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We, at Mahindra Comviva are the global leaders of mobility solutions. Our extensive portfolio of solutions spans mobile finance, content, infotainment, customer value management, messaging, mobile data and managed VAS services. We enable service providers to enhance customer experience, rationalize costs and accelerate revenue growth. Our solutions are deployed by over **130** mobile service providers and financial institutions in over **90** countries and enrich the lives of **over a billion** people to deliver a better future.

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In focus: Value-added services

Cross border remittances – the new frontier in mobile money



Leonard Kore,
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In 2015, IDC predicted the revitalisation of mobile money services in Africa buoyed by greater investments, increased partnerships, and focus on niche mobile money segments. From 2016, we expect cross border remittances to become the new frontier in the evolution of the mobile money ecosystems.

Cross border remittances are driven by growing interoperability between operators in the region (which increases cross border trade), expensive traditional remittance platforms (such as Western Union or MoneyGram, for example), and the need to expand geographically while tapping into new customer segments. Mobile money players are also seeing demand for these services by migrant workers/expatriates and African diaspora sending money back home.

Cross border trade agreements, regional trade blocs and partnerships are also driving the development of cross border ecosystems such as the One Area Network Agreement in East Africa. These agreements, although previously designed for traditional telco services such as voice and data, can also transcend to include mobile financial services with key benefits being affordability, convenience and avoiding potential regulatory hurdles and challenges that operators are already accustomed to.

MNOs are using several models to deploy their cross border remittance strategies. These include: intra-operator remittances (for example, remittances between

Orange Group subsidiaries in Africa or MTN Group subsidiaries); inter-operator remittances between different operators; or using international mobile transfer services such as Western Union.

They are also using mobile money hubs with an established network of specialist partners on the continent, such as TransferTo and Mahindra Comviva's *Terra* platform for example. These offer mobile money players a network of partners (i.e. regulators, bank-led and operator-led providers) across multiple countries while enabling them to avoid regulatory hurdles.

Global or regional operators such as Airtel, MTN and Orange that have a high number of subsidiaries will be looking forward to introducing these cross border offerings at affordable pricing so as to overcome geographical and regulatory hurdles while growing their mobile money footprints and revenues along the way.

Cross border remittances are not a new practice in the mobile money space; Safaricom signed its first international mobile money transfer deal with Western Union in 2011. Partnership agreements between mobile money operators offer more benefits to users especially with regard to convenience and affordability of the service.

For example, the fee for international remittances would typically cost between 15 and 30 per cent of the transaction value, whereas mobile money charges around one per cent of the value of transaction with an exchange rate fee.

MTN (in Uganda and Rwanda) and Safaricom recently signed a cross border agreement allowing their subscribers to send money to and from resident countries. Safaricom also has a similar arrangement with Vodacom in Tanzania. Tigo has also deployed the service between its Tanzania,

DRC and Rwanda offices and is planning to launch the same across its other subsidiaries in Ghana, Chad and Senegal. Airtel has also launched a similar initiative in Rwanda, Zambia, Malawi and DRC with the rest of its subsidiaries in the pipeline. In South Africa, Econet has partnered with the South African Reserve Bank to allow remittances to Zimbabwe while the same company has cross border partnerships in Lesotho.

According to the World Bank, Africa has a growing immigrant population of more than 30 million people as of 2013, the key migrant destinations being Côte d'Ivoire, South Africa and Burkina Faso. Outside the continent, the US, UK and France are the key migrant destinations with more than 3.3 million migrants. Mobile money players in these regions can target this population with cross border remittances. Currently, existing remittance platforms that are available for some of these countries are costly, giving rise to opportunities for mobile money.

However, for cross border money remittances to grow in some African countries, existing mobile money ecosystems, i.e. the agency networks, should be improved. Customer education and awareness should be increased, and there should be more regulatory assistance in helping operators to have a greater role. The latter is particularly important in bank-led mobile money ecosystems such as in Nigeria.

In other countries such as South Africa, cross border mobile money systems can be a niche solution for the sizeable migrant and expat community sending money to and from neighbouring countries such as Zimbabwe, Lesotho, Zambia and Mozambique. This can have interesting effects in helping to grow each nation's respective mobile money ecosystems.

IDC believes mobile money players with expansive regional presence in a number

of African countries stand to gain the most from these developments. Operators who will be quick in negotiating commercial agreements between mobile money players and regulatory bodies, while circumventing regulatory hurdles such as acquiring licenses and approvals from central banks across different countries, will acquire crucial first mover advantage.

Although mobile money for the enterprise is still a nascent market, cross border remittances can also be used by businesses to facilitate payments, especially in the FMCG industry. With sizeable cross border trade across many regions such as COMESA, SADC, EAC, etc., they could provide for secure and efficient payments for goods and services across regions.

Regional retail chains such as Shoprite, Pick n Pay and Spar could also benefit from such services allowing for expats and migrant communities in South Africa to pay for groceries and food purchases for relatives in respective countries. These purchases could then be credited to a recipient's mobile wallet and redeemable at the retail chain's local branch.

This could be applied to other areas such as building and construction sectors for efficient and transparent payments across borders. In this way, cross border remittance can go beyond traditional services to play a critical part in the channelling of diaspora investment to recipients for development of the region in a secure and efficient manner.

Additionally, since mobile money is a primary payment method in regions such as East Africa, it can also facilitate e-commerce when buying goods through online platforms across different countries as opposed to less favoured card solutions.

A healthier Africa

2015 saw the power of mobile technology to help with even the toughest of situations. As case in point was Vodafone Ghana Foundation launching the *Ebola Public Health Project* using a platform from emerging markets voice and social media solutions specialist Kirusa.

The project was used to disseminate content on the Ebola outbreak to Vodafone subscribers for free. Kirusa's platform also supported incoming calls from outside the operator's network as well as international sources to retrieve the same content, which was refreshed weekly.

