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Prof Umar Danbatta:
The Regulatory Tsar with
Prowess of Efficiency

**We have Built a Solid
Business that can Last for Years**
-Yemi Oshodi, ICSL CEO

**eSIM and Nigeria's
telecoms market expansion**

**Cybersecurity & Nigeria
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Engr. Ikechukwu Nnamani

CEO, Medallion Data Centres

**Formulating Enabling
Policy is Key to Technological
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Editor's Note

Towards a Digitized Economy

The global economy is experiencing massive, accelerated digital transformation, resulting in the creation of new business models, innovative products and services, and very different ways of doing business.

As the digital age is transforming everything: the nature of markets and products, how to produce, how to deliver and pay, the scale of capital to operate globally, and human capital requirements, it is also boosting productivity, exposing companies to new ideas, technologies, new management and business models, and creating new channels of market access.

A digital economy is built on digital platforms that facilitate business processes and enable better economic value. The new economy highlights the inescapable hyperconnectivity of people and businesses, expanding the connections between people, organizations, and machinery through the internet, mobile technology and IoT.

The expansion of connectivity, infrastructure, network-effects, falling computing and sensor costs, open software architectures, and the deregulation of digital markets are accelerating the adoption and use of digital technologies and enabling the emergence of a whole new generation of investment and business models.

The global digital economy estimated at \$11.5 trillion (which translates to about 16 percent of the global economy), World Bank estimates that the digital economy contributes to more than 15% of global gross domestic product (GDP) and in the past decade it has been growing at two and a half times faster than physical world GDP.

The digital economy is growing exponentially every year, and this is expected to continue at an accelerated rate in the near future.



In Nigeria, digital economy is valued at approximately \$100 billion in terms of revenue flow. Emerged data also revealed that the financial services within Nigeria's digital economy could add US\$88 billion and create over 3 million new jobs over the next 10 years.

The job figures agree with the outcome of a study carried out by McKinsey Global Institute (MGI). Further studies indicate that potential gains of the digital economy will be manifest in digital accounts, payments, mobile money, health and educational services and other sectors of the economy.

In the past four years, Nigeria's digital economy space has recorded over \$4.4 billion investments as a result of strategic collaborations and programmes. The Director-General of National Information Technology Development Agency (NITDA), Kashifu Inuwa recently stated that the country stands to gain a whopping \$230 billion in GDP growth by the year 2025.

However, for digital technologies to impact economic development, however, appropriate policies have to be in place to remove the obstacles preventing emerging economies from fully engaging in the digital economy and optimising the benefits, while minimising the risks. International Institute of Sustainable Development.

Bukola Olanrewaju
Managing Editor
Business Remarks

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Formulating Enabling Policy is Key to Technological Infrastructure Development

*The Chief Executive Officer, Medallion Data Centres, Engr. Ikechukwu Nnamani Interview in this interview with the Managing Editor of Business Remarks, **BUKOLA OLANREWAJU** addressed how Nigeria can woo attractive investments much needed for the data centres sub-sector growth and the Nigerian ICT sector at large.*



Can you introduce yourself and the business?

I'm Engineer Ikechukwu Nnamani, the CEO of Medallion Data Centres. We've been operating a data centre business in Nigeria for over 16 years. We got the Pioneer Data Centre Award in one of the Telecom Conferences Award Ceremonies. We were one of the first that understood the concept and

importance of carrier-neutral data centres, and we've spent a lot of time building that ecosystem.

I'm always happy when I see people coming into the space. It means the foundation we've laid, people appreciated it and also want to participate in it because it is a needed sector. Our goal is to just keep doing what we are doing. As I said in the past, we are doing a lot to grow the business and the sector for the good of all Nigerian people.

What role is Medallion Data Centres playing in the localization of data?

By providing the infrastructure that enables it, that's what we do. Data centres are the infrastructures where those servers' content is hosted. We are hosting a lot of critical infrastructures and if those data centres are not there, you cannot keep them in your house. That's the role we play, in building data centres, and operating them efficiently. We call it the building where content can be located.

Another part of it now is that people should create the content and be willing to host the content in-country because that's a whole new ball game. Some people for whatever reason are still hosting their content outside but a lot of that is changing. In the past when there were no quality data centres they were hosted abroad, but now that is changing. Although there is still a cost differential, some people believe it is cheaper to host outside than to host in the country. Naturally, that will be there until the volume of the business grows to what it is outside the country.

On investment, how can you quantify the level of investment in the data centre sub-sector in Nigeria's economy now?

I can only talk about my company. I know what we have invested without being specific about it. But I can tell that we've invested a lot of money in USD over the last one year and we are going to probably invest tons more in the coming year.

Speaking of forex, the volatility, shortage and lack of access have continuously been a concern for ICT Stakeholders. Has the government done anything to alleviate these?

We are the recipient of the problem. But I also know enough about the status of the country that we start running into forex challenges when inflow is reduced. Oil and Gas remain the biggest part of forex inflow into the country from the government standpoint apart from what the private sector is doing. As it is been reported, there is a lot of oil theft, a lot of all kinds of stuff that are making that revenue drop, unfortunately, this problem will be with us for much longer.

But what we've done which goes back into the foreign direct investment is go out there to convince people that there is potential in the country, convince investors that this is a country worth investing in and then we are bringing in forex, we are doing direct foreign investments. All our investments so far have been in USD and I think to a large extent we are helping to solve that problem. If more companies can do that, then the government wouldn't necessarily have to keep depending on whatever happens from crude oil sales and all.

The private sector needs to be



well-empowered. It takes a lot to convince investors that Nigeria is still worth investing in, given all the stuff you see every day in the press. But some of us so far have been able to do that, we hope that continues and we also hope other companies can do the same.

Between policy and regulation, which one has affected and impacted the data centre operations in Nigeria?

Probably more of policy because the regulation is still been worked on. The data centre space is still not regulated and that's because it's seen as a REIT, Real Estate Investment Transaction.

The difference between a data centre building and a hotel is just that in a hotel, people come there to sleep and in data centres, servers come there to sleep if I may be that simply describe. From that standpoint, it is all about implementing the policy on local hosting. Although, there is a policy on local hosting that is not fully implemented. There is a lot of stuff that still needs to be done from the policy standpoint.

Where do you see data centres heading in the next future and

what technology will be more relevant and important next year?

The Internet of Things (IoT) whether by 5G or any of the subscribers-based technologies is not important but the internet of things is here to stay. That will drive the new data regenerated and machine-to-machine data generation is seen to be bigger over time than human-to-human data generation. The Internet of Things (IoT) will be the driver of these innovations and it is already here.

Different services are coming up every day with more companies going into it and more companies putting out solutions that subscribers are embracing. That's the ultimate although it goes hand in hand. This is because IoT can not exist without data centres, so the more data centres available, the more internet optics services can be implemented and rolled out. Hopefully, the country will benefit from a smarter economy.

The Nigeria banking sector is experiencing huge labour flight, is the data centre space also suffering this. As an expert, how do you react to this?

The current phase of people leaving the country is mostly the youth. There is a scarcity of workforce globally. Different countries are looking for smart people and unfortunately, truth be told Nigeria is currently not the most convenient place to live.

We've got issues with insecurity and high inflation, these issues will naturally make a young person if allowed to go use their



skills in another part of the world. These countries are aware we have a very long and intelligent workforce, so they are creating windows for people to come.

But it's not a total loss. The reason is, if you check going back to the issue of forex, foreign exchange coming into the country, I don't have the exact statistics but I know what the people in diaspora remit into the country is significant. If you are not having that inflow coming back, with people staying outside, working and remitting money to their family and friends here, the situation will even be worse than it is today.

Speaking of skills, the Nigerian education sector curriculum is believed to be far from the market's current skills. What will you say to it?

Globally, the workforce has changed when people including myself look for people to hire, we are not just interested in what school you attended. I can't recall the last time while going through someone's CV and I'm looking at the schools they

attended and their grades or result. For me, it's currently irrelevant.

It's important and expected to go through formal education to have the minimum education. But I'm more interested in since you left school, what skill have you acquired. This is all over the world, it's not just in Nigeria. If you go outside, you'll find out that people are more effective when they acquire 6 months, and 12 months of practical training. If you want to go into software development, you take time to be trained in it. So practical training is key, apart from back in the days when we have very robust Polytechnics that teach you practical stuff, it's not there anymore.

You made mentioned government intervention for the survival and growth of the sector. Can you just mention two more interventions government need to do to enable a seamless and profitable data centre sector in Nigeria?

I've said that one of them is power. Whatever plans they have or do, they have to fix the power situation, and the sooner, the better. What we see and have currently is not sustainable. As I said, some of us could bear the higher cost just to see how it plays out, but eventually, you may be forced to either increase your price, which means that price ultimately is passed down to the subscribers. To avoid that, if government fixes power, a lot of things get fixed, and to me, that is critical.

They need to stabilise the forex. By doing that, it will be easy and smooth when we need to bring in technology to build data centres. That will help speed up the time to implement the skills and infrastructures. We also talked about implementing some of the policies in terms of local hosting, all these will help drive demand. Of a truth, though ultimately the private sector and the citizens will need this, the government need to digitize the running of governance.



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PROF UMAR DANBATTAS: The Regulatory Tsar with Prowess of Efficiency

The Executive Vice Chairman, Nigerian Communication Commission, Prof. Umar Dambatta was appointed the head of the regulatory commission 7 years ago. Since his emergence, the commission has recorded all-round achievements leading to the repositioning of the commission and the Nigerian telecom sector.

BUKOLA OLANREWAJU in this piece reviews his leadership and successes recorded since coming on board. Excerpt



Effective regulation is a significant factor in driving an effective economy. Just like policy formulation, right regulation ensures efficient running of industry-related matters and builds a formidable synergy between the regulators and the operators.

The Nigerian Communication Commission EVC is an erudite engineer and outstanding nation builder per excellence and he has tremendously transformed the telecom sector in the areas of infrastructural development, consumer empowerment and satisfaction, job creation, standard information and communication technology revolution, research,

rebranding of the telecom sector, staff welfare, cordial relationship with stakeholders, increase in active mobile broadband penetration, efficient monitoring and value driven usage for the provision of different types of services. To underscore the importance he attaches to telecom consumers, he declared “2017 as the Year of the Consumer”.

Danbatta who recently bagged Vanguard's Regulator of the Year Award in recognition of effective regulatory achievements through cutting-edge initiatives also successfully piloted the affairs of the West Africa Telecommunications Regulators

Assembly (WATRA) as the Chairman

Appointed on 4th August 2015 as the EVC/ CEO of the Commission, Danbatta rolled out an 8-Point Agenda (Strategic Vision Plan 1) whose diligent implementation has significantly improved the growth of the sector and the sector's contribution to national GDP from 2015 till date.

The multiple award-winning professor successfully spearheaded the attainment and surpassing of Nigeria's national broadband target in 2018, and he is currently among those leading the charge for the realization of the new national broadband target of 70% by 2025 after the country achieved and surpassed its earlier national target of 30% penetration in 2018.

Strategic Vision Plan (SVP)

Articulation of the Strategic Vision Plan (SVP 1) for the fiscal years 2015-2020 after due consultation with industry stakeholders was one of the key achievements of the NCC EVC.

The SVP 1 was focused on an 8-

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Point Agenda aimed at Facilitate Broadband Penetration, Improve Quality of Service, Optimize Usage and Benefits of Spectrum, Promote ICT Innovation and Investment Opportunities, Facilitate Strategic Collaboration and Partnership, Empower and Protect Consumers, Promote Fair Competition and Inclusive Growth and lastly, Ensure Regulatory Excellence and Operational Efficiency.

As a follow-up and based on the need to take the Commission to greater heights, a new Strategic Vision Plan (2021 - 2025) was unveiled on September 7, 2021, after taking cognizance of several notable advancements in the Nigerian telecommunications industry.

One important aspect of the SVP 2 is the implementation metrics put in place which provide for tasks to be done and the timelines under which they should be carried out.

