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DIGITAL REVOLUTION

ARE FINANCIAL SERVICES EMBRAC-ING ANALYTICS AND AI

DIGITALISATION: SIX KEY TRENDS DISRUPTING THE INSURANCE SECTOR

OPEN BANKING AND APIS: EMERGING OPPORTUNITY IN AFRICA NO SIMPLE SOLUTION TO ACHIEVING SCALE IN GLOBAL MOBILE PAYMENTS

INVESTING IN TECHNOLOGY ENTREPRENEURS: A REALITY CHECK

THWART CYBER SECURITY THREATS IN AFRICAN BFSI INDUSTRY

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APRIL 2019

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Cover Image : Cog wheels - 284526.

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INTO AFRICA

Technology has the potential to fundamentally transform societies. It enables rapid improvements to industrial production and societal services, positively influencing the way we live and interact with our environment. Africa is home to over a billion people and the population is expected to grow in the coming years. It is also a continent with the most growing economies and many from a low base. To accelerate its journey towards economic prosperity, the continent will have to take advantage of the new technologies to improve the government, business environment, and society.

Africa's potential as a global leader in the world's digital economy grows significantly with each passing year. Importantly, it is predicted that half of Africa's entire population is expected to own smartphones by 2020. However, Africa still lags the rest of the world in its digital transformation, and despite a growing number of innovative solutions, the ongoing lack of adequate infrastructure and connectivity is preventing the continent from realising its true economic potential. The best and fastest way to overcome these barriers may lie in heightened cooperation between countries and their various regulators.

MOHAMED DABBOUR (CEO Africa & Executive Vice President Millicom) opines that today's digital divide is very much a reflection of existing global and societal divides. **DAVE COSGRAVE** (Director, Operations and Customer Advisory, SAS Africa) explores big data analytics and Artificial Intelligence (AI) opportunities in the financial services sector. While **HEIDI CUSTERS** (Digital Transformation Strategy Lead, Deloitte Consulting South Africa) dissects key emerging trends disrupting the insurance sector.

Moving on, **RUAN WANNENBURG** (Head of Technology, RMB International South Africa) demystifies open banking and APIs as well as explores the emerging opportunities in Africa. **CHIPO MUSHWANA** (Head of Emerging Payments, Nedbank South Africa) opines that no simple solution to achieve scale in global mobile payments. Also, **MONICA SINGER** (South Africa Lead, ConsenSys South Africa) provides insight into blockchain technology and **NORA WAHBY** (Head of Ericsson West Africa) examines the internet of things (IoT).

Along the same line, **AUSTINE ABOLUSORO** (Group Head Online Digital Banking, United Bank for Africa Plc Nigeria) contributes *"Riding the wave of Artificial Intelligence in the Banking Sector"*. **ANDREA BOHMERT** (Co-Managing Partner, Knife Capital South Africa) features *"Investing in Technology Entrepreneurs: A Reality Check"*. Whereas, **GABRIEL GAB-UMODEN** (Head of Marketing, JOBS at ROAM) writes on *"Leveraging Digitalization to Revolutionize Human Capital"* and P**ARESH MAKWANA** (Vice President, Business Development Africa, Arcon) looks at cybersecurity threats in Africa.

Furthermore, **RUDY KAWMI** (Sales Manager, Africa, Finastra) opines that shared platforms can unlock the next wave of growth in Africa. In the same note, **RISHI PILLAY** (Regional General Manager Africa, FSS) talks on achieving a digital payments revolution through the unified payment interface and **JAYDEEP GUPTA** (Regional Head of Retail Banking, Middle East & Africa, Standard Chartered Bank) states that banks are re-configuring the in-branch experience by bridging digital and traditional channels to enhance service delivery and stay relevant to their customers. **MOHAMED ANOUAR GADHOUM** (Chief Executive Officer, I-Trade Tunisia) and **MOHAMED YASSINE KHOUILDI** (Project manager, International Islamic Finance Training Institute, Tunisia) feature "Africa Islamic Finance in the Fintech Era: For a better tomorrow". We also presented the lecture delivered by **OMOBOLA JOHNSON** (Partner at TLcom Capital LLP Nigeria) at 2019 Annual Adebayo Adedeji Lecture.

And there's more ... in this edition, we bring you an exclusive interview with **BROCK HOBACK** (Executive Director, Lion's Head Global Partners London) where he opined that stable regulatory and FX environment are key for African local currency bonds. Likewise, **JOHNSTONE OLTETIA** (Interim CEO Kenya Mortgage Refinance Company (KMRC), Kenya) argues that affordable housing requires a new shape for the mortgage industry.

As usual, we provide you with a summary of what analysts are saying about Africa's economic outlook and credit quality as well as the prospects of the commodity markets for 2019.

Feranmi Akodu

Associate Editor

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HARNESSING AFRICA'S DIGITAL POTENTIALS COULD HELP TACKLE CLOSING THE DIGITAL DIVIDE

By Mohamed Dabbour, CEO Africa & Executive Vice President, Millicom

oday's digital divide is very much a reflection of existing global and societal divides. Often, existing inequalities are exacerbated by a lack of internet access. This is particularly reflected in emerging economies like Africa, where people may not always have the means to access the best that technology has to offer.

I strongly believe closing the digital divide, between those who have access to the Internet and those who do not, is not just a way of connecting people, it's a way of transforming the world by providing life-changing economic, educational and societal opportunities.

Currently, nearly half the world's population does not have access to the Internet, which is increasingly being facilitated through digital technology, specifically mobile phones.

As innovations continue to materialize increasingly faster and advanced markets contemplate 5G technology, many emerging markets remain far behind. This is particularly true in Africa, where only 22% of homes have internet access and only 24% of people use it.

According to the GSMA "The Mobile Economy 2019" report, at the end of 2018, 45% of sub-Saharan Africa subscribed to mobile services, still well below the global average of 66%. Subscribers in SSA are expected to increase to just 51% by 2025, so, despite the rapid progress of mobile technology in SSA we still have a long way to go.

What this shows is that emerging markets in Africa are still not harnessing the full potential of the mobile ecosystem

Challenges to accessibility

If the digital economy is such an opportunity, the challenges to accessibility need to be addressed.

Firstly, bridging the digital divide involves overcoming the challenges to accessibility and how to make sure people can enjoy the benefits of the digital landscape. 41% of SSA's population is chronically poor according to The World Bank. For many, owning a mobile phone is still a secondary concern. The 40% of SSA population who earn less than \$2 a day have first to figure out how to pay rent, provide food, health care and education to their families. Owning a mobile phone is a luxury for most, and if they do own one, they tend to use it for the minimum necessary.

Secondly, with mobile phones, aspiring students have access to countless educational materials and funding opportunities, investors can research business opportunities, businesses can access credit, improve liquidity, and accelerate economic growth.

Africa is incredibly young. Each year, eleven million young adults enter the labour market, with a majority of them ending up working in the informal sector. There is an opportunity to catch-up on the digital divide and reduce poverty.

When provided with access to technology and skills, more and more Africans venture into entrepreneurship. A significant number of successful start-ups addressing common challenges in health, education or agriculture are launched every year. Tech hubs are sprouting across Africa's largest cities and this trend will not slow down. More capital is now flowing to African tech entrepreneurship.

I do believe that innovations which starts from within are the ones that will best address the Africa's development challenges.

On the other hand, failing to connect and educate that growing pool of talents will lead Africa to miss on the benefits promised by the fourth industrial revolution. Without access, it is nearly impossible for Africans to participate and appreciate the true scope of their countries' economies. This is not just another missed opportunity for economic growth, but it hinders social development.

The Gender Digital Divide

Gender parity is fundamental to whether and how economies and societies thrive. If we can ensure women have their rightful and deserved positions in the workplace and are financially stable, research shows there will be knock on effects for society. When women are economically empowered, economies are more likely to diversify, are more productive, and there is an increase in income equality, according to a 2018 International



Monetary Fund report.

The World Bank Group estimates the cost of the gender divide at just over \$160 trillion. Considering that in SSA, women are 15% less likely to own a mobile device, and 41% less likely than men to use mobile internet, according to the GSMA, it is likely that closing the gender gap in mobile internet and money services will deliver significant socio-economic benefits.

Closing gender gaps in low and middle-income countries by 2023 would provide an estimated additional \$140 billion in revenue to the mobile industry over the next five years. The GSMA's Connected Women Initiative aims to reduce the gender gap in mobile internet and mobile money across low and middle-income countries. Mobile Network Operators (MNOs) can heavily tackle the digital gender divide by working exclusively, in emerging markets, with a consciousness of the way in which women are missing out on the transformative potential of mobile and internet technology.

Working together

With this, the responsibility of "affordability" is often left to actors in the private sector, most often the MNOs. Although, competition among operators will benefit to improve the affordability barrier and end the perpetuation of the digital divide, policy makers also have an instrumental role to play.

It is not uncommon to see operators transferring more than 50% of their revenues to governments in the form of direct and indirect taxes as well as other levies. In some countries, these payments exceed 60% of revenues. These figures do not include additional fines and sanctions that can also be raised. Although mobile device prices and services tend to decrease over time, taxes and levies increase consistently. Governments could reduce the typically high fees of mobile licenses and introduce reasonable taxes on data usage to encourage competition and help improve the affordability barrier. This should be the model to follow rather than turning to the telecom industry to compensate for dropping revenue in a once government-dominated industry.

By recognizing the benefits of a clear digital vision plan and the role MNOs can play in the promotion of socio-economic development, governments can play a key role in facilitating access to the digital economy.

MNO's and private players should keep on engag-

ing with policy makers, regulators and governments to promote their efforts in addressing the digital divide. Governments have an especially important role to play here by encouraging competition and innovation and setting a comprehensive digital agenda so that private investment is encouraged and incentivized, rather than being heavily taxed.

There must be as much engagement as possible with authorities to shift the short-term taxation view of governments into a socio-economic vision where our industry is playing the key role.

Building the digital future together

Operating in Africa implies additional challenges as 60% of the population lives in rural areas. Connecting the next wave of mobile users will require considerable financial resources in larger countries lacking the necessary infrastructures. Deploying infrastructure in remote areas can be twice as expensive as in urban areas, with smaller revenue opportunities. Yet, in a world where competition has increased, and risk is overcoming the lower returns of capital invested in rural areas, operators have become less inclined to expand their coverage.

For that reason, we need to focus on innovation to continuously find solutions on different models of access, create relevant services for a variety of customers and establish the right policies to support affordability.

The GSMA's latest "Mobile Industry Impact Report" highlights that countries with high levels of mobile connectivity have made more progress in meeting their Sustainable Development Goals (SDGs) as set out by the United Nations. The SDGs are a blueprint for ensuring prosperity while protecting the planet. The mobile industry has a vital role to play in ensuring the implementation of the SDGs.

Mobile technology has already connected 4.7 billion people, enabling greater inclusion in vast cities and remote villages, delivering health care in ways never imagined, opening doors to education, employment and income opportunities and empowering people with the tools they need to thrive.

No individual or institution can solve the connectivity and digital technology challenge alone in Africa. We need to continue to work together to help build a brighter future.



f there's one industry that's been through the mill over the past few years, it's the financial services industry.

Plagued by unparalleled levels of change in terms of business processes, regulations and customer expectations and facing new digital threats all while still reeling from the 2008 global economic crisis, the sector has proven itself to be resilient.

Though the outlook for the industry is looking to be more positive, mere survival is not enough. Nevertheless, the always evolving technological landscape provides an opportunity for the finance sector to not only endure, but also grow and prosper.

This opportunity comes in the form of big data analytics and Artificial Intelligence (AI). These technologies, when implemented in complementary and effective ways, are expected to revolutionise the financial services industry over the next five years and here's why:

Regulatory & Compliance

The finance industry is one of the most regulated

sectors in the world. Constantly growing and complex regulations make it difficult – and expensive – for companies to remain compliant, and non-compliance is not an option, particularly as the cost of non-compliance is too high.

However, Artificial Intelligence software will be able to streamline and automating the processes needed to comply with increasingly demanding regulations, such as the General Data Protection Regulation which requires companies be open about the way they're using their client's data.

Machine learning tools would be able to interpret new, long and dense regulations and integrate them into systems that allow companies to be compliant while reducing the cost and time it would usually take companies to decode and implement new regulations.

Al will enable financial services to meet regulatory compliance demands with greater speed, efficiency, accuracy and cost-effectiveness.

Cybersecurity & risk

Financial institutions are one of the most suscepti-



ble to cyber threats and one of the most targeted by hackers for one simple reason: it's where the money is.

Protecting firms from these threats can be costly, with financial services organisations spending about 10 to 12% of their total enterprise IT budgets on security.

Meanwhile cyber criminals are becoming more and more sophisticated, and as the consequences of a breach could be damaging on many levels – be it financial or customer loss – there is a need to evolve the ways in which companies fight back against this threat.

Additionally, the expectations from consumers for a seamless digital experience has extended to the financial sector as well. What they get from other applications, they also want from banks, insurers etc.

With this, however, comes more risk, such as an increase in fraudulent transactions.

Leveraging big data analytics to increase risk management and security processes could hold the answer to facing this problem. Through an understanding of behavioural patterns, analytics software can detect suspicious activity and report back in real-time on whether this activity is malicious or not, speeding up response times, and minimising, cyber threats.

Ultimately, analytics can help organisations learn more about attackers' activities.

Predictive analytics can process the large, and largely unused, amounts of data generated by financial institutions to tell whether someone is at high risk of defaulting on a loan and preventing that institution from extending credit to them.

Staying competitive

Essentially, Artificial Intelligence and analytics will help to make financial services organisations smarter by allowing them to gain greater insight into the industry and preventing them from making harmful decisions.

Using these emerging technologies can enable companies to tailor interactions to specific customers, automate minor tasks and increase the

efficiency of that company's operations.

Early adopters of this technology will see themselves securing an advantageous position within the industry, differentiating themselves from their competitors and thus securing new business and retaining what has already been obtained.

With all the benefits found in making use of analytics and AI in the finance industry, only one question remains. Do financial institutions see the value in these technologies and are they actually using them?

