

chapter 3

Value-added services

The broader view of VAS in Africa



Björn Wigforss,
Global head of
marketing &
communications,
Tecnotree
Corporation

When talking about value-added services, we often refer to the must-have traditional voice and messaging applications. But the ongoing transformation of the industry and the activities in different markets show that a number of new customer-facing services are gaining ground. They are all designed to add customer value and for that reason

VAS goes beyond just voice and messaging.

It is important to note that African operators are no different to their counterparts in other parts of the world. Macro-economic factors are also generally similar in many countries.

On a more granular level, it is safe to say that the differences between the network and virtual operators within African markets are as large as anywhere else, so it is not possible to generalise and draw conclusions on a continental basis. So once you start to study the continent's markets, patterns that are reminiscent of developments in many Asian and Latin American markets begin to emerge.

Voice and messaging services: The growth in the number of subscribers is gradually slowing down and some markets are clearly peaking with individual operators even losing significant shares. In this environment we can see a clear trend towards finding solutions that manage the all-important 'classical' VAS in the most cost-effective manner possible.

New messaging solutions are gradually taking over from SMS which was earlier so dominant. Having said that, SMS continues to be a massively important communication

method, especially since much of the B2C models – for instance, financial services – rely on text messages for strong authentication. SMS remains an important marketing channel and will continue to be so.

Over 2017-18, more operators are expected to challenge vendors to deliver consolidated and combined VAS solutions in order to manage these all-important services with greater effect. Also expect these services to be increasingly cloud-based and often delivered via SaaS.

Charging and billing solutions: This is another area that is witnessing change. Contrary to the traditional VAS, where the trend is to solely focus on having the most cost-effective solution in place, here we start to see requirements for more versatility in the solutions' ability to deal with tickets and bill creation. Still, it's not an area where operators can afford to spend large resources.

The underpinning driver for this change is the perception from operators that the types of charging events (and the billing to follow) will become more versatile over time. This relates to the introduction of new connectivity services, targeting both organisations and consumers.

Over the next year or so, more operators are expected to swap out legacy billing and charging systems in favour of new robust and cost-efficient charging systems that have faster and more versatile processing of charging records. Bill creation will also become more multi-faceted and significantly faster than before.

Omni-channel customer engagement solutions: The rapid growth of e-commerce with service providers that really deliver great purchasing experiences including fast delivery times are putting pressure on mobile operators to up their game in terms of service levels and mindset.

Consumers increasingly expect and even demand higher-quality services, and this has forced operators to come up with ways to deliver a better service experience well beyond call quality and data throughput. Operators are now required to continuously engage with their subscribers, and the target is to exceed the customer's expectations – every time. Getting this right means higher retention and more upselling opportunities.

So what have operators been doing to improve in recent times?

Firstly, much effort is put into identifying *who* the customer actually is. In some instances, regulations have forced operators to take action here, for example in Nigeria, but it should be in every operator's own interest to gather this information. Once you know who your pre-paid subscribers are, you can immediately start serving them better. The best business is made when the customer feels taken care of. Their willingness to stay with you and to even spend more goes up if the services they receive are top-notch.

Secondly, many operators are starting to unify their commercial and support channels. They are simplifying their customer services pages – which includes the introduction of self-service solutions that are easier to use and are linked to the commercial pages – thereby enabling an easier journey between service acquisition and management of the services.

When doing this, while at the same time delivering an intuitive experience, the usage and satisfaction of the service pages can increase dramatically. Related to this, many service providers have focused more on loyalty systems and offer discounts on products that can be payable in full or in part with loyalty points.

Thirdly, new tools to engage with customers through social media are

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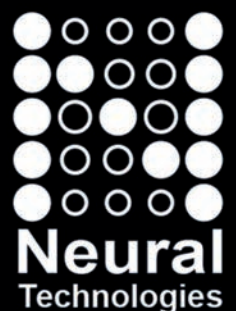
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emerging. The ability to engage and follow up immediately with unhappy customers (both those that you serve and those served by competitors) can make a big difference in how your company is received.

Fourthly, modern analytics are put in place to monitor marketing campaigns and usage in real-time to drive more accurate business decisions and boost customer satisfaction.

A greater focus on identifying and engaging with pre-paid customers (in an omni-channel model) can be expected over 2017-18. Operators are now building up competence and investing in capabilities to deliver modern call-to-action marketing for their customers with fast campaign rollout and better lifecycle management.

More service providers will therefore unify their sales and customer care pages, and partner loyalty programmes (either operator-owned or developed with third parties) are also set to continue to increase.

Mobile banking and fintech: Mobile banking continues to be a big bet for many mobile operators, and why wouldn't it be? There is a big demand for this in under-served markets. Stickiness is a huge driver too: a well-functioning mobile payment system can retain customers like few other services.

Continued hyper focus on mobile banking is anticipated over the next year or so. MNOs should also monitor innovations in the financial technology space as many new initiatives could offer potential for mobile banking as add-on solutions. Traditional banks and credit card companies are also expected to increase their efforts to grab a slice of the action.

The integration of loyalty programmes into the mobile banking system continues to be an opportunity worth addressing. An article published last year by Bloomberg¹ discusses why brands can benefit from

having integrated mobile wallets and loyalty systems. Mobile operators are in a great position to take things forward here.

The fourth industrial revolution and multiplay re-defined

First we had triple and then quadruple play. Now multiplay, the latest buzzword, is about to be redefined with the rise of new consumer and B2B connectivity solutions.

The IoT or Internet of Everything will lead to an increased amount of automation. We'll see more solutions that don't have a screen, or where the access to the content depends on a separate device. Think of home security or entertainment solutions, fleet tracking and management, health monitoring, and so on.

While the size of the market will initially be small, the early adopters will be those whose ability to spend is among the greatest. Over time, as with many other technology advancements, there will be mass market adoption. The challenge will be how to package these solutions and to bring them to market in a fast and intuitive way.