The new SVP 2021-2025 has five visions namely: Organizational Renewal for Operational Efficiency and Regulatory Excellence; Facilitating the Provision of Infrastructure for a Digital Economy which fosters National Development; Promote Fair Competition, Inclusive Growth, Increased investment and Innovative Services; Improve Quality of Service (QoS) for Enhanced Consumer Quality of Experience (QoE); and Facilitate Strategic Collaboration and Partnership.

Telecom Investment

From less than \$500 million

investment in 2001, the investment profile in the nation's telecoms sector hit \$38 billion in 2015 when the current EVC, Prof. Danbatta assumed office and has further surpassed \$70 billion currently. Nigeria has now become one of the fastest-growing telecoms markets in Africa, and one of the best places to invest.

Quality of Service

NCC has consistently addressed the quality of service delivery through effective monitoring of Key Performance Indicators (KPIs) and the development of KPIs for 3G and 4G to enhance the quality of service experience for telecom consumers.

The sector can now boast of having 218.6 million active telecom subscribers which have grown significantly from about 400,000 aggregate telephone lines in the country as of 2000, on the eve of liberalisation. This represents a teledensity of 14.7 per cent. Basic internet subscriptions grew from zero ground to 152.9 million currently while broadband subscriptions stand at over 88.2 million, representing a 46.24 per cent penetration as of November 2022.

To ensure the commission's commitment to improving the quality of service for consumers, NCC, under Danbatta's foresight and leadership, was the first telecoms regulator to embark on a trial of 5G technology in West Africa. Currently, NCC has issued a 5G spectrum licence to three operators.

Also, there has been a reduction in the cost of data by well over 75% from \$11.15 in mid-2014 to \$2.78 at the end of 2019. The average cost of data now has come down to around N500 from N1000 per Gigabyte of data, considering the fact that most operators now offer 2GB of data for N1000.

Contribution to National GDP

The telecoms industry has remained a major contributor to our national economy with the Information and Communication Technology (ICT) industry contributing 18.94% to the nation's Gross Domestic Product (GDP) as of the second quarter of 2022, according to the latest data released by the National Bureau of Statistics (NBS).

From this, the telecommunications sector alone currently contributed 15% to GDP as of the second quarter of, 2022 up from 8.5% in 2015 when Danbatta came on board.

Revenue Generation for Government

The Commission had remitted over N344.71 billion to Federal Government's Consolidated Revenue Fund (CRF) as the revenue earlier generated by the Commission between 2015 and early 2020. According to NCC, this was from spectrum fees and operating surplus.

In addition, from the recent auctioning of 3.5Ghz spectrum to deploy a 5G network in December 2021 conducted by NCC, the commission raked in over \$500 million which was remitted into

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the FG's CRF, as prescribed by law.

Danbatta as WATRA Chairman

In just a year of taking the leadership mantle of the West African body of telecommunication regulators of 16 member states, Danbatta once again proved himself worthy of the position. The 16 WATRA member states are Togo, Sierra Leone, Senegal, Nigeria, Niger Republic, Mauritania, Mali, Guinea Bissau, Republic of Guinea, The Gambia, Cote d'Ivoire, Cape Verde, Burkina Faso and Benin Republic, Ghana and Liberia.

The achievements recorded under Danbatta's one-year chairmanship include the deployment of an automatic external phone answer and routing system, completion of front-end and back-end development of the redesigned WATRA website, a joint development by WATRA, the Coordination Team, and the Economic Community of West African States (ECOWAS) Commission of a new organizational framework for roaming regulation implementation, reactivation of Niger participation in ECOWAS roaming regulation implementation through WATRA-ECOWAS Commission collaboration.

Other achievements of WATRA under Danbatta's leadership include the re-translation of the WATRA constitution drafted and under review by Executive Committee, renewed engagements with ECOWAS on World



Radiocommunications Conference (WRC) 2023 collaboration, joint conduct of the 2nd WRC2023 prep meeting, successful organisation of the 2-day technical physical meeting in Abuja on fraud and roaming tariffs for ECOWAS regional roaming in collaboration with ECOWAS Commission, kick-off of Digital Transformation of WATRA Operations and WATRA Operating Model review service being part of a \$300,000 grant from the Nigerian government through NCC, Nigeria.

Major Disputes Resolution

In 2016, Danbatta's intervention led to the reduction of the Ground Fee Rate imposed on IHS by the Ogun State government from N370 million down to N120 million, leading to the unsealing of 47 Base Transceiver Station (BTS). In 2017, NCC's intervention led to the waiver of the N221 million RoW fee for MTN in Kano. Also, in 2018, Danbatta's intervention in Kogi helped in the unsealing of 20 BTS hub sites.

Furthermore, there has been an

increase in NCC's stakeholders' collaborations, especially with other agencies of government in resolving major industry issues. For instance, collaboration with the CBN saved 9mobile from going under thereby saving jobs and investment.

Also, reduction in the Right of Way to fast-track telecoms infrastructure deployment through the Engagement of the Nigerian Governors Forum (NGF) et al.

Promotion of Research and Development

The NCC, under Prof. Umar Garba Danbatta, created the Research and Development Department (R&D) of the Commission in 2016 to synchronise the various ongoing research activities and other development projects being carried out by the Commission; and to promote innovations in the industry.

NCC has committed over N500 million to R&D between 2016 and 2022, as research grants to academia, and startups and as the endowment of professorial chairs to drive innovations and local content development in the telecoms sector.

Prioritising and Protecting Telecom Consumers

In addition to declaring 2017 as the Year of the Consumer with consumer-centric initiatives aimed at protecting the rights, interests and privileges of the consumers, Danbatta introduced the Do-Not-Disturb (DND) 2442 Short Code.

The (DND) 2442 Short Code is for

Feature

consumers to stop cases of unsolicited marketing messages on their respective networks. Around 30 million activations to date from 500,000 in 2015.

Danbatta also issued directions to the MNOs on data roll-over, forceful subscription of data services and value-added services (VAS). NCC has also produced the Revised Consumer Code of Practice Regulations at a Public Inquiry.

The Commission created a second layer complaint toll-free line, 622 for consumers to escalate complaints to the level of the Commission.

The Commission, under Danbatta's watch, continues to drive increased consumer education through major outreach programmes across the go-poetical zones, on different issues can consumers have concerns such as cybercrimes to safeguard them online as well as creating awareness on telecom infrastructure protection. NCC is also strengthening consumer protection by revising Consumer Complaints and Service Legal Agreements (CC/SLAs) with the Operators to ensure prompt response to consumer complaints.

Effective Resolutions of Consumer Complaints and National Emergency

Through NCC Toll-free Number, between 2015 and 2019, 262,206 (95%) out of the 276, 112 complaints lodged by consumers were successfully resolved.

In 2020 alone. Also, of the total

11,327 complaints received in 2020, 11,288 (99.1%) were resolved. From 2021 through 2022, the Commission has always ensured the resolution of over 90% of total complaints escalated to the Commission by telecom consumers for resolutions.

Effective implementation of Emergency Communications Centres (ECC) through 112 National Emergency Numbers in 24 States and Federal Capital Territory (FCT), Abuja. Constructions of ECCs in other states are ongoing.

The ECC project, equipped with necessary IT tools and personnel, is a one-stop shop through which members of the public can access help from any response agency, stating that the centre is essentially aimed at enhancing the security of lives and property of the citizens.

Cybersecurity

The Commission under Danbatta watch has also constituted an inter-agency committee against electronic frauds to protect the consumers. Tackling and nipping in the bud call masking/refiling which is anti-competitive and considered a threat to national security

The Commission, in 2021, created the Center for Computer Security Incident Response (CSIRT) with the overall mandate to ensure continuous improvement of processes and communication frameworks to guarantee the secure and collaborative exchange of timely information while responding to cyber threats within the sector.

The NCCCSIRT is the Commission's industry-specific intervention, whose objectives are aligned with the National Cybersecurity Policy and Strategy (NCPS) published by the Office of the National Security Adviser (ONSA). The NCPS requires each sector to establish a computer incident response team that provides requisite services to the stakeholders and players within each sector.

Since its establishment in November 2021, the CSIRT has churned out a lot of cybersecurity advisories to alert consumers on identified cyber vulnerabilities while the Centre has also diffused similar information from Nigeria Computer Emergency Response Team (ngCERT). The essence of CSIRT is to ensure adequate protection for telecom consumers against cyber threats while online.

ICPC Ranked NCC as Ethically-Compliant Regulatory Agency.

The Nigerian Communications Commission (NCC) is the most ethically compliant and integrity-driven regulatory agency of the year, according to the Independent Corrupt Practices and Other Related Offences Commission (ICPC).

In its recent report titled, 'Ethics Compliance and Integrity Scorecard (ECIS)', the anti-graft agency surveyed 352 ministries, departments and agencies (MDAs). The NCC placed first with a score of 81.15 per cent, leading 24 other regulatory agencies assessed by the ICPC.

Digitalization involves Seamless Intergovernmental Innovative Engagement

*Given the clear advantages of a strong digital economy and the opportunities digitization provides for the common well-being of a nation, the Chief Operating Officer of WTES Projects Ltd, Mr Chidi Ajuzie in an interview with **BUKOLA OLANREWAJU** addressed the need to embrace and invest in innovation and digital technologies.*



Mr Chidi Ajuzie - COO WTES Projects

What roles does WTES play in promoting Nigerian Digital Economy Agenda?

WTES is an open-access network provider that sells to operators. Essentially we build part of the infrastructure chain for operators to lay on and launch their services easier for faster market penetration. Our role as a digital services enabler promotes Nigeria's digital economy agenda.

The Telcos and ISPs do not have to start seeking Right of Way

(RoW), digging on established roads, or building out base infrastructure, these are already available and in control, they essentially just come in, lay services and begin to build, this is WTES's primary role in the space. We do have other businesses, but our primary business is to cover enablers of the digital economy and services.

With Nigeria's broadband penetration rate at 47.36%, why is there still an outcry about the poor quality of services even in urban areas?

There is a difference between saying a service is available and the service is reliable. I think essentially that's the two things we are looking at, availability and reliability. While you answer the availability question, you now have to start looking at the reliability question which is where poor services and poor quality of services issues sit. And it is more about the reliability of the services.

I think part of the reliability question is also multifaceted, it has to do with several things; it has to do with the availability of power for the cell and the availability of some of the transport access such as the fibre to back up some of these services. We also have to start thinking about infrastructure vandalism, all these have an impact on the quality of service.

When people buy broadband services, or when broadband services are deployed in these locations, there is still a power cry to make sure we have stability and reliability of those services which is a mix of several other factors such as systems and solutions, even expertise, even the local manpower to support those services.

There is a whole lot we need to do to improve the quality of service,

Interview

even on the regulatory part, things like 5G spectrum allocations and standardization of the protocols around the networks, these will in turn help to improve the quality of service.

Speaking of rural and urban area coverage; the Minister said by April, every state in Nigeria will be Fiber optic cable covered, do you think this is feasible?

A State itself is a huge geographical area and fibre optic coverage in a state is a very complex discussion. The Minister is right if he is probably talking about government fibre-optic which is powdered by Galaxy backbone. I think Galaxy has this project called NIPTIP 1 and 2. NIPTIP 1 is primarily focused across the South while NIPTIP 2 perhaps is in the North. So those projects essentially will transit fibre across every state. I'm very careful about the word 'transit' when saying they get fibre into every state, maybe in terms of building a backbone, but coverage itself is a much deeper discussion.

Coverage will then mean it's getting to where it will be clustered, where it will be useable by the citizens to interconnect SMEs, interconnect businesses, and interconnect offices. Provide the backbone but also provide landmark connectivity for businesses themselves. Of course, creating a backbone is one thing, creating landmarks is the next phase which is a much more capital-intensive and resource-driven initiative. Yes, it is very feasible especially with government intervention through Galaxy backbone to have government fibre optic coverage

in all these locations.

There is no state that does not have some sort of fibre optic cable coverage, especially for Mobile network operators.

When you talked about the actual coverage, are you talking about the access gaps, the 114 cluster gaps in Nigeria? How then do you think these interconnectivity gaps can be bridged and address the last-mile challenges in Nigeria?

