



AFRICA TELECOMS OUTLOOK

KEY TRENDS AND OPPORTUNITIES

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Welcome

In this publication, you will find a collection of articles highlighting the important trends that are driving the development of the telecoms, media and technology (TMT) sectors in Africa.



BRAM MOERMAN
CEO Analysys Mason

Our experts have over 30 years of consulting and research expertise in TMT sectors worldwide and have completed more than 200 projects in Africa in the last 10 years. Analysys Mason can provide a unique understanding of local challenges in African telecoms markets in the context of worldwide trends.

Our first article looks at the popularity of OTT messaging services in South Africa and the concerns raised about potential mobile voice substitution. OTT communications services have supported the adoption of mobile data in South Africa, but operators are increasingly wary of their potential to cannibalise voice and messaging revenue. We discuss operators' potential approaches for capitalising on OTT service usage.

In our second article, we turn our attention to the fundamental reforms needed to promote the growth of the African audiovisual sector. There is interest among all stakeholders in an overhaul of the audiovisual sector in order to sustain the interest from foreign investors such as Vivendi, Google or Startimes and to act as a catalyst for the development of the whole value chain, and of private terrestrial TV channels in particular.

We then revert back to mobile services where our third article looks at the growing demand for Internet services, which continues to drive network expansion and smartphone take-up. Operators in Sub-Saharan Africa have a significant opportunity to monetise

the growing appetite for data, but will need to come up with innovative data pricing models that appeal to consumers and encourage usage if they are to tap into this opportunity.

Our fourth article looks at how operator-led mobile money services in South Africa have yet to gain traction and why it is essential that operators reposition these services in order to appeal to specific use cases that are not being adequately met. Investment in broadband access is another key challenge that operators and governments in the region are working to address.

We then go on to examine the opportunities for the government in Nigeria to encourage further investment in broadband networks in our fifth article. Market investment alone, particularly in rural areas or in areas deemed to be commercially unattractive, are unlikely to help meet the ambitious targets set out by the Nigerian Broadband Plan. One solution may be to make public subsidies available to encourage private-sector investment in broadband networks, particularly in areas that are commercially unattractive to operators.

Our sixth article looks at our latest research examining smartphone behaviour in the Middle East and North Africa and how operators are struggling to retain young customers. Our Connected Consumer survey reveals that smartphone users aged 18–24 are particularly unsatisfied with,

and less loyal to, telecoms providers than other age groups. Youth-oriented plans are not sufficient to meet users' expectations and our analyst team offers operators some key advice on how they can improve mobile service fundamentals and marketing approaches in order to retain young customers.

Finally, we highlight findings from a recent discussion paper prepared by Analysys Mason for the International Telecommunication Union (ITU) on how policy makers in developing and developed markets have used public-private partnerships (PPPs) to drive investment in broadband networks, particularly in areas with challenging economics. In reality, many governments have limited funds to invest in PPP broadband projects, and this final article looks at the role that tech companies such as Facebook, Google and Microsoft, could play in broadband infrastructure investment.

I hope you find our thought leadership and opinion pieces of interest and value. I encourage you to contact the authors directly if you would like to discuss any of the points they raise in their articles, or if you would like to further understand how a specific issue or trend will affect your business.

To find out more about our experience and services, please visit our website www.analysysmason.com

OTT messaging services dominate in South Africa, but mobile voice will be more resistant to substitution

“The South African voice market is unlikely to see OTT service substitution on the scale already seen in messaging, at least in the short to medium term.”

Over-the-top (OTT) services have become very popular in South Africa, thanks to both the increased availability of affordable smartphones and improved 3G and 4G coverage. OTT communications services have in turn supported the adoption of mobile data plans, but operators are increasingly wary of their potential to replace traditional voice and messaging services and cannibalise legacy revenue.

Operators' reactions to OTT services have been mixed. Cell C has embraced OTT services and capitalised on this usage shift by offering zero-rated WhatsApp access for 1 year at no cost, but MTN and Vodacom have been vocal proponents of OTT regulations. This comment presents the outlook for demand for OTT services in South Africa. It discusses the positions of operators and the regulator and potential approaches for capitalising on OTT service usage.

THE POPULARITY OF OTT MESSAGING SERVICES IN SOUTH AFRICA HAS RAISED CONCERNS ABOUT POTENTIAL MOBILE VOICE SUBSTITUTION

WhatsApp is the most popular OTT messaging and voice app in South Africa. It was used by 81% of smartphone users surveyed by Analysys Mason in South Africa in July and August 2015,¹ and was followed by Facebook Messenger and BBM in popularity. Social usage was evenly spread across all age groups. We estimate that there were around 15 million active WhatsApp users in the country in June 2016.

Operators have employed contrasting strategies in response to the growth of WhatsApp.

- Cell C has embraced the service as a tool for customer acquisition and monetisation. It initially ran a promotion offering zero-rated WhatsApp for a year at no cost, then began charging SAR5 (USD0.33) per month for its WhatsApp bundle in September 2015. It eventually increased the price to SAR7.50 (USD0.5) for 30 days unlimited usage (excluding voice usage and with a 1GB fair usage policy).
- Both MTN and Vodacom do not offer a dedicated OTT tariff and have retained conventional pricing schemes for mobile data.