The opportunity for operators is that practically all of these solutions rely on some kind of connectivity. In other words, operators have a chance to play a central role in this new emerging ecosystem. For that to happen they need to have the ability to add new types of partners, create new types of bundles, and deliver campaigns, delivery as well as support all in one go.

The future will be bright for those who decide to be the market makers. ■

¹ Olga Karif, Oct. 2016, *Mobile Wallets Are the New Loyalty Program*, www.bloomberg.com/news/articles/2016-10-20/mobile-wallets-are-the-new-loyalty-program

Africa leads in mobile money services

The year kicked off with the announcement that Africa and South East Asia were leading the world in mobile money implementation.

According to risk management and analytics firm Neural Technologies and its *Telecoms Risk Management Global Survey 2016*, 61 per cent of African telcos were running one or more mobile money service, while in South East Asia it was 75 per cent. Globally, the figure was only 63 per cent, and it was just 30 per cent in Western Europe. Eastern Europe reported the highest implementation of money transfer services, at 67 per cent.

The GSMA said that there were more than one billion mobile money transactions in December 2015, with 100 million new registered accounts becoming active during 2015. "It was encouraging to see 45 per cent of global respondents recognising mobile money as a channel for new services and revenues," said Neural Technologies' CCO and deputy CEO Luke Taylor. "In Africa, the Middle East and South East Asia, this rose to over 50 per cent of respondents, which gives us an indication on where these markets will be heading in the next 12 and 24 months and beyond."

The year then went on to demonstrate why Africa is becoming a hotbed of mobile money solutions. In what was claimed to be the most extensive digital rollout of its kind in Africa by an international bank, Standard Chartered promised to bring its latest mobile and online banking platform to a million clients across eight countries on the continent. It launched the new platforms in Botswana, Ghana, Kenya, Nigeria, Tanzania, Uganda, Zambia and Zimbabwe. Users are able to check balances, transfer money and pay bills

JANUARY 2016

Tigo starts offering free *WhatsApp* messaging services to its 10 million users in Tanzania. "This of course, is for customers with data enabled devices," said GM Diego Gutierrez. "We want to encourage our non-smartphone user customers to acquire highly discounted smartphones sold in Tigo shops to be able to enjoy this new offer." He added that the new service will be available on *iPhone*, *Blackberry*, *Android* and *Nokia Symbian60* phones.

FEBRUARY

Facebook says 16 million people in Nigeria now access its network every month, and all of them do so via mobile. Speaking on 'Friends Day' (4 February), or Facebook's 12th

birthday, Nicola Mendelsohn, the company's EMEA VP, said: "We're only one per cent done in Nigeria and inspired to do even more in this fast-moving, mobile first country." Facebook also said that 2016 was the year it will "deepen" its partnerships with Nigerian businesses. It plans to work with them to develop initiatives to deliver personalised mobile marketing at scale.

MARCH

Tecnotree says a "leading operator in West Africa" has deployed its *Agility* convergent billing platform. The unnamed customer will use the system to manage its end-to-end subscriber lifecycle across different business lines, reduce operational and maintenance

costs, increase revenue by cross selling, and enhance both customer experience and loyalty. Tecnotree adds that *Agility* will give the operator a consolidated view for managing all subscribers irrespective of their products, payment modes, contract types and technology.

APRIL

The MTN Group has selected UK-based cloud specialist BCSG to deliver Software-as-a-Service (SaaS) and Infrastructure-as-a-Service (IaaS) solutions to enterprise customers. Using BCSG's *Cloud Management Platform*, the operator has initially launched its *Business Cloud Services* platform targeting SMEs in Swaziland, Rwanda, Uganda, Ghana and Cameroon. All the applications and services are available from a

securely via their mobiles, laptops or tablets. The bank said the launch is central to its strategy of using digital technology to deliver the future of banking to clients in Africa.

Transferring money to and from abroad was also receiving its fair share of launches. The Co-operative Bank of Kenya partnered with SimbaPay to offer international money transfer services to customers living overseas. Co-op said the new service would enable the diaspora to send money home without “suffering” the cost of making the cash transfer. According to the World Bank, Kenyans abroad currently send home an estimated USD2.5bn annually, making remittances Kenya’s largest foreign exchange earner.

Similarly, Orange launched its mobile money service in France. Users can not only make fund transfers via their handsets to other *Orange Money* customers in metropolitan areas of the country, but also to those in Côte d’Ivoire, Mali and Senegal.

The operator said the launch came in response to “strong demand” from its customers with family or friends in Africa. It said the service will develop gradually and that it intends to increase the number of points of sale in France.

Content providers and retailers across Africa also had an infrastructure launch that would help them to invoice and charge their customers. Airtel deployed IMImobile’s *Tap2Bill* billing platform and claimed that its customers now had access to services and content that were previously unavailable.

The operator said *Tap2Bill* will enable content producers and merchants on the continent to share and benefit from its scale, market and technology. It claims this will help them grow their businesses across Africa without the need to invest in costly billing and payment capabilities.

Internet challenges

Things have come a long way in Africa but there’s still work to be done. For example, it appears that African countries need to get better at offering their own services locally. Simply having internet access and availability are not enough to get people online, according to research carried out by the Internet Society.

In its *Promoting Content in Africa* report published at the end of August 2016, the society said that while significant improvements had been made in internet infrastructure, especially in mobile networks, internet adoption rates were slowing in many countries because users lack compelling reasons to connect.

The study revealed that content and services are the main factors in making the internet desirable, especially when the subject matter is relevant and in a language that users can easily understand. It said that in sub-Saharan Africa in particular, local language content is key to bringing new users online, as many are not comfortable reading in English or French.

The countries studied by the Internet Society included Rwanda, Kenya, Tanzania, Nigeria, Senegal and Ghana. It found that the majority of international and locally developed content is hosted outside these countries, typically overseas in Europe and the US, resulting in slow internet speeds and higher access costs. In Rwanda for example, the study said that of all websites using the .rw domain name, only a small fraction are hosted locally in the country.

The society also pointed out that monetising mobile content remains a major challenge. It said the region faces a combination of barriers, including the inability to pay and receive payments for mobile apps, which serve as a major channel for content distribution in most African countries.