During a survey run by SAS in partnership with Harvard Business Review Analytic Services, Accenture and Intel, it was found that 66% of banking respondents felt that real-time analytics capabilities was essential for the financial services sector today and 88% believed it would be vital within two years.

Furthermore, 74% of respondents reported that they had seen significant increases in customer retention and loyalty, while 55% saw significant increases in growth and revenue generation.

Traditional financial services firms are in the early stages of adopting AI technologies, but big data analytics is being adopted by the sector at a rapid pace. The industry has seen that there is significant value in deploying these technologies into their business strategy as the rate of competition and innovation across the business landscape keeps accelerating.

The financial services sector is set to completely change in future, driven by positive transformation as more and more companies within the industry embrace the use of analytics and AI.

Contributor's Profile:



Dave Cosgrave is the Business Operations Director for SAS Africa. With over 15 years of experience in CRM and Customer Engagement has deep insights into how to delight customers and build brand

loyalty. David helps large enterprises across the region to use their customer data to build insights and empower action to deliver world-class customer experiences.



As exponential, digital-driven technologies transform the 4th Industrial Revolution from a buzzword into reality, the financial services sector - and insurance in particular - face massive disruption, it starts with a radical reimagining of the very model insurance has been built on since its origins in the 14th Century, and Africa is no exception.

Several trends are emerging on the continent that pose a significant threat to the business models of established insurance companies, but also offer enormous opportunities to those astute and nimble enough to seize them - incumbents and newcomers alike. These trends exist in the realms of digitisation, but more importantly, in digitalisation.

Digitisation is about optimisation, taking existing business and operating models and applying digital technologies to make them work more smoothly and efficiently. In the admin-heavy insurance sector this typically involves automating many aspects of the assessment and claims processes as well as risk profiles and actuarial models.

Digitalisation, by contrast, as Gartner defines it; is an entirely new way of doing business. It's about opening up new markets, acquiring new customers, offering new products and moving into new industries. Essentially, very little of your current business model remains in world in which you embark on a digitalisation journey.

Trend 1: From insuring things to enabling and protecting a better life

Traditionally, the insurance business has been about covering objects against risks, whether these be jewellery, vehicles, homes, lives or health. Yes, insurance companies in their marketing may have paid lip service to the customer, but in reality, their business model has centred on the items being insured.

Digitialisation is upending this paradigm, putting the customer at the centre of an industry that's increasingly less about things and more about risk and improvement services to enable and protect a better life.

Interestingly, it's technology in the hands of customers that's been helping to fuel this trend and South Africa is no laggard in this respect. The recent evolution in health insurance from bolt-on loyalty programmes to complex, behaviour driven ecosystems – are paving the way for a model where insurers allow customers to lower their risk profiles, and reward them for desired behaviour in real-time.

"[Digitalisation] is an entirely new way of doing business. It's about opening up new markets, acquiring new customers, offering new products and moving into new industries."

Trend 2: Tech-savvy customers may be your biggest disruptor

Tech-enabled consumers are increasingly taking control of their own health monitoring and risk management. Services previously guarded by insurance companies because they provided competitive advantage are now easily accessible to the public at large, albeit those at the higher end of the income scale.

For instance, wearables such as Fitbit and Apple Watch provide immediate feedback and put consumers' health data into their own hands. People can track their calories, exercise minutes, heart rate, ovulation and period cycles all on their own, without help from their medical insurance companies.

In the household insurance and security space, consumers have a large and ever-growing selection of internet-linked cameras, sensors and apps to choose from that allow them to monitor their homes, offices and possessions, many of which don't require costly contracts.

They will increasingly demand to pay less for such services because digital innovation has provided the tools for them to do their own risk management and monitoring. With this in mind, the question insurance companies need to ask themselves is: How do we find ways to continue to innovate and deliver meaningful solutions?

A handful of forward-looking companies are already doing this, with one leader in the field giving its customers free Apple Watches and other wearables provided they meet specified monthly exercise and nutrition targets.

Trend 3: Fintechs and fragmentation

Technology driven financial services start-ups (FinTechs) and specifically those who focus on insurance (InsureTechs) are already starting to disrupt the industry.

They're doing this by taking one segment of the traditional insurance value chain - search, compare, monitor or claim - and excelling at it. By providing the best service in respect of this component, they're able compete on only this price as opposed to the entire value chain. Essentially, they can hone their organisational competencies and deliver a high-quality service that the incumbent may not be able to match.

The fragmentation of the value chain that results from this can lead to a race to the bottom as

incumbents and newcomers compete for an everdiminishing slice of the insurance pie.

Trend 4: Product of One

A second way InsureTechs are disrupting the insurance market is with what's known as the "Product of One", an approach that's gaining popularity in the insurance industry because it is customer-centric.

Through these offerings, consumers are now able to choose how, when and what they want to insure without being forced to fit into a specific insurance box or "one size fits all" comprehensive package. For example, instead of a customer taking a comprehensive insurance plan for a car, which involves a monthly premium, they may choose to pause their insurance during times when they are not using the car.

Such an approach can be customised almost infinitely. A 4x4 owner, for example, may drive his or her vehicle on tarred roads most of the year but opt for added insurance on their tyres for just the four days of an upcoming off-road trip. Two innovative South African InsureTech companies are already making waves by offering componentised shortterm insurance; where clients can control aspects of their policy and adjust their cover as needed (e.g. by pausing accident cover), without having to contact the insurer

Granularity of this sort wouldn't be possible without digitalisation. The Product of One is business model disruption is enabled by digital because you can't respond to this trend as an insurance company unless you're digital at the core. Traditional systems simply don't support this level of flexibility.

Trend 5: Strategic data partnerships with adjacent industries

There's a saying that data is the new gold or oil and nowhere is this truer than in insurance. Data is the very lifeblood of the industry, with everything from the actuarial models to the risk profiles based on data.

So, it's hardly surprising that insurance companies have until now jealously guarded this information. But there's a growing awareness of the value of thinking outside of the traditional data box.

For example, whereas traditionally a company offering insurance on a car would ask a prospective customer about their use of the vehicle, a lot more information could be gleaned if the company had access to (suitably anonymised) service data from

Another example that's already happening in South Africa is that of a leading health insurance company partnering with major retail chain to understand how its customers shop. Yes, it rewards you when you buy healthy food, but in return, it and its retail partner now have access to a treasure trove of data, giving them a significant competitive advantage over other insurance companies and retailers.

African and South African insurance companies can do a lot more to leverage similar data sharing partnerships which would open doors to new opportunities and help foster the growth of both partners in new markets.

Trend 6: AI, the gig economy and the future of work

There's no escaping the fact that implementing the business model changes required by a digitalisation strategy will a require significant financial investment. Finding the capital for this in a low - margin sector like short-term insurance is no easy feat, which makes reducing costs more important than ever.

Many insurance companies rely on large call centres, especially when it comes to customer support. They can automate a portion of these tasks through artificial intelligence (AI) and bots, but for complicated queries humans still want to talk to humans. It seems then, that there is no way out of the traditional call centre... or is there?

You don't have to have all those humans sitting in the same building. The growing gig economy puts a distributed workforce at the disposal of insurers. Instead of paying someone a fixed salary to sit in a cubicle for X hours a day, an insurer can pay them for each successfully resolved issue. Thanks to technology, these gig employees can work from wherever they choose anywhere in the world, and queries can be resolved from any device.

Such elasticity in terms of staffing means insurance companies can have a full complement of call centre agents over busy claims periods like Easter and Christmas while scaling back during slacker times.

While automation will inevitably mean fewer jobs in areas like actuarial, claims processing and other internal functions, the vast quantities of new data flowing in will require a new breed of employee able to make sense of it and create better products.

Yes, there will be fewer people doing the robotic

tasks best suited to machines, but there will be more people building amazing things and concentrating on customer experience. In this respect insurance companies should start to look a lot like technology companies.

If these trends show us anything it's that those insurers committed to innovation will continue to access new markets, drive behaviour change and prosper. If they aren't currently doing so, now is the time for organisations to look at how to shape business culture to fully leverage digital technologies in order to unlock the myriad new opportunities presented by digitalisation.

"As exponential, digital-driven technologies transform the 4th Industrial Revolution from a buzzword into reality, the financial services sector - and insurance in particular - face massive disruption."

Contributor's Profile:

Heidi Custers is the leader of Deloitte's Digital Transformation Strategy practice in Financial Services in South Africa. She leads a team that specialise in innovation and digital transformation strategy, working with blue-chip clients across the continent in financial services and other industries to develop blueprints for business transformation in the age of digitalisation. Heidi has also personally developed a unique offering designed to diagnose the digital transformation maturity of African organisations, in addition to her strategy work on business transformation projects.

Heidi is a true digital polymath. Her broad experience spans from design thinking, to business strategy, to marketing, project management and everything in-between. Her passion for digital transformation led her to specialise in the correlation between digitalisation of systems, employee engagement, customer experience and financial performance (as per the Harvard Business School Service-Profit Chain).

Heidi is passionate about consumer insights and exponential organisations. She's also a committed feminist, and when not at work, she runs an NPO that teaches young girls to code; 'Umonya Girls'.

FEATURED ARTICLE



The terms Open and Africa has never been considered synonymous. With a linguistic diversity of almost 2000 languages, 3000 plus cultural identities and 55 currencies it is hard to image ever establishing an Open architecture on the second largest continent.

However, Africa is known for leap-frogging technology. We see solar cities being built instead of laying new power grids, rapid adoption of cellphones instead of landlines and gleaning first world information from sources such as 2Kuze and Wefarm instead of relying on traditions. Open Banking will allow Africa to leapfrog building branches in every town, reduce cash in the system and ultimately reduce banking fees.

What is Open Banking?

Open Banking is possibly the most blatant mashing of financial services and technology we have seen yet. The concept not only commoditizes the banking industry, but technology is clearly starting to lead the way forward, providing product and service possibilities banking execs haven't dreamt of. The concept establishes the consumer as the data owner and the bank as the data custodian. Like the US Health Insurance Portability and Accountability Act(HIPAA) of 1996, financial institutions just like medical institutions, will be forced under the second Payment Services Directive (PSD2) to provide access to customer data upon request. In a paper world the customer would provide proof of identity and receive a copy of their medical records. However, in the faceless digital world establishing a digital identity that can be verified across the transaction lifecycle becomes critical. Barring the obstacles, the availability and portability of customer data opens the door to a host of new opportunities, potential reduction in transaction fees and inclusion of underserved markets.

INTO AFRICA

To promote and develop the use of online and mobile payments, in October 2015 the European Union ratified PSD2, the second revision of the Payment Service Directive.

The UK took a more modern approach in 2016 forcing banks to allow certain licensed startups to access customer transactional data, aligning with the notion that Open Banking is really Open Data.

"Africa is known for leap frogging technology. We see solar cities being built instead of laying new power grids"

Why Open Banking or Open Data? Reading the technical and social wires, opposition to Open Banking is loud and clear not only from incumbent banks but also from organizations such as the UK based Financial Inclusion Centre. The opposers siting concerns ranging from cost to implement, KYC responsibility for 3rd party activities and that digital inclusion only favors the tech savvy i.e. the rich. However multiple OPEN API/Data advantages exist for both financial institutions and consumers:

Opportunity

Some convergence is emerging, but most financial institutions still specialize. Banks are banks, Insurance companies insure and Brokers deal. Combining data from the various establishments can lead to additional opportunities and enhanced options for customers. For instance, an aggregator service can automatically invest savings on insurance rather that doing "cash-back", seamless transfer of funds between cash and investment funds, one-click insurance on a large ticket item just purchased. Some of these developments are of great concern to incumbents but at the same time also offer them the opportunity to provide such a service – after all they have half the problem solved already.

Experience

To compete with the more agile, less regulated fintechs, banks are forced to choose a customer engagement model. Either become a platform provider and become invisible to the customer or own the eyeballs. These different customer centric strategies can be seen in the ease of paying for an Uber ride, making an in-game purchase on Fortnite or picking up groceries at AirBnB. On the opposite side we see many banks (e.g. FNB Appstore) developing their own App-stores catering for customer needs, even outside of banking, and thereby hopefully holding on to their loyalty.

New Revenue Streams

At a fee, banks provide a trusted store of value and convenient methods of moving that store arond. However, the writing is on the wall for those married to traditional fee structures and un-willing to divorce themselves from the status quo. With the onslaught of digitalization customers already refuse to pay premiums for commoditized products and services. This will lead to drastic reduction in PnL for the bank. However, a host of new possible revenue streams are emerging as evidenced by the numerous Fintech startups.

Protection

In the first world Data protection is the hot topic of the day. Not as headlined by the recent data breaches but rather as who owns "my" data. Banks and insurance companies make it hard to port to another provider in the way they manage your data. Apart from providing access to transactional data PSD2 also promotes the transparency of fees, further protecting the interests of the consumer.

Playing it forward

In order to promote Open API/Data globally we have to implement a ubiquitous Digital Identity to protect against cyber-crime and ensure consumer safety. Potentially being arm's length away from a transaction that is being enabled through a third party warrants the need to ensure that the digital identity of the transactor be verifiable throughout the transaction lifecycle. Failure to do so opens the banks up to regulatory fines and will hamper the rollout of PSD2 and other open initiatives.

Apart from protecting the banks, establishing a ubiquities digital id will also ensure that while banking data is 'opened up' it is not made available to the wrong individuals.

However, with the rush to implement we can already see fragmentation in the market. Just as we have seen with the recent developments in blockchains we are experiencing divergent approaches to Open API with PSD2, the UK approach and Nigeria's PSD3 to name a few.

How is this plying out in the rest of Africa? Nigeria is leading the way with the adoption of PSD3

The objectives of Open Banking Nigeria are:

- 1. Analyze the need for common Open Banking API standards.
- 2. Develop these standards.
- 3. Provide a sandbox and testing tools for certification.
- 4. Promote adoption of Open Banking standards.

5. Enable further financial innovation. Although the Nigerian regulator is talking a lot about this initiative we haven't seen any real move in the market. It does however promise to establish the Open Banking approach for West Africa.

The National Bank of Rwanda also modelled its approach on the EU's PSD2. The legislation enables new non-bank payment "enablers" and the establishment of a regulatory sandbox to develop

and test new financial products.

