

THE RISE OF THE AFRICAN CLOUD

AZURE, AWS, VMWARE AND THE
BATTLE TO TRANSFORM AFRICAN
ENTERPRISE MARKETS

Report summary &
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MARCH 2019

The rise of the African cloud



- **The African cloud has arrived.** By the end of the year 2019, at least four hyperscale data centers will become operational in the African continent, offering hundreds of enterprise and consumer services from within Africa's shores. At least two more are expected in 2020, as the battle between global cloud providers intensifies, with Microsoft, AWS, Google, Huawei or VMWare all jockeying for contracts to build the African cloud.
- **Africa is a tricky place for cloud services, to be sure.** Many countries don't have broadband speeds adequate, and affordable enough to support reliable cloud service usage. Where cloud services are built upon a reliance on third party providers, provider distrust is deeply ingrained in many African enterprises, having been nurtured by decades of failing underlying infrastructure, promises not kept, and SLAs often barely worth more than the paper they're written on. Where the public cloud thrives on an open, decentralized Internet, many African governments profess a preference for a more centralized, monitored model – and some are prone to shutting down the Internet altogether.
- **As is typically the case in Africa, however, shortcomings as above also point to considerable opportunity. Look beyond the obstacles, and the picture emerges of a unique occasion to build the foundations for Africa's ability to enter the fourth industrial revolution.** While the cloud services sector is in its early stages of development, the impact of cloud services is already far-reaching. African banks are making investments in machine learning and artificial intelligence tools to improve the customer experience and credit risk; new "digital banks" are emerging, that are, at least in part, cloud-based. In Kenya, government-managed Huduma centers are using VMWare's virtualized infrastructure to enhance public service delivery. Large retail firms are using compute capabilities and AWS databases to transform how they reach a predominantly mobile and digital customer base. And scores of African cloud-native startups are leveraging the cloud to disrupt entire industry sectors.
- **The African cloud may be small, but it is already here indeed, and it is growing fast.** For African markets, cloud, virtualization and the broader evolution towards serverless computing are the most disruptive technology developments since the advent of the mobile payment revolution. Few other segments in the African ICT space are as likely to generate an incremental \$2bn in top line revenue over the next five years, and at least as much in adjacent enabling ecosystem revenue. And in true African fashion, market dynamics are not uniform. At the same time AWS and Huawei were announcing cloud services to be offered from South Africa, French cloud services provider OVH was closing its Dakar-based West Africa office, citing low service take-up.
- **This report is about the near term economic, commercial and investor value opportunity offered by the rise of the African cloud.** Building on Xalam's established analysis of African enterprise and digital infrastructure markets, 18 months of research and 100+ interviews and conversations, The Rise of the African Cloud explores the readiness of African markets for thriving private and public cloud services; it analyzes cloud demand and use case patterns, at segment level, from financial services to the public sector and startups; it estimates and projects cloud services market size; it details the competitive strengths of global hyperscale cloud providers and how their battle is translating in the African context; it outlines the impact of cloud services on Africa's managed service provider ecosystem and telcos' evolving enterprise businesses; and it breaks down the investment case within the African cloud value chain, from enterprise connectivity to data centers and SaaS.
- **This report does not pretend to have all the answers. But it does pretend to offer, at long last, the most comprehensive picture available on African cloud services markets.**

They are using the African cloud



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PART II

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ARE AFRICAN MARKETS READY FOR PUBLIC CLOUD SERVICES?

Rating Africa's cloud readiness (1)

How we rate cloud readiness (2) – an explanation

Our verdict: Only 5 cloud-ready markets, a dozen “nearly ready” as of 2018

Our 2021 projections: More cloud-ready markets, but most will be near-ready only

DECIPHERING AFRICAN DEMAND FOR CLOUD SERVICES

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Why they use the cloud – Africa's emerging fintechs

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The African public cloud: growing 3x faster than the global average

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SaaS is still the larger category – but IaaS is growing 2x faster

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Our Africa cloud forecasts: a snapshot

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Looking for value in the African cloud

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The others: Huawei emerging, OVH dominates French-speaking West Africa

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- A strong impetus for migration in the financial and retail sectors
- South Africa's public sector cloud push
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- Egypt: cloud potential held up by supply-side challenges
- Ghana: cloud market still small – but looking up
- Morocco: deep potential demand – but slow uptake



KEY CHARTS & FIGURES



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Africa cloud readiness scores – 2021 E

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Sample African cloud contracts – Financial services

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Sample African cloud contracts – Retail

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Africa private cloud services contribution to enterprise services market – Our 2017 – 23 forecast

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Global cloud provider Africa cloud PoPs and data center launch targets