Minister Patricia Kaliati said Malawi cannot tackle cyber crime on its own as the problem is borderless.



Despite this report, there are countries who are having to deal with the rise of the internet and the problems it can bring. Malawi’s culture minister Patricia Kaliati, spoke in July at a workshop aimed at developing a national cyber security strategy. She called for collaboration in securing the country against cyber threats because as Malawi opens up to increasing numbers of online transactions, it is now more prone to cyber crime. She pointed out that the nation cannot tackle cyber crime on its own as the problem is borderless, and criminals threaten the country from across the world.

“We have heard stories of how we lost some of our young girls and boys through human trafficking initiated over cyberspace,” said Kaliati. “We have experienced attacks on government departments’ websites by some unscrupulous hackers causing interruption to the smooth flow of information for vital services.”

She told the high level gathering of more than 100 participants from academia, civil society organisations, telecom operators, banks, security agencies and government departments that it was now time to tackle cyber crime head on and make Malawi one of the most secure places in the world to conduct online business.

Mobiles to boost health

Mobile networks offer unparalleled flexibility to power health initiatives, as exemplified by the Kenya Red Cross Society (KRCS) which claimed it had launched the most advanced

single web portal and will be offered across a variety of MTN channels. The operator says there will be one log-in to access all the services, managed through a “user-friendly” dashboard.

MAY

Astellia’s onsite telecom data scientists are working closely with Airtel Madagascar to improve network performance and ensure excellent QoS and QoE to high value customers. The France-based network and subscriber intelligence specialist says the aim is to prevent any service degradation and pinpoint the root cause of issues that jeopardise customer loyalty and revenue growth. The firm is also monitoring the *Airtel Money* service to ensure that it is functioning well.

JUNE

Vodacom will end its *M-Pesa* mobile money services in South Africa with effect from 30 June 2016. The company says the decision follows a “thorough review” and the fact that the business sustainability of *M-Pesa* is predicated on achieving a critical mass of users. “Based on our revised projections and high levels of financial inclusion in South Africa there is little prospect of the *M-Pesa* product achieving this in its current format in the mid-term,” said Vodafone CEO Shameel Joosub.

JULY

Carrefour, the world’s second-largest hypermarket chain, has become the first retailer in Kenya to fully integrate Safaricom’s payments service –

Lipa Na M-PESA. It paves the way for the retailer to fully adopt *M-PESA* as a payments channel in the country. Safaricom says customers at the store will now be able to complete payments without having to show evidence of an *M-PESA* message to staff, resulting in a faster and more efficient cashless transaction at the till. Carrefour joins more than 44,000 merchants actively using *Lipa Na M-PESA* in Kenya.

AUGUST

With the recent receipt of Electronic Money Establishment (EME) licenses in Senegal, Mali, Côte d’Ivoire and Guinea, Orange claims it has further strengthened its position as a major player in Africa’s mobile financial services (MFS) sector. Orange says its EME ensures

humanitarian aid app available in the world today. KRCS is a voluntary organisation operating through a network of eight regions and 64 branches nationwide.

While the majority of humanitarian apps can only perform a specific function, KRCS said its platform includes more than 10 vital features such as emergency alerts, requesting ambulance services, and locating the nearest blood donation centres. Available for *iOS* and *Android*, the app was developed in partnership with UK-based Connectik which used its unique multi-tiered infrastructure to build the platform. This now enables the KRCS to engage users, provide services, mobilise volunteers, collect donations and send emergency alerts (and much more), at the touch of the button.

The society said that since its launch, the app has been downloaded and engaged with far beyond initial expectations. KRCS said that this has allowed it to increase its ability to alert people in Kenya about emergency situations, cut down on its crisis response time, and build a much larger pool of donors and partner companies. On the back of this success, The Red Cross began looking at deploying the app across 60 countries worldwide as the next phase of the rollout.

Mobile technology is also providing the backbone to support ViiV Healthcare, a global specialist HIV company, which launched the Mobilising HIV Identification and Treatment (MHIT) programme in Lesotho. MHIT is a multi-million dollar, three-year initiative led by the Vodafone Foundation, with financial contributions from the private and public sectors. Its supporters include the Elton John AIDS Foundation,

ELMA Philanthropies and USAID.

The programme's goal is to double the number of children in Lesotho in care and on treatment within three years, thereby ensuring that their health and futures are not compromised or cut short through lack of access to HIV services.

The Vodafone Foundation is deploying mobile clinics to rural areas and hard to reach communities, providing primary care services including antenatal checks and immunisation. The clinics are also searching for individuals living with HIV to provide them with better access to treatment, using mobile money-based transport vouchers so they can reach clinics or hospitals.

The use of mobile technology is powering the management, coordination of services, and communications to support the implementation of the health programme.

Using mobiles to shake up payments has also brought benefits, in this case to Kenyans. Safaricom, the PharmAccess Foundation, and CarePay introduced a new mobile payment platform that aims to broaden access to healthcare in Kenya.

At the beginning of 2016, donors were responsible for around 30 per cent of all health payments in Kenya, but they were often unable to track the use of their funds. *M-Tiba* delivers a mobile health wallet that channels donor funds meant for health services directly to recipients.

Donations are placed in specialised health wallets through *M-PESA*, and their use will be restricted to conditional spending at select healthcare providers who form part of a nationwide *M-Tiba* network. Donors receive real-time access to monitor fund usage.

"We are extending the capability of the mobile phone to make a tangible difference in the way healthcare is delivered in Kenya," said Safaricom CEO Bob Collymore. "*M-Tiba* will allow services to reach previously inaccessible areas to transform the way healthcare is delivered."

Safaricom trialled the service at 44 clinics, and has so far reached 10,000 beneficiaries. The Pfizer Foundation was the first donor partner to utilise the *M-Tiba* platform which it is using to help people in Nairobi's slums. Safaricom is hoping to develop similar solutions with other public and private partners. PharmAccess suggested that in the future, *M-Tiba* could include public and private health insurers, and also offer low cost micro-insurance products to those that couldn't be reached before.