Kenya being the banking center for East Africa, has embraced new banking and payment systems. Kenya may also build on the UK and EU initiatives but considering how advanced the local fintech industry already is, Kenyan regulators may decide to follow a less prescriptive approach.

South Africa's financial industry is highly regulated, making it more likely that the Banks will wait for the Regulator to act.

Identifying the right open banking model to drive digitalisation transformation and collaboration with fintechs?

Banks need Fintechs to innovate and Fintechs need Banks to operate. However, the parties are at odds as to how to proceed with this partnership. For the most part, the friction stems from ingrained behaviors and the lack of knowledge. Unbeknownst to the fintechs, banks have established policies and procedures to protect themselves against the regulators and have little knowledge of or appetite for the latest tech being brandied by the fintechs.

Both parties will do well to lobby to the regulators. Banks could lobby for higher regulatory standards to keep out the fintechs. Fintechs should lobby for the reduction or at least crystallization of the tumultuous regulatory environment to gain entry. For those less energetic, creating effective partnerships is the obvious approach allowing banks to focus on platform enablement and the fintechs to specialize in e.g. user experience. For the finance and tech deities, a winner takes all strategy may be tempting. Large banks are becoming IT companies and should consider their own app stores to serve the customer's every need. Whereas big tech like Tencent's WeChat, Google and Amazon are crossing over into banking to capitalize on the trust they have built and own the customer experience end-to-end.

"Open Banking will allow Africa to leapfrog building branches in every town, reduce cash in the system and ultimately reduce banking fees."

Conclusion

The financial industry is at an inflection point. As

consumers, we need the banking industry to survive to continue to manage society's stores of value. On the other hand, we need to innovate an industry that is at the heart of everything we do but hasn't markedly changed in the last 50 years. We will hopefully see many of these innovations coming out of Africa. If we can continue to leapfrog to the latest technology and capitalize on our excellent innovation hubs such as can be found in Cape Town, Nairobi and Lagos, we can hopefully create an open, all-inclusive first world financial sector.

"With a linguistic diversity of almost 2000 languages, 3000 plus cultural identities and 55 currencies it is hard to image ever establishing an Open architecture on the second largest continent."

Contributor's Profile:



Ruan Wannenburg leads an award winning Technology team for the RMB International division. He is key in driving innovative solutions for the African subsidiaries, from inception

through to operationalisation. His extensive knowledge of the banking industry coupled with the years of implementing complex software solutions across the Americas and Africa, has seen him become a pivotal part of the RMB Management team.

Coming from humble beginnings, as a young graduate selling specialised head towels door - to - door, he has built a reputation for himself thanks to his passion for technology and aim to always stay ahead of today's fast paced technology industry.

His track record across the various industries and projects, from textiles to the Olympic's systems, is evidence of his burning desire to find new solutions to complex challenges for clients and businesses. This is evident in his division's most recent solution of deploying OpenB@ancs that enables transactional systems across Africa to integrate with RMB over an open banking API layer. Ruan holds a degree in Information Systems from the University of Pretoria in South Africa. In his spare time, he partakes in endurance races, is an avid Google Contributor and photographer.

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INTO AFRICA



NO SIMPLE SOLUTION TO ACHIEVING SCALE IN GLOBAL MOBILE PAYMENTS

By Chipo Mushwana, Head of Emerging Payments, Nedbank South Africa

n many ways, cash transactions are the original "mobile payments". They are fast, easy, cheap, and relatively secure, and have set a very high payment experience bar that any other form of mobile payment will need to exceed if it plans on making the use of cash obsolete. Not only are cash payments instantly 'cleared' between the buyer and seller, they are mostly universally accepted, require no complex hardware or communications network access, and carry none of the costs associated with most card and mobile transactions. In essence, cash payments set the standard for fast, easy personal financial transactions.

Perhaps unsurprisingly then, recent research released by the Bank of International Settlement indicates that, even in the face of numerous challenges, cash payments continue to rise in popularity as a preferred transaction method, with most recent data pointing to cash transactions as a share of GDP increasing from 7% to 9%. In fact, only Russia and a few Nordic countries have actually shown a decrease in total number of cash transactions recently.

It is therefore clear that for any mobile payments ecosystem to be considered ideal, let alone truly scalable, it would have to combine many of the attributes of cash payments, such as speed, universal acceptance and low cost, with the security, convenience and portability associated with making payments digitally.

Interestingly, in many African countries, mobile transactions are fast approaching this cash-similar state, but only if both the sender and recipient, and all other participants in the transaction, are on the same mobile payments network. This is seldom the case, however, and where the various payment networks do not offer full interoperability, the larger mobile payments network quickly achieves dominance over any other offerings, resulting in something of a monopoly position, in which the dominant stakeholder focuses more on revenue generation than on enhancing the electronics payments ecosystem to maximise uptake and usage.

Then, impressive as many mobile money systems currently are on the continent, there are still a number of financial services industry specific issues that are preventing mobile payments from achieving the same level of popularity as cash transactions and are consequently limiting their achievement of scale. For one, fractured mobile money systems continue to limit interoperability between customers on one network and merchants on another. Then, payment initiation processes are still often painfully slow, hampered by long USSD strings and characterized by system timeouts, a lack of user friendliness, and, as a result, a generally poor experience that few users want to repeat.

While the use of apps would appear to be the logical immediate solution to these limitations created by USSD processes, the African mobile world is still very much characterized by large numbers of basic feature phone users. While the numbers of smartphone users are steadily growing, it would be naïve to assume that these mostly Android-powered devices will quickly replace simpler, feature phones amongst mobile customers on the continent. In a highly cost-conscious market, with particular network availability challenges, feature phones still present many distinct benefits over smartphones. Their lower unit cost, robust build, substantially better battery life, and reduced usage of expensive data makes them an appealing connectivity proposition for the majority of Africans, and particularly those who fall within the massive target market of most mobile payment service providers. That said, for those who can afford data-hungry smartphones, these offer far greater speed and flexibility in processing payments when compared to the slower USSD interface. But until the affordability imbalances between smartphones and feature phones can be eliminated, the latter will almost certainly remain the mobile device of choice for less affluent

individuals, who will happily sacrifice transaction speed and app-based convenience in exchange for a reliable, cost-effective payment and money transfer system.

Against this backdrop, it is plausible to contend that a truly scalable payments network would need to allow payments from any mobile money network to any other payments network, using all available channels and mechanisms from mobile numbers, QR codes, contactless NFC, as well as conventional card channels, with the merchant or recipient suggesting the method most appropriate to their business. And merchants are a vital cornerstone on which a scalable, effective mobile payments ecosystem has to be built. Scaling mobile payments demands that the needs of merchants to be taken into account, given their vastly differing requirements around speed, security, cost and ease of setup for payment acceptance. The system has to offer multiple, interoperable payment options, because merchants ultimately set the terms of payments and, thereby, typically drive their customers to the payment channel that best meets their needs.

Within this ideal theoretical payments ecosystem, if we considered the case of a busy retailer, where seconds count in ensuring a good customer experience, the ideal payment method would be an NFC authorisation captured by that retailer's integrated cash register point and processed over existing card rails. In the case of a small coffee shop with limited capital, however, a QR code could be displayed describing the merchant's mobile account number. An online checkout process could then invoke a mobile payment app for a second layer of authentication for a PayPal purchase. A person-to-person transfer, on the other hand, would require little more than the destination mobile number and a PIN to effect the transaction. So, while each of these payments recipients has very different needs, a scalable payments solution must allow each of them to receive payment via their preferred mechanism.

And smartphones are making this a possibility.

Despite the affordability limitations previously referred to for much of Africa, the reality is that smartphones are fundamentally changing the global payments landscape, as well as traditional banking as a whole. While the rate of smartphone penetration clearly differs across the globe, the increasing functionality and falling price of these devices is allowing them to quickly assume the role enablers of virtually every payment and merchant receipt transaction, particularly in developed countries. As such, smartphones simply cannot be overlooked as key role players in, and drivers of, the once elusive scalability requirement for an effective mobile payments ecosystem.

Just one example of this is the ability that smartphones offer for card tokenization, where bank cards can be safely replicated and stored on the device, expensive point of sale devices can be replaced with NFC tap-on-phone functionality. Given that this level of payments functionality, which would normally cost a massive amount to be rolled out to individuals, is now available on phones that retail for the equivalent of less than US\$50 it is safe to assume that the smartphone is the most likely foundation on which the payments technology will be built that will eventually topple cash from its perch as the preferred payment and transaction method. And this is likely to be the case irrespective of whether a country's payments landscape is currently dominated by digital payments or more conventional banking networks.

There is clearly no single solution for scaling mobile payments, as each merchant's use-case will have a different set of priorities and, unlike cash payments, mobile payments are not limited to in-person physical exchanges. Therefore, there needs to be broader understanding and cross pollination of payment types between traditional banking and mobile money worlds for each to achieve proper scale. Of course, while it's clear that true scalability is only achievable through widespread interoperability, experience also tells us that such interoperability is only possible with helpful prodding, and under the watchful eye, of independent regulatory authorities. With each country having a different banking and payment landscape and history, there are many routes that can be taken to successfully scaling mobile payments, but it will be incumbent on each country's regulators to ensure a healthy balance of interoperability and competition to spur the evolution of such a payments ecosystem for the ultimate benefit of the consumers that will use it.

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INTO AFRICA



DEMYSTIFYING BLOCKCHAIN ONE BLOCK AT A TIME

By Monica Singer, South Africa Lead, ConsenSys South Africa

n the early days of the internet, evangelists were trying to get people to believe in its vast potential, and there were many who said that they did not believe in this new technology. They did not believe that information will be held on a server, but instead insisted that it would continue to be held on a CD-ROM or a floppy disk. How wrong they were! We think that blockchain has a great deal of equivalence to the internet in the mid-90's.

What is Blockchain?

Blockchain is a technology which effectively connects people or companies in a direct way or on a peer to peer basis. For the past 20 years people have shared information through the internet. At ConsenSys we believe that blockchain as a technology, offers the internet of value so that people not only exchange information, but value from person to person or on that peer to peer basis. Using blockchain, we can now transfer ownership of a car, cast a vote in an election, or transfer a share certificate without having to go through a third party such as a bank, a government or a stockbroker.

What we have today in society are entities that control that transaction process, that own the process and insert themselves in the middle of the process.

It's important to note that there are two main blockchains out there at the moment, one is the Bitcoin blockchain and helps makes Bitcoin work. The other form of blockchain is Ethereum which was created by ConsenSys founder Joe Lubin along with Vitalik Buterin and Gavin Wood. Effectively Ethereum is a programmable blockchain that is far more versatile than the Bitcoin blockchain. It basically allows us to build multiple different uses and applications on Ethereum.

Blockchain, as a technology has the power to eliminate that centrality and decentralise the control of this process. Change is often feared but it is nonetheless inevitable. The internet taught us that.

Immutable and Decentralised

The key feature in blockchain is that anything that is stored on the blockchain is there forever, the information is 'immutable' and it cannot be erased. This means that the information that is stored on the blockchain offers us a level of transparency that does not exist today in the modern world. It means that if I own something at a certain time, and when I transfer the ownership or value of it to you, there will always be a record that I owned it on the blockchain. It also guarantees that the record cannot be manipulated, i.e. that nobody else can come in and change the record. Within the industry we describe it as the 'trust machine.' So that record then builds trust.

Another key feature of the technology is that it's decentralised. But what does that actually mean? Decentralised means that no one person or a thing or a government or an entity owns the information. This effectively means that I have a copy of all of my information but so do you and so does the next person. Can you imagine a world where everyone has access to the same information? Information as we know it is generally stored in a central place, in one location where one person or company owns the information.

Blockchain threatens that model because each person or participant in the 'node' has a copy of that information. This guarantees a level of trust and transparency that doesn't exist to date. For example, if I say that I have \in 100, and if I then try to amend the blockchain to say that I have \notin 200, then others will see that this information is not correct. It will therefore show the other users that what I am doing is incorrect, fraudulent and that the transaction shouldn't exist on the shared database.

"in the early days of the internet, evangelists were trying to get people to believe in its vast potential, and there were many who said that they did not believe in this new technology."

Distributed Ledger

Blockchain is also described as a distributed ledger. In simple terms, this means that instead of us keeping one master ledger tracking all transactions and then having to reconcile different copies of the ledgers, we can get to a place where there is a shared ledger in the middle that records everyone who has access to the book.

Case Example Smart Travel Insurance

A big feature of Ethereum or the programmable blockchain are 'smart contracts.' Smart contracts are self-executing contracts where certain criteria are met, so a good way to think about that is using an example around travel insurance. If you buy travel insurance for arguments sake, let's say its €100, and after eight hours your flight is delayed, and you are entitled to make a claim. In this situation, typically you'll have to go online and fill out a form and you get your money refunded 6 weeks later. So let's walk through that again, you'll have paid a fee, you've had a negative experience and then you have to do more paperwork and weeks later you get some money back. That sounds like a pretty terrible customer experience. So how do we use blockchain technology to make that a better customer experience? For example, would you be willing to pay €110 for your travel insurance if you knew that after 8 hours, money you are owed goes directly into your bank account, and you don't have to do any "life admin." Using a smart contract automates the transaction and returns the cash to you almost instantaneously.

That is just one example of how blockchain can change the way we do things, and this technology can be applied to trade finance, supply chain management, and tokenisations of real world assets like real estate, diamonds, art, cattle, etc.

This technology is ideal to bring transparency to government finances due to its transparency and immutability of the ledger records, which would prevent corruption that is so rife in many parts of the world.

As the blockchain technology is ideal to track the provenance of funds, it is well positioned for Non Governmental Organisations (NGOs) to keep track of donor finances and how they are used in meeting the objectives of that NGO. There are countless applications for blockchain technology.

ConsenSys is committed to innovate using the Ethereum blockchain platform which we refer to as the virtual world computer.

"This technology is ideal to bring transparency to government finances due to its transparency and immutability of the ledger records"

Contributor's Profile:

Monica Singer is a Chartered Accountant (SA) and a Fellow of the Institute of Directors. She was the first CEO of South Africa's Central Securities Depository (CSD), Strate (Pty) Ltd which she set up in 1998. Strate provides electronic clearing, settlement and depository functions for the JSE and other stock exchanges in South Africa, which includes equities and bonds and also money market instruments.