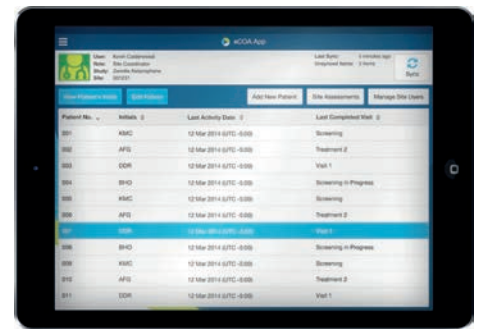
Nana Yaa Afriyie Ofori-Koree, head of Vodafone Ghana Foundation and Sustainability, said: "The Ebola epidemic has taken a huge toll in West Africa. This is our endeavour to spread awareness amongst our countrymen and make Ghana an Ebola-free country."

The *Ebola Public Health Project* was developed as part of the foundation's *Mobile for Good* initiative which set out with the aim of empowering Ghanaians to deploy mobile technology in a way that impacts the lives of ordinary people, socially and economically.

More mHealth innovations will be on the way across Africa thanks to an alliance formed by the U.S. Agency for International Development (USAID) and Orange.

The agency claimed that using mobile phone technology to accelerate access to health information and services is a "game changer". It added that partnerships with private companies such as Orange will enable it to have a larger impact in a cost-effective manner.

Under the first phase of their programme, the two organisations leveraged their



Clinical trial participants can record data about their symptoms and experiences using ERT's *SitePad* tablet.

combined expertise, technologies and local resources to improve quality of care and ensure that health services are readily accessible to the public. Niger was one of the countries under exploration.

Future services will use integrated mHealth platforms and Orange's networks in 20 countries across MEA to communicate alerts and share resources. Orange said healthcare workers will be able to use the technology to share medical expertise, collaborate with specialists regardless of location, and improve patient care.

The public will also be able to access health information via the platforms. For instance in West Africa, USAID and Orange had already started to develop a regional platform with a menu of mobile apps that health ministries, donors and NGOs could use for consumer education, healthworker tools, mobile money, and data collection. The aim of the alliance would be to create a framework for easily replicating these mobile services in a number of African countries.

M2M technology also played its part in 2015 with ERT (formerly PHT Corporation) using Vodafone's global M2M network for its *electronic Clinical Outcome Assessment*

JANUARY 2015

Following the launch of *Internet.org* in Zambia and more recently in Kenya, Facebook is expanding its partnership with Airtel to bring the app to Ghana. Subscribers will have access to a set of online services, such as health, education, news and sports, location information, and more, all for free. Facebook VP of *Internet.org* Chris Daniels said it is important to make "internet access available to the two-thirds of the world not yet connected".

FEBRUARY

MTN Group is aiming to become the first African cellco to offer Amazon Web Services (AWS) Direct Connect to business customers across the continent. The new service will leverage the extensive footprint of MTN's

Global MPLS network to provide customers with connectivity between their data centres or businesses and the AWS EU Ireland region. MTN said this will give users across Africa a dedicated link with which they can access the "scalable and reliable" AWS cloud.

MARCH

MTN has set up a mobile TV service in Côte d'Ivoire. Subscribers can use their smartphones or tablets to download the *MTN TV* app and access a set of live TV channels as well as on-demand content. They have the option to subscribe for a day, a week or a month. The first five international channels accessible on *MTN TV* include FRANCE 24, Al Jazeera, TRACE AFRICA, BBLACK and TIJI. MTN's service is built on a platform developed by SUMMVIEW.

APRIL

South African mobile operator Cell C will use Tecnotree's *Reachability Express* to expand its call completion and interactive voice response platform. The vendor claims the new system will reduce Cell C's opex by 30 per cent when compared to legacy systems, mainly through simpler configuration and provisioning of segmented services. In addition to standard notification channels such as SMS and email, *Reachability Express* also incorporates a social media API that is pre-integrated with *WhatsApp*.

MAY

Safaricom is now using Huawei's *Mobile Money Platform*. In early May, the Kenyan operator announced that all 12.8 million active *M-PESA* subscribers had been migrated to the new

(eCOA) system which collects data for clinical research from patients.

Clinical trial participants record information about their symptoms and experiences using ERT's *SitePad* tablet which stores all data collected securely. Between 2015-2018, ERT is due to deliver thousands of tablets embedded with M2M SIMs to clinical research sites across Africa, Asia, Europe and the Americas.

ERT will manage the connections via Vodafone's global M2M platform to help ensure ease of use and satisfaction for patients and sites. The devices will connect to *StudyWorks*, ERT's study management and patient data portal, over Vodafone's secure M2M network where all patient-agreed trial data will then be available for review, reporting and comparison. By using its network, Vodafone said ERT would give pharmaceutical trial sponsors real-time access to patient information, enabling them to collect higher quality data and make faster research decisions with confidence.

The next-level for money?

Mobile money is always a hot topic in Africa and 2015 was no exception. At the beginning of the year, Mahindra Comviva announced that it had taken mobile money to the "next level" with the launch of its *connectMoney Service Manager* in partnership with Econet Wireless in Zimbabwe.

As part of the agreement, Econet issued MasterCard debit cards linked to its *EcoCash* mobile money system, and said it was the largest rollout of secure chip and PIN payment cards in the country. It was also the first time that MasterCard debit cards are available to consumers using mobile money services in Africa.

The *connectMoney Service Manager* service links financial systems powered by MasterCard and other card networks. *EcoCash* account holders received debit cards allowing them to make purchases at POS terminals and also to withdraw cash via ATMs accepting MasterCard, locally and internationally.

The service also enabled Econet to offer virtual cards that are directly linked to the user's mobile money account. The virtual card number is delivered via SMS and is accepted for e-commerce payments. EcoCash COO Japhet Aritho said: "This will further accelerate adoption of electronic payments in the country thus promoting the national agenda of a cashless society."

In a separate development, Mahindra Comviva created what was claimed to be the world's first domestic interoperable mobile financial service between *Airtel Money* and *Tigo Pesa* in Tanzania. The service enables customers to send and receive money directly between the rival cellcos' mobile money accounts.

Towards the end of the year, Chase Bank Kenya partnered with Safaricom to launch a service that aimed to boost the efficiency of businesses by aggregating all their banking services and making them accessible through a mobile phone.