The National Digital Economy Policy and Strategy Document (NDEPS) capture a road map into how we can bridge the digital infrastructure gap, drive the digital economy, developmental regulations, the solid infrastructure both for fixed and mobile and other several things. Whether it is fixed fibre services or mobile fixed wireless assets or 4/ 5G mobile, the document addressed the cloud, the AI, the internet of things, the whole robust digital economy infrastructure space and digital services development and promotion which is essentially adoption by SMEs, whether it is micro SME's or even the bigger larger SME's or large enterprises. Then it talked about soft infrastructure which essentially is the public sector itself, the adoption of digital technologies.

So, how do we close these huge gaps? NCC usually say we have close to a 100 kilometres gap in terms of fibre infrastructure itself. There is a whole lot of gap on the cloud side which is why you are now having a lot of data centres spreading across Nigeria. There are a whole lot of



connectivity requirements and cloud requirements before we can now start driving the adoption message.

If you look at the core digital ecosystem and structure, there are 4 major pillars. No matter how digital a nation goes, until the public sector itself is digitized, whether it is the collection of taxes, payment for penalties, payment for government services, citizen to government engagement, that's digitalization itself. So once we can able to meet these 4 pillars, we'll be able to create that digital adoption that is critical, the local content. And then, of course, adoption itself is also driven by affordability because affordability is very critical to adoption.

M: How do you react to the huge human capital flight in Nigeria? Is the ICT sector also experiencing it?

You know this interesting "Japa" Syndrome, I am unsure there is anything we can do about it -the world becoming a global community. That's why one of the very important things is to have a connected world. Part of the connectivity agenda is remote working, which has become a new normal, so people can work from wherever they are in the world. Human capital flight used

Interview

to be a very big issue those days when work was localized - physical attendance in a physical environment kind of scenario but work is democratised now, and you can work from anywhere. With a digital system, the whole concept of digitization and digital services is to create platforms for people to work from anywhere, and get services on time from anywhere and very fast.

While you can create incentives, have developmental regulations for people to stay or create enabling environment everywhere in the world, I have a different opinion about the whole human capital flight, the whole Japa Syndrome. I don't see it stopping. but it's also an event that we can capitalize on even for industry growth. This means we have access to sources globally.

The big issue we have is the infrastructure gap. If we close all infrastructure gaps, automate and have the right cloud platforms, I think globally people can work from anywhere. Essentially, businesses will thrive and the human capacity will still be available but now working from a different continent which is also advantageous to us. Except for the taxes, you know the financial incentives side, they may have few losses but it also means bringing financial capital back to the country, so you also repatriate funds in the country, I think it's a win-win eventually.

What are some of the challenges limiting this digital transformation growth in Nigeria?

I think the biggest for me actually will be digital literacy and skills. We need to drive adoption



because as people become more digitally aware, become trained to use digital infrastructures and services, adoption itself increases. These two things and solid infrastructure, whether it is soft infrastructure or service infrastructure, once you can build the ecosystem properly, build the right infrastructure, build the backbone requirement, build the cloud services, internet of things, connection to everywhere and everybody, instead of saying internet of things, people talk about connected everything, whether it is your devices at home or your businesses, once you can get the connection of everything done and accomplished and we are also able to train people properly, have digital literacy and skills, I think a whole lot of adoption will happen. People will be able to use both government services and of course, businesses will experience a whole lot of growth.

With the increase in digital adoption, cyber-attacks have also increased. How can the govt address the challenge?

Security is almost like we know in the physical security itself.

Once digital assets expand, it is expanding not just to the right people, it's also expanding to the dark world, people who would also want to mine those data for ulterior motives. Again once the world transitions where you have a lot of digital progress, your private data, and your banking data are open to securities, the vulnerabilities will come in. This is why there is a huge cybersecurity business environment today.

First of all, what businesses need to do is to make sure that they are investing in digital development. As you are growing your digital footprints and adopting digitization of your business infrastructures, part of your digitization effort should also be to secure your assets in the digital space. In terms of the laws, the NCC does have something for the telecom space, in terms of it covering governance framework. Also, NITDA has huge cyber security regulations.

But do you think the government is doing enough?

I think the bigger question is until we can build the footprint higher, build digital platforms, and set regulations all around, the government's role is essentially setting regulations, setting guidelines and perhaps helping to build adoption models for the public sector especially to take. From the office of NSA, the government also has a whole lot of cyber security protocols it has set in place and all the agencies are also saying, that's on the national space.

Profile



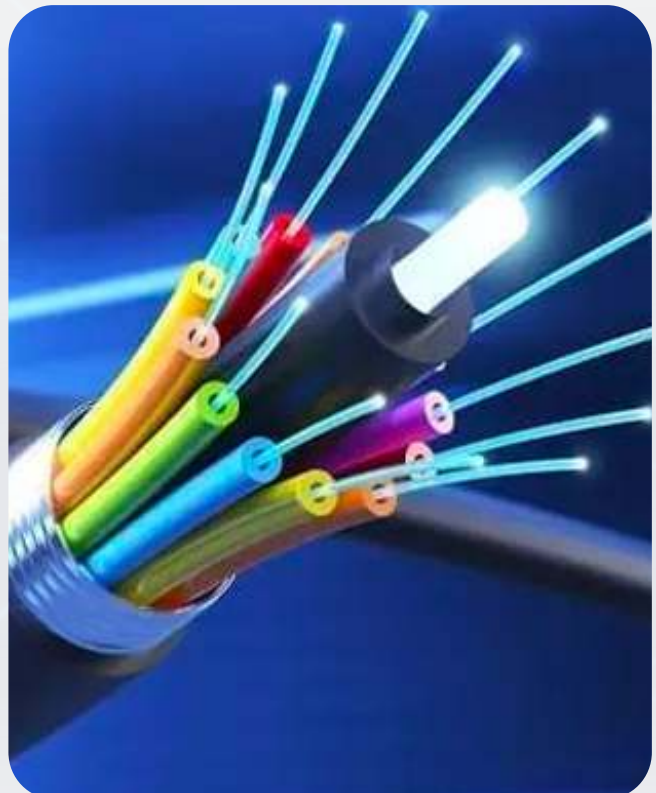
WTES is a broadband communications solution and telecom infrastructure management company, licensed by the NCC to provide Collocation services, metropolitan fiber access, internet services and national long-distance transmission services.

Since incorporation in 2008, the Company has successfully grown from primarily providing telecom towers to providing carrier network services and unified communication services, providing the best of connectivity and internet access services to individuals and corporates across various sectors.

WTES provides open access telecom infrastructure including the flagship Lagos Unified Duct Infrastructure Project (LASG_UDIP) with 3,000km completed and another 3,000km of 6-way fibre duct ongoing. It also owns and operates an array of national long

distance fibre networks from Lagos to Kano, and from Port Harcourt to Maiduguri, providing the needed national transport for telcos and other access seekers.

WTES assets and network solutions are leveraged by multiple Operators to provide converged services from connectivity to a wider array of Hosting, Cloud, Security and Managed solutions.





Analyzing Data Centre Infrastructure in Nigeria

By Bukola Olanrewaju

Serving as the backbone and a vital asset for the digital economy, the data centre space has grown to be of great economic significance to any industry.

With the rapid move towards digitisation, there is an explosion of data in the country and subsequently, demand for data centres has peaked. Businesses, governments and end-users, all depend on data centres to host, process, analyse and access their data, directly or indirectly.

Once only available to large organizations that could afford the space, resources, and staff to maintain them, today's data centres come in many forms, including colocated, hosted, cloud and edge. The pandemic accelerated the use of digital platforms and cloud services, generating a global surge in data centre development that is attracting tons of capital. This increase in cloud migration also prompted major data center operators to expand their footprints, according to a recent report from commercial real estate

services firm Cushman & Wakefield (C&W).

As multi-cloud services are increasingly growing, the global data center market was valued at \$187.35 billion in 2020 and is projected to reach \$517.17 bn by 2030 registering a CAGR of 10.5% from 2021 to 2030 according to Allied Market Research, while Revenue in the Data Center market is projected to reach US\$342.10bn in 2023.

At an event held recently, the Lagos State Deputy Governor, Kadri Hamzat said the state has attracted over \$1 billion in Data Centre Investment in the past one year. Outside of South Africa, Lagos remains the largest data centre market in Africa.

The arrival of the open-access submarine cables in Nigeria only reinforces that the increase in demand for these services increases the demand for data centre space.

Industry experts also acknowledged the potential of

Nigeria to become a digital infrastructure hub since the growing demand for data services is primarily responsible for the expansion and establishment of more data centres in Nigeria.

Nigeria has some fundamentals that suit the growth of data centres. The internet-connected population is over 150 million, MSME population of over 40 million and the growing average broadband penetration of over 45 percent. These are fundamental to driving growth in consumption of content and cloud services which required data centres located with proximity to the point of use, reducing latency and improved user experience of consuming internet services," Open Access Data Center CEO, Ayotunde Coker stated.

There has been a sea change in attitudes as corporates no longer build data centres, but colocate their IT assets with high-quality data centres and with the growth of availability of cloud services, are adopting hybrid own IT and cloud solutions," he said.

Feature

Between January to April 2022, over five Data centres were launched in Nigeria by companies including Airtel, MainOne, Kasi and others. Also last year, major data centres acquisition was recorded in the industry in Nigeria. Main One Data Center was acquired by Equinix for US\$320 million, Digital Realty acquires Medallion and Actis acquires a majority stake in Rack Centre.

Studies have shown that for every \$10m spent on data centre development, the economic impact can be \$30m to \$100m economic impact given the impact of initial capital spent on construction, and ongoing operational expenditures. Each 10 percent increase in broadband penetration has also been proven to add up to 2.5 percent to GDP growth, given efficiency impacts on the surrounding economy.

Investment in the data centre would hit \$174 billion by 2023 following increasing demand.

Since the world is connected via sophisticated network infrastructure, data transmission with real-time connections is becoming easier. And as more data is transferred, a robust infrastructure is required to handle the workloads. Thus, companies need to invest in Information and Communications Technology (ICT), particularly in data centres and network capabilities, to leverage the power of digital transformation.

Rather than dying, the data center is evolving. It is becoming more distributed, with edge data centers springing up to process IoT data.

The growth of the Nigeria data center market is attributed to factors such as the launch of 5G,

the interest shown in the market by global operators such as Equinix and Digital Realty, the shift from on-premise facilities to the cloud and colocation data center by enterprises, among other factors.

The average utilization for Nigeria-based colocation centers is 50-60%. Operators are currently witnessing demand from cloud operators, large technology companies, as well as from BFSI, content service providers, and telecom sectors, which will drive future colocation demand in the country.

Implementing the Nigeria Data Protection Regulation (NDPR) will also be a significant driver for the country's increase in data center development, resulting in data localization initiatives and an increase in local data storage and computation requirements.



eSIM and Nigeria's telecoms market expansion

The evolution of eSIM, or embedded SIM card, is gradually replacing the need for a physical SIM card and slot in many mobile phones. However, as with other digital transformation exercises, the challenge is not in introducing a new technology, it is in understanding the impact that the technology will have on the users and ecosystem.

ADEYEMI ADEPETUN, in this report, examines the implications of eSIM on Nigeria's telecoms market.



OVER the last three or four years the phrase 'Digital Transformation' has dominated the technology conversation. This umbrella term incorporates a lot of very important technology trends, including the idea that for almost all companies IT is becoming increasingly strategically important. As part of that process, legacy operational technology (OT) systems are giving way to IT, or being integrated with them.

In effect, this is what is happening with an embedded SIM card (eSIM). This means that the old plastic SIM will probably be consigned to the dustbin of technology history sometime in the next decade.

According to a White Paper on

eSIM, the technology is the future, not least because it will end up being cheaper and more customer friendly. The White Paper noted that every mobile network operator (MNOs) will need to change to reflect that. It added that to truly realise the opportunities, MNOs should proactively pursue a strategy of overhauling their existing practices to reflect the new market reality.

For operators, the adoption of eSIM is inevitable. Within the next 10 years there is little doubt that the plastic replaceable SIM will become redundant. The report noted that it is not hard to envisage eSIM adoption growing dramatically to be a mass-market phenomenon by 2025.