All operators are seeing substitution of SMS by OTT messaging and we expect this to increase as the user base for OTT services continues to grow. The SMS market has never been particularly strong in South Africa and will play only a residual role in the medium term. OTT messaging will represent 89% of total messaging traffic by 2021, up from 58% in 2014 (Figure 1).²

There is a risk that usage substitution will spread to voice from messaging services as WhatsApp gains scale. WhatsApp started to support voice calling in 2015 and there are indications that consumers are starting to adopt this feature in other countries. WhatsApp announced that its users made 100 million voice calls worldwide on a single day in June 2016. This is a large number of calls, but it



actually equates to only 3 calls per user per month on average (assuming that the reported number of calls is representative of a typical day), as WhatsApp has over 1 billion users.

We believe that the South African voice market is unlikely to see substitution of voice services on the scale already seen in messaging, at least in the short to medium term.

- Smartphone penetration is relatively low (an estimated 28% of handsets at the end of 2015), which limits the network effect.
- VoIP apps provide only a minimal price advantage compared to traditional voice, at least for local calls.
- Mobile networks may be unable to provide a good user experience for mobile VoIP – only 4% of handset connections were LTE at the end of 2015.
- Mobile voice traffic is still growing, which has contributed to a slowdown of the decline in mobile ARPU – from –10% in 2014 to –3% in 2015.

OPERATORS SHOULD CAPITALISE ON THE POPULARITY OF OTT SERVICES AND LOBBY THE REGULATOR TO SUPPORT THEM IN TACKLING DATA GROWTH

South African operators' regulatory positions on OTT services reflect their commercial positions. Cell C, which



targets the youth segment, has been in favour of embracing OTT services. MTN and Vodacom, in contrast, have been vocal about the need to regulate OTT players, on the basis that they have not invested in infrastructure. Both operators argue that not regulating the OTT market will have negative ramifications for security, taxation and customer protection.

The regulatory position is currently under parliamentary review, but it seems likely that the regulator will wait to see how the market evolves before enforcing any specific laws. Any regulatory moves would require an assessment of the current and future impact of OTT services on competitiveness, investment and innovation in the telecoms sector.

Other African operators will closely follow the debate in South Africa and the

resulting final decision. Operators in the region are experiencing similar challenges to differing degrees, but regulators have yet to reach a consensus. For example, the regulator in Morocco has restricted access to VoIP services since January 2016 on licensing grounds. However, the Zimbabwean regulator, POTRAZ, and the Ministry of ICT are not in favour of regulation, despite evidence of the effect of OTT services on operators' revenues.

There is an argument that regulatory efforts may prove more fruitful if they focus on stimulating market growth and investment. For example, freeing more spectrum (especially in the sub-1Ghz band) will help to improve network capacity and coverage. Mobile voice still represents the bulk of revenue for operators and recent data shows that its decline has been greatly exaggerated. At

the same time, data traffic is doubling year-on-year. Operators could look to improve users' experiences of their own voice services by rolling out VoLTE as LTE coverage increases. This could also support network and spectral efficiency. Partnerships with OTT players could also help extend broadband access to those who currently find traditional services unaffordable, as well as providing a better user experience to existing customers.

Questions?

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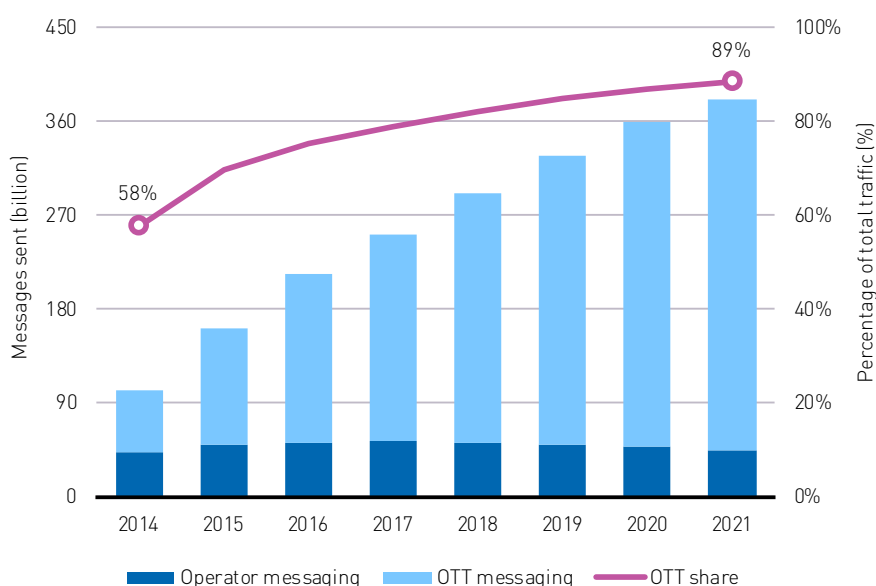