Power to the people

Safe drinking water is a crucial resource and one of the places where it can be obtained are at Grundfos' water kiosks throughout Tanzania and Kenya. These automated and connected kiosks (also known as water ATMs) dispense safe drinking water. But across rural Africa, 50,000 supply points have failed, mainly due to lack of funds and capacity for operations and maintenance.

Ericsson's M-Commerce Interconnect (EMI) service is being used to simplify mobile money payments and cash collection between Vodafone's *M-Pesa* system and businesses. The first deployment under the deal was to connect the mobile money platform with the growing network of Grundfos safe water kiosks.

the issuance, management and distribution of electronic money for *Orange Money*, and manages the compliance policy (previously, Orange's partner banks were responsible for the latter). The EME also coordinates requests to the Central Bank for the launch of new functionalities and monitors overall activity.

SEPTEMBER

Orange Egypt will use Nokia's *Subscriber Data Management (SDM)* platform to enable the faster launch of new and customised services. Based on the vendor's *One-Network Directory Server (One-NDS)*, SDM will consolidate Orange Egypt's customer data – which were previously distributed across different systems in its network – into a single database. It's claimed this will enable the operator to access subscriber data instantly across multiple applications. In addition, Nokia says it will

help significantly reducing operating costs, as well as maintaining and evaluating subscriber data on one system instead of several.

OCTOBER

App2Chat, unveiled by UK-based The Pink Telephone Company at the end of 2015, is now to be distributed in Africa. So far, it has been launched in Spain, Cyprus and Germany. The expansion into Africa will be the first time it has been distributed outside of Europe. *App2Chat* is an office telephone system on a mobile. Pink Telephone claims the service has all the features of a PBX system, and offers the full functionality of a desk phone including voicemail, call forwarding and transfer, recording, conferencing and more.

NOVEMBER

Video traffic on mobile networks in Africa

has doubled in the last year, increasing from 8.6 to 18.1 per cent, according to research from Sandvine. For its latest *Global Internet Phenomena* report, the network intelligence specialist gathered data from a selection of its 300-plus communications service provider customers in Africa, Asia-Pacific and the Middle East. It found that YouTube is driving video growth in Africa. Sandvine predicts the rapid growth of video in Africa will make it the top app on the continent within the next 18 months.

DECEMBER

All three mobile money providers in Madagascar are rolling out interoperable mobile money services nationwide. *Airtel Money*, *mVola* and *Orange Money* joined forces with the GSMA's *Mobile Money* programme to increase financial inclusion in the country. The launch makes Madagascar the second market in

Ericsson believes Grundfos' use of *M-Pesa* simplifies the payment process by taking cash out of the equation, and that the solution removes the need for water service providers to integrate with every mobile wallet provider in a country. It suggested that with EMI, any mobile wallet service from any service provider in any region can be used to provide payment.

It wasn't only purchasing water that's been revolutionised in Africa. 2016 saw Gemalto announcing that it had modernised Guinea's voter register on behalf of CENI, the country's National Independent Electoral Commission. The aim had been to ensure that millions of eligible voters were enrolled accurately and reliably ahead of the elections that took place in October 2015.

The digital security specialist said it provided CENI with the benefits of a single source, end-to-end secure solution that had upgraded Guinea's existing voter registration system and processes. 5,000 operators were hired and trained to successfully conduct the enrolment of voters across the country and abroad.

As part of the process, they used *Gemalto's Coesys Mobile Enrollment* (sic) portable biometric citizen registration kits. 2,500 units were used throughout Guinea, reaching even the remotest parts of the country where there is limited infrastructure. The company also delivered a back-end solution comprising an automatic fingerprint identification system to ensure unique and verifiable registration of citizens.

Africans have often suffered from problems accessing financial services such as insurance or loans. Tigo worked hard throughout 2016 to open these up to the populace. In March,



Grundfos' automated and connected water kiosks – known as water ATMs – dispense safe, clean water (left) and accept payment via *M-Pesa* (above).

PHOTOS: GRUNDFOS

Tigo Tanzania added what was described as an easy to access nano lending product to its range of mobile financial services (MFS). *Tigo Nivushe* offers immediate access to unsecured small loans to *Tigo Pesa* users.

At the launch, head of MFS Ruan Sawnepoel said that *Tigo Nivushe* had been designed to encourage responsible lending: "Previous mobile behaviour is used to determine suitable limits for loans and customers will only be able to have one loan at a time. Protection against life shocks is included as everyone will be automatically insured for the loan amount against death or permanent disability."

He added that because the product is fee-based, no interest can be accumulated in the event of default, and acquiring a loan will not affect mobile or *Tigo Pesa* accounts in any way.

Tigo reported that the average amount loaned using the service is TZS10,000

(USD5) and the funds are transferred directly to the customer's mobile wallet within minutes.

Meanwhile in July, Tigo announced that its mobile insurance service – available in Ghana, Senegal and Tanzania – had now reached around 2.7 million active users across Africa. The insurance products are designed specifically to give lower income segments of the population access to life, hospitalisation and personal accident insurance.

Reporting on the milestone, Tigo said 99 per cent of its insurance customers in Africa live on less than USD10 per day, and that around 73 per cent are new to insurance. The operator believes *Tigo Insurance* has "positively disrupted" the continent's traditional insurance industry, driving financial inclusion and bringing mobile micro insurance to customers who otherwise would not be able to afford it.

Africa, following Tanzania, where all mobile money providers are making their services interoperable, allowing transactions to flow seamlessly across their platforms. The GSMA's chief regulatory officer John Giusti says there are now more mobile money accounts than bank accounts in Madagascar and Tanzania.



Sacha Polverini,
Chairman, DFS
Focus Group,
ITU

The year ahead:

After two years of extensive consultation, the International Telecommunication Union's Focus Group on Digital Financial Services (DFS) has now published its policy recommendations to drive greater financial inclusion for the estimated two billion people around

the world who remain unbanked. The 85 recommendations offer guidance in areas such as digital liquidity, consumer protection to enhance DFS usage, data privacy, digital identity and e-KYC (Know Your Customer), as well as interoperability and fair access to the communication channel.