Other reports showed that the eSIM market is expected to grow rapidly, from an estimated \$253.8 million in 2018 to nearly \$980 million by 2023.

The White Paper noted that the key point with eSIM is that it is not optional. It stressed that in future millions of devices will be eSIM only. Eventually all will be eSIM-only and plastic SIM cards will be phased out.

MNOs, in recognition of both the inevitability and the opportunities of eSIM, have been increasingly active in rolling out the technology. Today, report has it that over 200 mobile network operators, including all the major global groups, support eSIM. The technology has also matured dramatically: over the last five years

Feature

eSIM has moved from being based on vendor-specific solutions deployed by individual operators, to being a global compliance framework from the GSM Association, which will allow all operators, OEMs and eSIM solutions vendors to deploy interoperable products and services.

Indeed, Nigeria is not left out in the eSIM revolution. Only last week, Airtel announced the launch of eSIM in the country. This came after MTN Nigeria and 9mobile, which were the first telecom operators approved by the Nigerian Communications Commission (NCC) to commence the trial of the service in 2020.

The benefits

THERE are many advantages of eSIM, not least with regards to switching phone networks. For example, if you are switching from one network to another, you don't have to go out to a shop to get a new SIM card or wait for one to arrive in the post – you can switch there and then.

Perhaps a customer is thinking of switching to more than one network – that's easy too. Because an eSIM lets users store more than one network in it, and are able to switch quickly between them. This could come in handy if there is no signal, in an area that the network doesn't cover. If this happens, the subscriber is stuck. But in the near future, he or she could simply switch to the network that offers the best coverage.

eSIM takes up less room on a phone than a SIM card and its tray. It could be good news for travellers too, as the user can

switch to the local network/tariff wherever he or she is – therefore avoiding roaming charges.

On the other hand, checks by *The Guardian* showed that the pros outweigh the cons, but there are a couple of potential flaws. With a physical SIM, if your phone breaks down you can transfer the SIM and have all your details on another phone – this may not be possible with an eSIM. You may not be able to transfer data from one phone to another, except for information stored in the cloud-like contacts, messages, and more.

eSIM as a regulatory intervention in Nigeria

WHILE the quartet of MTN, Globacom, Airtel and 9mobile have connected over 300 million SIM cards with 222 million active in the last two decades, for operators deploying the eSIM in Nigeria, they are subjected to compliance with a number of regulatory conditions.

The conditions include full compliance by the MNOs with the registration of Telecoms Subscribers Regulations 2011; the Mobile Number Portability Regulations and Business Rules 2015; Guidelines on SIM Replacement 2017; and non-degradation of the Quality of Service (QoS) experience by users of e-SIMs.

The Executive Vice Chairman of NCC, Prof. Umar Garba Danbatta, had said: “The primary objective of the e-SIM trial is to assess the technical performance of the e-SIM on telecoms service providers' network towards eventual rollout, if satisfactory.”

“An eSIM is a small chip that is

embedded on a mobile phone or smart devices. It is designed for convenience, flexibility and simplicity. The e-SIM makes it easier for subscribers to choose a pre-paid plan provider and switch between network operators. The information on the e-SIM is rewritable by operators and the identification information can be updated over time.

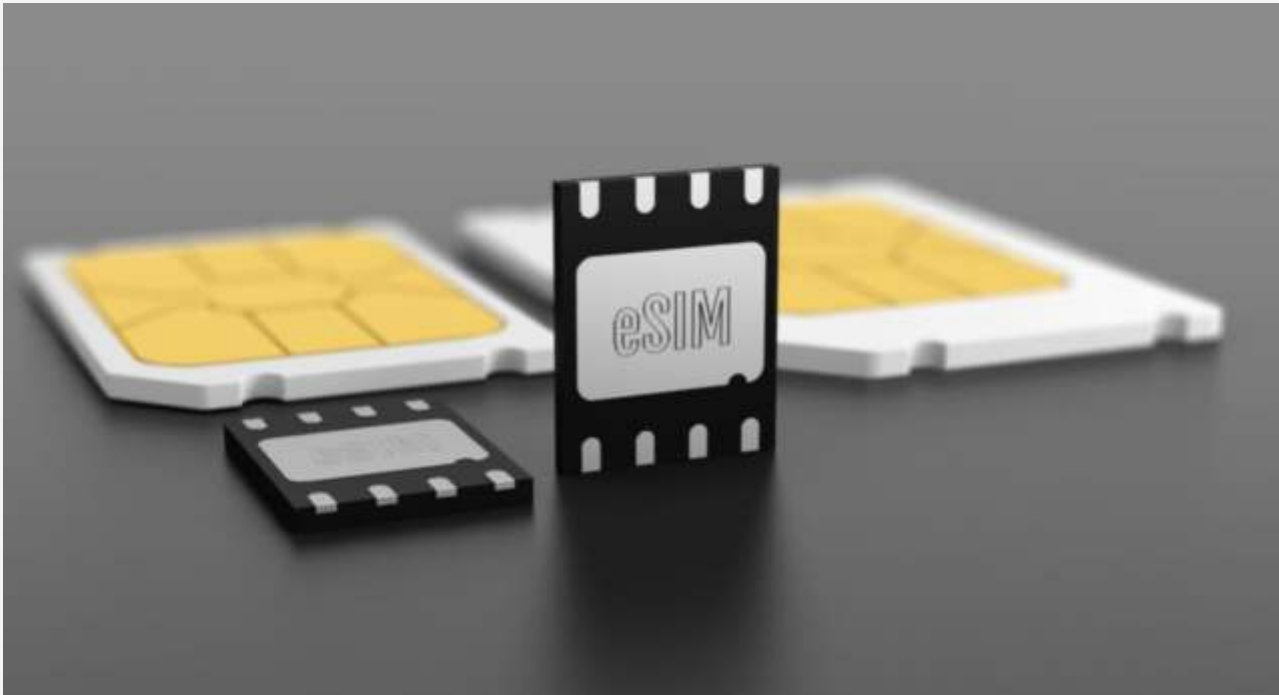
“The eSIM is a technology that will eliminate the need for physical SIM card slots on mobile devices in the near future, and the trial is in line with the commission's forward-looking regulatory approach to ensure Nigeria's telecoms ecosystem is in tandem with global best practices,” Danbatta said.

Activating eSIM on MTN, 9mobile, Airtel

eSIM is seen as the next step in the evolution of SIM cards as it is designed to deliver unprecedented freedom and flexibility. To activate an eSIM, the person needs to first have a compatible phone. Currently, eSIM-enabled phones are still limited. However, a number of the latest devices from the top mobile manufacturers are built with this capability.

Checks showed that some devices and their new models are eSIM enabled. These include Apple iPhone XS and newer models; Samsung Galaxy S-series from S20; Samsung Galaxy Note series from Note20; Google Pixel 2 and more recent models; Samsung Galaxy Z and Galaxy Fold devices.

The activation of eSIM on the networks of MTN, 9mobile and Airtel has the same pattern. For instance, to activate an eSIM on



MTN, a subscriber needs to visit any MTN store. The company's customer care agents will check if his or her device is eligible and if eligible, the process is set up.

For 9mobile, the customer is also expected to walk into select 9Mobile Experience Centres and request eSIM activation. A QR code will be provided to scan and download an eSIM profile and perform the usual SIM registration.

Airtel also requires the customer to visit any of its Service Centres where the customer care agents will walk the intended user through the process of setting up your eSIM.

Airtel said service is now immediately available on its network and customers, who wish to switch their current physical SIM cards for eSIMs will need to ensure they have a compatible device (dial*#06#), obtain the required QR code and be guided through a SIM Swap process by an Airtel service personnel.

The telecommunications firm said it has developed a simple and flawless process to activate the eSIM service for all its customers just as it believes that the digital SIM will significantly improve the productivity of Nigerians, helping its stakeholders to achieve personal and professional goals.

It should be noted that eSIM also requires a registration like the physical SIM.

eSIM in other countries

In 2019, eSIM technology was launched in Sierra Leone through Africell. Andreas Fink, whose Ethereum-based company, Cajutel, secured a license to build an Internet company to bring high-speed Wi-Fi to Sierra Leone, said not much may change for normal end-users with the introduction of eSIMs.

He, however, added that it is vital for IoT, which may still take time to play a meaningful role in Sierra Leone's mobile market

with approximately 5.8 million users.

Industry experts have observed that slowly but surely, it looks like eSIMs will take over because they provide a new level of convenience and accessibility for everyone. As long as a carrier supports the eSIMs and a customer's phone supports them, then that may be all a customer needs to start using the new technology today. To help bridge the gap, some phones with eSIMs still have traditional SIM card slots, but it's a good bet that eventually, those trays could go away altogether.

Whether a customer is travelling, switching carriers, or upgrading his phone, an eSIM sounds much easier to manage than any of the alternatives. Fortunately, technology is spreading faster than consumers can keep up, and soon it'll be everywhere.



TELECOM SECTOR SUSTAINABILITY FORUM

Telecoms Sector Sustainability Forum (TSSF) is an event-based series, a dialogue platform introduced by Business Remarks, a business and tech-focused online media for stakeholders to address and drive healthy competition for a sustainable telecoms sector in Nigeria.

The forum (TSSF) seeks to engage telecommunications stakeholders in Nigeria on ways to promote sustainable growth in Nigeria's Information and telecommunications industry.

TSSF 1.0 Theme: Examining the Nigerian Internet Service Providers (ISPs) Viability in a Digitized Environment."



Executive Vice Chairman, Nigerian Communications Commission, Prof. Umar Danbatta ably represented by the zonal controller, Mr Yomi Arowosafe giving his keynote address



Goodwill message by Gbolahan Awonuga Head of Operation ALTON, Delivering the opening remarks at TSSF 1.0



L-R. ATCON Executive Secretary, Ajibola Olude, eStream Chief Operating Officer, Mr Martins Akingba, WTES Projects Limited COO, Mr Chidi Ajuzie, MangoNet CEO, Mr Tony Emoekpere, ipNX CEO, Mr Segun Okunye, Business Remarks Managing Editor, Bukola Olanrewaju, Nigerian Communications Commission Zonal Controller, Mr Yomi Arowosafe Representing the Commission's EVC, Prof Umar Danbatta, FibreOne Head of Sales and Marketing, Mr Kehinde Joda, Dotmac Technologies, Mr Micheal Ayoad, NCC Representative, Mrs Doyin Aiyenitaju, Equinoxcore Technology Mr Lanre Olanrewaju, NCC Rep, Mr Debo Mayowa



ipNX CEO, Mr Segun Okunye, during his paper presentation titled "Examining the Nigerian Internet Service Providers viability in a Digitized Environment".



Cross section of panelists



Business Remarks Managing Editor, Bukola Olanrewaju and convener of TSSF giving her opening remarks

TSSF 2.0 Themed: Creating Awareness & Ensuring Sustainability of Mobile Virtual Network Operators (MVNOs) in Nigeria's 5G Ecosystem



L-R: WTES Projects Chief Operating Officer, Mr Chidi Ajuzie, NCC Director of Licensing and Authorisation, Alh Muhammad Babajika representing EVC, Prof. Umar Danbatta, ICSL CEO, Yemi Oshodi, Tecpoint MD, Deepak Mehta, IMBIL MD, Akeem Ogunkoya reciting the National Anthem at TSSF 2.0



L-R: Unitellas CEO Smith Osemeke, Tecpoint MD Deepak Mehta, ICSL CEO, Yemi Oshodi, NCC Muhammad Babajika, TSSF Convener, Bukola Olanrewaju, Infratel CEO Tunji Alabi, WTES COO Chidi Ajuzie, Infratel Director Growth and Partnership, David Akada after the panel session



Muhammad Babajika fielding questions from stakeholders.