FIGURE 1: OPERATOR AND OTT MESSAGING TRAFFIC, AND OTT SHARE OF TOTAL TRAFFIC, SOUTH AFRICA, 2014-2021 [SOURCE: ANALYSYS MASON, 2016]

¹ See Analysys Mason's Connected Consumer Survey 2016: South Africa. Available at www.analysysmason.com/connected-consumer-south-africa

² See Analysys Mason's Communication services in Sub-Saharan Africa: trends and forecasts 2016-2021. Available at www.analysysmason.com/Communication-services-SSA-Aug2016

Fundamental reforms are needed to promote the growth of the African audiovisual sector

“Despite the fact that most African countries have not met the deadline of 17 June 2015 to fully switch to digital terrestrial television (DTT), most have realised the importance of the audiovisual sector for the social and economic development of the continent.”

For the African audiovisual sector, and terrestrial TV channels in particular, 2015 was an important year. [See <http://www.analysismason.com/About-Us/News/Insight/Digital-switchover-Africa-Jun2015>]

Despite the fact that most African countries have not met the deadline of 17 June 2015 to fully switch to digital terrestrial television (DTT), most have realised the importance of the audiovisual sector for the social and economic development of the continent. As a result, there has been renewed interest in the sector from African and international public bodies and institutions. Moreover, the continent's macroeconomic development prospects also attracted foreign investment from media companies such as Vivendi, Google or Startimes.

It is essential that all stakeholders (public and private) should participate in the overhaul of the audiovisual sector in order to sustain the aforementioned interest and investments, and act as a catalyst for the development of the whole value chain, and of private terrestrial TV channels in particular. To date, African private terrestrial TV channels are faced with two main issues: an advertising market that is very restricted and audience measures that are insufficient to fuel its growth. Furthermore, depending on the economic and technical choices made when migrating to DTT, the impact of the digital switchover on the distribution costs of channels can be prejudicial to the broadcasters' business models.

Based on our work in sub-Saharan Africa and East Africa, this article explores two reforms which we consider essential in the short term:

- adequately structuring the terrestrial broadcasting sector
- implementing effective audience measurement to increase advertising revenues.

ADEQUATELY STRUCTURING THE TERRESTRIAL BROADCASTING SECTOR

In the case of private terrestrial TV channels, the impact of the transition to DTT in Africa will be different to that observed in most developed countries. In Europe, for instance, these channels generally enjoyed national analogue coverage; the transition from analogue to digital broadcasting has often allowed them to share the costs of nationwide broadcasting on one frequency with the other channels with which they share their multiplex (although sometimes broadcasters have launched packages containing several channels from the same media company to fill the multiplex).

In Africa, by contrast, private terrestrial TV channels generally have their own broadcast network (vertical integration) which is limited to a few urban sites (4–5 sites). Switching over to DTT is a government decision, which generally involves migrating from a local analogue broadcast network to a national digital broadcast network. This decision also affects the number of broadcasting sites required and consequently the costs per

multiplex, both of which could increase significantly. Depending on the coverage targets set by the government, the increase in the number of sites will not necessarily be compensated by sharing the broadcasting infrastructure between different channels (in principle if the increase in the number of sites exceeds the number of channels included in the multiplex) or by a potential increase in advertising revenues (if the broadcasters fail to monetize the increase in the audience). The transition to DTT can therefore have a significant negative impact on the business model of private channels.

It is therefore essential to anticipate this transition and to identify solutions tailored to each national context. Similarly, it is necessary to structure the broadcasting operator and ideally to impose a structural separation between the broadcaster and TV channels (especially if the infrastructure of the public broadcaster is used to deploy the DTT network). Finally, the broadcasting costs by multiplex and by site should be transparent, non-discriminatory and cost-oriented. This is what the Kenyan regulator implemented in 2015, with



Analysys Mason's support. Our work helped reduce broadcasting costs by over 30% in the capital city and by more than 60% in rural areas. The overall objective of this 2015 study was to determine, by reviewing available institutional, regulatory and financial data, and by assessing costs, the costs and the appropriate tariffs for digital terrestrial broadcasting. Some countries, including Cameroon (where we advised the government), have also begun considering subsidising broadcasting costs in the short term (for instance using the budget of the public broadcaster which, in principle, should experience a decrease in its broadcasting costs because it has national analogue coverage and will share its infrastructure with private channels, or via the sale of the digital dividend).

IMPLEMENTING EFFECTIVE AUDIENCE MEASUREMENT TO INCREASE ADVERTISING REVENUES

In Africa, and particularly in sub-Saharan Africa, the implementation of reliable audience measurement is all the more necessary as the advertising industry is under-optimised (in terms of value and as a proportion of GDP). For example, as shown by the analysis conducted by Analysys Mason for the government of Cameroon, TV advertising represents only about 0.05% of Cameroon's GDP, against an average of 0.12% of GDP based on a benchmark of about 50 countries (and up to 1% in developed markets). But advertising is a crucial source of income for free terrestrial channels, both private

and public, and the production of local content would directly benefit from greater economic strength of audiovisual players. In particular, one of the important factors that would allow the development of the local advertising market would be the availability of a television audience measurement solution on which there is consensus.