Mobile2Bank, which was claimed to be the first of its kind in Kenya, enables businesses to make payments and collections directly to their bank accounts. It also enables access to micro-credit and fund transfers from one *Lipa Na M-PESA* till to another in real-time. *Lipa Na M-PESA* is the Safaricom service used by retailers to accept payment of goods and services from their customers.

"[*Mobile2Bank*] demonstrates how innovation in the mobile space can be

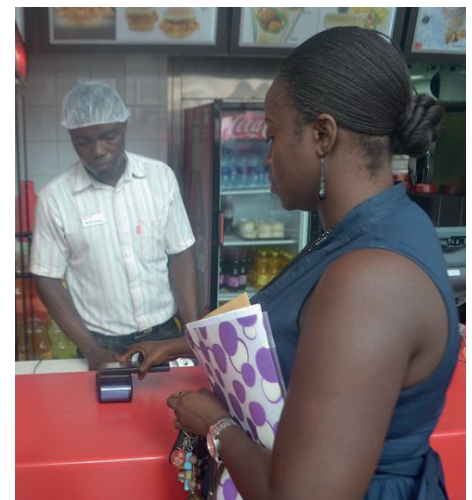
harnessed to address some of the common pain points in business," said Chase Bank CEO Paul Njaga. "With *Mobile2Bank*, businesses [both] small and large will no longer need to carry out physical withdrawals of cash from bank accounts, thereby enhancing their efficiency."

Njaga added that the service will also help boost credit scoring once users start accessing credit via the mobile app available on the *Android* and *iOS* smartphone platforms.

Safaricom said *M-PESA* agents are among those who will benefit from *Mobile2Bank*, as they could now move floats between tills and bank accounts in real-time. They could also send floats directly to another agent's account without having to visit the bank.

Replacing cash and more

Airtel claimed a first with the rollout of a contactless payment system in Ghana. It utilises NFC (near field communications) technology and enables *Airtel Money*



NFC at KFC: a customer uses Airtel Money's contactless service at one of the restaurant's branches in Ghana.

system overnight. Huawei said its platform will help Safaricom to rapidly enhance functionality for *M-PESA* users. Among the benefits it offers are: improved availability for subscribers and agents to execute transactions; faster query resolution time through a Kenya-based support team; faster transaction processing for subscribers; and enhanced call centre integration, ensuring customer experience is of a consistently high quality.

JUNE

The Government of Malawi is trying to accelerate the progress of digital finance in the country with the help of a number of organisations. The Better Than Cash Alliance (BCA) and Mobile Money for the Poor (MM4P) – both formed by the United Nations Capital

Development Fund's – are the main backers of the government initiative. At a recent conference organised by the government, a detailed report into the country's readiness to move to digital money was presented. One of its main findings was that fewer than one in 25 adults in Malawi currently use digital finance money of any kind.

JULY

SimbaPay has launched what it said is the first product in the world that allows Kenyans living abroad to make *M-PESA PayBill* payments. Separately, the UK-based digital money transfer provider also added a service for mobile money remittances to Nigeria. *PayBill* allows payments to be made to vendors via *M-PESA*, but until now it has

only been available to Safaricom's subscribers in Kenya. With the addition of *PayBill* to its platform, SimbaPay said Kenyans abroad can now also pay hundreds of merchants and utility companies back home.

AUGUST

MTN Swaziland aims to quickly introduce relevant, new and differentiated mobile financial services with the help of *Ericsson Converged Wallet*. It's claimed more than 275,000 MTN Swaziland mobile wallet users and 3,000 agents will benefit from the new platform which serves as a mobile money hub connecting the cellco's operations in several countries. Ericsson said the reusability of products and services across regions improves time-to-market and operational

subscribers to make payments at retail outlets by simply tapping their mobiles on a terminal. Airtel Ghana integrated the new service with VeriFone Mobile Money's flexible services platform.

June saw the operator showcasing the new service at events held simultaneously at the Koala Supermarket in the Airport residential area and at the Osu branch of KFC. It said customers were able to experience faster, more convenient, secure and instant payments using their mobiles. Those without NFC-enabled devices were given special stickers which they could attach to their phones for contactless payments.

Airtel Ghana marketing director Manu Rajan reckoned the introduction of NFC technology means *Airtel Money* now offers the "smartest" way to pay in the country.

Other mobile money debuts last year included Kenyan plans to float the first-ever government bond to be offered exclusively via mobiles. *M-Akiba* was to be delivered in partnership with Safaricom's *M-PESA*. The aim would be to broaden access to the retail bond market which was previously subject to lengthy and bureaucratic processes, and only accessible to banks and commercial traders. Using *M-Kiba*, deals can reach an upper limit of KES140,000 (USD1,370) per day until the bond offer period closes.

However in October, the plan was delayed indefinitely because of prevailing economic conditions. 2016 brought some good news as in March the government said the plan was back on. At the time of writing, a rollout was expected by the end of that month.

The Rwandan government was also keen to harness the power and convenience of mobile money. May saw the announcement that the *MTN Mobile Money* platform was to be used for tax collection by the Rwandan

Revenue Authority (RRA). MTN claimed its m-money service had been hugely successful as a banking platform, enabling people to make transfers, pay bills and other conventional banking transaction on their mobile phones. A deal between the RRA and MTN Rwanda saw the new function being added, "making tax payment easy", according to the RRA. Ebenezer Asante, CEO of MTN Rwanda, said: "This move is aimed at further easing up the process and cost of doing business. It will also rank Rwanda as the first of its kind in Africa in doing business, hence a boost for Rwanda in terms of ICT development."

In another announcement, South Africa's Telkom launched a carrier billing service for the *Google Play* app store, claiming it to be a first for the continent. The operator used the *Bango Payment Platform* to give its *Android* customers access to a universal payment method. UK-based Bango said *Android* currently dominates Africa's smartphone market. It added that Telkom subscribers using devices with Google's OS could now purchase their apps and other digital content using one-click carrier billing. The costs would be charged to their bills or deducted from airtime, without the need for a credit card or to register personal details.