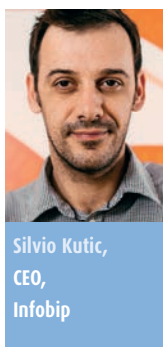
Among some of the core suggestions, it is recommended that:

- Policymakers and regulators support the growth of an open ecosystem for DFS that promotes innovation and ensures robust competition
- Regulators should standardise definitions of fraud types and require standardised, electronic and timely fraud reporting from providers
- Access criteria for interoperability schemes should be clear, objective, publicly disclosed and allow new participants, banks and

authorised/regulated non-banks to join

- Policymakers should promote initiatives and incentives that encourage merchants and other payment acceptors (e.g. utilities, farmers, government entities) to accept electronic payments
- Regulators should standardise digital identity registration, and ensure interoperability between DFS operators and service providers relying on digital identity
- DFS operators should build in customer privacy measures, compliant with current or anticipated national legislation

While the work of the focus group is complete, we now need to move from theory to implementation. The work we have done has resulted in a set of very operational policy recommendations. Their value will be dependent on their systematic application in markets that need guidance and support.



Silvio Kutić,
CEO,
Infobip

Croatia-based Infobip is a global provider of cloud-based mobile messaging and payment platforms. It was established in 2006 but first came to our attention in 2014 when it launched what was claimed to be South Africa's first end-to-end business messaging system². The company has certainly been busy on the continent since then, as founder and CEO Silvio Kutić explains.

"Throughout the last 12 months, our focus has been placed on large enterprises and financial institutions, which currently constitute the majority of the company's client portfolio and revenue. Infobip's messaging technology has now been deployed in more than 40 African banks, for which the company provides full technical support and ongoing development."

In addition to working with large enterprises, Kutić says Infobip has been developing and fortifying partnerships with MNOs across the continent. "Some of the most recent alliances include Maroc Telecom and Meditel Morocco. This opened up Infobip's access to all of the country's mobile operators, and further established Morocco as one of our African hubs. New partnerships in DRC, Ghana, Cameroon, Niger and Tanzania, as well as with MTN Zambia, have also added to our pan-African footprint.

"Offices were opened in Lusaka, Zambia, and others in Abidjan in Côte d'Ivoire, further strengthening the organisation's position in Francophone Africa. Infobip also hosted high-profile tech events in Kenya, Ghana and Morocco, attracting banking professionals specialised in mobile and communications solutions in enterprise environments from across Africa. The events addressed the challenges and issues facing banks and financial institutions in Africa as they undergo digital transformation and seek to implement multi-channel and mobile-first consumer communications."

Kutić reckons Africa has overcome many challenges associated with lack of infrastructure and access to technology in recent years. "The continent has since made great strides forward and is now adopting and adapting the latest mobile engagement technologies – widespread usage of A2P SMS and mobile money are just two most salient examples of this. Infobip has been a major part of this transformation, bringing new mobile

solutions that mirror the global developments and the requirements of its users.

Kutić says the end-to-end business messaging solution that was launched in South Africa three years ago has been very successful. "It's a unique technical concept and, to our knowledge, the only solution of that kind on the market. It is a comprehensive telecoms and IP system, built and designed for business users that require top performance and security of their critical messaging projects."

Infobip developed the system by establishing an architecture in which it develops, maintains and controls all the products and infrastructure used in message delivery – from its origin, all the way to an end user's mobile phone. Kutić claims the result was a solution that remains the "preferred choice" of many local African and larger international companies in need of reliable, enterprise-grade messaging solutions.

"Enterprises in Africa have often been the pioneers and agents of mobile innovation, but even then they were motivated by consumers as mobile users who are the ones that ultimately drive change, making enterprises, telecoms and specialist companies realign and adapt. This is a continuing trend, and one Infobip has found occurring ever since the launch of its services in Africa.

"Growth of smartphones and related mobile services leads to enterprises being faced with the need to deploy multiple services over multiple communications channels. And that's where a solution that combines several channels, reduces integration efforts, and enables a more efficient customer communication is vital, in Africa as elsewhere."

But of course, plenty of challenges remain, and when asked what the continent's biggest issues are over the next 12 months, Kutić says the main hurdle remains the same: expanding telecoms infrastructure to provide high-speed mobile and wireless data. "This is a crucial element in truly providing user-friendly mobile and digital services. The needs and expansion plans of African enterprises are often thwarted by these issues, which limit the reach of modern mobile services to large portions of the population. From extensive experience, Infobip believes that further developing established technologies such as SMS is a way to lay solid foundations for adding other mobile and digital services.

All of the company's products and services rest on its proprietary messaging and communications platform which Kutić said is easy to integrate and start using by any company or individual developer.

"We are continuously developing new solutions for the enterprise and operator segments and are rolling them out in Africa simultaneously with other markets, taking into account the specifics of the market and the requirements of clients. This will continue in the coming year as Infobip looks to support further developing countries.

"A primary focus will be to provide not only high-quality A2P SMS connectivity and services, but also roll out an omni-channel solution that combines SMS, voice, push notifications, chat apps integration and email. 2017 is set to be the breakout year for omni-channel communications, and Infobip sees this as the next step in customer communications. The company has already had very positive feedback from its partners in Africa, who have a real need for such a unified solution.

Infobip is also hoping to boost its presence in Africa with new offices planned for Casablanca and Johannesburg. And at the time of writing in early 2017, Kutić said the company was planning to host an internal pan-African conference in Tanzania in March. The aim is to focus on strategic alignment and consolidation of Infobip's operations across the continent.



Fabien Delanaud,
General manager,
Myriad Connect

Part of Switzerland-based Myriad Group, Myriad Connect describes itself as an expert in mobile software and telecom networks. It has been involved with more than 50 operators worldwide in deploying USSD services and infrastructure, and claims 220 million users are

now active on a monthly basis on its USSD platforms. In Africa, it said USD5bn of mobile money was processed via its systems in 2015, corresponding to more than 80 million financial transactions per month.