Qualitatively, the implementation of reliable television audience measurement on a national scale has many benefits for the audiovisual sector:

- It helps structure the market around a common reference that increases transparency and facilitates exchanges between advertisers and broadcasters.
- It reinforces the value of advertising to advertisers by allowing them to have confidence in the credibility of the information source and enabling them to understand where and when to target their commercials (which increases the value of advertising space and therefore the income of television channels).
- It allows television channels to have a better understanding of their audience and better market their advertising space.
- It results, through the growth of the advertising market, in the creation of jobs in advertising.

However, based on our experience in Africa, implementing audience measurement is a task that requires the government to be involved. Our recommendations are therefore:

- To promote the creation of an audience measurement solution in line with international best practices (taking into account the challenge that is online advertising in developing countries).
- To set this in motion using financial contributions or public incentives. For example, African States that do not have effective audience measurement can benefit from the transition to DTT and the award of new licences to introduce a requirement to participate in the structure that will manage audience measurement.

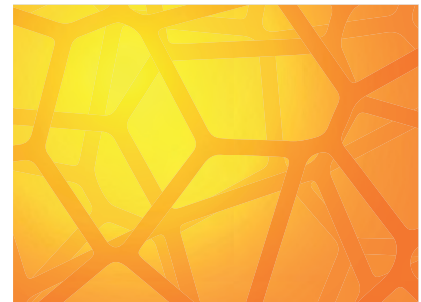
Other structural and regulatory reforms are expected to accompany the development of the African audiovisual sector, but all cannot be undertaken simultaneously. It is therefore important that public authorities (with the support of national and international private players) plan the modernisation of the audiovisual landscape. Analysys Mason is ideally placed to provide support on these topics.

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The growing demand for Internet services across Sub-Saharan Africa continues to drive network expansion and smartphone take-up

“Total service revenue across Sub-Saharan Africa will reach USD53 billion in 2020, driven by growth opportunities in mobile handset data.”



The telecoms market in Sub-Saharan Africa (SSA) is transitioning from one dominated by mobile voice to one driven primarily by the growth of data services. Mobile handset data revenue has strong growth potential across the SSA region, against a backdrop of declining voice revenue, and will increase from USD5 billion in 2014 to USD13 billion in 2020 at a CAGR of 16%. This growth will be driven primarily by rising demand for Internet services, the greater availability of low-priced smartphones and expanding 3G and 4G coverage. To realise this growth potential, operators need to address the high cost of data infrastructure deployment in order to support capacity and coverage expansion, as well as introducing affordable and innovative data pricing.

The popularity of social media websites and instant messaging apps (such as Facebook Messenger, Viber, WeChat and WhatsApp), coupled with innovative mobile data offers from operators, continues to stimulate data usage in the region's mass market segment. Social media bundles (such as Etisalat Nigeria's 'smartpaks' and Zambian operator NetOne's 'Easy bundles') allow access to specific apps and are stimulating data usage. In addition, partnerships between mobile operators (such as Bharti airtel, Cell C MTN and Safaricom) and social media platform providers allow zero-rating of data to stimulate data usage. This is encouraging people to use the Internet, as well as accelerating data take-up.

The take-up of smartphones is contributing to this rapid data growth. The region's smartphone sales will grow at a CAGR of 10.8% between 2015 and 2020, from 63 million units to 105 million units. Smartphones will account for 62.4% of all handset sales in the SSA region in 2020. The increasing availability of low-cost smartphones will remain the primary driver of adoption in the region, as new smartphone brands (mainly from China, such as InnJoo, mi-Fone and Wiko) add to pricing pressure. We believe that smartphones will account for 31% of handset connections by 2020.

Mobile operators are complementing their 3G coverage with LTE to meet consumers' growing demand for connectivity. 3G share of mobile connections in SSA was only 23% in 2015, which leaves operators considerable room for growth as they invest in expansion of their 3G coverage. LTE is in the early stages of deployment and adoption has so far been limited to the affluent population in urban areas. LTE will help to address the demand for high-speed data and will serve as a catalyst for further smartphone adoption and the growth of mobile data revenue.

Several Internet service providers have emerged in a number of SSA markets to meet the increasing demand for connectivity. These players, including Afrimax, Smile Telecoms, Surfline and Yoomee, are leveraging the ability of LTE to deliver high speed fixed wireless connectivity in markets where fixed

infrastructure has been poor. However, it remains to be seen whether these providers will be able to both acquire sufficient spectrum and scale up to offer comparable speed and prices to mobile operators.

CHALLENGES AHEAD

There is a significant opportunity for operators to monetise this growing appetite for data. However, disposable income in the region is typically low, which means that affordability will be critical to driving the take-up of data services in the short term. Operators will need to come up with innovative data pricing models that appeal to consumers and encourage usage.