According to Bango, wherever the service is introduced to fast-growing emerging markets such as Africa, it routinely sees increases in digital content sales of 300 to 400 per cent.

'School in a box'

The Vodafone Foundation launched a digital 'school in a box' with the aim of bringing tablet-based teaching to refugee camps.

Instant Classroom is shipped in a robust 52kg case containing a laptop, 25 tablets pre-

loaded with educational software, a projector, a speaker and a hotspot modem with 3G connectivity. The Vodafone Foundation said the system takes 20 minutes to set up and has been specifically designed for areas where electricity and internet connectivity are unreliable or non-existent.

All the components can be charged simultaneously from a single power source while the case is locked. After 6-8 hours of charging time, Vodafone said the *Instant Classroom* can be used for a full day.

The tablets connect to the laptop locally, enabling teachers to deliver content and applications to students without the need to access the internet.

The system was deployed in partnership with the UNHCR to 12 schools in refugee settlements at Kakuma in Kenya, Nyarungusu in Tanzania, and in DRC's Equatorial Region. It provides up to 15,000 children and young adults aged from seven to 20 with advanced teaching aids that are currently only available in a minority of schools in developed nations.

In Senegal, the Ministry of Education and Samsung Electronics Africa unveiled a mobile education solution to provide an advanced and interactive classroom experience for learners. Installed at the Plan Jaxaay Secondary School in Dakar, the *Smart School* integrated platform enables teachers to monitor, control and keep track of educational content on their pupils' screens, a screen-sharing feature, and a real-time question-and-answer feature.

Samba Guisse, IT advisor at the Ministry of National Education's HR department, said: "The future of education is about accessing information and collaborating locally and globally. Teaching and learning has become social; this has become possible

efficiencies. As well as enabling the fast launch of new services, the vendor said *Converged Wallet* will also provide cross-promotion capabilities for improved adoption.

SEPTEMBER

Beyonic reckons it will become Africa's largest mobile money aggregator following a partnership with Mobile Accord. Kampala-based Beyonic aims to eliminate what it describes as the "rampant" use of cash in emerging markets. It has developed an online platform that enables businesses to quickly deploy, track and manage two-way mobile money payments over multiple mobile carriers using a single, easy-to-use system. As a result, Beyonic said firms

making mobile payments no longer need to connect individually to every carrier they want to send money through, thus saving time particularly if they are operating in multiple countries.

OCTOBER

PCCW Global launches a new internet-based video on demand (VoD) entertainment service for South Africa. *ONTAPtv.com* offers a variety of international TV series, movies, local dramas and lifestyle programmes, and also enables subscribers to rent Hollywood blockbusters. Content can be streamed to PCs and Macs, using what PCCW claims is "advanced" adaptive bit rate technology. Content can also be streamed or downloaded to *Android-*

or *iOS*-based devices. Although accessible through any data provider, cost-effective data bundles are on offer for exclusive *ONTAPtv.com* use in AlwaysOn *Super Wi-Fi* locations nationwide including shopping malls, hotels, hospitals and transport locations.

NOVEMBER

Kenyan MVNO Equitel is working with Effortel to provide what's claimed to be Africa's first fully integrated banking system using a mobile network. Equitel has a partnership with Equity Bank as part of a project that aims to bring a more mobile and truly integrated banking experience to East Africa. The MVNO claimed that 450,000 users had so far signed up for the mobile money service



According to Vodafone, *Instant Classroom* is easy to transport (left) and only takes around 20 minutes to be ready for use in classrooms (right).

with the emergence of initiatives such as the Samsung *Smart School*.”

Launched in the country in partnership with Millennium Connect Africa, Samsung said its *Smart Schools* are part of its “far reaching” African citizenship programme which was designed to positively impact the lives of Africans. *Smart Schools* have also already been installed in other countries on the continent, such as the DRC, Kenya, Mali, Rwanda, South Africa and Sudan.

Africa also saw the launch of a new education service from satellite operator Avanti Communications. *Avanti Connected Education* promises to deliver internet-enabled learning to children in Africa for less than USD0.15 per child per day.

This was the latest in a series of e-learning initiatives from Avanti which describes itself as a wholesale “carriers’ carrier” but is better known as the operator of the *HYLAS* satellites.

Supporting farmers

Vodacom continued to support farmers in Africa with yet another new mobile-based service. The operator’s subsidiary in

Tanzania launched *Kilimo Klub*, an exclusive service targeting smallholder farmers. Vodacom said the initiative aims to assist users by giving them vital information services such as credit and market prices, as well as linking them to the wider agricultural community in the country via their phones. By using *Kilimo Klub*, farmers can also access *M-PESA* services such as *M-Pawa* which enables them to save money, earn interest and apply for micro-loans.

Vodacom Tanzania MD Rene Meza said: “We believe it will allow a lot more farmers to be visible in the economic arena through the gradual elimination of, in some instances, middlemen who do not have the interests of the farmers at heart.” The Tanzanian government commended Vodafone for this latest initiative, saying smallholder farms need more support. *Kilimo Klub* was the result of a partnership between Vodacom Tanzania, Olam International, the Connected Farmers Alliance, and Technoserve.

Using mobile technology to help farmers was also the goal of a real-time survey platform, launched by Control Union. The aim of the project was to help educate farmers.

The company, which specialises in agricultural certifications, food safety and sustainability, deployed GeoPoll’s multimodal mobile platform and database of 200 million users. It said this will give it access to what’s claimed to be the fastest and most cost-effective data collection method available in emerging markets.

Together, GeoPoll and Control Union will use mobile surveys to engage and educate smallholder farmers in emerging economies, with the goal of reaching a million farmers by 2020 via SMS and voice messaging. The partnership will allow commercial organisations such as global brands, exporters and suppliers, as well as governments and non-profit firms, to ensure social compliance in key value chains.

Control Union said it would also give farmers greater access to markets, ultimately adding value for both them and consumers. The partners aim to initially focus on Ghana, Kenya, Nigeria, Ethiopia, Tanzania, and Uganda, expanding to key markets in Asia later. Target value chains include coffee, cocoa, cotton, palm oil, rice, tea, tobacco, and fresh fruits and vegetables.

which is activated on its platform. Belgium-based Effortel is responsible for the day-to-day technical operations and administrative management of the Equitel-Equity service.