Fabien Delanaud is responsible for the overall direction of the company's mobile business unit which works to support digital and mobile transformation, particularly in Africa. "With Myriad's 15 years experience in the African market, it has seen how big enterprise and entrepreneurs alike have used technology to accelerate growth. With its communications Platform-as-a-Service (PaaS), Myriad sees the potential to bridge one of the existing gaps and address the challenge of reaching populations with limited or no access to data in South Africa."

In 2016, Delanaud says he witnessed the impact of mobile in Africa, highlighting the region as one of the most exciting and promising markets in the world for mobile

² Southern African Wireless Communications, Mar-Apr 2014, News, p9.

innovation. He believes the continent is one of the most forward thinking regions when it comes to the use of mobile technology in everyday life. "Entire ecosystems are being built around mobile connectivity which has already drastically improved access to services for disadvantaged populations. This is very interesting for us."

Over the past year, Myriad Connect has primarily focused on the South African market but Delanaud says further expansion is very much on the horizon. "We've put a great deal of resource into field studies to ensure we understand the local markets and their needs. As a result of this, our *Connect* solution is right for a number of key verticals and functions."

Connect is a communications PaaS made up of various USSD, analytics, authentication and other API tools developed by Myriad. It is designed to enable enterprises to connect in the cloud in order to quickly and easily develop new services, collaborate with third-party providers, and serve all mobile users regardless of whether they have access to data.

The wireless comms market in Africa has undoubtedly adapted and evolved in the past 12 months, and Delanaud says he has seen the effects of this, particularly in the mobile commerce space which is "huge" in Africa with more people owning smartphones than bank accounts.

But while the region has become dependent on mobile payment gateways to buy and sell goods, this is not without its challenges as Delanaud raises concerns around security. "Even though security is an issue in every economy and ecosystem globally, it is a real problem for consumers in Africa. In the West, fraudsters will often use technology and process loopholes to illegally access funds or data. In Africa, it is more human driven, using insiders' collusion to either access information and customer accounts or setup fake financial accounts instead.

"For example, a number of inherent weaknesses exist within the 'Know your Customer' requirements for financial services in South Africa. Such are the flaws that the South African Reserve Bank has requested that all bank accounts are re-authenticated, in person, by the account holders, every two years."

As a result, Delanaud reckons there is a significant opportunity here for technology to support secure digital re-authentication, driving down costs to banks and improving the process for customers. He adds that similar potential exists to authorise and authenticate, *ad-hoc* direct debits, credit agreements or any financial transaction. "Myriad has worked on innovations to

deliver secure authentication services, and one area of particular focus has been around the SIM-swap trend, a major issue in South Africa. It often involves operator and bank employee collusion to target high net worth individuals. One of our main goals over the next year is to provide a solution for this issue, powered by USSD. The *Myriad Connect Authentication* API provides a real-time check on the SIM in a way that cannot be tampered with via third parties on handset, within the operator network or at the bank."

With the amount of resource the company has dedicated to understanding the opportunities in Africa, Delanaud believes it is now ready to really begin providing consistent and reliable ways for enterprises and operators to engage with customers via mobile. "We have developed a cloud-based platform that enables businesses to quickly develop and deliver reliable, secure, and cost-effective mobile services on any device anywhere in the world. As a key market in the global mobile economy, Myriad will take what we have learnt in South Africa into Europe and the Americas."



Stavros
Cosmetatos,
Corporate
communications
& marketing
director,
Upstream

Jesus Kalergis,
Senior marketing
executive,
Upstream

Upstream has developed a mobile commerce platform which it claims enables around 1.2 billion people across 43 emerging markets to pay and receive relevant and valuable business services over their mobile.

Founded in the UK in 2001, the company began in mobile marketing and believes it has gained expertise here and understands consumer needs. It initially focused on western markets but quickly realised these were saturated and that there was greater potential in emerging regions. It started in Latin America before moving into sub-Saharan Africa, the Middle East, North Africa and South East Asia.

"However, I would say Africa is our strongest foothold at the moment and a key focus point," says corporate

communications and marketing director Stavros Cosmetatos. "Currently, we have 10 offices around the world which include Johannesburg and Lagos with South Africa and Nigeria being the two most important markets for us in Africa at the moment.

"So we know emerging markets very well and are in a very good position to help western brands as well as our partners, which are local mobile operators, to tap into the huge opportunity that there is for digital consumption in these markets."

Upstream used to develop and offer its own products but now offers third-party digital services, such as insurance for example, localises them, and then works with local MNOs to monetise and deliver these through relevant channels.

"What we have learned all these years is that in order to be able to effectively address the needs of digital consumers in emerging markets you need to be able to address three basic challenges.

"Firstly, your offering needs to be relevant. That includes the content of the service, its pricing, and it being accessible to the consumer, taking into account their mobile device, internet connection, etc. We have great expertise in localising the content, both in terms of the language and categories of services, and also in helping with pricing and making sure that the service is deliverable from a '0G to 4G' distribution method.

"The second key challenge is to be able to actually acquire customers. So it is very important to be able to optimise and make the best use of digital marketing channels, combining local and regional channels as well as global ad networks.

"The third challenge is actually being able to offer consumers in emerging markets the ability to pay. Card payment use is very low in these markets (we found it to be under 10 per cent). In fact, mobile airtime is a very strong digital currency in emerging markets and can be used to pay and access the services.

"So in collaboration with mobile operators we are able to effectively address all these challenges."

Upstream has been in Africa since 2010. It initially worked on mobile marketing and promotion projects, such as supporting the MTN Group's operations in Nigeria, Ghana and Benin as part of the cellco's official FIFA World Cup sponsorship activities. In 2016, Upstream launched its *CoverNow* mobile microinsurance system which was rolled out with Vodafone in Egypt and backed by insurance providers AXA and Chubb. The firm has also developed a language lesson service which is now live in more than 14 African countries, such as Nigeria, South

Africa, Zambia, amongst others, as senior marketing executive Jesus Kalergis explains.