Capital constraints on the supply side could also inhibit operators' ability to meet increasing demand for data. Operators will need to prioritise alternative options, such as network and tower sharing, in order to mitigate the high cost of deploying and expanding network infrastructure to meet demand for capacity.

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Operator-led mobile money services in South Africa have yet to gain traction

“Operators need to reposition their mobile money services in order to appeal to specific use cases that are not being adequately met in the market.”

Operator-led mobile money services in South Africa have failed to gain traction because they have faced competition from mass retail chains and banks, which have been more successful in addressing the needs of both the unbanked and banked populations. In addition, the restrictive regulatory regime governing mobile money services in the country has imposed high compliance requirements on operators, which has weakened their position in this market segment.

This article discusses the reasons for the slow take-up of mobile money services in South Africa, highlights the challenges faced by telecoms operators in the market, and provides recommendations for improving adoption.

OPERATOR-LED MOBILE SERVICES HAVE HAD LIMITED APPEAL IN SOUTH AFRICA, DESPITE ATTEMPTS TO REKINDLE INTEREST BY RELAUNCHING THEM

Vodacom and Mobile Telephone Networks (MTN) relaunched their mobile money services in 2014 (following initial launches in 2010 and 2012, respectively) in a bid to spur consumer interest and adoption.

- Vodacom simplified the registration process for its M-Pesa mobile money service in August 2014 and established 8800 points of presence (agents) to increase the reach of the service.
- MTN partnered with Pick n Pay, a mass retail chain, in 2012 with the aim of extending the distribution channels for its Mobile Money service. In 2014, MTN added a facility to pay bills, withdraw cash and deposit salaries using its mobile money platform.

Despite these initiatives, the level of adoption has been slower than expected. For instance, in 2015, Vodacom reported 1 million M-Pesa registered users in South Africa, but only 76 000 people were actively using the service (that is, carrying out at least one transaction per month).

According to Analysys Mason's forecasts,¹ the number of active users² of operator-led traditional mobile money services in South Africa was under 200 000 in 2015, whereas financial institution-led mobile money services had close to 1 million active users (see Figure 1). We project adoption of operator-led money services to remain low, with the active share of registered users reaching just over 300 000 by 2020.



INTENSE COMPETITION AND REGULATORY CONSTRAINTS HAVE LIMITED OPERATORS' SHARE OF THE MOBILE MONEY MARKET

Significant reasons for the slow adoption of operator-led mobile money services in South Africa include:

- competition from retail supermarket chains
- competition from financial institutions
- an unfavourable regulatory regime.

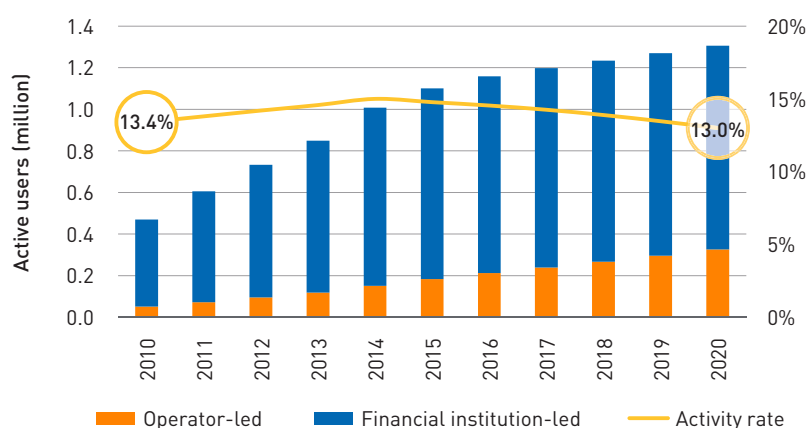
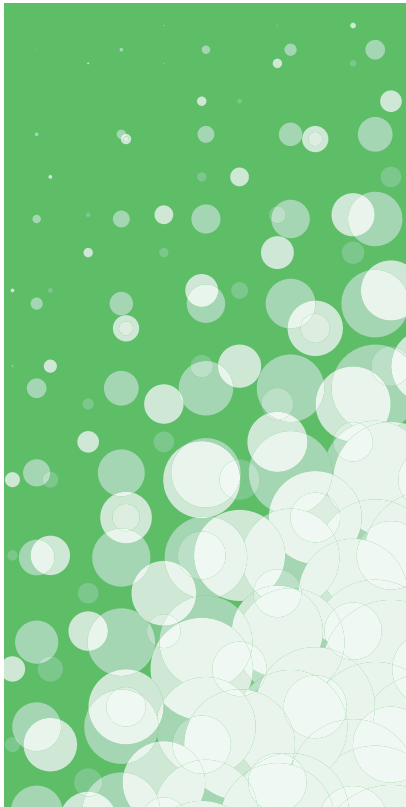


FIGURE 1: MOBILE MONEY ADOPTION BY TYPE OF SERVICE, AND ACTIVE SHARE OF REGISTERED USERS, SOUTH AFRICA, 2010–2020 [SOURCE: ANALYSYS MASON, 2016]



Alternative money transfer options, such as those from mass market retailers like Shoprite and Pick n Pay, already meet the needs of the unbanked segment of the population in South Africa. These retailers leverage their extensive distribution outlets to enable convenient and rapid money transfer services between their branches across the country.