Cross section of panelists



TSSF Convener and Managing Editor of Business Remarks, Bukola Olanrewaju giving her opening speech



ATCON Executive Secretary, Ajibola Olude giving the association's goodwill message

We have Built a Solid Business that can Last for Years

*With no fewer than 568 out of 756 licensed Internet Service Providers (ISP) out of business as of March 2022, the Nigeria ISPs sub-sector has been struggling to stay afloat. A harsh operating environment among several other challenges is the contributing factor. Telecommunications in Nigeria is a trillion-naira highly competitive industry. In this interview, **BUKOLA OLANREWAJU** speaks with the Chief Executive Officer of Information Connectivity Solution Limited (ICSL), Mr Yemi Oshodi on measures put in by the Nigeria telecom regulator to ensure other smaller players in the industry thrive.*



Mr. Yemi Oshodi CEO ICSL

What are ICSL's expectations for the year 2023?

With all the crosswind we are seeing, you know, no cash, no fuel, increase cost, we are having to buy some fuel on the black market at N300 per litre, also costs are going up, business remains good but executing the business is a bit of a problem.

I expect all that to clear off towards the middle of the second quarter, once that clears off, I think we are going to be fine and business expectations will be good. Once

the election is over, the Nigerian economy is going to boom, pure and simple. We are positioned pretty well to take advantage of that.

As a player, how will you describe the pace of Nigeria's Broadband Penetration and its impact on digital infrastructures?

Nigeria has a very large population and if a large percentage of that population is financially challenged, so getting internet, you know there is a cost to

providing service and that cost needs to be covered. Until we have more ideas from USBF, I think the pace of penetration will be slow, it's not going to be as fast as everybody wants.

Once the economy gets better, the pace will accelerate again because simply put, nobody will pay for the internet if they don't have a job. What is the use of the internet for someone that simply cannot afford it?

My engineers have expenses too, I have to pay my staff, and service providers have expenses, so until the economy improves, I think the penetration rate is not going to be as fast as everybody expects.

The GSM players are doing a good job, but unfortunately, they can't get everywhere, that's why you have players like ICSL who can do Rural Telephoning, and set up rural base stations with 2G/4G for people to use. Also, we have a better cost structure than the MNOs.

Once we get into that space, the penetration is going to increase but financing is always an issue. But I believe once the election is over, things will pick up.

Interview

The Broadband Penetration target of 70% by 2025, do you think it is achievable with the point you just laid down now?

Absolutely, I think it's achievable. We have noticed in our Rural Telephoning program, that when we go out to set up a base station in a rural community; these are people that never had service, the minute we put up the Base station, we are seeing people, we are seeing volumes.

We have rural base stations that are doing 6 to 7 thousand voice calls a day and 12,000 data calls a day. These are neighbourhoods that didn't have phone service before and we are not even sure where they are getting the phones to be making all these calls because we are not going there with phones, we are just setting up a base station and people are all of a sudden making calls.

I think the NCC is very keen on this program and the returns on investment are there if you are a smart player and if you know what you are doing, if you are not taking stupid risks, the returns are there.

Last year at the TSSF event, we analysed the activities of MNOs and their impact on ISPs. We've seen that MNOs have rolled out services that ISPs are also rolling out. What is your competitive advantage and how do you react to this in general?

It is a bit of a concern, you know, you are a small player competing against somebody with a balance sheet that is a thousand times the size of your balance sheet. This is a bit of a concern, but I will point something out. An MNO is not going to sell if it's competitive, I will deliver the best results for my

customers, I will use whatever technology we are nimble, and we can respond quickly. If an MNO has built a 4G network, it's not going to run or sell a 2G service.

We are not like that, we are very nimble. So as a result, we can take advantage of certain niche areas of the market where returns are better and we can operate in those areas. So yes, it is a threat but it's always been a threat and we always survive, so it's not something I do a sleepover.

The Nigerian President tweeted that with the emergence of Starlink in Nigeria, we are now 100% Broadband covered...

We have always been 100 per cent Broadband covered, if you want service from ICSL, I can give you service anywhere in Nigeria. I can guarantee you 90 percent uptime, virtually anywhere in Nigeria, I can do it with Micro-wind, I can do it with Fiber, I can do it with Vsat where infrastructure does not exist. The country has always been 100 percent covered, this is just for marketing.

ICSL is one of the largest satellite players in the old days, now that Fiber is out there, the satellite business has always been the window to a certain extent. But as I speak to you right now, no matter where it is in Nigeria that you want to service, I can provide it. So I don't think Starlink is offering anything new, I think what you are seeing in that technology is that space via satellite is much better.

Therefore you might have line issues in certain places as opposed to the satellite that we offer which is a little bit higher in the sky, so a line of side issues is limited. They may have a line of side issues in



areas that are heavily forested with a lot of overgrowths, they might have issues there and these are not issues that we have. So the idea that Starlink has now led Nigeria to be 100 percent covered is a false one, Nigeria was always 100 percent covered, no matter where you are in Nigeria, I can provide you with the internet.

As you can see the offshore players, are all connected by a satellite. So they've always been on, some of them even are connected by radio. So Nigeria has always been covered, I think that's just marketing on their part. I mean they make it seem as if they have introduced something new, there's nothing new under the sun. Anything they can do, we can do also, the technology is just a little different. Of course, there is a cost factor to this, when I say I can provide you internet anywhere in Nigeria, I can provide it at a reduced cost.

They have to charge you what they have to charge you and if in a remote part of Nigeria, we have a problem, who is going to come out and fix it? Whereas when you go with our service, we have engineers all over the country, anywhere we put your service we come back and fix it, no matter what is wrong with it, we'll be out there to fix it.

Interview

In essence, you are saying Starlink operations in Nigeria will not impact or affect ISP's operation?

No, it's just another option for the customers. But you know most customers in Nigeria are very cost sensitive and the Starlink offering is a high-cost offering in places where there is Fiber, it doesn't make sense, the Fiber will be cheaper.

As I said it's just another option for the consumer, I'm sure I haven't used the service, but I'm sure it's good for other people that have used the service.

So ISPs have a more competitive advantage than Starlink?

Exactly, and the local knowledge is better obviously.

Recently there has been a lot of several submarine cable landing in Lagos and with many more to come. How would this Broadband Cable landing help ICSL to better offer internet services to its customers?

That's an easy one, the more cables that land the lower the cost. We have a lot of capacities on the shores, so the more cables that land, the lower the cost.

It's getting that capacity off the country that's the problem, but you know when your input cost drop, you are willing to spend more to get the capacity of the country, your raw material, your landing cable is cheap so you don't mind spending the extra money to move it up the shore, keep in mind that the landing cable is a monthly recurring cost, whereas the expense to move it up country is a one-time cost.

Once I lay a fibre from here to

Ibadan, I can keep reducing the cost of my landing cable, but the cost of the fibre is already sunk, I've already paid for it. The service I'm offering becomes cheaper for my customers in Ibadan, so that's the advantage that the landing cables bring. So many of them, the prices are beginning to drop and customers should see that in their bills going forward.

As a player in this space, what can you say about the regulatory framework, in terms of promoting healthy competition and policy implementation?

The NCC is one of the better agencies out there. They are really on top of their game and they understand it. Where they might have issues are the other regulators; the infrastructure regulators, the state tax authorities, and the federal tax authorities, they seem to be an overburden of regulation. They need to roll some of these regulations back so that businesses can operate better. But with the turns of the regulatory framework for the telecom industry, NCC does a fantastic job. We are good there. It is only when

you're moving from state to state.

Can you talk a bit more about ICSL?

We are a premium provider of connectivity and we offer a bunch of manage services, including network management. We do some software development for customers that need it and we have a consulting service for state and local governments. Most importantly, our connectivity is our biggest and largest business.

With our service offering, we are always looking at new technologies that will provide our customers with better outcomes, we try and improve our service. We make sure that our employees are well informed about what is going on out there, and we train them on how to handle customers' complaints and how to handle themselves around customers. So all in all, we are trying to build a solid business that can last for years and also growing. We are happy with where we are and I think we could do better, but we are certainly not doing worse.



Glo Dole Out 20 Houses, 24 Cars Others For Subscribers in Festival of Joy Promo

*...Reassures Subscribers on Commitment to Excellence
By Bukola Olanrewaju*



As part of its life-changing initiatives to delight its subscribers, the Nigerian Telecom Powerhouse, Globacom has given out 20 houses, 24 brand new cars, 100 generators, 200 sewing machines and 1,000 rechargeable fans to its subscribers across the country.

Globacom which recently celebrated 19 years of consistent innovation and quality service delivery to its subscribers launches an exciting end-of-the-year promo, tagged Festival of Joy with grand prizes of 20 units of three-bedroom houses.

Its latest unprecedented Festival of Joy promo, the telco noted the initiative is part of an effort to appreciate and reward subscribers loyalty to the network since its inception in 2003.

In a statement made available to the press by the that “empowerment is encoded in our DNA and we are set to empower thousands of Nigerians with prizes that will change their lives with a never-before experienced promo.

Glow also noted that subscribers who recharged from N3,000 up to

N15,000 or make a data subscription of at least N20,00 during the promo period were eligible to win the prizes.

The promo which runs from October 2022 to January 2023 had draws taken in Lagos as well as other cities including Abuja, Port, Harcourt, Onitsha, Ibadan, Kano, Benin, Uyo, Calabar, Enugu, Ilorin, Jos and Warri for customers to win fantastic life-changing prizes.

According to the latest Nigerian Communications Commission, the telco recorded a 5.3 million increase in active mobile subscriptions in the year to maintain its position as the second-largest operator. The new activations on the network brought Glo's total subscriptions to 60.3 million from 54.9 million it recorded in December 2021.

In addition, in 2018 the telecom company in commemoration of its 18th anniversary delighted Nigerians with its Joy Unlimited Extravaganza promo during which hundreds of Nigerians received amazing prizes with the top winners going home with Kia Rio cars.

Glo's Deputy Chief Operating



Officer, Mr. Bisi Koleosho in commemoration of its 19th year anniversary said, the telco will remain a catalyst for socio-economic empowerment not only in Nigeria but also in Africa”

Mr. Koleosho said, adding that the company is constantly investing massively in new technologies to exceed customer expectations”.

According to Koleosho “Globacom has been carrying out an aggressive roll-out of network equipment and upgrade of its sites to 4G-LTE across the country in order to continue to offer high speed and quality data experience to its over 56 million subscribers. The process covers the entire scope of telecoms infrastructure upgrade from the core network to access network, transmission and IP network, fiber network, metro access and backbone infrastructure.

“Rollout of new sites to increase network coverage in areas that need improvement and to also densify and ease off already congested areas. This ultimately improves customers' network experience and satisfaction in terms of service delivery, network quality and coverage.” he said.



Exploring Opportunities in 5G Technology

The Fifth Generation (5G) network is live in Nigeria. It is the new global wireless standard after 1G, 2G, 3G, and 4G networks. 5G enables a new network that can connect virtually everyone and everything, including machines, objects, and devices. ADEYEMI ADEPETUN, in this piece, writes on many possibilities with the technology.

With higher multi-Gbps maximum data speeds of up to 10 Gbps, ultra-low latency, increased reliability, massive network capacity, and increased availability, 5G will drive innovation across every sector, industry and transform everything, as we know it. What does this mean for Nigerians and how will it impact our lives, from the software developer based in Lagos to the grandma in the depths of Makurdi.

According to the World Bank, Nigeria has the highest number of out-of-school children in the world. 5G is able to accelerate the democratisation of inclusive and affordable access to quality education, thus leveling the playing field between children in remote villages and children in cities. 5G can help transform education in Nigeria, as students will be able to download learning materials faster and collaborate in real-time. Medical students are not excluded from this

educational experience. They can use augmented reality (AR) to dissect cadavers and diagnose illnesses, among other things. Indeed, 5G technology will advance the educational sector in Nigeria by bringing abstracts to life and introducing a new way of seeing the world.

5G as an enabler

It is not news that Nigeria has a medical personnel shortage. With 5G, telemedicine is now at fingertips. From anywhere in the world, doctors can virtually perform live scans, video consultations, medical diagnoses, and examinations.

Interestingly, this was one of the use cases demonstrated at MTN Nigeria's commercial launch of 5G technology, as doctors from Canada and the United Kingdom performed a medical diagnosis on a patient in Nigeria. Poor women, who are most at risk of maternal/infant health issues,

will have access to proper antenatal care from a doctor anywhere in the country or the world with a single 5G device in a primary healthcare centre.