“The service offers language lessons for English, French, and we recently added Spanish. It follows our ‘0G to 4G’ delivery strategy, and is a mix of data and interactive content depending on the consumer segment and the available technology of devices within the operator’s subscriber base. It has more than 3,000 questions across seven levels enabling consumers to learn and test their knowledge about basic vocabulary and grammar. It has been most successful and engaging in segments at the ‘bottom of the pyramid’.

In terms of creating what Cosmetatos previously described as locally relevant services, does he believe Africa has the talent and ecosystem required to develop such mobile products and apps?

“The initial starting point for most western brands is localising language. That’s the first step and it seems like the easy way. Obviously language is important but what is also important is the category of service that people want localised. It is not the same across-the-board. So for example, for news or financial services, people seem to want strong local content coming from local providers as well. That’s opposed to something like gaming where making such apps locally relevant doesn’t seem to be that important.”

In February 2016, Upstream carried out research³ based on a study of 5,215 consumers in Brazil, Egypt, Indonesia, Nigeria and South Africa. Its aim was to gain an insight into the user’s mobile habits and understand how brands can maximise opportunities within emerging markets.

“In our survey, when asked which categories of services would they want to have more digital offerings for, the top ones were education and health (and fitness). These are very important and kind of make sense because consumers can use them to complement less adequate offerings from elsewhere or other organisations [outside Africa] that would perhaps be available in the West.

³ <http://www.upstreamsystems.com/2016-mobile-commerce-market-research/>

⁴ VNI Mobile Forecast Highlights, 2016-2021: in Middle East & Africa, mobile video traffic will grow 17.6-fold from 2016 to 2021, a CAGR of 77%. www.cisco.com/c/dam/assets/sol/sp/vni/forecast_highlights_mobile/index.html

⁵ Sub-Saharan Africa, Ericsson Mobility Report, Nov. 2016. *Access to video content continues to increase*, p5 – www.ericsson.com/assets/local/mobility-report/documents/2016/ericsson-mobility-report-november-2016-rssa.pdf

“Utility services for mobile phones were also found to be very important for people who have lower end mobile devices – memory boosters, anti virus systems, etc.”

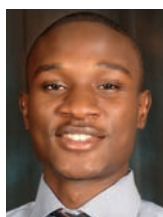
What about mobile video services? If the forecasts from Cisco⁴ and Ericsson⁵ are to be believed, video traffic will account for much of the global boom predicted for the coming years. Cosmetatos agrees that video services are also very important in Africa and have to be localised. But he also highlighted affordability and data download charges as important factors for operators to take into consideration. “Until African infrastructure improves, Upstream can offer technology-friendly services such as lite versions of apps or products that use less data (that’s our 0G to 4G approach, again).”

Kalergis believes mobile commerce and digital services at large will not be able to flourish if there isn’t a way to pay for them over mobile. “We are very strong advocates of developing payment over mobile. Our research found that billing through an operator ranked top above any other online solution. There are examples where *Google Play* and Apple are enabling operator billing apps. In our view, airtime balance is a very potent digital currency.

“Because of regulatory constraints and all the many organisations that have to get involved for mobile money solutions, mobile money has not taken off [across Africa] and we are still talking about it. But that hasn’t stopped our growth and we have found that all our services have been very successful.”

Cosmetatos says that while digital wallets are on the rise as a payment method, 88 per cent of the respondents in Upstream’s survey stated that they preferred digital wallets to be offered by local providers – and from these, mobile operators scored the highest. “So this shows how important mobile airtime and direct carrier billing is as a mechanism, and how it can actually be a ubiquitous payment method.”

Kalergis also believes this also offers convenience and that it can easily scale – as opposed to mobile money which he says really needs to start from scratch because of the complexities involved.



Leonard Kore,
Senior regional
analyst for Africa,
IDC

Originally developed for cryptocurrencies such as bitcoin solutions, telcos and other industries such as the financial sector have realised the huge benefits and gains blockchain technologies can offer their respective sectors. For example in Africa, one of South Africa’s largest banks,

Absa, joined forces with the R3 Consortium to determine relevant use cases and potential adoption of the technology locally.

Blockchain is a trusted public registry of who owns what and/or who transacted what. It is a shared and immutable database of a history of transactions and assets that have been executed. These transactions are spread across a network of computers using high-level cryptography and only viewed by users with right of access. Once the transactions or data is committed to the network, the distributed database is prevented from being altered or manipulated by unscrupulous third parties. It also eliminates the need for a third-party verifier. Security, data integrity and trust are therefore the key value propositions of blockchain solutions.

In the telco sector, complex authentication setup is required between people and systems especially more so with emergence of the Internet of Things (IoT). This requires verification of numerous aspects such as customer data, registries, databases, interconnection with other networks and third-party services. Blockchain offers solutions for some of these traditional telecoms transactions.

African telecoms operators can use blockchain in a number of ways.

Mobile money and digital payments transactions: Already being used for digital currencies such as bitcoin, blockchain can also help telcos in reducing transaction costs, enhancing security and in billing. It can also be used in cross-border remittances. Local mobile remittance companies such as BitPesa are already successfully using blockchain while globally, companies such as Abra, Rebit, TransferB, among others, have also deployed it.

IoT: Blockchain enables cost-effective and secure ways of improving IoT networks through shared blockchain platforms. IoT devices generate huge volumes of data; privacy and security of these data is a key concern for both suppliers and end users.

Blockchain technologies can solve this challenge by decentralising IoT networks, thereby eliminating single points of failure or attacks. The networks and devices cannot be hacked by third parties, and information will remain secure/private which is already a key concern in the IoT ecosystem.

End users will also be able to ascertain that data transmitted through widespread sensors are incorruptible and genuine. Further, blockchain provides easier scalability of IoT networks. Other use cases in IoT include smart cities and the healthcare sector.

Call data integrity and identity management: Here, the technology ensures that the information and identity details of subscribers being transmitted is accurate.