South Africa has the highest level of financial inclusion in Africa – 70% of the adult population in South Africa have a bank account³ and financial institutions are in a better position than mobile operators to offer mobile financial services to their current customer base. Our Connected Consumer Survey⁴ study (<http://www.analysysmason.com/Research/Content/Reports/connected-consumer-south-africa-Jun2016-RDRK0/>) in South Africa revealed that the most-popular mobile money service adopted by smartphones users was First National Bank's (FNB's)



e-wallet service⁵ – a preference expressed by 19% of the respondents interviewed. All five major banks in South Africa (Absa, Capitec Bank, FNB, Nedbank and Standard Bank) now have a version of an e-wallet service.

These institutions have also been successful in extending banking services to the unbanked by leveraging their extensive distribution networks, which include nationwide branches and ATMs. The service particularly appeals to those who would need to transfer money to family dependents or those employed in domestic help and who fall outside the formal banking system.

Finally, the restrictive financial regulatory framework within South Africa has meant that mobile operators that offer financial services are treated as financial institutions and are subject to high 'Know Your Customer' (KYC) compliance and agent acquisition requirements. These have posed a challenge for registration and service take-up.

INTERNATIONAL REMITTANCES AND INNOVATION IN ADVANCED WALLET SERVICES REPRESENT AN EMERGING OPPORTUNITY FOR OPERATORS TO DIFFERENTIATE THEIR MOBILE MONEY OFFERINGS

Challenging regulation and false starts have hindered operator-led mobile money adoption. However, operators can take advantage of the following opportunities to improve their mobile money service adoption rates, especially with the banked segment, which represents the majority of the population.

- **International remittances.** The lowering of regulatory barriers for international remittances represents an emerging opportunity for differentiation. In April 2015, a

partnership between Vodafone and MTN was signed to enable cross-border P2P transfers between M-Pesa subscribers in the Democratic Republic of the Congo, Kenya, Mozambique and Tanzania, and MTN Mobile Money users in Rwanda, Uganda and Zambia.

- **Beyond peer-to-peer (P2P) transfer services.** Use cases such as bill payments and other customer not present (CNP) transactions may become adoption drivers.
- **Differentiate mobile money propositions.** Operators need to reposition their mobile money services in order to appeal to specific use cases that are not being adequately met in the market.

Our recently published report *Mobile Money in the Middle East and Africa: opportunities and best practices* discusses these opportunities in greater details.

Questions?

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¹ See Analysys Mason's Mobile money in the Middle East and Africa: trends and forecasts 2015–2020. Available at: www.analysysmason.com/Research/Content/Reports/Mobile-wallets-MEA-Oct2015-RDMY0-RDRK0/.

² 'Active users' refers to virtual accounts associated with the user's mobile phone number, which stores electronic funds denominated in the country's currency. Typically, top-ups and cash-out from and to the account are handled by the mobile money network's agents. This does not include apps or services that are associated with one or more accounts or cards at one or several financial institutions.

³ The World Bank (Washington, DC, 2014), Financial Inclusion Data / Global Findex for South Africa. Available at <http://datatopics.worldbank.org/financialinclusion/country/south-africa>.

⁴ See Analysys Mason's Connected Consumer Survey 2016: South Africa. Available at: <http://www.analysysmason.com/Research/Content/Reports/connected-consumer-south-africa-Jun2016-RDRK0/>

⁵ FNB's e-wallet service is a network-agnostic solution that allows its customers to send money to anyone with a mobile number (the recipient does not need a bank account), which can be retrieved from an ATM.

The new government in Nigeria has an opportunity to encourage further investment in broadband networks

“The incoming Nigerian president should revise the country’s broadband penetration targets to more realistic levels, make public subsidy available, and consider a range of alternative technologies to improve the development of Nigeria’s broadband infrastructure.”



Nigeria’s outgoing president Goodluck Jonathan approved in 2013 the publication of the Nigerian Broadband Plan (NNBP 2013–2018), which set out ambitious targets to improve the penetration of broadband infrastructure. Given the levels of broadband take-up that have been achieved to date, our analysis suggests that the targets were over-ambitious and unachievable. Further, it is unlikely that the targets can be met through market investment alone, and so there will be a need for significant government subsidies. This article argues that to improve the development of, and investment in, broadband infrastructure the incoming president should revise the targets to more realistic levels, make public subsidy available and consider a range of alternative technologies.

GIVEN CURRENT BROADBAND TAKE-UP LEVELS, THE GOVERNMENT SHOULD REVISE THE TARGETS TO BE MORE REALISTIC

Overly ambitious broadband targets are unlikely to be met. The NNBP set out national broadband penetration (take-up) targets of 21% (2015), 42% (2018) and 76% (2020), based on mobile broadband (the most popular means of accessing broadband in Nigeria). Figure 1 plots these targets against Analysys Mason’s forecast of 3G and 4G mobile penetration in Nigeria (to 2019). The line labelled ‘Linear (Analysys Mason forecast mobile broadband connections)’ shows the forecast to 2020 based on a historical linear trend.