DECEMBER

Airtel Tanzania has distributed more than TZS5bn (USD2.3m) from its *Airtel Money* trust account to active mobile money customers and agents across the country. The amounts paid were based on the subscriber’s end-of-day balances available for the period from March 2014 to April 2015. The operator said that by sharing the interest accumulated on its trust fund, it is boosting the use of mobile money services in Tanzania where the unbanked population is about 85 per cent.



Windsor Holden,
Head of
forecasting,
Juniper Research

The year ahead: In our *Digital Payment Strategies: Online, Mobile & Contactless 2016-2020* research study published in March 2016, we forecast that mobile wallet adoption will continue to accelerate in developing markets.

Nearly 20 countries across Asia and sub-Saharan Africa now have more mobile money accounts than

bank accounts. As wallet users are reaching a critical mass in these markets, service providers are introducing more sophisticated payment services such as loans and micro-insurance, thereby hastening the drive

towards financial inclusivity for the unbanked.

Our research study also highlighted the growing presence of social media companies in the eRetail space. Several leading companies, including Facebook, Pinterest and Instagram, have already introduced ‘buy’ buttons, allowing users to make purchases directly from the companies’ mobile apps in a seamless couple-of-clicks transaction.

Furthermore, Juniper Research believes digital eCommerce on social media activity will increasingly extend into the P2P payments space. Facebook has already rolled out a P2P service linked to its *Messenger* service in the US, and we would expect additional deployments in other core markets over the next year or so.



Dr. Inderpal Singh, Mumick, Founder & CEO, Kirusa

Kirusa specialises in voice messaging and social media apps which are offered in partnership with more than 35 mobile carriers in Africa, the Middle East, India and Latin America, as well as via app stores. Its solutions are built on patented technology and scalable multimodal cloud platforms which,

according to the company, process more than one billion events a month.

Headquartered in the US, Kirusa was founded by Dr. Inderpal Singh Mumick who says Africa offers the firm its biggest markets. “Today, we are present in 16 countries, from Senegal in the west to Tanzania and Madagascar in the east, and as far south as Zambia and Zimbabwe. We cover some of the largest population areas, like Nigeria in the English-speaking world as well as the DRC which is the largest French-speaking country in Africa.

“We provide a range of mobile services that help give people their voice – sometimes quite literally – and be a part of the telecoms revolution. The services could be what some people in the west consider basic ones for communication and entertainment, or they could be enterprise services used by corporations to communicate with customers.

“The term ‘value-added services’ is used to include a lot of services, and in some sense it’s almost like a business paradigm where the operator uses a revenue share model to work with a partner like us or other players. We take a broader view. VAS are not just entertainment; they can also include services that are linked to voice and SMS, and fall into the category of call completion services. These allow greater network utilisation and encourage more people to complete calls.

“Let me give you an example. We have a service called *InstaVoice* where we have more than 1.8 billion calls coming into our network. Over 90 per cent of these are in Africa. *InstaVoice* is most closely related to what people in the west experience as voicemail. But what we have developed is a unique combination of missed calls, voicemail and voice SMS. This is presented to users with several of the operators that we work with.

“With *InstaVoice* we have changed the business model of voicemail. For example, in the US or in the UK, if you make a call to somebody and it goes to voicemail, you start paying the second the system picks it up. We decided to create a system that doesn’t charge just because a call is picked up by the voicemail system.

“So even after a call is picked up by our *InstaVoice* voicemail system, the sender can choose to not leave a message and not pay. They can simply give the recipient a missed call, which is something users in Africa often like to do. Or they can opt to leave a message and it is then that they pay the charges for the call.”

Mumick continues by saying *InstaVoice* is the first app that has been built that actually gives users information about the missed calls they are receiving, and even works when a subscriber has multiple SIM cards.

“In emerging markets, most people have two or sometimes even three SIMs. That is true of almost everybody in Nigeria, Congo or Ghana. But they only carry one phone with them and usually do not have all their SIMs in that device. However, *InstaVoice* is able to deliver all missed calls coming to any of the user’s SIM cards as if it were a single card on a single phone.”

For the service to work in Africa, Mumick says working closely with operators is essential. “In many countries, all the operators have partnered with us because we have created an ecosystem. Here, not only have we changed the business model of the service, we have also changed the technology model where the service works from the cloud and provides seamless interconnectivity between the operators.”

In terms of the challenges of working on the continent, he believes the VAS market is presently in a “state of transition” with smartphone penetration still very small but growing. Mumick also has high hopes for LTE which is starting to be deployed in some countries. But apart from all that, he describes Africa as a “tough” continent to work in.

“There is also the political risk in some countries which requires careful management within the company. A few years ago it was in Ivory Coast; last year and today it is in Burundi. We had a lot of interest from Burundi and even signed contracts, but we cannot really execute on them due to the political situation that is prevailing there.”

Business in Nigeria – Africa’s most populous country and biggest oil producer – has also become difficult. With the global collapse of oil prices, in February 2015 the Central Bank of Nigeria tried to stem the naira’s record drop in value by extending trading curbs and introducing bans on purchases of dollars by certain importers. The country’s government continues to resist calls for the currency to be devalued further.

Mumick says all this has had a huge impact on companies doing business in Nigeria. He adds that the NCC’s billion dollar fine imposed on MTN has also “unnerved” a lot of people.

Despite all the challenges, Mumick says Kirusa continued to build very strong business in Africa. “In 2015 we crossed 60 billion calls on our network. We have entered 16 countries in Africa, had 90 million monthly customers using our services by the end of 2015, and since then it has surpassed 100 million monthly active users on our networks.

“Our revenues have grown very handsomely in Africa as traffic and usage is growing. We signed more than a dozen operator partnerships last year – MTN in Zambia and Ivory Coast, Vodacom in DRC, Airtel in Congo and Madagascar, and more. Some of them have been launched while others are still in the pipeline and will be announced once they have launched.