This can be used in law enforcement and also help users ascertain their own billing histories. This will also especially become important as eSims become a reality in the future.

Operational efficiency and cost savings: Blockchain will help in simplifying and improving billing, number portability, roaming etc., in internal operations in telcos. Other use cases include smart contracts provisioning to ensure faster and cheaper ways to auto-complete transactions and business processes.

Although revenue potential is not a very key priority right now for both players in telecoms and the financial services, blockchain can unlock new revenue streams for telcos that enable them to offer services such as identity management solutions to other providers/partners. This can be in the form of telcos having superior blockchain platform capable of providing trusted data management, storage and verification as-a-service solutions to users.

This is already being done by vendors such as Microsoft. Other revenue sources include implementations in mobile money (micro-payment) solutions, cross-border remittances, smart contracts, IoT, etc.

Other key advantages of deploying blockchain solutions is the ability of businesses to use a pay-as-you-go business model enabling users to only pay for blockchain services used. This enables them to save on costs.

As telcos in the past have been disrupted by new waves of technology, they are now forced to innovate and stay ahead of the curve. The financial services industry has been first to experiment and derive the benefits of blockchain technologies. This will motivate telcos to follow in their footsteps in order to improve their own internal processes and benefit from the numerous use cases provided by blockchain.



Prashant Nazare,
Associate VP
& head of
international
sales,
Sterlite Tech



Jitendra Jain,
VP MEA business,
Sterlite Tech -
Elitecore

Elitecore is an India-based global provider of BSS, packet core and carrier Wi-Fi solutions. While all of its early deployments were for service providers in its home country and South East Asia, in February 2013 it announced its first win in

Africa. The unnamed client was described as a “leading African operator” and selected Elitecore to replace its existing BSS platforms for fixed and mobile networks with a single system. Since then, the vendor has added more unnamed African customers to its client list.

In September 2015, India’s Sterlite Technologies announced its acquisition of Elitecore. Sterlite develops and delivers optical communication products and system integration services. Prashant Nazare, the company’s associate vice president and head of international sales, described the thinking behind the buyout.

“Over the past 12 years or so, Sterlite has been a product company focusing on optical fibre. The acquisition of Elitecore has enabled us to offer a complete end-to-end solution. Previously, customers were only looking to us as a passive supplier or passive integrator – we did not have anything on the software side or on the active side. In Nigeria, we’re doing very good business with Sterlite, and for Elitecore that was a major reason to have them with us. They are doing much better in this region and have a good customer base here.

“On the fibre side, Nigeria is a big market for us, and with Globacom and MTN we are doing almost 70 per cent of the rollouts there. In South Africa in 2010 to 2012 we did very good business with Vodacom and also with Neotel – almost 10,000 to 15,000km on the rollout. Then there was a gap in South Africa and we went back and re-launched ourselves.

“So we now have an office in Johannesburg and have recruited a local person who will be taking care of the African market. The major customer will be Vodacom; Vodafone wanted us to be present in Africa because we are one of the global vendors that they have approved.”

Nazare believes Sterlite’s “innovative” range of cable products and installation expertise gives it the edge when it comes to rival vendors. He reckons the addition of Elitecore will sharpen that edge. “We can now go to customers and offer an end-to-end, one-stop shop. So Elitecore sells the OSS, Wi-Fi and critical online solutions, and Sterlite supplies the passive side. The customer then sees us from a different perspective: as a cable company as well as a solutions provider.”

When asked which companies Sterlite is planning to target in Africa, Nazare says the top major telcos were the immediate priorities. “We have identified the top seven to eight telcos where we want to be present. Vodafone, Orange, MTN, Liquid... these are among those on our target list. We are already doing business with Airtel in Africa, and in South Africa, very soon, we’ll be present in Vodafone and MTN.”

Sterlite has identified around 11 African countries where it wants to do business

immediately. Among these, Nazare named South Africa, Nigeria, Kenya, Côte d’Ivoire Coast and Ghana, adding that the company will also soon be in Mozambique, Zimbabwe, Zambia and Tanzania. So how optimistic is he of success given the slump in oil prices and security concerns in many parts of the region?

“The global demand for fibre has not come down. In every region – whether it is Europe, Africa, the Middle East, India – the demand has continuously moved up because the world is moving towards data. Everything is on the mobile. And what’s needed for carrying data is better bandwidth and a better backbone. So people are investing in fibre. And today is the period with the highest demand that has been seen over the last three or four decades.”

At this point, Jitendra Jain, Sterlite Tech’s vice president of MEA business for Elitecore, joins the conversation. “If we really look at what we are focusing on in Africa right now, LTE is one big area that we see. We see a lot of operators coming in as well as existing ones that want to upgrade.

“The second big thing is Wi-Fi. All the operators want to have their hotspots, they want to provide Wi-Fi services to customers. That’s part one of Wi-Fi. Part two is how to monetise it. If there is Wi-Fi, the customer expectation most of the time is that it will be free. While that is good for the consumer it is certainly not very good news for the operator who has spent a lot of money on the network. It’s early days but the concept of carrier Wi-Fi in Africa will pick up. And when it does, we will be ready to help the operator monetise it.”

According to Jain, the operator’s top priority today is to move from a legacy to a next-generation network. With its single platform that supports multiple technologies, such as WiMAX, LTE, VoLTE, etc., he claims Sterlite can help customers deal with the challenges of managing their complex network scenarios.

“The second priority is that in a heterogeneous network operators are looking at one pipe along with the traditional network,” says Jain. “So here, we are helping with our Wi-Fi service management platform. Even if you have an OSS/BSS component, we are actually creating a solution that enables the operator to match its requirements.

“Those are the two best ways for us to move forward. We want to replicate the success of our business in South East Asia and India in Africa, because we consider Africa to be a huge market. Selling solutions is one part. But another part is making sure the customer gets the value out of that solution and that they are delighted with it and they stay with us forever. People can copy product capabilities and features, and they can reduce prices. But what they can’t copy is your passion for it.”