In August 2017 Monica resigned as the CEO of Strate and all related board positions so she could concentrate in bringing blockchain technology to all relevant industries. In October 2017, Monica was appointed as South Africa Lead for Consensys being an international venture production studio using blockchain technology to build distributed applications on the Etherum world computer.

Since the beginning of 2018 Monica was appointed as one of the Patrons of the Corporate Governance Framework (CGF) Research Institute in South Africa.

In June 2018, Monica was appointed board member of the Global Legal Identifier Foundation (GLEIF) based in Switzerland.

Monica held numerous board and advisory positions. She was the Vice President of the African Middle East Regional Association of CSDs (AMEDA) and a member of the World Forum of CSDs (WFC). She was also involved in a number of charitable organisations including Strate Charity Shares and chaired for 10 years Afrika Tikkun Investment Trust.

Monica previously worked at the World Bank in Washington DC in 1995/96 and was the Technical Director of the South African Institute of Chartered Accountants (SAICA) from 1990 to 1996. Monica completed her articles with the audit firm Arthur Young in 1987.

Monica has been recognised over the last 20 years with many awards, the most notable being the first winner of the Conscious Company award in 2017.

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INTO AFRICA

INTERNET OF THINGS: ENABLING THE FULL VALUE OF CONNECTIVITY By Nora Wahby, Head of Ericsson West Africa



echnology has the potential to fundamentally transform societies. It enables rapid improvements to industrial production and societal services, positively influencing the way we live and interact with our environment.

Africa is home to over a billion people and the population is expected to grow in the coming years. It is also a continent with the most growing economies and many from a low base. To accelerate its journey towards economic prosperity, the continent will have to take advantage of the new technologies to improve the government, business environment and society.

ICT and broadband are becoming central to the societal developments around the world. ICT allows people, knowledge and devices to be connected in new ways, and countries that embrace its potential can create new value, operate efficiently and benefit from significant return on investment. Broadband is further enabling new technologies environment like cloud, big data, artificial intelligence and Internet of Things (IoT).

Modernizing technological innovation towards the challenges countries are experiencing, will help Africa emerge from the economic challenges in a more sustainable manner. If the IoT period we are now entering is to be more inclusive and empowering, we need to start by examining the fundamental nature of the physical world fueled by digital connectivitv.

The Great African Mobile Market

Sub-Saharan Africa remains the region with the highest growth rate in mobile subscriptions globally. Looking forward to 2023, we foresee mobile subscriptions to exceed 900 million, total mobile data traffic growing 11x, and 75 million cellular IoT devices being connected.

Growth is expected to improve due to an improvement in macro-economic conditions. The region's middle class will continue to rise, leading to an increase in purchasing power, and stimulating demand for a wide range of products and services in the market.

Projected population growth will put a strain on the existing general infrastructure, and the growing

urbanization trend will drive service provider investment in key areas.

Moreover, rising youth population will drive the uptake of mobile broadband services and affordability is also driving the increase in mobile broadband uptake in Sub-Saharan Africa. Declining data prices, and an increase in the accessibility of smartphones due to lower prices is also driving growth.

IoT will provide the means for delivering innovative solutions to meet the socio-economic challenges and will transform businesses to enable more growth in Africa. Whilst Nigeria and South Africa will continue to increase the number of connected devices, IoT initiatives are seeing to advance in the rest of the region, especially East Africa.

Mobile Traffic Growth and IoT

The forecast is that mobile data traffic will grow by around 50% annually until 2023. Key drivers will be extensive network coverage and the reduction in prices of both devices and services. Also, driven by the rapid rise in access to relevant video content, with new players who provide and aggregate local content finding initial success in larger markets including Nigeria and South Africa.

The increase of mobile data traffic in Africa is driving operators to look at opportunities to optimize their network capacities, including complementing capacity via Wi-Fi networks.

IoT is of increasing value to cities in Africa, with at least 55% of the urban population in the region living in informal settlements, and urbanization is rising.

Smart City solutions, such as using IoT to curb water scarcity in large informal settlements, to intelligent transport solutions, are increasingly being investigated to find answers to the challenge of urbanization.

In agriculture, micro-insurance companies have deployed IoT devices to monitor weather patterns, e.g. providing small-scale farmers with insurance in Kenya.

Connectivity and opportunities for IoT

IoT provides an opportunity for mobile operators to bring new products and services to underserved

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markets, opening new possibilities for growth within the region.

Cellular connectivity for IoT devices has been available for over 10 years since the days of 2G and 3G. For this type of connectivity the limitations were available network bandwidth and IoT device battery life. Addressing these challenges fostered growth of other non-cellular connectivity solutions: better battery life and lower connectivity costs.

Still, new concerns emerged, including coverage problems in cities, cross-border use, and most importantly a lack of secure connectivity for critical infrastructure services, such as utility, transportation and industrial use cases.

In Africa, 4G networks grew rapidly since 2012, and so IoT use cases evolved to include fleet management, asset tracking of goods, and safe- city use cases. Cellular connectivity using both 2G and LTE became the dominant solution for IoT because it solved coverage problems in cities and nations, roaming across borders, and ensured secure endto-end connectivity.

The limitations for 4G were IoT device cost, battery life and cost of connectivity. This led to the introduction of NB-IoT and Cat-M1 technologies which provided power efficiency for IoT devices, cost saving and reliability.

Ericsson and Qualcomm Technologies have successfully completed a lab trial for a Cat-M1 solution with MTN South Africa. This is the first Cat-M1 test implementation of its kind on the African continent and represents the first stage of a wider scope of test activity.

Cellular IoT technologies, such as Cat-M1 and their evolution into 5G, set a solid foundation for massive IoT by reducing complexity, lowering power consumption, expanding coverage, and increasing device density. Cat-M1 enables advanced IoT applications by providing hundreds of kilobits per second in throughput, mobility, and VoLTE support.

Unlocking the potential of IoT in Africa

In order to unlock IoT's potential in Africa, regulatory authorities, mobile operators and stakeholders will need to work together – failure to understand and fully develop the links across the various stakeholders in the ecosystem could stunt the growth of IoT in the region.

To kick start IoT-enabled transformation and realize its benefits, policymakers need to take a broader, more coherent policymaking approach. As the process unfolds, global partnerships will prove essential to enabling a cross-industry engagement in defining and building the IoT ecosystem of the future.

Ericsson and the SMART Africa Secretariat have entered an ICT-based partnership to develop a more connected and fully functioning knowledge - based society in Africa. As a result of the partnership, Ericsson joins the Smart Africa Alliance as technical advisor and platinum private sector member to craft blueprints supporting the implementation of the SMART Africa vision and plan.

The SMART Africa Initiative is geared towards connecting, innovating and transforming the continent into a knowledge economy thereby driving global competitiveness and job creation. The initiative also aims at enabling Member States to become more competitive, agile, open and innovative smart economies with the most favorable business climates that attracts large-scale investments, rewards entrepreneurship and enables fast growth and exports, leveraging ICT innovations to transform African nations into smart societies.

With connectivity at the heart of industry transformation, IoT has a significant role to play – not just in the evolution of communication but in the transformation of businesses and societies as a whole.

Contributor's Profile:

Nora Wahby is Head of Ericsson West Africa within Market Area Middle East and Africa. She is responsible for supporting operators across 24 countries to meet and exceed their strategic objectives using Ericsson Technology and Services.

Nora joined the company in Egypt over 15 years ago having started her professional career at Orascom Telecom as a Network Design Engineer. She holds a wealth of experience spanning sales and business development, network and technology consulting, as well as operations and project management gained from leading large teams on various projects for diverse customers in Algeria, Egypt, Morocco, and South Africa.

Prior to assuming her current role, Nora was the Key Account Manager, MTN South Africa where she was responsible for driving business growth and capturing new market opportunities on the account.

Nora holds a Master's degree in Business Administration from the Arab Academy in Egypt and Michigan State School of Business in the United States of America. She also holds a Bachelor of Science in Electronics Engineering from Ain Shams University, Egypt. Nora was appointed to her current role in June 2018.

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RIDING THE WAVE OF ARTIFICIAL INTELLIGENCE IN THE BANKING SECTOR

By Austine Abolusoro, Group Head Online Digital Banking, United Bank for Africa Plc Nigeria



ver since the term Artificial Intelligence was coined by John McCarthy, the field of Artificial Intelligence has moved through many phases. The subject of Artificial Intelligence actually predates personal computing, it all started with "an ancient wish to forge the gods." As **Pamela McCorduck** would put it.

In 1950, Alan Toring, the English Mathematician published a paper in which he deduced the possibility of creating a machine that 'thinks'. This laid the foundation for the **Dartmouth College** conference in 1956 during which John MacCathy; an Assistant Professor of Mathematics would suggest a name for the field of computer science that would focus on the ability of computer systems to simulate learnings.

Beyond the University Walls

Today, advancement in AI has moved fast beyond the University walls into the business world and into our everyday lives. From the personal assistant on our mobile devices to the autonomous vehicles on the streets of San Francisco, AI is advancing it's course in our spaces. However, experts in this field would argue that all we have seen so far still fall within what is called 'Narrow AI". Artificial Intelligence is the development of machines that would think and act as humans. We do not have anything near that today, but there is a possibility that in less than twenty years, we may have such machines that could be as intelligent or even more intelligent than humans.

Banking and Al

The current wave of AI as we have seen, has not left any field untouched. AI is now a multibillion dollar industry and will be a major contributor in GDPs of major economies of the world in just less than ten years.

The Banking Industry has not lagged behind in this technology advancement. With the transformation of banking business from traditional to digital, banks now jump at any technology that could create opportunities for differentiation and deliver unique customer experience.

As competition amongst banks get stiffer and customer's needs and choices become more complicated, the winners are those that will be able to deliver personalised experience to their customers based on accurate analysis of data and deployment of intelligent solutions.

In application, a few core areas of AI have been very noticeable in Banking and have found usefulness in Banking:

Natural Language Processing (NLP): Intelligent analysis of human language. We have seen banks deploying AI Bots and these bots are powered by NLP tools that help in communications with customers. This is a major component of LEO (the AI Chat Bot launched by the United Bank for Africa - UBA).

Machine Learning (ML): Analysis of data and patterns to make decisions without human intervention. This is found useful in image recognition, credit decision etc.

Robotics: Automated devices that perform physical tasks in the real world. A lot more of this has been seen in factories and warehouses but can be found also in banking. We will see smart bank branches managed by robots.

AI and banking: Why Banks Are Deploying AI Platforms

The Banking sector is currently leading on Al investments, with the emphasis on real-time transaction analysis and smart fraud detection through to algorithmic trading and Al-managed funds. Banks and financial institutions are beginning to see the inherent potential of Al, especially when it comes to attracting new business by delivering better, more personalised customer services. Through the deployment of Al systems in banks back office operations, there will be major cost savings and banks can server customers better in the following areas:

Better Customer Experience: In 2018, UBA launched LEO, the virtual banker. By integrating the AI assistant into call center systems the Bank seek to ease the burden of dealing with the routine transactions and free up the customer support agents for dealing with more complicated cases faster, thus drastically improving the overall customer experience. Mr Kennedy Uzoka, Group Managing Director of United Bank for Africa Plc

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said "The formulation of this product is consistent with the bank's customer first philosophy, where we are doing things not the way we like, but exactly what the customers want, where they want it, and in the exact platform they want". We have seen same use cases by Bank of America and also DBS.

To meet rising customer expectation: Customer expectations and needs continue to change and the deployment of AI based on machine learning helps to predict and act in line with customer's expectations based. AI also provides the platform to act on the instance.

To remain competitive: A 2017 report by Accenture reveals that Banks are deploying AI to have competitive advantage. It is a way of keeping closer to the customers, creating an experience and manage fraud reduction.

To strengthen the brand: **The Millennial Disruption Survey** reveals that nearly half of the millennials surveyed are counting on tech start-ups to overhaul the way banks work and as many as 73% millennials would be more excited for new financial services offered by Google, Amazon, Apple, PayPal or Square than from their own nationwide bank.

Since the deployment of LEO (an AI powered Chatbot), the UBA Brand has been strengthen as a forward-looking Bank.

The Use Cases for Al

Many banks have setup AI programs, and some have even setup AI labs. But what are the bank seeking to achieve? Below are some of the use cases we have seen:

Call Center Management: This is one of the most popular application of AI in banking. Most banks that have started AI programs saw immediate gains in the management of customer calls at the call centers. This is achieved mostly through the deployment of Chat Bots. Customers are able to receive help from bots, straight through complaint management and prompt services thereby removing the delays from human intervention or call queues. We have seen the rise of chatbots in banking, amongst the most popular is the UBA's LEO which now has over one million subscribers on Facebook Messenger and WhatsApp spanning through 17 African countries in three languages. Others are Bank of America's Erica, DBS' KAI, etc. The UBA's LEO is able to manage customers enquiries and complaints. The BOT is integrated to the Call Center with a handover protocol to human

agents where he feels necessary.

Banking Services: Banks are also deploying Al Bots to conduct normal banking services like account opening, fund transfer, Airtime Topup, Bills Payment, etc. This is even more necessary as customers get addicted to the social media platforms. The proliferation of mobile apps would push a banking app to the back space on a customer's device. What if the customer could just do banking transaction from an existing app like Facebook Messenger, WhatsApp, Twitter, etc. That is What the banking bots now provides. The UBA's LEO processes transactions in millions of USD and also help customers manage spend limits or create savings plan.

Auto Reconciliation: Deployment of AI in banking will generate more values by dealing with routing back office activities. This type of AI programs delivers efficiency and reduces failures. An example is the UBA's LEO Robotic Process Automation (RPA) that manages ATMs transaction reconciliation.

Customer Churn Prediction: This is the deployment of AI programs to manage customers churn before they occur. It is done through machine learning by analysing complex data and making useful deductions from the data.

Fraud Management: Al systems are now being used to analyse customer data and interrelations though NLP and Machine learning deployments. Based on this, customers or employees' likelihood to commit fraud could be detected early.