When combined with haptic technology, 5G enables a person in one location to control the movement of an object in another. This means that a doctor in Los Angeles can perform surgery in Lagos remotely.

Speaking at MTN Nigeria's commercial launch of 5G technology on September 18th, 2022, Chief Marketing Officer (CMO) of the telecoms firm, Adia Sowho, said: "The list of possibilities with 5G is endless. We are truly excited to be at the forefront of bringing this amazing technology to Nigerians and can't wait to share in all the incredible moments that our customers will experience. This is true because slow Internet speed is a major issue for creatives such as content creators, movie producers, and

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photographers, among others. However, the 5G revolution has eased this pain point because 5G's low latency, incredible speed, and bandwidth enable instantaneous file transfer without a second's delay."

The CMO backed up this claim during a live speed test at the 5G launch, where a file of 2GB was placed to download on both a 4G and 5G network. The 5G network downloaded the file in less than two minutes, while the 4G network said it would take an hour." 5G has already downloaded the file, while 4G has asked us to return in an hour," she added.

Also, 5G is expected to alter the entertainment industry. AR/VR technology will enable more than just watching contents by making the feelings real. Users can virtually visit other countries, be in games rather than just playing them, and watch artists perform together live on stage from different locations.

Agriculture is one way for Nigeria to achieve true sustainability. We can have smart farms with 5G, where farm activities can be managed using robots, drones, and other devices to improve the quality and quantity of production and maximise results. Smart-enabled devices on smart farms process faster progress in cultivating, planting, manuring, and harvesting, while minimising labour for farmers. Farmers can monitor market prices in real time, storage facilities for moisture and other issues, and if there are any complications, farmers can be alerted via SMS.

#Pandemic and remote work

COVID-19 accelerated the era of

remote work. But, as we all know, it was not without its difficulties, particularly in this part of the world. 5G will enable people to collaborate in real time, rather than only on documents. Scientists from various countries will be able to work on experiments. When COVID-19 first appeared, scientists from all over the world, including Nigeria, were sequencing the genome. With the potential of 5G, all those scientists would have been able to collaborate in real time, potentially saving many lives.

Another possibility enabled by 5G is the Smart home. Realtors can design homes where every device is smart, responsive, and connected to meet the requirements of a new homeowner. Imagine arriving home to find your air conditioner, lights, and water heater already turned on. Your sound system plays relaxing music that has been pre-programmed. 5G technology allows a homeowner to be comfortable without performing any heavy lifting or home preparations. From anywhere in the world, they can tell if there has been a break-in, if their fridge has been opened, or if the lights have been turned off. This is a brand-new and exciting revolution in Nigerian real estate.

As Nigerians, familial and religious values are extremely important to us, and with the japa wave separating families, this is another area where this piece of technology can assist, as 5G literally eliminates distance. If 4G enabled us to see and communicate with people all over the world in real time, 5G allows us to feel them to a

significant degree. A grandmother in the village can hold her new grandchild as soon as they are born, no matter where they are born in the world, thanks to haptic gloves.

Supporting Fintechs

THE Fintech industry would not exist without 4G; the possibilities for this sector and the financial sector are limitless. 5G will enable seamless database communication, allowing telcos' KYC data, BVN, NIN, and other databases to be linked in a way that makes it faster, easier, and cheaper to validate identities without physical presence or technical expertise. This is necessary for obtaining formal identification, opening a bank account, and gaining access to certain government services, among other things.

Filling out forms for financial institutions, government agencies, and other organisations is difficult for most people at the bottom of the pyramid. 5G will enable seamless voice-to-text applications, allowing illiterate or semi-literate people to fill out forms by speaking to an Integrated Voice Response (IVR) system – even in their native language – and thus access critical services by themselves.

5G is believed, will help connect Nigerian consumers and businesses to themselves and the rest of the world in ways we couldn't have imagined before.

This, according to the Chief Executive Officer, MTN Nigeria, Karl Toriola, is one of the reasons MTN Nigeria invested so much

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in bringing this technology to Nigeria. “5G will enable new industries, unlock value chains, and open more doors for Nigerians.” We understand the possibilities of a digitally empowered society and are honoured to play our part in delivering this game-changing technology to our great nation. “This is what our ambition is by 2025- to build leading solutions for Africa's progress, and today's launch spearheads the next journey for us as we stay committed to sustainable advancement for Nigeria's progress and that of our shareholders and customers,” he said.

But there are still challenges

Despite 5G capabilities in Nigeria and globally, there are still challenges that must be tackled for maximum impact. For instance, the affordability of 5G

devices is a factor. According to an analysis by QuartzAfrica, the low purchasing power of 5G-enabled smartphone users and the high cost of data were some of the recognised issues that would threaten faster spread of 5G in Nigeria and Africa in general.

It was reported that the cheapest 5G-enabled smartphone in the continent was sold for about \$300 (about N210,000), which is very expensive for the average Nigerian.

The cost of procuring 5G spectrum was a major issue. Aside operators including MTN, Mafab and Airtel with the financial war chest, which coughed out \$273.6 million each, other players may not dare it, coupled with the fact that roll-out cost also runs into millions of dollars.

Complimentary infrastructure would be another contending issue. For instance, not many hospitals in Nigeria have telemedicine facilities.

Largely, the level of poverty in Nigeria with 133 million of the populace said to live in abject poverty. People would rather focus on surviving than surfing the web, except there are concessions.

Nonetheless, as humans evolve, needs arise, and with needs come solutions. 5G technology has boundless solutions for Nigerians, and this truly promises to be an exciting time for all Nigerians as we get to experience the endless and quite breathtaking possibilities that 5G technology enables.



How Gray Areas in Nigeria's Digital Landscape can be Transformed

*With Nigeria's digital space battling to mitigate and bridge its overwhelming digital infrastructure gap for holistic digital economy growth, the Co-Founder who also doubles as the Chief Technical Officer of Digital Encode, Dr. Oluseyi Akindeinde in this interview with the Managing Editor of Business Remarks, **Bukola Olanrewaju** discusses and lays out initiatives and processes that can be deployed to fastrack digital economy development in the country.*



Tell us about the role Digital Encode plays in Nigeria's IT Space.

We are primarily a full-fledged, end-to-end cybersecurity company providing governance, risk and compliance and helping organisations secure valuable information assets.

Share with us some milestones recorded by Digital Encode since you started operations.

There are quite a few milestones till date. Some of which are being the primary provider of information security management systems and compliance services to 90% of all financial institutions and payments services companies in Nigeria. We were also the technical partners to the CBN on electronic fraud through the Nigeria e-Fraud Forum for close to a decade.

What are some of the challenges your organisation faced and how were you able to address them?

One of the major challenges is that of human capacity. We had to train and bring up to speed our key personnel at the start as the skills were not readily available. We can say now that we have some of the best cyber hands in the country

Looking at the trends, what do you think will shape Nigeria's IT sector this year?

Several trends are likely to shape the IT sector in Nigeria this year.

There will be an increase in the adoption of cloud computing. As more companies in Nigeria move their operations to the cloud, the demand for cloud computing

services will likely increase. Also, the industry will experience growth in e-commerce, as more consumers in Nigeria turn to online shopping, the e-commerce sector is expected to grow.

The roll-out and development of 5G networks in Nigeria are likely to accelerate, thereby providing faster internet speeds and enabling new technologies such as IoT and AI.

Investment in AI and IoT will also increase as companies in Nigeria look for ways to increase efficiency and gain a competitive edge, the use of AI and IoT is expected to grow. There will also be an increased focus on cybersecurity. With the increase of cyber threats in Nigeria, companies are expected to increase their investment in cybersecurity measures to protect their operations and data.

The growth of the digital economy is also another trend. The Nigerian government's efforts to develop the digital economy are likely to result in more growth and job creation in the IT sector.

The government's efforts to promote local content are likely to result in more growth and job creation in the IT sector. This will lead to an increased focus on local content. More so, we see that the pandemic has accelerated the adoption of remote work in many companies, and this trend is likely to continue, which would shape the way IT companies in Nigeria operate and provide services.

Interview

Can you identify some of the bottlenecks limiting/militating against growth in Nigeria's IT space?

There are several bottlenecks that are limiting growth in the IT space in Nigeria such as limited access to reliable and affordable internet. Nigeria has a low internet penetration rate, and many citizens do not have access to reliable and affordable internet, which limits the growth of the IT industry.

There is also limited investment in infrastructures, such as data centres, internet exchange points, and e-government services, which limits the growth of the IT industry.

Lack of digital literacy is another concern. Many citizens do not have the skills and knowledge needed to take full advantage of digital technologies, which limits the growth of the IT industry.

Limited access to funding. Many IT startups and companies have limited access to funding, which makes it difficult for them to grow and scale their businesses. The lack of a conducive environment for innovation and entrepreneurship, including a stable power supply, good logistics and e-payment infrastructure, can limit the growth of the IT industry. Another one is the limited access to foreign markets. Sadly, many Nigerian IT companies have limited access to foreign markets, which makes it difficult for them to grow and scale their businesses.

Cybersecurity threats such as hacking, identity theft, and cyberstalking, can limit the growth of the IT industry as they affect the trust of customers and investors.

Also, the bureaucratic challenges associated with setting up and running a business in Nigeria, such as

obtaining licenses and permits, can limit the growth of the IT industry. By addressing these bottlenecks, Nigeria can create an enabling environment that promotes innovation, investment, and digital literacy to build an inclusive digital future and support the growth of the IT industry.

Nigeria's ICT rating Post COVID-19 has been outstanding seeing that the sector contributed 18.44% in Q2 2023, how do you think Nigeria can improve and boost its inclusive digital future?

Nigeria can improve and boost an inclusive digital future if there is an increased investment in infrastructure. Nigeria needs to invest in building and upgrading its internet and telecommunications infrastructure to ensure that all citizens have access to reliable and fast internet.

To promote digital literacy, Nigeria should invest in digital literacy programs to ensure that all citizens have the skills and knowledge needed to take full advantage of digital technologies.

The development of local technology shouldn't be taken lightly. There is a need for the country Nigeria to encourage the development of local technology startups and companies to create jobs and promote innovation.

Also, the government need to foster

a conducive environment for investment. Government should provide tax incentives and other benefits to attract foreign and local investors to the digital economy. Public-private partnerships need to be encouraged. Government and private sector should collaborate to identify and implement digital solutions to pressing social and economic challenges in the country.

In addition, the government need to provide an enabling environment for e-commerce, by ensuring a stable power supply, good logistics and e-payment infrastructure. Overall, Nigeria should focus on creating an enabling environment that promotes innovation, investment, and digital literacy to build an inclusive digital future.

Looking at the evolving technology trends, as a player in this space, how can Nigeria bridge the digital divide gap?

To bridge the digital divide gap in Nigeria, Government should work with internet service providers to increase access to affordable internet in rural and low-income areas. They need to invest in digital infrastructure such as data centres, internet exchange points, and e-government services to support digital inclusion and innovation.

Government should also invest in digital literacy and skills training programs for citizens to ensure that they have the knowledge and skills needed to take full advantage of digital technologies.

In addition, Government should develop a comprehensive national digital inclusion plan that outlines the steps that need to be taken to bridge the digital divide and ensure that all citizens have equal access to digital technologies. Government should invest in and leverage emerging technologies such as 5G, IoT and AI to bridge the digital divide while providing a conducive environment for innovation and digital



Interview

entrepreneurship.

Digital transformation demands that organizations make disruptive investments in people and systems without an immediate payoff, what advice do you have for companies?

Instead of trying to transform everything at once, start with small, manageable projects that can be easily scaled up over time. This will allow you to gain experience and build momentum before tackling larger, more complex initiatives.

Digital transformation requires a different set of skills and expertise than traditional operations. Companies should invest in recruiting, training and retaining employees with the right talent, skills and experience to lead the digital transformation.

Digital transformation should be customer-centric, meaning that the company should focus on the needs and preferences of the customers throughout the process. They need to prioritize customer needs. This will help ensure that the company's investments are aligned with customer demands and expectations.