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Egypt cloud services revenue estimates

Ghana cloud services revenue estimates

Cote-d'Ivoire cloud services revenue estimates



Markets & companies covered in this report



This report focuses on Africa at a broad level, with countries covered at varying levels of depth. Countries and players covered are as follows:

MARKETS COVERED WITH GOOD DEPTH

- The core analysis of the report is driven by insights and data generated primarily from these markets;
- We provide a country-focused analysis of the cloud market, key players, revenue outlook;
- Specific country-focused profile, key trends, projections and other analysis:

- South Africa
- Nigeria
- Kenya
- Ghana
- Cote-d'Ivoire
- Egypt
- Morocco

OTHER MARKETS COVERED

- The core analysis of the report is driven by insights and data generated primarily from these markets;
- Key trends and dynamics are explored and highlighted throughout the report - but no specific country profiling

- Tunisia
- Senegal
- Tanzania
- Uganda
- Angola
- Zimbabwe

COMPANIES MENTIONED

- | | | |
|-------------------------------------|------------------|----------------------------|
| ■ 21st Century Limited | ■ Google | ■ Orange Business Services |
| ■ Absa | ■ Huawei | ■ OVH |
| ■ Amazon Web Services | ■ IBM | ■ Pick n Pay |
| ■ Angani | ■ Inwi Business | ■ Routed |
| ■ Bank Zero | ■ Konga | ■ Safaricom |
| ■ BCX | ■ Liquid Telecom | ■ Sage |
| ■ Cloud Africa | ■ MainOne | ■ Siatik |
| ■ Cloud Temple | ■ Maroc Telecom | ■ Sidian Bank |
| ■ Comercio Nigeria | ■ Microsoft | ■ Sidmach |
| ■ Descasio | ■ M-Kopa | ■ SITA South Africa |
| ■ Digital Ocean | ■ MTN Business | ■ Spar Group |
| ■ Dimension Data/Internet Solutions | ■ Nedbank | ■ Telecom Egypt |
| ■ Dotmodus | ■ Node Africa | ■ Teraco |
| ■ Equity Bank | ■ Nutanix | ■ Tymbank |
| ■ Gijima | ■ OLX | ■ VMWare |
| ■ Globacom | ■ Oracle | ■ Vodacom Business |

Our Views in 10 Questions – And Where to Find Them

Do African markets have the adequate infrastructure to support cloud services?

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What are the current levels of cloud adoption in Africa?

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What industry segments use cloud services the most, and for what purpose?

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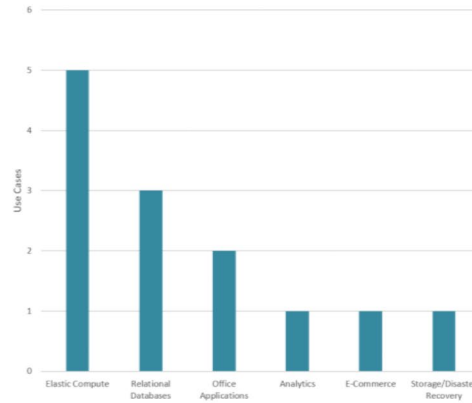
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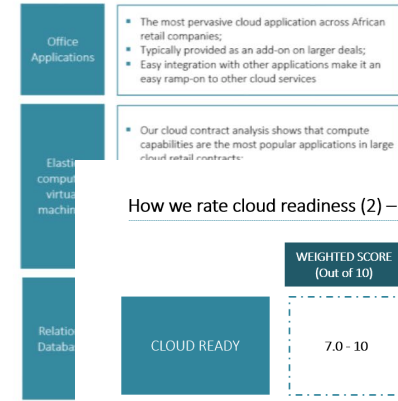
How they use the cloud – African retail

African retail use of cloud services – breakdown by application type*



*Notes based on Xalam's analysis of ~100 cloud services contracts, announced by the cloud provider, the enterprise customer, or gathered over the course of the contract; numbers are not statistically representative, and are skewed by degree of provider/customer disclosure. They are provided here for illustrative purposes only.