The Nigerian national broadband target for 2015 is higher than the forecast take-up of 3G and 4G services. Moreover, the gap between Analysys Mason’s forecast of mobile broadband take-up and the NNBP targets widens significantly in 2018 and 2020. In light of current take-up levels, it appears that the incoming government needs to revise the broadband targets downwards so that they are more realistic.

Care should be taken when revising the targets, however, as they must be sufficiently ambitious to ensure that development of Nigeria’s broadband infrastructure does not fall behind that in other African countries.

PUBLIC SUBSIDY SHOULD BE MADE AVAILABLE TO ENCOURAGE INVESTMENT IN BROADBAND NETWORKS

Meeting the 2018 and 2020 targets will require significant investment in broadband infrastructure. However, even revised targets are unlikely to be met through market investment alone, particularly in rural areas or in areas deemed to be commercially unattractive. Therefore, the incoming president should make public subsidies available to encourage private-sector investment in broadband networks, particularly in areas that are commercially unattractive to operators.

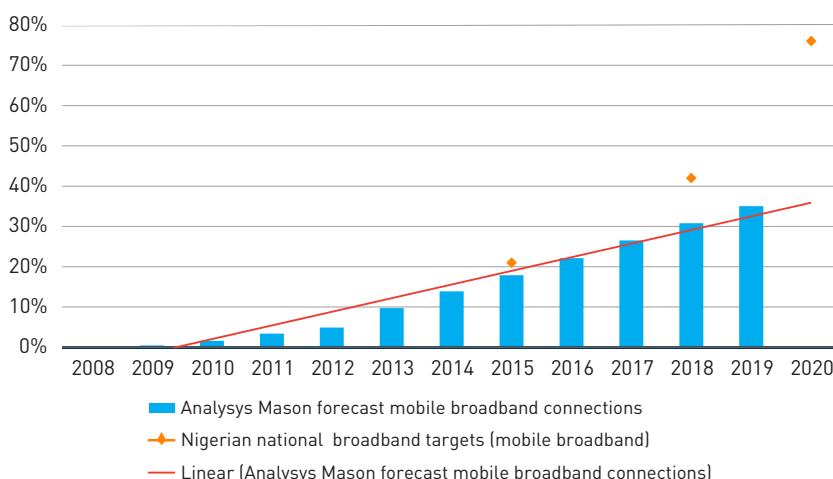


FIGURE 1: WIRELESS PENETRATION TARGETS PLOTTED AGAINST FORECAST PENETRATION
[SOURCE: ANALYSYS MASON, 2016]



In order to determine the level of public funding required to subsidise the development of broadband infrastructure, the government can undertake a detailed and iterative process involving broadband infrastructure coverage analysis and financial modelling.

A RANGE OF INITIATIVES ARE AVAILABLE TO ENCOURAGE INVESTMENT IN MOBILE NETWORKS

To enable a higher rate of broadband take-up, mobile operators (that are leading the development of broadband in Nigeria) will need to make significant investments in fixed (fibre) as well as 3G and 4G infrastructure, particularly outside urban areas where 3G coverage is most concentrated.

Due to the lack of fibre infrastructure in Nigeria, the previous government led an initiative to create infrastructure companies (InfraCos) to give last-mile providers (such as mobile operators) open access to metropolitan backhaul

fibre networks. However, the InfraCo initiative alone is unlikely to promote the development of wireless networks. Therefore, the government – along with the regulator – should consider a range of initiatives to encourage investment in mobile networks and reduce the cost to operators of building 3G and 4G infrastructure. These initiatives could include:

- encouraging **network sharing**, which can reduce the capital investment required to build new sites and cut the operating costs associated with running existing sites
- government **funding for the development of passive infrastructure** in areas that would otherwise be commercially unviable
- **promoting the use of innovative technologies such as TV whitespace** which makes use of licence-exempt UHF spectrum and benefits from the strong propagation characteristics

exhibited by UHF spectrum, and so requires fewer base stations to cover a given area.

Iqbal Bedi regularly briefs government ministers and policy makers on policy-affecting issues in the telecoms and media sector – such as broadband plans, broadband investment strategies, digital inclusion and data centres.

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¹ Source: Analysys Mason, *Sub-Saharan Africa telecoms market: interim forecast update 2014–2019* – see <http://www.analysysmason.com/Research/Content/Regional-forecasts-/SSA-interim-forecast-Mar2015-RDRK0-RDDG0>.

² The Nigerian Communications Commission (NCC) announced MainOne Cable Company and IHS Communications as the successful bidders for InfraCo licences for Lagos and the North Central zones respectively. The licensing of five other InfraCos for the remaining geo-political zones of Nigeria should be completed by the end of 2015. [Source: NCC.]