Digital transformation requires a culture of experimentation, where companies are willing to try new things, embrace them and learn from their mistakes. This means being open to new ideas, technologies and processes, and being willing to pivot when necessary.

They need to be prepared for the long haul. Digital transformation is a long-term process, and companies should be prepared for the long haul. The benefits of digital transformation may not be immediately apparent, but they will come over time.

Communicating effectively with stakeholders is another thing not to

be overlooked. Digital transformation can be disruptive, and it is important to communicate effectively with stakeholders, including employees, customers, partners, and shareholders to minimize the risk of resistance and to ensure that everyone is on board with the changes. Regularly measure progress and adjust strategies and tactics accordingly. Use data and analytics to make decisions and track progress.

Digital transformation is a challenging process, but companies that invest in the right people, processes and technologies, and embrace a culture of experimentation and learning, will be better positioned to succeed in the digital economy.

What are the biggest issues that companies must address from a privacy perspective when they suffer a data security incident?

Companies must address several important privacy issues when they suffer a data security incident such as notifying individuals whose personal information has been compromised in a timely manner. This is typically required by state and federal laws, also it is important and compulsory. Companies must provide appropriate customer service to affected individuals, including answering questions, providing credit monitoring and identity theft protection services, and addressing other concerns.

Data Retention is also key. Companies must take steps to prevent further unauthorized access to the affected data and to secure and preserve the data for forensic analysis and incident response. The affected companies must have an incident response plan to handle data security incidents, and regularly train employees on how to respond to such incidents.

Regulatory compliance cannot be

over-emphasized here. Companies must comply with all applicable data protection and privacy regulations, including those of the jurisdiction where they operate. Reputation management must also be looked into. They must have a plan in place to mitigate the potential damage to their reputation that can result from a data security incident.

Also, companies should consider buying cyber insurance which can help cover the costs of responding to a data security incident, including notification, credit monitoring and other services for affected individuals, as well as legal and regulatory costs.

Post-incident review must be carried out. Companies must review the incident to determine what went wrong and to implement measures to prevent similar incidents from happening in the future.

Overall, companies must act quickly and effectively to address the privacy issues that arise from a data security incident. This includes notifying affected individuals, preserving data for forensic analysis, providing customer service, complying with regulations, managing their reputation, and implementing measures to prevent similar incidents from happening in the future

How do you think the government is addressing data privacy and cybersecurity threats?

Governments are taking a multifaceted approach to address data privacy and cybersecurity threats, including creating regulations, investing in research, and collaborating with other countries. However, it's important to note that cyber threats are constantly evolving, and governments must continue to adapt their strategies to stay ahead of them.

Profile



IMBIL Telecom Solutions was incorporated on June 19, 2018 essentially as an information Technology (IT) and Telecommunication based company to proffer reliable and top-notch IT services to various organizations across the globe. The company is also licensed by the Nigeria Communication Commission to provide Interconnect Clearing House, Private Network Lines, Internet Service Provision and International Gateway.

IMBIL has further expanded its scope to cover a wide range of products which include provision of broadband internet (IMBIL connect), fixed telephone lines (IMBIL talk), managed services, project management, business development services, among others.

Since its emergence, the company has successfully executed major ICT projects, helping various national and multinational clients worldwide connect the world with ease via cost-effective and user-friendly modules.

With IMBIL, you need not worry about your Information Communication Technology (ICT) needs. The company has vast and reliable experience in the ICT field that can give you the requisite



Mr. Akeem Ogunkoya
MD, IMBIL

advantage over your competitors. The company deploys cutting edge technology to enable businesses achieve their full potentials. It also eases the burden of maintaining and managing an IT department which is a complex, cost escalating but necessary requirement for businesses to keep tab with globalization trends.

IMBIL's multifaceted business model ensures that with a well-structured internal system, human and ICT resources, partnerships as well as a firm grasp of the dynamics of modern business; the company can assist its clients with achieving their corporate objectives via modules suitable to their business, procedures and industry.

MVNOs Are Coming!

By Elvis Eromosele



Barring any unforeseen, the Nigerian Communication Commission (NCC) will grant licenses to companies to operate as Mobile Virtual Network Operators (MVNOs) before the end of this year. The telecom regulator insists that this is part of strategic effort to ensure the provision of qualitative and efficient telecommunications services throughout the country.

Professor Umar Garba Danbatta, Executive Vice-Chairman and Chief Executive Officer (EVC/CEO), NCC, revealed this at the Business Remarks Telecom Sector Sustainability Forum (TSSF) in Lagos with the theme "Creating Awareness and Ensuring Sustainability of Mobile Virtual Network Operators (MVNOs) in Nigeria's 5G Ecosystem".

The session brought to mind an article that I wrote and posted on Facebook in 2014. I think it is still relevant today, now that the MVNOs are truly coming:

MVNOs are coming!

Variety, they say, is the spice of life. Imagine 10 service providers each knocking on your door and offering varying bundles (basic minutes, SMS and data), top-of-the-range content and innovative

services all at rock-bottom prices. Ha, the life!

This might look like a dream right now but if official sources are to be believed it may happen sooner rather than later. Some swear this is where we are heading with the imminent licensing of mobile virtual network operators (MVNOs) in the wings. Customers can thus confidently look forward to a season of more predictable monthly bills and on-average lower costs.

Thus, after a dozen years of what has been described as a telecommunications revolution, we may well be heading into another revolution. This time: A Telecommunications SERVICES revolution.

But suppose one was to ask: what are MVNOs? These are communications services providers that do not own the wireless network infrastructure over which they provide services to customers.

Or put another way, MVNO operators are companies that will lease capacity from the mobile network, charge their consumers to use the services they provide and pay the operator to use their network and then keep the

difference.

Sounds simple enough, but how would it work? Experts say an MVNO (prospective MVNO, if you like) enters into a business agreement with a mobile network operator to obtain bulk access to network services at wholesale rates, and then sets retail prices independently.

MVNO can be either convenient or no-frills. That is they may simply target existing and loyal customer base or offer a value proposition based on low-cost and basic services (e.g. basically minutes and SMS bundle, online sales and absence of handset subsidies).

Another valid question at this point is why MVNO? Any keen observer would by now be aware that the mobile telecom market in Nigeria is fast approaching maturity, with penetration rates inching closer to the 100 per cent mark. The challenge at this point is usually how to 1. Improve competition 2. Ensure full capacity utilization and 3. Ensure customers have options - viable options.

Of course, the Nigeria Communications Commission (NCC) would not only have to license these operators but equally

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create what is known as enabling environment for them to thrive including but not limited to reduced license/operating fees amongst others.

Naturally, the NCC would realize money through taxes to be received from MVNO operators. This is a win-win scenario for the NCC, the mobile operators and the subscribers.

Globally, the emergence of the MVNO model in various markets was usually precipitated by varied local factors. In some markets, the MVNO concept came about as the result of regulatory intervention. Regulators wished to force established mobile network operators to offer wholesale access to their network to ensure robust competition to benefit the consumer. In other markets, mobile network operators responded to market opportunities to offer their excess capacity at wholesale rates to other entities to bring in incremental revenue on what would otherwise be unused network capacity. Mobile network operators reason that savings from not providing customer service and marketing would offset any revenue lost by selling network access at wholesale rates.

These all make sense when one considers that an MVNO incurs no significant capital expenditure on spectrum and infrastructure and does not have the time-consuming task of building out extensive radio infrastructure.

Expectedly, it would not necessarily be all rosy. Like all good businesses for MVNOs to succeed they need to have a worthy story, a source of differentiation and continually strive to secure a mutually beneficial and attractive wholesale rate. What's more, they should carefully select their vendors and think of a flexible

business model that would enable them to keep pace with the rapidly changing mobile industry. They would also clearly need to have a clear technology roadmap and be prepared to follow current trends, keeping pace with technology developments while anticipating future trends.

It goes without saying that MVNOs have got to choose the targeted niches carefully.

This could be based on the segments already cover with an eye on differentiating with tailor-made services.

The truth is that the MVNO sector has unwittingly become a permanent fixture of the wireless space globally. Due to intense pressure to consolidate and rationalize the network provider side of the industry, MVNOS represent an appropriate way to lower the barriers to entry while enjoying economies of scale. This is probably why regulators around the world now also look at MVNOs as service-based players capable of building competition by offering consumers a choice of offers and lower prices. Indeed Wireless Intelligence reports that there are now about 812 MVNOS across the globe.

As an aside, those who should know insist Emirates Telecommunications Corporation (Etisalat), the United Arab Emirates mobile cellular operator picked by the country's Mubadala Development Company to operate its \$400 million telecoms license in Nigeria had initially planned to operate as the nation's first Virtual Mobile Network Operator (VMNO) to speed up on its entry into the market. It however quickly jettisoned the idea due to what experts refer to as a glaring lack of enabling environment.

Today, sadly, this glaring lack of

enabling environment persists. Thus, while the telcos would likely welcome the emergence of MVNOs as a new way to increase network traffic at a lower cost and open up new revenue streams for alliance partners, it may prove especially difficult locally with large-scale network congestion issues currently being faced by existing players.

Thankfully a lot of investment is going into the ground to boost network capacity by all existing telecommunications services providers. MTN recently completed a network modernization and upgrade project while Globacom just commenced a similar initiative. In fact, all operators are harping on investment to improve capacity.

MVNOs are really more than "me too" companies, they can indeed truly add value to the nation's telecommunications industry. They boost capacity utilization and provide customers with much-needed alternatives. Experts insist that MVNOs are the next phase of growth for the telecommunications industry.

The consensus is that another factor fueling the rise of MVNOs is the emergence of social media. MVNOS benefit from the "shareability" that online social platforms provide. Thus by creating a socially-driven marketing campaign via Facebook, Twitter and YouTube, operators can engage with consumers and encourage them to share the MVNO services. With over 11 million social media activists, Nigeria may well be MVNOs heaven.

We better get ready then as MVNOs are indeed coming!

Govt Needs to Provide Incentives for Telecom Infrastructures to Drive Growth

*In this interview with **BUKOLA OLANREWAJU**, the Phase3 Telecom General Manager Southern Region, Babalola Olalekan speaks on challenges and governmental initiatives needed for the growth of the Nigerian telecom sector*



Tell us about the role Digital Encode plays in Nigeria's IT Space.

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Share with us some milestones recorded by Digital Encode since you started operations.

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information security management systems and compliance services to 90% of all financial institutions and payments services companies in Nigeria. We were also the technical partners to the CBN on electronic fraud through the Nigeria e-Fraud Forum for close to a decade.

What are some of the challenges your organisation faced and how were you able to address them?

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Looking at the trends, what do you think will shape Nigeria's IT sector this year?

Several trends are likely to shape the IT sector in Nigeria this year.

There will be an increase in the adoption of cloud computing. As more companies in Nigeria move their operations to the cloud, the demand for cloud computing services will likely increase. Also, the industry will experience growth in e-commerce, as more consumers in Nigeria turn to online shopping, the e-commerce sector is expected to grow.

The roll-out and development of 5G networks in Nigeria are likely to accelerate, thereby providing faster internet speeds and enabling new technologies such as IoT and AI.

Investment in AI and IoT will also increase as companies in Nigeria look for ways to increase efficiency and gain a competitive edge, the use of AI and IoT is expected to grow. There will also be an increased focus on cybersecurity. With the increase of cyber threats in Nigeria, companies are expected to increase their investment in cybersecurity measures to protect their operations and data.

The growth of the digital economy is also another trend. The Nigerian government's efforts to develop the digital economy are likely to result in more growth and job creation in the IT sector.

Interview

The government's efforts to promote local content are likely to result in more growth and job creation in the IT sector. This will lead to an increased focus on local content. More so, we see that the pandemic has accelerated the adoption of remote work in many companies, and this trend is likely to continue, which would shape the way IT companies in Nigeria operate and provide services.

Overall, these trends are likely to shape the IT sector in Nigeria in the coming year, providing opportunities for growth and innovation in the digital economy.

Can you identify some of the bottlenecks limiting/militating against growth in Nigeria's IT space?