How African retailers use cloud services – our observations



How we rate cloud readiness (2) – an explanation

	WEIGHTED SCORE (Out of 10)	
CLOUD READY	7.0 - 10	These markets are "cloud-ready"; nearly all supply-side conditions are in place to foster the rapid development of cloud services. How fast the cloud market grows in this context is primarily a function of demand; rate of awareness, rate of adoption across key sectors, etc. In these countries, cloud services adoption can accelerate rapidly once they gain some initial momentum.
ON THE CUSP/ NEARLY READY	5.0 - 6.9	Most conditions are in place for the development of cloud services, but some critical obstacles remain – i.e., inadequate terrestrial fibre supply, or lack of carrier-neutral data centers. These markets will see some growth – but that growth will be below potential, held back by the aforementioned obstacles. Their growth potential remains solid (depending on how fast challenges get alleviated), but they'll generally grow at a slower pace (assuming similar baseline) than cloud-ready markets. How fast the cloud market grows is primarily a function of supply factors.
NOT READY	1.0 - 4.9	Supply conditions are, for the most part, not in place for the optimal development of cloud services – critical obstacles persist in key parts of the supply chain (high cost of broadband, limited competition, etc.), that complicate the growth of cloud services. This does not mean that there is no cloud usage; some organizations will roll out some cloud workloads almost regardless of the nature of supply. But a "Not Ready" score means that any growth is likely to be in pockets only, at least until there are material improvements in supply conditions.

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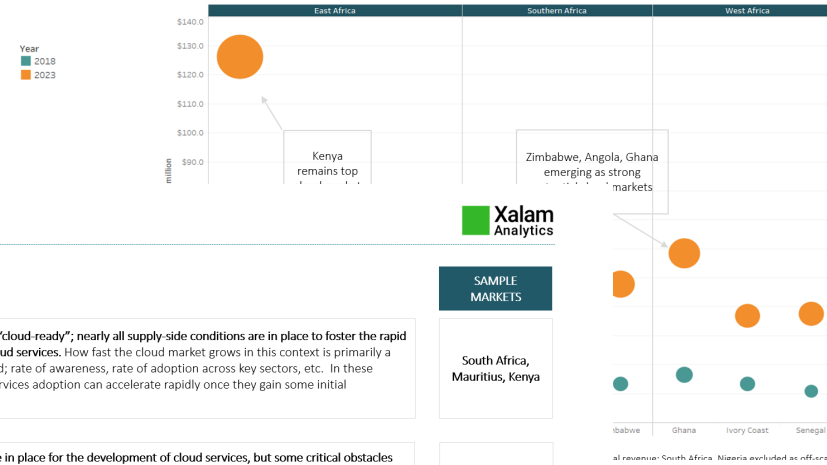


Source: Xalam Analytics estimates

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Where the growth lies: Other African markets

Evolution of total cloud revenue – Sample Sub-Saharan African country view – 2018 vs. 2023



all revenue: South Africa. Nigeria excluded as off-scale

IaaS

ape Town;
services with a ~75% latency gain vs. connecting to Ireland;
burg, with a launch target in the first half of 2020.

raco, Orange, MTN, 21st Century Nigeria)
rough IRUs

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Key Customer wins

- Highly targeted approach – focus on South Africa, corporate customers, SMEs with tech-savvy IT departments, startups
- Has built up solid stable of customers in the financial services and retail sector; key customers include ABSA, TymeBank, Pick n Pay
- Our contract data suggests that AWS at a minimum, matches up with Azure on AWS; ~60% of identified IaaS deals are on AWS;
- Appears weaker in the public sector – likely due to need for extensive courting and complicated procurement processes that require more proactive sales;
- Predominant focus is on IaaS and PaaS solutions; very strong in the SME and startup segments; popular with tech-savvy IT teams

Outlook

- Strong outlook for AWS, with growth that should accelerate as it bulks up its local capabilities;
- Even with slight lag on local data centers, we expect it to match Azure on IaaS in South Africa, and potentially do better;
- Largely expect AWS to stay within its core areas of strength – corporate customers (in retail and financial services in particular), start-ups
- We expect AWS to lag Azure, others in the public sector
- We expect AWS to be weaker outside of SA due to slower migration towards pure cloud IaaS in other countries, smaller channel base, more limited set of relationships

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The analysis in this report is powered by the Xalam Africa enterprise & Cloud dashboards

- Get an unprecedented view of the African B2B ICT opportunity;
- Understand market economic structure (e.g. agriculture GDP vs. services GDP),
- Break down B2B demand structure, from informal sector to formal corporate demand;
- Get enterprise revenue by service, segment (corporate vs. SME), vertical and more

- **Africa Public Cloud Revenue** – Hybrid vs. Public cloud, view by key category (IaaS, PaaS, SaaS), view by demand segment;
- **Detailed view of Africa's Top 500 companies**, by country, sector, etc.
- Access to the Xalam Africa cloud contract tracker

- A powerful, AWS-based, interactive visualization tool - that transforms how you see and absorb African market data
- Combining years of extensive research, data collection, color market analysis and modelling with the latest analytics technology
- Flexible access options



Request a demo today – hello@xalamanalytics.com

Report Specs: 2 Budget Options



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A 20 Slide Executive Synopsis

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