“As well as growing relationships with some of the operators, we have also launched new products. “For example, *myGenie* is an advertising platform and a way for users to get free airtime by discovering and downloading apps. *myGenie* was launched in India and we had a very good response there and so we are now taking it into Africa. Right now we have people working out the logistics to launch it in Nigeria.”

Earlier this year, Kirusa also unveiled *InstaVoice Ring* which offers subscribers an opportunity to give a free missed call to a person at any time, even when they do not have enough balance to make a call. The company says this encourages the recipient to get in touch with the caller, also helps mobile carriers convert a missed opportunity into a completed call, along with generating a new revenue stream. It claims *InstaVoice Ring* is a world first as it addresses the challenges of pre-paid callers when they are out of balance. With such products, the company is therefore able to deliver VAS in markets dominated by pre-paid users and a low smartphone penetration.

“The market is changing and I think the pace of change depends on who you talk to and which country you talk about. But everybody agrees that feature phone and non-smartphone users continue to be the majority of mobile customers in Africa, ranging anywhere from 60 to 85 per cent.”

He also points out that many users on the continent who currently have smartphones are not actually using data, so this also continues to be a challenge for the operators. As well as the expenses of data connections, Mumick says more education is needed here, and that the operators are working hard to get data services and relevant apps in front of people.

“We have been very successful in Africa in coming up with services that work with feature phones. But we have now changed that approach in two ways. Firstly, we have developed services that interoperate with

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apps and feature phones in a seamless fashion. *InstaVoice* is a perfect example of that. We find that there is a far better experience and greater utilisation when customers use the app to access the service rather than via SMS on a feature phone; you can get almost double the amount of usage with the smartphone app. We see this as very positive and are continuing to invest in the app and develop it further.

"Secondly, we are going to introduce services that leverage the smartphone and the app ecosystem and aim to be one of the early movers in that. The *myGenie* service is a perfect example of how we can help grow the ecosystem in a pre-paid environment. It provides an advertising-based platform to help developers get their apps into the hands of users. So even if those users are moving to smartphones, pre-paid continues to be the dominant factor. Smartphone users continue to be much more on pre-paid rather than post-paid plans. And that will continue in Africa."



Herman Singh,
Chief digital
officer,
MTN Group

According to Herman Singh, ICT is often compared to oxygen – you can't really live without it. He believes this is especially true in the digital era where the way we work, live, learn, interact and advance within our respective societies depends on the digital revolution that is powered by

sophisticated telecommunications networks.

"The future of any brand is determined in the moment in the digital world, where customers are moving *en masse* to digital channels, forcing businesses to find relevant and creative ways to deliver a great digital customer experience.

"The trend of declining voice revenues and changing telecommunications landscape has forced operators to hunt for new revenue streams. With all the changes to compete and create competitive advantage in this new digital world, operators have to deliver an exceptional digital customer experience."

Singh says MTN has pioneered a concept in which its businesses in 22 countries across Africa and the Middle East are focused purely on delivering a distinct customer experience. In essence, he says the company is driven by an ambition to provide digital services and moving to adjacent industries, such as financial services, e-commerce, digital media such as music gaming and video, and enterprise services such as M2M.

All this has also been encouraged by a burgeoning demand for data in Africa, says Singh. "While the transition to data and digital services in Africa is less advanced, MTN has been aggressively positioning itself to take advantage of expanding data and digital services on the continent.

"The opportunity is too big to ignore. We are leveraging on our core competencies of a strong brand, knowledge of and access to customers, scale and distribution to take advantage of the digital services opportunities in Africa. This strategy has enabled us to focus on being at the forefront of the unfolding digital world by investing in increasing capacity and skills that are vital to partnering with digital content providers.

"As a result, it is no surprise that many do not know that MTN is now the largest distributor of digital music in Africa and has more than 800 companies providing 5,500 content services under their lifestyle offering."

To fast-track its move into providing a distinct digital experience for subscribers, MTN invested into Africa Internet Holdings (AIH) – a leading internet firm on the continent that has a presence in 23 countries. The investment in AIH gives MTN and its customers distinctive access to unique benefits with Jumia, Africa's number one shopping mall that is in 12 markets. Through AIH, MTN also offers subscribers access to Lamudi, Africa's leading real estate classified service available in 21 countries.

"With AIH partnership, MTN is able to deliver to its millions of African subscribers a range of internet services, including e-commerce retailing, as well as marketplace, taxi, travel, classified and food delivery services.

"This has empowered us to offer our subscribers in Africa a distinct customer experience through various digital platforms, such as Zando (a shoe and online fashion platform), HelloFood (a digital platform to order food from popular restaurants), and Vendito (a general classified ads platform)."

Furthermore, MTN has been delivering digital banking services to help transform people's lives by offering simple access to financial services such as mobile money. In 2015, the operator focused on what it describes as a "healthy provision" of mobile money services to the unbanked and underserved users by migrating its mobile money platform to a more agile one, enabling converged campaigns and incentives. This resulted in *MTN Mobile Money* customers rising by 56.3 per cent to 34.7 million across 15 countries in 2015.

One of MTN's success stories is in Nigeria, where the company's mobile money offering *Diamond Yellow* is gaining greater traction. The service currently has 6.2 million users,

and in 2016 MTN is planning to partner with banks and expand its agent network to be able to help the unbanked and underserved to do their banking on the go with ease.

MTN's Ghana operation also saw increasing demand for mobile money services, with uses increasing 23.8 per cent to two million in 2015. In the same period, Uganda experienced a 30.2 per cent increase in mobile money users to 9.5 million.

"We are proud that we are catalysts in the design of pragmatic digital solutions such as *MTN Mobile Money* that directly address the socio-economic needs prevalent in our markets. It is for this reason that we continue to position ourselves as a leading digital player through organic growth and partnerships, across our markets."

To continue to deliver a distinct customer experience, Singh says MTN is planning to offer more digital services across its African markets. "We have recently launched a cashless payment solution in Uganda and are aiming to rollout this to other markets in 2016. We are also in a process of launching a partnership with Uber Nigeria and MTN subscribers will get discounts on their first two rides in Lagos, Nigeria.

