions are not keeping up with demand.

Nigeria's landmass is 53% rural. Known urban cities that sum up the landmass are Lagos, which is the HQ of most private sector organisations, next are Ibadan, Abuja, Kano, and Port Harcourt. These town regions do contain most of the DCs.

Public policy must encourage operators to build inland and optimise land use to develop arid and semi-rural spaces. Tripartite planning by the Federal Ministries of Power, Digital Economy and Environment could make it work.

POWER ISSUES IN NIGERIA

Nigeria has been grappling with power insufficiency and weakened infrastructure over decades and now is the time to be intentional for mass infrastructural overhauls. How are we not going to be intentional without bold steps in fixing our power supply issues and the enabling infrastructural deficit? If we are to make headways in the global digital economy, we cannot afford to be lackadaisical!

I expect that extended AI implementations will attract rapid DC developments, and so will the soaring power demand that must run and maintain the high computing and low-latency connectivity. With the recent Electricity Act 2023, one can only hope for investments in alternate power generation —such as renewables and other off-grid methods. We face an immense but surmountable challenge where power demand, basic infrastructure and suitable human capital are deal breakers for a thriving economy. Layers of integrated infrastructural development will pave the way for seamless digital infrastructure developments.

VERTICAL MARKET DEVELOPMENT

Advocacy for tech manufacturing inland using the arid spaces must be encouraged and supported by government policy. This helps in expanding digital tech entrepreneurship and to also boost the human capital. The multiplier effect is that capable hands are on the ground poised to service the ensuing digital infrastructures that will expand inland.

INVESTMENTS FOR DCs

2 investment vehicles worth exploring for digital infrastructure developments are: -

- Real Estate Investment Trusts (REIT) proposed to large investment groups and created for DC building projects
- Financial instruments capable of attracting multiple levels of investment to support rising vertical markets, skills development, and digital infrastructure assembling

I await your sincere comments