Anti-Money Laundering (AML): Deployment of Al could help with smarter and better AML tool than what exist in most systems used by banks today. The use of machine learning could help analyse customer's transactions across various networks and make quick recommendations on suspicious transactions to be flagged.

In Conclusion

I believe the advancement in artificial intelligence will continue to transform all major sectors, but the business of banking is getting its own share of this technology. As we move towards the third wave of AI, I see a lot more of human-machine collaboration as against the machine versus human that some fears. Every bank at some point would have to consider an investment in AI but the banks that take lead this could improve their revenue by as much as 34% (according to Accenture).

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INVESTING IN TECHNOLOGY ENTREPRENEURS: A REALITY CHECK

By Andrea Böhmert, Co-Managing Partner, Knife Capital South Africa

 \mathbf{S} outh Africa's entrepreneurial activity is at its highest level since 2013, the global entrepreneurship monitor's (GEM) latest report for South Africa 2017/2018 has revealed. Total early-stage entrepreneurial activity (TEA) in South Africa is at 11.0%, 4.1 percentage points higher compared to 2016's score of 6.9%. This is the measure of all adults in the population that are involved in early stage entrepreneurship. However, this is far from demonstrating a sound platform for investors in burgeoning entrepreneurs. According to the Real State of Entrepreneurship Survey 2017 by Seed Academy, 37% of businesses have no full-time employees and 51% of business employ between one and four people. The report stated that, of the businesses that are post revenue, 22% of entrepreneurs have revenue of less than R10,000 per year and most post revenue entrepreneurs (26%) have revenue between R50 -R100,000 per year and only 5% have a turnover of areater than R5 million.

Technology entrepreneurship is a small sub-sector of the total entrepreneurial landscape and here as well, only about a 25% of the companies have more than R2m of annual turnover. With technology as the global driving force for innovation and growth, the attention of investors and government alike is on the 25% of technology companies that have survived the initial start-up phase and are now in the various stages of scaling the business.

Following international venture capital (VC) investment trends, the top technology companies to invest in should be working on technologies such as:

- Machine Learning and Artificial Intelligence (AI)
- Quantum Computing (Supercomputing)
- Augmented Reality (AR) and Virtual Reality (VR)
- Global Internet of Things (IoT) security breach
- Blockchain technology

and applying these to all verticals from food to health, education, finance, manufacturing and government. There is actually no vertical that in the medium term will be unaffected by these technologies. In the US, Europe and countries like Israel, even young companies focusing on these technologies are achieving Unicorn valuations and both IPOs and M&As are providing investors with lucrative exit environments. So, where does that leave us in South Africa? South Africa has technology businesses that can compete on a global scale – without a doubt. Do we have enough of them – definitely not. Venture capital funds are looking for investments that can generate substantial returns on invested capital in a relatively (as compared to traditional industries) short period of time. Technology companies have unique characteristics that make them a good match for venture capitalists as they often require small amounts of capital to start, are relatively capital efficient to scale, can grow quickly by leveraging technology, and can develop barriers to entry for competitors that allow for the building of a valuable enterprise.

The opportunities and challenges in technology investments need to be looked at from both the entrepreneurial ventures perspective as well as from the investor.

Entrepreneurial Perspective

For a technology company to scale, a few core items need to be aligned at a given point in time to take advantage of a market opportunity. While the factors listed below fundamentally apply to each business and not only to technology businesses, the importance of speed and potentially global nature of the business does not allow for much room for error.

- 1. *Founder*(s) -the founder(s) need to be exceptional in terms of subject matter expertise, leadership, determination, business acumen and ability to set and subsequently sell the vision of the company. The successful companies have such founders. What South Africa is missing, but it is slowly improving, is serial entrepreneurs who bring the battle scars from previous ventures to do it again applying some of the lessons learned.
- Market Potential one of the biggest mistakes that investors see is businesses failing due to reliance on wrong market assumptions. Detailed market segmentation founded on a clear understanding of the value proposition based on rigorous testing and primary research with the identified target market is required.
- 3. Business Model Often a result of the incorrect market assumptions, the business model is complex and most of the times requires tweak -ing until a scalable model is identified. This has a severe impact on the cash flow forecast,

something both investors and entrepreneurs need to be aware of. Customer acquisition costs, both in a B2C and B2B environment, need to be understood and included in any pricing model.

- Skills Skills in a South African context is one of 4 the most limiting factors stated by many tech companies, irrespective of size. Published by the Department of Labour last year, the skills shortage among technicians and IT professionals is sitting at 432 100. According to the Engineering Council of South Africa (ECSA), South Africa has one engineer per 2 600 people compared to international norms, where one engineer serves 40 people. There are just over 16 000 registered professional engineers in the country. The competition for these skills is significant and South Africa's restrictive immigration laws does not facilitate recruitment of critical skills from outside of South Africa. To be able to compete internationally, companies have to be able to attract and retain comparable skills, admittedly at a discount to international salary levels.
- Market Access the South African market is 5. small for most technology companies. In a B2C market, customer segmentation is critical and the analysis of Customer Acquisition cost in relation to Customer Lifetime Value is key. In a B2B environment, unless you focus on the SME sector and understand the profile of the SME sector as previously described, the number of market participants in each market sector is limited. South African entrepreneurs face two major market access challenges. Firstly, contrary to other markets, in South Africa large Corporates are hesitant to do business with SMEs, particularly in the technology space. It is much safer to contract the service of a significantly more expensive international supplier then supporting a local company. So local companies struggle to get the first meaningful reference clients to get the necessary credibility. Secondly, companies wanting to scale need to very quickly start doing business outside of South Africa. In comparison to technology companies from other, more established markets, who would only venture outside of their own borders once they are far more established, South African technology companies often attempt to diversify into other geographies prematurely, thereby risking the sustainability of the local operation.
- 6. Access to Funding While there is never enough funding available in the mind of entrepreneurs, the diversity of funding sources

has definitely increased over the last few years. However, not all money is created equal and entrepreneurs should be evaluating carefully who to take money from. Government funds, Corporate investors, angel investors, international funds, grant organisations or local VC firms all come with certain conditions and entrepreneurs should never be either that naïve or desperate to take the "wrong source of money" or at the "wrong terms" for their business.

Investor Perspective

Venture Capital as an Asset Class is still in its infancy in South Africa and for it to grow, successful investments are required. Following the investment life cycle for every investment firm, an investment manager needs to be good at

- Find identifying companies with potential that matches the value proposition and investment mandate of the investor;
- Make Due Diligence, fair and reasonable valuation, deal negotiation;
- Grow Post investment management where, if possible and within the experience set of the investor, additional value over and above the monetary contribution is added to facilitate the most appropriate and mutually successful realisation strategy;
- Realise The realisation of financial returns for all shareholders;

While this sounds logical, the realities are that each of these investment life cycle stages require a distinct set of skills. Applying the typical 2/20 model in Venture Capital, 2% management fee and 20% carried interest, and looking at the average fund size of South African VC funds, the management fee does not allow to build large teams with diversified skills sets. It also means that a small group of people need to cover all investment cycle stages which results in areas outside of an individual's natural comfort zone getting less attention. Irrespective which areas get neglected, it will have an impact on the overall performance of the fund.

The challenges described for the entrepreneurs need to be taken into consideration by each investor when it comes to valuation of the busine ss as well as understanding which kind of post-investment support is required to take the business to the next level. Investors who understand the South African investment framework over and above the basic investment principles are perfectly geared to create the next South African entrepreneurial success story. The examples are there, and the momentum is increasing.



LEVERAGING DIGITALIZATION TO REVOLUTIONIZE HUMAN CAPITAL

By Gabriel Gab-Umoden, Head of Marketing, JOBS at ROAM

Technology remains a very powerful force in the 21st century whose existence as an enabler and disruptor has given rise to numerous remarkable developments, one of them being digitalization. Digitalization has played a key role in transforming business processes across various industries, therefore embracing it is crucial for organisations to survive in the current business environment. The use of technology has allowed a streamlined approach - and when done efficiently and effectively, optimization enables business value, engagement, and productivity greatly.

In this article, we look at how leveraging digitalization to revolutionise human capital is bridging the gap between tradition and the future of work - with a focus on two fundamental areas: recruitment process and skills development.

Recruitment is a primary human resource function and ought to be treated as such by organizations in ensuring that the right talent is acquired and well managed. Granted we live in the age of multiple systems backed by AI and new technological advancements, however; talent acquisition is a prime backbone of any business. You need the right people to operate said systems, therefore the quality of people you hire and how you hire them is of the utmost importance. In the current age, digital recruitment tools have changed the recruitment process not only for employers/recruiters and clients but also for candidates. For instance, the traditional CV is dying, and employers are now hiring using candidate online profiles. Job seeker data insights from ROAM reveal millennials are increasingly moving away from the traditional CV, and instead, are opting to store their data in a digital profile via the Jobberman web portal in West Africa and the BrighterMonday portal in East Africa respectively. On both BrighterMonday and Jobberman platforms, an average job listing receives about 140 - 160 applications.

Research from ROAM's job seeker insights also shows 50% currently of all applications are mobile,

and with the ever-advancing 'digital village', this number is increasing on a daily basis. Nowadays, by the time a candidate secures an interview, their prospective employer has a lot more information about them than what is stipulated on a traditional CV. This is seamlessly done through profile browsing to social profiles and screenings as well as candidate competency and personality assessments. Additionally, the first interview may not necessarily be in person. It can be conducted digitally too which makes it more flexible.

An expert in this area, Matthew Page, Head of Jobs at ROAM, says, "This is convenient. Job Seekers - and especially millennials - are mobile centric." He further says, "Having structured data in a digital profile is good for the employer and the seeker. The data is in the cloud, is easily edited and allows for a seamless desktop to a mobile experience. For employers, filtering through 100 CVs in hardcopy is a nightmare task. Being able to match profiles to role requirements with technology takes out the manual element and allows for focus on what really matters - the top matching candidates."

Feedback from employers is one of the biggest challenges for both employers and candidates, and with features such as automated feedback in place, candidates are notified about their application status irrespective of the outcome. It is vital for candidates to know where they stand in the process - understand if they are declined and, importantly, why they are declined. Automated feedback makes it easier, efficient and less cumbersome - as opposed to having to respond to hundreds of applications manually. Moreover, it also leaves a lasting impression on job seekers about the brand as some tend to question the brand credibility and transparency when the status of their application is unknown.

Page further states, "From an employer perspective it means that communication is personalised and automated to all candidates. No one is left



fuming, no one is in the dark. To ensure that employers are hiring right, ROAM has also launched smart employer products to facilitate a smooth hiring experience for employers, through tech-enabled shortlisting and matching products that identify the best candidate for the best position."

On another note, one of the most important ways to invest in talent irrespective of their job level is through skills development. Digitalization has played a significant role in simplifying mediums of learning. Having easy access to learning opportunities through multiple channels and making it easier for employees to acquire knowledge and upskill, be it in the form of e-learning, MOOCS, online fellowships, virtual classrooms, webinars, virtual workshops and so forth, regardless of geographical location, is extremely advantageous; as it makes learning limitless unlike being confined in traditional classrooms. It also enables collaborative and engaged shared virtual learning. With the constantly changing digital world, an in-depth skills development framework is paramount to ensure the right platforms and tools are in place and adhered to - for organizations to get the best out of the digitalization of skills development.

The publishing industry is a perfect example of the radical impact of digitalization but those who held on and embraced the digital era have made remarkable progress. For example, according to Inc., companies like the New York Times embraced digitalization by implementing a successful subscription model for their online content that allowed the company to continue to deliver the same type of high-quality journalism and content their readers trusted for over 167 years. They don't rely on ads or clicks so they can make content decisions based on journalism principles instead of the advertiser's demands. "According to their January 2017 report, The Times brought in almost \$500 million in purely digital revenue, which is far more than the digital revenues reported by many other leading publications," says Inc.

In conclusion, embracing and leveraging digitalization is essential for employers, especially those operating within the tech-driven sphere; hence having a comprehensive digitalization vision and strategy should be the main objective for managing and getting the best out of human capital while enabling smooth business processes. For those who have not yet adopted digitalization but still need to do so, reinventing yourself is important for your brand. You can start by scaling, researching and customizing the most suitable ways to digitize your organization's relevant business processes.

Furthermore, it is significant to note that as transformative as it is; technology or digitalization cannot augment humanity. Leveraging digitalization to revolutionise human capital ought to be executed simultaneously; along with core human attributes such as collaboration, communication, engagement and reasoning skills. All these need to be equally emphasized by means of regular monitoring and evaluation. This will allow a balance of both, or better yet, yield more from human capital. Last but not least, establishing a rigorous organizational change management model plays an integral part where advancements like digitalization are concerned and maximizing on them.

"Digitalization has played a key role in transforming business processes across various industries, therefore embracing it is crucial for organisations to survive in the current business environment."

Contributor's Profile:

Gabriel Gab-Umoden is currently head marketing for the JOBS brands at ROAM (Ringier One Africa Media) - the Jobberman brands in Nigeria and Ghana, and the BrighterMonday brands in Kenya, Tanzania and Uganda and our Pan-African Executive Recruitment company, The African Talent Company (www.tatcafrica.com).

Our vision at ROAM JOBS is to be Africa's most user-centric and transparent career ecosystem and we do this because ultimately we want to drive productivity on the continent.

In his current role, he is exposed to constantly evolving job market dynamics and utilise the insights gather to aid relevant product development, develop adequate customer acquisition & retention strategies, and decide on the appropriate brand voice for our pan-African JOBs businesses.





THWART CYBER SECURITY THREATS IN AFRICAN BFSI INDUSTRY

By Paresh Makwana, Vice President, Business Development Africa, Arcon

Overview

As the wave of digitization hits every global organizations, Africa region is not lagging behind. Many organizations from Africa are transforming their IT operations into digitized way to scale up their efficiency, ease and cost effectiveness. This transition, however, has changed the overall cyber security landscape. The entire IT ecosystem of the organizations in Africa is extremely vulnerable to attacks as their data assets are managed mostly in a distributed environment. Denial of Service attacks (DOS), Distributed Denial of Service attacks (DDOS), Ransomware attacks, Phishing/ Hacking, Adware/ Spyware threats, data breaches and internal monetary fraudulence are some of the few examples which shows how digitization has invited various cyber threats too. Cyber crooks, always looking for vulnerabilities, take full advantage of this unsecured and unmonitored network infrastructure and infiltrate to steal as much information as possible.