"All of this is being enabled by our investments in improving network quality and coverage in our markets, allowing us to focus on creating sustainable economic value through digital inclusion."



Nicholas Ford,
President of
carrier services,
IDT Europe

During a career with IDT that has so far spanned 17 years, Nicholas Ford has managed the company's expansion of its commercial buying operation into 10 countries, broadening his role to include Asia and Africa.

Out of all the regions covered by the company, he says Africa is certainly the one that has the key focus from a growth perspective – so much so that it still has the company's largest business development team working on it.

"Globally, we have more than 500 direct routes and Africa is still one of those continents where there are more direct routes that we are keen to establish. One of the reasons for that is because we have about 30 billion minutes of traffic per year that we terminate over our network. Just over half of that comes from our retail customer base."

Ford points out that IDT is not your typical network operator as its retail customer base was historically generated in

the pre-paid calling card business which has now evolved as an apps business.

The company's retail flagship service, *BOSS Revolution*, is a collection of communication and financial products designed to help immigrant populations and the under-banked to affordably communicate and share resources around the world. The app is available in a number of countries in North America, Europe and Asia, and Ford says that it is the immigrant population calling home through the app that makes up the lion's share of IDT's traffic volume.

With its apps, IDT seems to be moving more into the over-the-top space. But the company also has a wholesale division and therefore needs to work closer with MNOs who fear OTT services – how does the company reconcile that? Ford says the OTT business is certainly a challenge for all operators, and is a constant discussion point with his peers.

"The reality is our *BOSS Revolution* customers also use OTT apps. So we've taken the view that either we let somebody else and eat our lunch or we kind of share that lunch. There is a place for OTT in our global marketplace and we recognise that, so with *BOSS* we give our immigrant customers the option to use it.

"Many mobile operators take a very different view and choose to block the OTT business coming into their networks. That's part and parcel of the world that we live in today. But from the point of view of *BOSS Revolution*, we also generate hundreds of millions of dollars into mobile network operators. So we continue to work very closely with them and in some instances we even promote their networks within the app."

BOSS Revolution has a number of features which, as well as messaging, also includes messaging peer-to-peer calling via a smartphone app and also allows users to share balances to make off-net calls as well.

"When you give people overseas the ability to share a balance with someone in a more developed market then there is the ability to actually increase the volumes of traffic out of those home mobile networks. That is certainly our business plan, and we hope it can grow total traffic volumes, including total paid-for volume."

As is well documented, smartphone penetration in Africa is slowly rising but is still currently generally very low. Therefore, how important are smartphone apps such as *BOSS Revolution* in markets where basic and feature phone users prevail?

"It's vital. If you look at the statistics, African immigrant populations across North America are significant. We can certainly see continued growth. I wouldn't

go so far as saying that this will be in every single African country, but certainly in the top 15 African countries for us – Nigeria, Ghana, Somalia, Kenya, Uganda, Zimbabwe, Tanzania, for example – we see growth of minutes from North America and Europe into those nations."

Ford says IDT's business in Africa was traditionally focused on voice and that continues to be the 'cash cow'. It then evolved into international mobile top-up which is now worth in excess of 100 million dollars a year in global revenues.

"Using their *BOSS Revolution* accounts, people can actually send balances overseas into someone else's phone, and we promote that outbound calling into countries in Africa. And on the back of that, certainly as part of the future evolution of the business over those corridors, is money transfers. IDT has gone to great lengths to have money transfer licenses within all US states, and now the money transfer business is evolving and Africa is on the map."

With consolidation in mobile markets and ongoing issues in certain countries with mobile termination rates, does Ford believe telecoms business is getting tougher in Africa?

"Yes, in a nutshell. Africa has always been challenging. But IDT is in a very fortunate position in that we provide a net outflow of minutes into Africa because of the retail side of our business.

"Having the direct relationship with operating companies is all important, and it is all about relationships, not just about rates. It is about flying out, having your people on the ground in country, and really building those long-term relationships with the operators. And they are reciprocal. As much as our desire is to deliver our minute directly into their networks and onto their customers' handsets, their desire is also to increase their outflow of international minutes and international traffic to those very same customers. So I think IDT has a really good story to tell, and that story sits well with the operator companies."

In its quest to get closer to the region's operators, there was talk last year of IDT opening its own POP in Africa and the Middle East. Did that happen?

"It didn't. There was a long and lengthy business case into the pros and cons of us doing that and in the end we couldn't actually see any advantage. Unlike, say London or New York that you might call switching hubs, Africa doesn't have the intra-country networks that we could see for building a hub in the region. Of course if that changes in the future, then we'd be very keen to explore that again."

Some companies on the continent, such as local data centre operators, believe African

traffic should be routed on African soil. They say having traffic for the region going via Europe, for instance, adds unnecessary costs. So would IDT agree that regional IXPs and POPs are therefore vital and will help keep transit costs down.

"That wasn't our finding. When we looked at the cost of bandwidth, it was cheaper in and out of major centres within Europe, rather than being carried from Kenya to South Africa or from Nigeria to South Africa, for example. There are obviously more cable systems now populating Africa so it will be interesting to see if any of that changes. But for now, we couldn't see a cost advantage to it."

On the subject of cable, there was a time when operators were wary of IP. But now that there is more fibre connectivity enabling more IP-based services in Africa, is Ford finding that service providers are more comfortable with the technology?

"IDT was an early adopter of IP and we probably have one of the earliest IP switched networks – we were one of the first to move to a Sonus IP switch.

"Years ago, we would've run TDM circuits to IP circuits in order to prove the quality was comparable; we sent engineers into many African countries to help them evolve their IP and to do end-to-end testing. So we are absolute believers in IP.

"Subsequently, we have built our own proprietary IP switches. In today's wholesale world you need the most efficient network you can possibly attain, and also for moving services into the cloud.

"The adoption of IP is definitely not complete and has some way to go. But it has come a long way and people are now more comfortable with it."

When it comes to other hurdles to overcome in Africa, Ford says there are certainly challenges around pricing. "Towards the end of 2014 and certainly during 2015 we saw many markets that increased their prices which is obviously somewhat against the global trend. That's fine with me from a wholesale perspective because it increases revenue, and so if a country wants to increase its rates because it wants more foreign currency that is up to them.