There are several bottlenecks that are limiting growth in the IT space in Nigeria such as limited access to reliable and affordable internet. Nigeria has a low internet penetration rate, and many citizens do not have access to reliable and affordable internet, which limits the growth of the IT industry.

There is also limited investment in infrastructures, such as data centres, internet exchange points, and e-government services, which limits the growth of the IT industry.

Lack of digital literacy is another concern. Many citizens do not have the skills and knowledge needed to take full advantage of digital technologies, which limits the growth of the IT industry.

Limited access to funding. Many IT startups and companies have limited access to funding, which makes it difficult for them to grow and scale their businesses. The lack



of a conducive environment for innovation and entrepreneurship, including a stable power supply, good logistics and e-payment infrastructure, can limit the growth of the IT industry. Another one is the limited access to foreign markets. Sadly, many Nigerian IT companies have limited access to foreign markets, which makes it difficult for them to grow and scale their businesses.

Cybersecurity threats such as hacking, identity theft, and cyberstalking, can limit the growth of the IT industry as they affect the trust of customers and investors.

Also, the bureaucratic challenges associated with setting up and running a business in Nigeria, such as obtaining licenses and permits, can limit the growth of the IT industry. By addressing these bottlenecks, Nigeria can create an enabling environment that promotes innovation, investment, and digital literacy to build an inclusive digital future and support the growth of the IT industry.

Nigeria's ICT rating Post COVID-19 has been outstanding seeing that the sector contributed 18.44% in Q2 2023, how do you think Nigeria can improve and boost its inclusive digital future?

Nigeria can improve and boost an

inclusive digital future if there is an increased investment in infrastructure. Nigeria needs to invest in building and upgrading its internet and telecommunications infrastructure to ensure that all citizens have access to reliable and fast internet.

To promote digital literacy, Nigeria should invest in digital literacy programs to ensure that all citizens have the skills and knowledge needed to take full advantage of digital technologies.

The development of local technology shouldn't be taken lightly. There is a need for the country Nigeria to encourage the development of local technology startups and companies to create jobs and promote innovation.

Also, the government need to foster a conducive environment for investment. Government should provide tax incentives and other benefits to attract foreign and local investors to the digital economy. Public-private partnerships need to be encouraged. Government and private sector should collaborate to identify and implement digital solutions to pressing social and economic challenges in the country.

In addition, the government need to provide an enabling environment for e-commerce, by ensuring a stable power supply, good logistics and e-payment infrastructure. Overall, Nigeria should focus on creating an enabling environment that promotes innovation, investment, and digital literacy to build an inclusive digital future.

Looking at the evolving technology trends, as a player in this space, how can Nigeria bridge the digital divide gap?

Interview

To bridge the digital divide gap in Nigeria, Government should work with internet service providers to increase access to affordable internet in rural and low-income areas. They need to invest in digital infrastructure such as data centres, internet exchange points, and e-government services to support digital inclusion and innovation.

Government should also invest in digital literacy and skills training programs for citizens to ensure that they have the knowledge and skills needed to take full advantage of digital technologies. They need to promote digital literacy and skills training. Government should encourage public-private partnerships to develop and implement digital solutions to pressing social and economic challenges in the country.

In addition, Government should develop a comprehensive national digital inclusion plan that outlines the steps that need to be taken to bridge the digital divide and ensure that all citizens have equal access to digital technologies. Government should invest in and leverage emerging technologies such as 5G, IoT and AI to bridge the digital divide while providing a conducive environment for innovation and digital entrepreneurship.

Government should support and invest in local digital content development to help bridge the digital divide and promote digital literacy among citizens. By taking these steps, Nigeria can bridge the digital divide gap and ensure that all citizens have equal access to the benefits of digital technologies.

Digital transformation demands that organizations make disruptive investments in people

and systems without an immediate payoff, what advice do you have for companies?

Digital transformation can be challenging for companies, as it often requires significant investments in people and systems without an immediate payoff. Here are some pieces of advice for companies undertaking digital transformation.

Instead of trying to transform everything at once, start with small, manageable projects that can be easily scaled up over time. This will allow you to gain experience and build momentum before tackling larger, more complex initiatives.

Digital transformation requires a different set of skills and expertise than traditional operations. Companies should invest in recruiting, training and retaining employees with the right talent, skills and experience to lead the digital transformation.

Digital transformation should be customer-centric, meaning that the company should focus on the needs and preferences of the customers throughout the process. They need to prioritize customer needs. This will help ensure that the company's investments are aligned with customer demands and expectations.

Digital transformation requires a culture of experimentation, where companies are willing to try new things, embrace them and learn from their mistakes. This means being open to new ideas, technologies and processes, and being willing to pivot when necessary.

They need to be prepared for the

long haul. Digital transformation is a long-term process, and companies should be prepared for the long haul. The benefits of digital transformation may not be immediately apparent, but they will come over time.

Communicating effectively with stakeholders is another thing not to be overlooked. Digital transformation can be disruptive, and it is important to communicate effectively with stakeholders, including employees, customers, partners, and shareholders to minimize the risk of resistance and to ensure that everyone is on board with the changes. Regularly measure progress and adjust strategies and tactics accordingly. Use data and analytics to make decisions and track progress.

In conclusion, digital transformation is a challenging process, but companies that invest in the right people, processes and technologies, and embrace a culture of experimentation and learning, will be better positioned to succeed in the digital economy.

What are the biggest issues that companies must address from a privacy perspective when they suffer a data security incident?

Companies must address several important privacy issues when they suffer a data security incident such as notifying individuals whose personal information has been compromised in a timely manner. This is typically required by state and federal laws, also it is important and compulsory. Companies must provide appropriate customer service to affected individuals, including answering questions, providing credit monitoring and identity theft protection services, and addressing other concerns.

Interview



Data Retention is also key. Companies must take steps to prevent further unauthorized access to the affected data and to secure and preserve the data for forensic analysis and incident response. The affected companies must have an incident response plan to handle data security incidents, and regularly train employees on how to respond to such incidents.

Regulatory compliance cannot be over-emphasized here. Companies must comply with all applicable data protection and privacy regulations, including those of the jurisdiction where they operate. Reputation management must also be looked into. They must have a plan in place to mitigate the potential damage to their reputation that can result from a data security incident.

Also, companies should consider buying cyber insurance which can help cover the costs of responding to a data security incident, including notification, credit monitoring and other services for affected individuals, as well as legal and regulatory costs.

Post-incident review must be carried out. Companies must review the incident to determine what went wrong and to implement measures to prevent similar incidents from happening in the future.

Overall, companies must act quickly and effectively to address the privacy issues that arise from a data security incident. This includes notifying affected individuals, preserving data for forensic analysis, providing customer service, complying with regulations, managing their reputation, and implementing measures to prevent similar incidents from happening in the future.

How do you think the government is addressing data privacy and cybersecurity threats?

Governments are taking a multifaceted approach to address data privacy and cybersecurity threats, including creating regulations, investing in research, and collaborating with other countries. However, it's important to note that cyber threats are constantly evolving, and governments must continue to adapt their strategies to stay ahead of them.

What areas do you think Government should address to promote local content adoption

To promote the adoption of local content in Nigeria, the government should focus on these areas. The government should invest in the development of local content, such as software, apps, and games, to ensure that citizens have access to high-quality, locally-produced digital products. The government should create policies and programs that encourage citizens to consume local content, such as tax incentives for businesses that use locally-produced software and apps.

The government should work with local content providers and distributors to ensure that local content is widely available and easily accessible to citizens. Promoting the local content distribution is also very important. Supporting local content creators will go a long way. The government should invest in training and resources for local content creators to help them develop their skills and produce high-quality content.

To promote local content adoption, they need to provide an enabling environment for local content production by providing good infrastructure, a stable power supply and a conducive business environment. As I said earlier, the government should encourage public-private partnerships to develop and implement digital solutions to pressing social and economic challenges in the country.

The government should invest in digital literacy programs to ensure that citizens have the skills and knowledge needed to take full advantage of digital technologies and consume local content. Just as I have pointed out earlier, the government should create a favourable regulatory environment that promotes innovation, investment, and digital literacy to build an inclusive digital future. Addressing these areas, the Nigerian government can promote the adoption of local content and support the growth of the country's digital economy.

Cybersecurity & Nigeria Financial Inclusion Drive

By *Oluwatosin Areo*



“You people in Lagos are enjoying, at least you have lots of stores using Point of Sales (POS) machines and accepting online transfers. Those of us in the North aren't that lucky. We are compelled to pay with cash or nothing else. Having money before used to be the problem, but now it's getting the cash to spend. It has not been funny here at all,” Shola Idowu (not real name) from Adamawa said.

The past few weeks had been a rollercoaster for Nigerians as regards access to cash for their daily activities. While states that are more technologically inclined dealt with failed transactions, delayed crediting of the receiver's account, and possible hacking of their bank accounts, many people up North were completely caught

in the web of 'buying' cash to survive.

Nigeria's financial inclusion drive has been a conversation for years now and one would assume that the country is ready. The current situation as a result of the Naira redesign policy has shown otherwise as many fintech and financial institutions' outlets and apps crashed under the sudden increased user demand.

According to the World Bank Group, financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit, and insurance – delivered in a responsible and sustainable way. A transaction account serves

as a gateway to other financial services, which is why people should be able to easily do this to store money and send and receive payments.

Recent data from the Nigerian Interbank Settlement System (NIBSS) states that active bank accounts in Nigeria increased from 122 million in 2020 to 133.5 million as of December 2021. This growth has been driven partly by the drive for financial inclusion which is for Nigerians to have access to banking services.

The Central Bank of Nigeria (CBN) said the naira redesign policy is to promote financial inclusion and aid security agencies' efforts in tackling insecurity. The apex bank also urged Nigerians to embrace alternative payment

Feature

channels such as eNaira and internet banking. However, these alternative payment channels have not proven to be functional as many Nigerians are still stuck with cash transactions and the fear of losing their hard-earned money to hackers.

As Nigeria continues to push for financial inclusion, cybersecurity has become an increasingly crucial concern for experts in the field. With more people gaining access to digital financial services, the risk of cyber threats and attacks has grown significantly, potentially putting individuals' financial information and transactions at risk.

According to McKinsey, Nigeria has over 200 fintech organisations aside from fintech solutions provided by banks and Mobile Network Operators (MNOs). It is increasingly required for the country's financial sector to prioritise cybersecurity as it is the most targeted sector for cyberattacks.

Cybercrimes are criminal acts such as identity theft and bank fraud facilitated using the internet. The Central Bank of

Nigeria (CBN) has consistently reported that about 70 per cent of attempted or successful fraud/forgery cases in the Nigerian banking system were perpetrated via electronic channels. As digital financial services become more widespread, cyber threats have also increased.

In 2020, the Nigerian Communications Commission (NCC) reported a total of 2.3 million cyberattacks on Nigerian networks, up from 1.2 million the previous year. These attacks included phishing, malware, and ransomware, among other types of cyber threats.

In 2015, the Cybercrimes Act was passed into law to address a variety of offences – from ATM card skimming and identity theft to possession of child pornography. It imposes, for instance, seven years imprisonment for offenders of all kinds and additional seven years for online crimes that result in physical harm, and life imprisonment for those that lead to death. But the laws have not been enforced as expected.

Cybersecurity is a collective responsibility. Hence, the need for more awareness of cybersecurity for consumers; capacity

development for the executives, information technology, cybersecurity teams and every member of staff; as well as collaboration with the financial institutions and the Cybercrime Advisory Council to effectively combat cybercrime. Rather, all units must work in unison to build an effective cybersecurity defence, while working to earn and keep consumer trust.

The awareness should include the use of local media and languages to ensure that people in rural areas are also reached. There should also be an amendment to the 2015 Cybercrimes Act in line with current situations to strengthen collaboration and partnerships while ensuring due consideration to trust, consumer rights, and privacy protections.

The financial inclusion drive means increasing access to financial solutions and empowering the people living below the poverty level to boost national growth, development, and economic equality. While at this, the implementation of existing cybersecurity regulations should be further enhanced by the CBN and related stakeholders.



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