To overcome this enormous challenge, organizations of all shapes and sizes have started to improve the security framework. Billions of dollars are being spent every year to improve cyber defenses, reinforce Network Security and close security gaps within the internal realms. Further, organizations must comply with increasingly stringent Audit, Compliance and Governance framework. A robust cyber security framework is also essential to protect the brand reputation. One data breach or a loss of private information can damage any organization's hard-earned brand equity.

Cyber Security Scenario

In this backdrop, the scope of the cyber security market is widening at a very brisk pace. The abundance of cloud computing, Artificial Intelligence (AI) and Internet of Things (IoT) are driving massive growth in IT opportunities in Africa. The IT sector in South Africa is expected to reach R175 billion by 2022, at a 5-year compounded annual growth rate of 4.25%, according to the IDC's latest Economic Impact Model report. Not only that, the gradual increase in adoption of cloud services are expected to create numerous job opportunities too in Africa region.

Cyber security awareness has hit every industry in Africa. Among them, BFSI industry has got the biggest hit. The CIOs, CISOs, CTOs and CSOs from banks, insurance companies, financial product organizations etc. are absolutely on their toes to incorporate robust security framework for their IT ecosystem. It is highly imperative that hackers snoop on the vulnerable areas of this industry to steal information quickly. An exclusive report by Business tech says, the average cost of data breach in South Africa has shoot up to R36.5 million in 2018, an increase of R4 million from 2017. After extensive research and the global cyber security experts have termed Africa as the "most lucrative region for cyber criminals". Organizations from BFSI industry are allotting handsome budget for securing their data round the year.

After TechCentral suffered massive data breach losing the control of almost 60 million user data (mostly South African citizens) during March 2017, most of the business enterprises joined hands as a resolution to make Africa cyber risk-free continent. This is considered to be the largest data breach incident in the history of South Africa. Once the hacking news spread like wildfire among the cyber security experts, most of them believed it to be the credit of some wily cyber crook. However, later on it was found that the hacker didn't require any effort to take hostage of the crucial information. Everything was easily available on an open Web server.

This incident pointed security officials that there is no substitute of taking preventive security measures. Consequently, it became quite obvious that

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organizations from entire Africa stay tuned to the latest security trends in IT operations and data security. It forced them to opt for the most effective solutions that protect their intellectual property, private data, and other digital assets. The cyber criminals at the same time are introducing more sophisticated and advanced hacking techniques to exploit security vulnerabilities across all industry sectors.

Preventive Measures

From the perspective of African IT industry, most of the leading risk control solution providers globally, predicts that there will be a huge investment in cyber security in the coming days, since most of the organizations are toiling to protect their crucial digital information assets from any cyber threats. Talking about the prominent business prospects, cyber security experts opine that both private and public sector organizations have started to reconstruct their cyber security strategies to combat the larger and emerging concerns in cyber security arena. Protecting business information is highly crucial under any circumstances and strengthening information security measures is the only way out.

In a typical scenario of BFSI IT ecosystem, where all the confidential information are accessed via privileged accounts, it is highly peremptory for all the organizations to deploy any robust Privileged Access Management (PAM) solution to keep any modern and sophisticated digital threats at bay. Only this can ensure that all the unmonitored accounts are monitored in real time and any unauthorized user is prevented from accessing those accounts for which he/ she is not authorized. In addition, the privileged passwords of the privileged accounts are randomized and changed frequently to help the IT security team to maintain security of all the confidential information.

"Cyber crooks, always looking for vulnerabilities, take full advantage of this unsecured and unmonitored network infrastructure and infiltrate to steal as much information as possible."

Conclusion

Enterprises from Africa are not just working to empower the outer periphery to protect their systems from malefactors but also internally to track the phishing emails and other suspicious activities happening in the corporate network. However, the number of cyber attacks happening in Africa are expected to rise drastically. Hence, a secured network infrastructure is the most important step for every enterprise to stay ahead in today's cut-throat business competition.

Contributor's Profile:

Paresh Makwana (CISSP), International Identity, Cyber Security, Cloud Computing expert in Government and BFSI sector.

Paresh is an experienced IT Infrastructure and Security Consultant with more than 20 years of Data Center and Cyber Security experience, primarily in financial services. He is Business Development and Vice-president Africa at ARCON TechSolution Pvt Itd and well established in both the Indian and African markets, with close working relationship with most of the CIO/CISO of banks, financial institutions, technology vendors, and government regulators.

Before coming on board, Paresh was Vice President, Technology with BFSI firm. He was instrumental in growing their Technology and Information Securities capabilities. He also worked with DSP BlackRock for 7 years in their Information Technology and Information Security division. Before BlackRock, Paresh spent 10 years with DSP Merrill Lynch. Paresh has lived and worked in Mumbai, Hong Kong, and East, West and South Africa.

Paresh has a Degree in Business of Commerce Graduate. He is a Microsoft Certified System Engineer and a Microsoft Certified Professional and has a high level of expertise in handling server–side operations based on the Windows and virtual platforms. Paresh is also a Certified Ethical Hacker, and holds CISSP and BS7799 certifications, and Diplomas in Cyber Law, and Banking and Technology.

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SHARED PLATFORMS CAN UNLOCK THE NEXT WAVE OF GROWTH IN AFRICA

By Rudy Kawmi, Sales Manager, Africa, Finastra

here is no opportunity more exciting than how technology can transform African economies and help to bring millions of people into the financial system. The industry has moved beyond speculating on the potential, to seeing first-hand how innovation can radically accelerate the adoption of financial tools and products. However, the pace of development varies greatly from country to country and it is clear there is still much work to do if we are to unlock the potential of people and businesses across the continent using the latest financial technologies and innovations. We believe that open platforms will help drive the next era of growth and adoption by tackling the common challenges faced by Fintechs and traditional banking players in the industry.

Cashless Society

Nothing better illustrates the potential of technology than the impact it has had towards achieving financial inclusion in Africa. If we look towards the current state of banking the unbanked, we are encouraged by a story of great progress. According to the Global Findex Database1, between 2014 and 2017 the number of adults with mobile money accounts nearly doubled to over 21%. The epicentre of this adoption has traditionally been focused in East Africa and the M-Pesa story. However, this has now spread and is driving account adoption across sub-Saharan Africa.

Mobile money represents the gateway to the technology that is underpinning an African digital payments ecosystem. National payments infrastructure, billers and merchants are all being integrated and expanded to allow for ever increasing transactions through digital channels. This helps drive down costs and increase access, where previously geographic constraints have left portions of the public out of reach of these services. Despite this, over a billion adults globally who have a bank account still pay utility bills in cash, showing that the opportunity of further digitizing transactions remains enormous2. Beyond transactions, the wave of innovation surrounding mobile money accounts has now truly transitioned into the once exclusive domain of traditional banking products.

Micro-lending, insurance and overdrafts can now all be consumed through the mighty mobile device and the mobile network operator (MNO) and bank partnerships that underpin them. The recent introduction of M-Pesa's overdraft product, Fuliza, demonstrates the power of technology in enabling credit growth. Safaricom, the operator of M-Pesa along with its banking partners, Commercial Bank of Africa & KCB Group – developed this service informed by data on their platform showing how millions of transactions were cancelled every day due to insufficient funds3. Within the first month of launch. Safaricom customers borrowed KES6.2Bn and it is showing signs of strong growth as the operator also plans to roll the services out to an additional six countries.

It would be foolish to extol the virtues of mobile money accounts without recognizing the innovation around agency banking that has truly allowed this technology to thrive. Agency banking has seen MNOs and financial institutions rapidly and cost effectively expand their geographic reach. By recruiting shop owners and entrepreneurs, agents can harness the power of mobile money and integrate the cash economy across the country. By building a business model that allows agents to profit from transactions, they have built a selfdriving growth engine that reduces the need for costly brick-and-mortar investments in branches and connectivity. Agents help to strengthen the value proposition for customers to drive adoption of mobile money accounts.

Technology and Financial Inclusion

It might seem that the hard work is done. Those involved in this industry appreciate that despite the great strides made, significant challenges remain. There is a diverse variety of financial institutions across Africa that fill the current need for financial services. We have spoken briefly of MNOs and

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large traditional retail and commercial banks. These institutions have the organizational capacity and budgets to invest in leading technology solutions to drive growth and adoption. However, a significant portion of the population is served by Savings and Credit Co-operatives (SACCOs) or Microfinance and Community Banks. Beyond these, there is also a strong culture of informal savings groups and cash mechanisms that sit entirely outside of the formal banking sector. While some of these institutions reach the size required to compete directly with tier 1 banks, most of them operate at a much lower scale. Increasingly, it is these organizations that are struggling to fill the divide in customer service and experience which would allow them to continue to grow and bank the most challenging, difficult to reach segments of the population.

The cost of acquiring technology is a major hurdle, along with having the skills and experience internally to run large scale projects and applications. Historically, the challenge has been for technology companies to figure out how to bridge these gaps to make sophisticated solutions like core banking systems, e-wallets, treasury management and trade finance applications more accessible.

An area where we see great promise is around creating shared platforms. This concept is about leveraging investment in technology to groups of financial institutions in order to bring down adoption costs and centralize experience and expertise. By collaborating, banks, SACCOs MFIs and Fintechs can offer their customers cutting edge solutions at reduced cost. With cloud infrastructure rapidly developing (Microsoft has recently launched its first Azure data centre on the continent4) these advanced applications can be hosted in country and provided as a turn-key solution. The market will begin advancing from the current focus on delivery channels to digitizing and automating other key business areas such as payments, treasury and capital markets, SME banking and trade finance. Technology has the potential to disrupt these commercial banking verticals in the same way the MNO-led mobile wallet has disrupted traditional consumer retail banking.

Collaborate to Innovate

It is not enough to simply host technology. The African financial industry needs to partner and collaborate with the budding Fintech and start-up ecosystem that is already present in the market. The technology itself also needs to enable this type of collaboration by embracing open architectures and new business models. Innovation hubs gathering the financial sector's players are emerging in the region. In Mauritius, they have launched the Mauritius Africa Fintech Hub – which is helping to drive a pan-African Fintech ecosystem through open collaboration5. Banks themselves are creating their own innovation centres focused on collaboration, rather than competition, with technology partners. In Nairobi, Co-operative Bank of Kenya has established 'The Hive', an omnichannel sandbox to fast track innovation and collaboration6. In South Africa, Nedbank has collaborated with Plug and Play's FinTech Accelerator Program, part of its commitment to meet the changing needs of its clients through innovative digital enhancements7.

If banks invest in systems that are enabled for open collaboration, then the transition can be further accelerated. Core applications need to be geared around open APIs and micro-services that can be easily consumed by Fintechs and partner organizations alike. Open collaboration – plus a cloud-first deployment approach using shared platforms – offers a formula for innovation and growth. While great progress has been made in this industry, there is even greater excitement about what this innovative and vibrant continent can do next.

Contributor's Profile

Rudy Kawmi is the Regional Sales Manager at Finastra, responsible for the East Africa Region. He has spent his career in financial technology and working with banks on digital transformation initiatives. An advocate of building and championing new business models to foster financial inclusion, he is passionate about forging partnerships across Africa to help bring technology costs down and expanding access to next-generation banking systems. He is based in Dubai and holds a degree in Business Management from The University of Glasgow, United Kingdom.

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ACHIEVING A DIGITAL PAYMENTS REVOLUTION THROUGH THE UNIFIED PAYMENT INTERFACE

By Rishi Pillay, Regional General Manager Africa, FSS

Introduction

Most markets have some kind of legacy payment systems in place, be it batch based electronic funds transfer and collections, real-time instant payments, card-based payments or simply cheque and cash payments. Usually, there has been a set of rules and regulations developed to govern these payment streams, either by the central bank or by an industry body of sorts. Alas, many of these systems were developed during a time when the world was a much simpler place. There was no internet, or mobile phones or apps or social media or electronic wallets or e-commerce or m-commerce or NFC, or Bluetooth or Wi-Fi, etc., etc. The list goes on.

Consumers were much less demanding and accepted the rules and limitations imposed by their banks. The only form of instant payments (with immediate clearing) was cash or perhaps account to account transfers within the same bank. Paying someone at a different bank was a lot more complicated. This historic state of affairs was status quo as recently as 20 years ago in most developed markets. It is unfortunately still the status quo in many developing markets today. Although, the difference is that the world is an entirely different place. We are living in the "now generation". People expect instant gratification. No one has time to wait, especially not for something as mundane as a payment. The expectation is that payments need to be a seamless part of any transaction. It needs to be as effortless as breathing.

Simplicity is the name of the game. To succeed in this multi-channel landscape, banks, merchants and other service providers need to be present in the physical and digital realms.

UPI revolution

One market that has realised that this digital onslaught is inevitable and unstoppable, is India. Their response to this change has been rather remarkable. In the space of 6 short years, forward-thinking regulators and payment system participants have created the foundation for a digital payments revolution. The building blocks of the system comprising:

- UID Unique Identification numbers, named as "Aadhaar", to all residents of India that is (a) robust enough to eliminate duplicate and fake identities, and (b) can be verified and authenticated in an easy, cost-effective way.
- eKYC This is an electronic Know Your Customer. It is an electronic way of doing real-time KYC of a customer using Aadhaar authentication.
- National Financial Switch (NFS) which enables interbank card and ATM transactions
- Immediate Payment Service (IMPS) which enables real-time account to account interbank transactions
- National Automated Clearing House which enables interbank wholesale and batch payments and collections
- Aadhaar-enabled payment system (AEPS) enabling basic banking transactions through banking correspondents (agents) using a combination of a citizen's unique national identity number and/or biometric data.

The identification and authentication mechanisms and the electronic payment systems mentioned above has created the foundation for large scale adoption of Omni-channel digital payments in India. IMPS, in particular, has enabled hundreds of millions of real-time P2P and P2B payments. These payments exceed the total number of credit card and debit card payments in the country. IMPS transactions are originated through multiple channels, including mobile, internet, ATM, IVR and banking correspondents (agents).