"But from the retail side, it makes marketing in a country very difficult if rates go up by two- or three-fold. The customer on the ground doesn't necessarily appreciate the fact the country has put up its international termination rate, so that's something that we have to manage from a sales and marketing perspective and it's a challenge.

"Also, a couple of countries are still looking at the possibility of having a central switch which controls the networks'

international traffic in and out. I don't know if that's going to be easy to negotiate."

On the subject of more competition coming into Africa, Ford says it has always been a "crazy industry" characterised by very aggressive competition that is part of daily business life.

"The interesting thing in the voice business is that your competitors are also your partners. One company's interconnects will all have relationships with those from another as well as with the local mobile operators. So we all kind of come to the table together, if you like. It's a strange industry in that you have very good relationships with your closest competitors.

"But IDT has a distinct advantage over many out there in that we own the retail minutes. So say there is a Nigerian customer who uses *BOSS Revolution* in Europe, the US, or wherever they may be – that represents an IDT minute into our network. We don't have to buy that minute on the open market; we have the stability of that traffic which we can then trade.

"And it is not just a tradable minute – it is a tradable dollar to the African operator. So if we have 15 billion minutes of retail traffic globally going into operating companies, that is dollars into their networks. That really means something to them as a tradable asset."



Christophe Erny,
Head of Africa
region,
Mahindra Comviva

With offices around the world, Mahindra Comviva is a subsidiary of India-based Tech Mahindra and is an acclaimed provider of value-added services and mobility solutions. In Africa, the company claims to be the leader in the mobile financial and recharge markets, and 2015 saw the company

strengthen its position on the continent, as regional head Christophe Erny explains.

"We have crossed 100 deployments with leading operators in more than 40 countries across Africa. Our proven platform, *mobiquity Money*, powers approximately 30 per cent of mobile money services in Africa, transforming the lives of over 48 million people by providing easy access to cost-effective mobile money services to those who are marginalised. We now have 45 highly successful *mobiquity Money* deployments in 32 African countries.

"Our vision is to leverage mobile technology to bring the financially underserved into the formal financial mainstream and create cashless economies in Africa and across the globe. 9.6 per cent of Africa's adult population use mobile money services powered by our award-winning platform."

As well as mobile money, Erny says Mahindra Comviva also serves a vast community of pre-paid subscribers across the continent with its *PreTUPS* recharge solution which provides easy access to talk-time.

"It is our expansive reach, proven experience and innovative offerings that have enabled us to lead the pre-paid recharge market in the continent.

"The company has also become one of the largest music aggregators in Africa, the Middle East and Asia, and has more than 300,000 tracks and over 200 content providers on board. In Africa alone, we have collaborated with more than 150 content partners including local and international content providers, copyright bodies, local artists and production houses in the region. Over the past two years, we have helped grow local content consumption by more than eight times. We are actively working with those in the music ecosystem to usher in a positive change in digital distribution, royalty management and copyright management."

Last year, Mahindra Comviva launched two new apps: *Zoto*, which Erny claims is now the fastest mobile recharge platform in Nigeria, and *Mooditt*. "In a very short time *Mooditt* has become Nigeria's number one favourite music streaming app with a rich suite of local catalogue based digital music content. The app has recorded more than 500,000 music downloads and was ranked the number one music app in Google's *Play* store for eight months in a row."

When asked how Mahindra Comviva has seen the wireless communications market adapt and evolve in Africa, Erny says there has been an "explosive growth" in the continent's mobile market as governments have liberalised the telecoms sector.

"This has allowed for a market ripe with competition, resulting in affordable services for subscribers. With competition intensifying across markets, operators are increasingly focusing on offering innovative services and promotions to retain subscribers by introducing customer experience management, loyalty management and customer retention solutions. Operators are looking for services that bring greater convenience and deliver timely and contextual promotions.

"Also, mobile data traffic has grown manifold in the recent past, due to the proliferation of smartphones. As many more devices are connected to the internet, there is a distinct need for innovative and flexible data solutions. Continuous innovations in access technologies are urging service providers – such as fixed line, mobile, Wi-Fi and WiMAX operators – to quickly adapt to offer exciting and

competitive internet broadband solutions to cater to the ever-changing needs of the different market segments."

Over the next few years, Erny believes richer music content over video services will become more prominent and personalisation of content will be very important. As a result, an integrated approach to music distribution will gain significance.

Mobile banking services will also evolve, and he says the next stage will be dominated by the concept of digital wallets where the mobile phone will store all the user's credentials such as payments and identification. "With digital wallets, consumers can not only carry out remote transactions like booking a movie or train ticket, but can pay for proximity transactions. Integrated technologies like NFC or QR codes will make transactions easy."

Like all other markets, Erny says the challenges of deploying services in Africa are similar to most emerging markets. These include a mix of regulatory issues, a country's individual legal environment, under-developed telecoms infrastructure, along with high taxation.

He adds "Over the years, different value-added services have emerged in markets across Africa. Voice revenues have gone down and mobile VAS is beginning to contribute more to the revenue for operators. Over the next 2-3 years, the VAS market in Africa is expected to grow at a strong CAGR.

"The environment is becoming increasingly complex and competition is becoming tougher. However, Mahindra Comviva has gained extensive market expertise and knowhow which it now exploits to provide a differentiated portfolio of offerings across the globe, and to ensure timely delivery against commitments.

"Going forward, Mahindra Comviva will continue to bring new innovative solutions around mobile payments, data, infotainment, and a VAS platform for business aggregation. Additionally, we will focus on data analytics. We will develop new range of apps that will engage and deliver greater convenience to end users, enhancing customer satisfaction and supporting operators' goals.

"I think the next phase of growth will also come from mobile financial, broadband, customer value management and digital services, and hence our focus will revolve around these solutions. While among the youth, entertainment-related services will be popular, others will look for utility services, location-based services, m-commerce and local content rich services. We will witness a lot of changes and development in this space, and will work together to bring in more revenues for the telecoms industry."

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