In an effort to further simplify the payments experience for consumers, the unified payments interface (UPI) was launched by National Payments Corporation of India with Reserve Bank of India's (RBI)



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vision of migrating towards a 'less-cash' and more digital society. UPI has built on the Immediate Payment Service(IMPS) platform.

The UPI platform can be used for:

- Immediate money transfers through mobile devices round the clock 24*7 and 365 days.
- Single mobile application for accessing different bank accounts
- Single click 2-factor authentication.
- The vrtual address of the customer for Pull & Push provides for incremental security with the customer not required to enter the details such as Card number, Account number, etc.
- Bill Sharing with friends.
- Merchant Payment with Single Application or In-App Payments.
- Scheduling PUSH and PULL Payments for various purposes.
- Utility Bill Payments, Over the Counter Payments, Barcode (Scan and Pay) based payments.
- Donations, Collections, Disbursements.

Benefits of UPI

End Customers

- Instant Payment Experience.
- Enhanced security to bank account holders.

Banks

- Enables cardless digital payments.
- The need to PoS machine installation at the place of business is eliminated reducing merchant acquisition and maintenance costs by providing long term benefits.
- Extend services to other bank customers.
- Collaboration with other participants, vendors, merchants for value-added services.

Merchants

- Merchants benefit from reduced costs compared to interchange costs on transactions through existing card networks.
- Retailers will reduce their exposure to card

data breaches, enabling them to better protect their brand.

- With smartphones replacing card and PoS machines for the collection of payments from customers, there is a reduction in Acquirer costs for merchants. Merchants can save the costs of a POS machine by easily collecting payments from customers using just their smartphones.
- With the UPI, merchants can receive payments using a variety of methods including mobile number, VPA and QR code.
 Merchants can experience faster and safer checkouts and improved transaction success rate.

FSS track record

FSS, a leader in payments technology and transaction processing, is the first company to provide the UPI PSP solution on a hosted platform for major banks across India.

FSS UPI PSP is a comprehensive solution and facilitates Banks, Merchants and Customers to push and pull payments with a single click two factor authentication. It also enables Banks to provide real-time payments through QR code enabled addresses, along with device fingerprinting for additional security. It supports features like "Pay and Collect" directly to Bank account and "Refer a Friend" through social media.

The solution provides Banks the ability to integrate multiple channels and perform cross channel migration with ease. With the support of FSS UPI, banks can now provide customers with the facility to transact on-the-go from their mobile phones, with a click of a button.

FSS UPI facilitates banks to offer UPI services instantly to over 100 million plus customers.

FSS has spearheaded the growth of retail & wholesale payments in India through a rich portfolio of payments products and services. The rapidly growing FSS clientele includes over 100 leading global banks as well as some of the world's largest processors and retailers.

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RETAIL BRANCHES: A RELIC OF THE PAST, OR AN OPPORTUNITY TO REIMAGINE A NEW FUTURE?

By Jaydeep Gupta, Regional Head of Retail Banking, Middle East & Africa, Standard Chartered Bank

Banks are re-configuring the in-branch experience by bridging digital and traditional channels to enhance service delivery and stay relevant to their customers.

As more clients continue to adopt digital banking capabilities, the physical branch space is changing in form and utility. Disruption has become a new normal in the banking industry, spurred on by Fintech companies and retail e-commerce giants driving the financial services industry to reconfigure their traditional and digital channels as connected entities, rather than separate business formats. Digital channels have key advantages over traditional branches, notably, that they are more efficient to operate due to its self-serve feature and low error rate. Consequently, they have a lower cost-to-serve ratio.

To optimise performance, meet consumer demand and continue to remain profitable, branches must become more efficient and employ staff who are service oriented and highly adaptable to changing customer needs and orientation. To achieve this, banks are fusing digital functionalities with human interaction to remain relevant to customers' digitally connected lives. In addition, organisations are finding alternative usage of branch space by collaborating with companies like WeWork, Regus and the like.

Boston Consulting Group's 2017 Global Retail Banking report highlights that customers want choice in how they engage with their bank and that they expect service to be consistent, streamlined, and engaging no matter what channel they use. Nearly half of those surveyed reported that they want a hybrid banking experience in which digital capabilities can be complemented with in-person advice when required.

As customers demand more convenient solutions to their banking needs and adaptation of self-serve digital model, we will see more banks re-shaping their physical footprint to address this demand. This in turn will lead to more collaboration with work space share companies mentioned above. Depending on the location of some of these legacy physical footprints allows for interesting options which in turn can be monetised via partnership. Repurposing of bank branches has become more common in the recent past with the changing client behaviour than ever before. Banks have traditionally been built on street corners in busy retail districts. Proximity to these locations almost certainly has made re-purpose possible.

On the digitisation front, we will likely see a greater movement towards digitising simple, daily transactions such as account opening, account updates and service requests. However, more sophisticated advisory based transactions like investment products and mortgages is likely to remain face to face interactions which require engagement with relationship managers in a physical location. In short, banks will continue to need branches to interact with customers, even as the size shape and format of the participation evolve.

Is the shift towards a hybrid branch model the answer to engaging with customers who are becoming more digitally savvy or simply an attempt by banks to hold onto a relic of their past? Banks which successfully develop an omni-channel distribution network integrating digital with human touchpoints and repurpose usage where applicable could see up to double-digit cost reductions, and a significant improvement in customer satisfaction metrics.

Contributor's Profile

Jaydeep Gupta has many years of banking experience in diverse markets and has held various senior roles in our Retail Banking segment. He is a member of our management team for the Africa & Middle East region. Jaydeep holds a bachelor's degree in Commerce and Arts and an MBA specialising in Finance. He has lectured on post merger acquisitions at the International School of Business in Hyderabad, and has a wide range of experience covering distribution, wealth management, digital channels and finance.

SPECIAL FEATURE

AFRICA ISLAMIC FINANCE IN THE FINTECH ERA: FOR A BETTER TOMORROW

INTO AFRICA

By Mohamed Anouar Gadhoum, Chief Executive Officer, I-Trade Tunisia Mohamed Yassine Khouildi, Project manager, IIFTI, Tunisia

The technological revolution has driven tremendous innovation in the global financial services industry, with more than 12,000 startups emerging to disrupt the financial aspects worldwide. The booming fintech industry has been capturing traditional market share with its approach and giving rise to an impressive array of new startups touching on services related to the banking, micro-finance, and insurance industries.

In Africa, the potential disruptions of technology to the Islamic finance sector cannot be underestimated. Encouragingly, we are witnessing an increasing number of fintech startups, innovation labs and incubators/accelerators based on the values and principles of Islamic finance. Since several years, the African financial system has experienced a remarkable evolution due to digitalization. It is measured by how the financial institution or the financial service provider is willing to digitally transform the service. Recently, and especially after the global financial crisis (2008 -2009), there has been a growing interest into Islamic financial institutions due to their lower exposure to financial crises.

In order to attend sustainable development, there is a need to know how will the convergence of FinTech and Islamic Finance contribute to the growth of African Islamic economic system, the role of FinTech in capturing the next generation of African Islamic digital economy customers. It is highly important to adopt innovative technologies such as blockchain, smart contracts, digital payment, online banking, digital KYC etc. to facilitate and reduce the costs of Islamic financial transactions.

In this context, some African regulators have taken the initiative to implement and put in place a regulatory framework that promotes the growth of fintech. Some countries such as kenya and Serra Leone has launched Sandbox Framework to test Fintech Innovation. However, sandboxes are alternative regulatory mechanisms to facilitate the development and/or testing fintech solutions. Other than the sandboxes, some other countries such as Tunisia has launched the Tunisian Startup act as an initiative to foster entrepreneurship. African countries are witnessing the importance of an improvement in the regulatory infrastructure of financial technology's system. Some other countries have established Fintech hubs, accelerators and fintech community managers. The objective is to provide a financial, technical, managerial, and moral assistance to startups being considered as the key players in the fintech industry.

African Islamic financial institutions are moving slowly towards the digital transformation due to the shariah screening process of certain ambiguous technologies. Recently, Tunisia has organized the first African Islamic Fitnech Summit (SAIFI) which launched "I-Trade platform" which the 1st Liquidity management platform based on blockchain technology along with the 1st African Social accelerator (AGORA Venture) aiming to boost the technological revolution in African counties.

Contributors' Profiles:

Mohamed Anouar Gadhoum, CEO of I-Trade. Experienced Board Member with a demonstrated history of consultancy and working in the financial services industry. Islamic Finance / FinTech entrepreneur skilled in Management, and Business Development. He is the founder of International Islamic Finance Training Institue, I-Fintech Solutions (IFTS) and the 1st African Islamic FinTech Summit (SAIFI).

Mohamed Yassine Khouildi, Project manager in the International Islamic Finance Training Institute (IIFTI). He holds a Professional Master's degree of science in Islamic Banking and Finance from the International Islamic University of Malaysia (IIUM). He also holds a bachelor's degree in Law, economics and management from Paris-Sorbonne University (PSUAD).



STABLE REGULATORY AND FX ENVIRONMENT ARE KEY FOR LOCAL CURRENCY BONDS

By Brock Hoback, Executive Director, Lion's Head Global Partners

CAPMARKETSAFRICA: Local currency vs. US dollar bonds. Is the FX risk being overplayed?

BROCK HOBACK: It depends on the market. In 2015-17 many Nigerian institutions were adversely affected by the central bank's FX policies which restricted access to foreign currency. Companies were unable to repay FCY loans which led to technical defaults despite the institutions having healthy balance sheets; this in turn also affected their ability to raise funding locally during this period. In contrast, we think some of the concerns around depeg risk in the UEMOA/CEMAC region are being overplayed. While there was some commentary surrounding a depeg/devaluation in the XAF region back in 2016/17 this appears to have largely subsided and any move towards a devaluation would involve a lengthy transitionary period as the process is quite complex.

CAPMARKETSAFRICA: What conditions are needed to improve investors access to local debt markets?

BROCK HOBACK: Of course, a stable regulatory and FX environment are needed to improve foreign investors' appetite for local currency investments. For example, with the ALCB Fund, we hedge all of our investments back to USD. Hedge pricing is negatively affected by macro-volatility which can, in turn, limit the number of deals that can allow us to meet our USD hurdle. Another major issue is the lack of sizeable deals, to begin with. While several markets, such as Ghana, Nigeria, and Kenya, have relatively active bond markets, in most countries you are likely to see only a handful of deals over USD 10 million in a given year; and there are few infrastructure or corporate bonds being issued in local currency. Part of the Fund's mandate of developing African local currency capital markets is to help increase the supply-side of bond transactions through its offerings of technical assistance and its anchor investor role. To date, we have

supported dozens of African companies issue in their local market and have invested over USD 100 million in seventeen countries.

CAPMARKETSAFRICA: African credit markets vs. fundamentals: Does pricing reflect the underlying risk? Are bonds paying out enough?

BROCK HOBACK: I think in most local markets there is a clear correlation between pricing and the underlying risk of the business. However, as a foreign investor that hedges, it's investments, one of the problems you can experience is that your USD returns will be driven as much by the macro/FX risk of the country than by the risk profile of the business/project you invest in. For example, a risky investment in a volatile market may have a lower USD return than a less risky investment in a more stable environment simply because the hedging costs are higher in the volatile market. The ALCB Fund has been fortunate to not have a single non-performing credit in its portfolio to date.

CAPMARKETSAFRICA: What are investors' top market picks for 2019? Recovery stories?

BROCK HOBACK: One of the markets where we are starting to see an increase in deal flow is Cameroon; where so far in 2019 we have already seen two new bond issuances after nearly a decade of none. This has included debut issuances by Alios and Oragroup in the country and there are several other deals coming up the pipeline. We like Cameroon given it is expected to remain one of Africa's fastest growing economies in the coming years and has a history of relative stability. For recovery stories, we think Nigeria is now a much better place to invest than it was two years ago, and few markets offer the potential scale that Nigeria has. But it is tough to say that returns here are better than other markets; particularly as the FX situation remains precarious and hedging costs high.

SPECIAL FEATURE





AFFORDABLE HOUSING REQUIRES A NEW SHAPE FOR THE MORTGAGE INDUSTRY

By Johnstone Oltetia, Interim CEO Kenya Mortgage Refinance Company (KMRC)

There are two essential parts to achieving affordable housing in Kenya: building decent, low-cost homes, and developing a housing finance market that enables low-income earners to buy those homes. For, without finance, almost no home price is low enough to be affordable on an average salary.

For this reason, Kenya's mortgage market has been growing. Housing loans have risen more than ten-fold since 2006, from 1,278 loans valued at Sh19m 12 years ago to 24,458 loans valued at Sh203.3bn by 2015, according to the Central Bank of Kenya (CBK).

But the market still remains tiny when compared with other nations. In Kenya, the mortgage loan value was equivalent to 3.15 per cent of GDP by 2015. In South Africa, it contributed some 32 per cent of GDP.

Yet in countries where mortgages drive a large flow of home buying, home owners prime the pumps of the economy with additional spending power in an inflow that makes for faster economic growth.

However, our own mortgage market is held back by multiple constraints, including bureaucracy. Normally, the purchase of a property takes around three months to complete. But mortgage finance in Kenya typically takes six months to arrange, mired in nine separate, manual, administrative processes.

These span land rent and rates clearance certificates, transfer filing and consent, the search, the valuation and its endorsement, and the stamp duty and lodging of documents. This process, which the government is now working to simplify, adds cumbersome work, as well as risk, thus increasing the cost of mortgages.

Most primary mortgage lenders thus set higher mortgage rates and focus on high net worth individuals and high earners who can afford higher rates. They also run shorter repayment periods, ranging from as low as three years to an average of eight years.

But repaying at such high rates, so rapidly, puts borrowers under considerable pressure and leads to defaults, which today stand at some 12 per cent of Kenyan mortgages. It is additionally a model that offers very few opportunities for low and middleincome Kenyans to own homes.

We, thus, need a radical overhaul of mortgage financing if we are to achieve widespread home

ownership, which is where mortgage refinancing comes in.

Providing a source of secure, long-term funding for mortgages has a direct impact on the affordability of home loans for home buyers and is a vital pillar to achieving a developed mortgage system. Such funding was critical, for instance, in Malaysia and Singapore, where about 80 per cent of houses are now mortgage-owned.

For this reason, the National Treasury is contributing to the Affordable Housing Pillar of the BIG 4 Agenda by supporting the creation of a lending facility (the Kenya Mortgage Refinance Company) to provide longer-term funds for banks and SACCOs for residential mortgages in Kenya.

The Kenya Mortgage Refinance Company (KMRC) will provide secure funding to mortgage lenders so that they can offer more mortgages at lower prices. With such long-term funding, primary mortgage lenders will also be able to lengthen repayment periods to 15 to 25 years, and offer a fixed interest rate, making mortgages both safe and affordable for low income earners.

The new financing will mainly be available for lower cost housing, valued at less than Sh4m in Nairobi metropolitan area (Nairobi, Machakos, Kiambu and Kajiado) and Sh3m elsewhere. Likewise, to qualify for the housing loan, Kenyans must be earning less than Sh150,000 a month.

Refinancing the financial institutions will also enable them to expand their lending scope to finance developers as well.

The Government Affordable Housing project seeks to develop 500,000 houses in five years, which presents the largest real estate opportunity for a long time. But with the country having only managed to produce about 50,000 units over the last two to three years, achieving the targeted 100,000 houses a year will require considerable investment in construction.

The financing structures necessary to achieve this will be outlined in forums at the April 10th -11th East African Property Investment Summit, which aims to support the Government Affordable Housing Project. But as government and industry leaders convene to discuss the delivery of the targeted affordable housing, mortgage refinancing will be taking centre stage as a crucial enabler.



AFRICA IN THE DIGITAL ERA: HYPE OR REALITY?

Address delivered at the UN Economic Commission for Africa's (ECA) annual Adebayo Adedeji at the ongoing Conference of Ministers in Marrakech. By **Omobola Johnson**, Partner, TLcom Capital LLP Nigeria

Held in memory of the Nigerian scholar Adebayo Adedeji – arguably one of Africa's leading proponent of regional integration – the lecture focused around the question of digital transformation in Africa: Hype or Reality? "There is enough evidence that Africa can be digitally transformed. But what is holding us back? asked Dr Johnson when she delivered the lecture to ministers and a host of experts attending the Economic Commission for Africa (ECA) Conference of Ministers.

As the world-wide-web celebrates 30 years, its inventor Tim Berners-Lee told a Nigerian audience recently that the country represents both the present and future of the web, when you look at how it is impacting lives in Nigeria, but also across the continent.

Adedeji was the ECA's 3rd and longest serving Executive Secretary (1975- 1991). He is renown and admired for his relentless calls for Africa to move away from conventional ideas of international trade and economic development. He is also credited for championing calls that led to the creation of ECOWAS. It is also widely accepted that his ideas form part of the pillars on which the African Continental Free Trade Area (AfCFTA) is anchored.

Economic experts agree that, in the currently environment, the success of this continental trading bloc, will hugely depend on digital technology, tools and skills. Johnson cited a number of success stories across the continent and how they have used technology to provide services to the hitherto uncatered for or under served, but said that many challenges remained.

"Affordability is an issue: the internationally agreed target is for 1gb of data to cost no more than two percent of the average national monthly income. In Africa this currently stands at 8.76%, compared to 3.5% in Latin America or 1.54% in Asia. And the latest affordability reports show that this has increased over the past year.," she said.

She also noted disturbing tax trends, both on digital infrastructure and utilization taxes, which although seductive, can often have unintended consequences, such as increasing the cost of digitisation and curbing its transformative impact.

She called for an urgent need to strengthen the

infrastructure and fibre network.

Currently when connecting Cape to Khartoum, she said, the connection will take them via London, New York, San Jose and Tokyo to arrive in Khartoum 409milliseconds later.

She also decried how most of Africa's connections are via undersea cables connecting via Europe or elsewhere. "It is the private sector that can solve this issue," she said, "...but they also need to be supported and incentivized."

"When you recognize these challenges and accept that there is a lack of scale amongst our start-ups it could be argued therefore that this digital transformation we speak about might be hyped. But the increased ownership of mobile phones and those that have access to it is having a true impact.," she stated

She added that many companies across different sectors using tech to transform their sectors from energy, to agriculture to healthcare. "But it's work in progress," She further urged governments to be more supportive and develop a long-term digital strategy. "We also need to be more innovative in our financing mechanisms to allow VC to borrow at low rates and help scale up innovators."

She mentioned the urgent need to develop a pool of skilled talent that can turn the continent into the world's digital talent pool in the same way that China became the world's factory, through a large labour force and targeted government policy.

Invited to respond to the lecture, Tawanda Sibanda, partner at global consultancy McKinsey, looked back at the predictions they made in their Lions Go Digital report to assess progress. In the 5 years since the report was released the results have been mixed, he said. They had estimated that by 2025 digital transformation could raise GDP by 8% by 2025 and make \$300bn of economic impact across health, education, retail, agriculture and financial services.

Despite certain metrics being ahead of schedule – smartphone penetration for example – this has not translated into macro-economic numbers as would have been expected. The percentage of banked for example, has only increased from 26% to 33% in those five years.

WHAT ANALYSTS ARE SAYING ABOUT AFRICA'S ECONOMIC OUTLOOK AND FINANCIAL STABILITY

Ghana: Agencies affirm sovereign ratings, outlook 'stable'. S&P Global Ratings affirmed Ghana's long- and short-term foreign and local currency sovereign credit ratings at 'B', with a 'stable' outlook. It noted that the ratings reflect the pressure on the country's public finances, with debt servicing absorbing over 30% of government revenues, one of the highest levels among the sovereigns it rates. It expected the fiscal deficit to narrow from an average of 6.3% of GDP annually during the 2015-18 period to 4.2% of GDP annually in the 2019-22 period, due to the government's efforts to address its public finances. In parallel, Fitch Ratings affirmed Ghana's long-term foreigncurrency Issuer Default Rating at 'B' with a 'stable' outlook. It indicated that the rating balances Ghana's strong medium-term growth potential and governance indicators with its deteriorating external liquidity, weak banking sector and high debt levels. It projected real GDP growth at 6.6% in 2019 and at above 6% in the medium term, driven by continued growth in extractive sectors.

Mauritania: Real GDP growth to exceed 6% in **2019.** The International Monetary Fund indicated that Mauritania's economic growth accelerated to 3.6% in 2018, due to the strong performance of non-extractive sectors that grew by over 6% last year, as well as to the increase in bank credit. It also noted that the inflation rate was contained at an average of 3.1% in 2018, while foreign-currency reserves at the Banque Centrale de Mauritanie reached \$919m at end-2018, or five months of non-extractive imports. Also, the IMF considered the economic outlook to be favourable, mainly due to sustained commodity prices and the implementation of policies that aim to maintain macroeconomic stability. As such, it projected real GDP growth to exceed 6% in 2019, driven by the expected recovery of extractive sectors and the robust performance of non-extractive industries.

Nigeria: Stable outlook on banks' ratings. S&P Global Ratings maintained its outlook on the ratings of Nigerian banks at 'stable' for the coming 12 months in the absence of oil price shocks. It said that the 'stable' outlook balances the banks' gradually improving asset quality and profitability against their subdued credit expansion. It projected the growth in the banks' lending to be flat or negative in 2019, due to sluggish economic activity. It also anticipated the banks' credit loss ratio, which is the ratio of new loan-loss provisions to customer loans, to decline but to remain elevated at between 2.5% to 3% in 2019. It pointed out that the asset quality of Nigerian banks is exposed to three main sources of risk, which are the vulnerability of the oil & gas sector to low oil prices and production, the potential weakening of the Nigerian naira, as well as the high single-name concentration of most banks. Further, S&P said that Nigerian banks implemented international accounting standard IFRS 9 in 2018, which led to a significant improvement in their loan-loss reserves and, in turn, shielded banks from breaching the minimum capital requirements, even in the case of a weakening naira.

Côte d'Ivoire: Positive growth outlook in medium

term. The International Monetary Fund indicated that Côte d'Ivoire's medium-term outlook is robust, supported by strong economic activity that is driven by higher consumption and investment, as well as by a low inflation rate. It estimated real GDP growth at 7.4% in 2018 amid strong domestic demand and expected economic activity to remain robust in 2019 and over the medium term. It noted that the inflation rate was 0.4% in 2018 and anticipated it to remain well below the regional threshold of 3% for members of the Western Africa Economic and Monetary Union (WAEMU) over the medium term. The IMF stressed the importance of increasing domestic revenues in order to create the fiscal space needed for priority spending and to enhance debt repayment capacity. Further, it noted that the government has stepped up efforts to restructure the debt of the national oil refinery Société Ivoirienne de Raffinage, as well as to advance the restructuring of public banks, among others.

Tunisia: Additional measures required to address strategic AML/CFT deficiencies. The Financial Action Task Force (FATF), the global standard setting body for anti-money laundering and combating the financing of terrorism (AML/CFT), stated that Tunisian authorities made in November 2017 a high-level political commitment to work with the FATF and the FATF-style regional body MENAFATF to strengthen the effectiveness of the local AML/CFT regime. It indicated that Tunisia has taken several steps since then in this direction, which include the initiation of the direct supervision of high-risk designated non-financial businesses or professions (DNFBPs), as well as the enactment of decrees to establish the National Registry of Companies and a decree for its finance-related targeted financial sanctions regime. It added that it has not yet fully reviewed these measures due to their very recent nature.

2019 COMMODITY PROSPECTS CRUDE OIL, BASE AND PRECIOUS METALS

Oil prices could reach \$75 p/b in the near term. ICE Brent crude oil front-month prices traded at between \$67 per barrel (p/b) and \$68 p/b in the last two weeks. Citi Research indicated that the OPEC and non-OPEC oil producing countries reiterated their commitment to implement deeper cuts in oil output, which could lead to a tighter oil market in the second half of 2019. It expected U.S. oil inventories to continue to grow this year amid the implementation of additional pipeline capacity, which would increase oil volumes to export terminals and to global buyers. Overall, Citi considered that the OPEC and non-OPEC production cuts may lead to an increase in oil prices to \$75 p/b in the near term, while it noted that high prices would provide shale oil producers with a stronger potential for output growth in 2020, which increases the risk of a downturn.

Gold prices to increase by 5% to \$1,329 per ounce in 2019. ABN AMRO Bank considered the outlook on gold prices in 2019 to be positive. First, it expected a weaker US dollar to support the metal's price in 2019, given that gold prices tend to rally when the US dollar declines, as investors look for alternative investments such as the safe haven metal. Second, it anticipated that the U.S. Federal Reserve will keep interest rates unchanged this year, and that other major central banks will also limit or delay interest rate hikes in 2019, which contributes to a rise in the price of precious metals (that is gold). Third, ABN AMRO pointed out that China remains one of the main consumers of gold, including in the retail and official sectors. As such, it anticipated that the ongoing measures by Chinese authorities to support economic activity, along with a potential trade deal between the U.S. and China, would support demand for the metal and, in turn, its price.

Platinum prices to average \$863 per ounce in second quarter of 2019. Platinum prices have been recovering in the first quarter of 2019, as they increased from an average of \$806 per troy ounce in January 2019 to \$818 an ounce in February and to an average of about \$841.5 per ounce in March 2019. They averaged \$821 per ounce so far in the first quarter of 2019. ABN AMRO Bank projected platinum prices to continue to gradually rise during the year, and to average \$863 per ounce in the second quarter, \$888 an ounce in the third quarter and \$925 per ounce in the fourth quarter of 2019. It pointed out that platinum prices are affected by several factors, including the outlook of the Eurozone economy and its impact on demand for diesel cars, as well as Chinese jewellery demand.

Copper prices increase amid tight supply

conditions. LME copper cash prices reached \$6,484 per metric ton on March 20, 2019, constituting an increase of 9% from \$5,949 per ton at end-2018. The surge in prices was driven by concerns about supply shortfalls in the copper market amid a low level of inventories as well as expectations of a seasonally strong Chinese demand in the second quarter of 2019. However, the increase in prices was capped by concerns about a global economic slowdown amid weak U.S. manufacturing data and renewed uncertainties about the U.S-China trade talks. In fact, the U.S. warned that it might keep the tariffs on Chinese imports for a "substantial period" to ensure that Beijing complies with any potential trade agreement with the United States. Also, copper prices are expected to further increase, as the US dollar weakened following the U.S. Federal Reserve's decision to abandon plans of raising interest rates this year.

Zinc prices reach nine-month high amid low inventories and recovering demand. LME zinc cash prices reached \$2,943 per ton on March 27, 2019, their highest level in nine months, and increased by 17% from \$2,519 per ton at the end of 2018. The increase in zinc prices was mainly driven by concerns about a significant tightening in the supply of zinc in the second quarter of 2019, as LME-registered zinc inventories currently stand at 55,225 tons, their lowest level since October 1991. Also, expectations of a seasonal recovery in global consumption of the metal in the second quarter of this year contributed to the rise in prices. In addition, zinc prices were supported by the resumption of the U.S.-China trade talks, which raised hopes that the trade dispute between the two countries might be resolved sooner than expected. Further, concerns about a slowdown in global economic activity, as well as a weaker US dollar due to the U.S. Federal Reserve's decision to abandon plans of raising interest rates this year, helped push prices upward.

Uncovering Hidden Value

Inkalamu (Lion Emerald): one of the single largest crystals ever mined was unearthed in Zambia by one of our clients, Gemfields, at their Kagem mine. Inkalamu weighed in at 1.1 kg (2.43 lbs) with an astounding 5,655 carats. This discovery is testament to the value that lays hidden within Zambia and the wider African continent.

With local knowledge and world-class expertise, Pangaea Securities is poised to help you discover hidden value and navigate the complex environments of emerging countries like Zambia. As a leading full-service investment advisory and brokerage firm, we have raised over US\$3.0 billion across Sub-Saharan Africa for clients from real estate and mining, to FMCG and hospitality sectors.

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