Consumer survey: Mobile operators in the Middle East and North Africa are struggling to retain young users

“The difficulty of retaining 18–24 year olds is the result of a combination of users’ heightened expectations and operators’ failure to deliver services that meet their requirements.”



Mobile operators in the Middle East and North Africa (MENA) target the youth segment because of its sheer size (an estimated 30% of the population is aged between 15 and 29, representing over 100 million people) and its demand for data. To this end, a number of operators have launched youth-oriented service plans that include generous data allowances and provide access to relevant services, such as social networks and media streaming.

However, according to our recent Connected Consumer Survey 2016 conducted across five countries in the MENA region in 2015, smartphone users aged 18–24 are particularly unsatisfied with, and less loyal to, telecoms providers than other age groups. This result highlights that youth-oriented plans are not sufficient to meet users’ expectations. This article presents a sample of survey results on customer churn and satisfaction in the MENA region, and outlines approaches that operators could take to improve traction with the youth segment.

YOUNG RESPONDENTS HAVE A STRONGER INTENTION TO CHURN AND ARE MORE DISSATISFIED WITH THEIR OPERATOR THAN OLDER USERS IN MENA

Analysys Mason conducted an on-device survey of 3750 smartphone users across Morocco, Qatar, Saudi Arabia and the UAE

(750 respondents per country) during July and August 2015. Survey results revealed that the intention to churn among surveyed respondents is relatively high. Over 20% of mobile customers in our survey panel indicated that they intended to leave their current operators within the next 6 months. By comparison, intention to churn rates reported in emerging Asia-Pacific (EMAP) and Europe were 13% and 15%, respectively.

Young users were most likely to want to churn. More than a quarter of users aged 18–24 years indicated their intention to leave their current provider (see Figure 1). In contrast, the more-senior group (35 years or older) represents low-churn customers. However, as a third of all survey panellists have indicated that they

are tied to standard or SIM-only contracts, this could mean that contract duration may artificially reduce stated intent to churn. We also asked potential churners how likely it was that they would recommend their mobile phone service provider to a friend or colleague on a scale from zero (not recommend) to ten (highly recommend). Results showed that users aged 18–24 years gave lower Net Promoter Scores (NPS) to (and are, therefore, more dissatisfied with) their operators than older users (35 years or older).¹ The strongest correlation of NPS with age can be observed for operators in Oman, Qatar and Saudi Arabia.

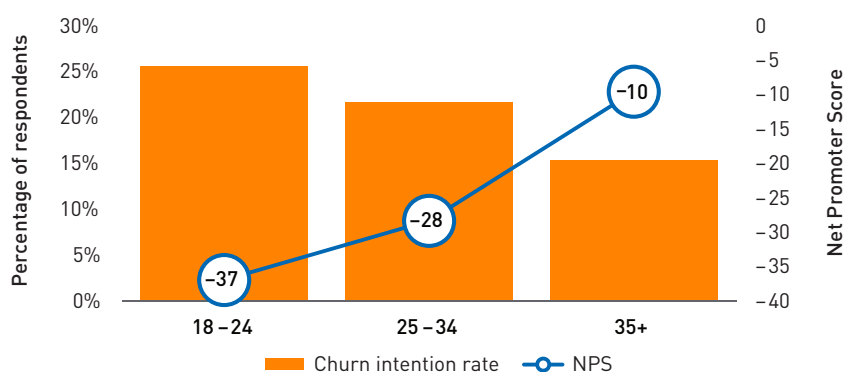


FIGURE 1: INTENTION TO CHURN AND NET PROMOTER SCORE, BY AGE GROUP, MOROCCO, OMAN, QATAR AND SAUDI ARABIA (AVERAGE) [SOURCE: ANALYSYS MASON, 2016]

YOUNGER USERS CARE MORE ABOUT THE CHOICE OF HANDSETS, BUT LESS ABOUT DATA ALLOWANCES THAN OLDER USERS

When we asked customers which service features they are looking for in their next mobile plans, having a higher data allowance is more important to respondents (across all age groups) than a lower price, or having a large choice of handsets from the operator.

However, the level of importance attributed to the availability of handsets through operators' channels varies by age group. The ability to own a handset of choice appears to be more important to respondents aged 18–24 years than to older users. This could be linked to the handset increasingly being used by younger users as a social status symbol, while the slowdown in device innovation and competition from intermediary form factors may weaken the appeal to older users.

OPERATORS SHOULD IMPROVE MOBILE SERVICE FUNDAMENTALS AND MARKETING APPROACHES TO RETAIN THE YOUTH SEGMENT

The difficulty of appealing to the youth segment is perhaps the result of a combination of users' heightened expectations about speed, especially from the more-urban and affluent segment of the population, and operators' failure to deliver youth-oriented services that meet their requirements.

Young users appear to be swayed by good network coverage and capacity, and respond well to services that simply and effectively address their needs. For instance, survey results showed that Zain's young users in Saudi Arabia reported higher NPS than Mobily's, despite the latter being traditionally perceived as an innovator. We believe that Zain has taken important steps to appeal to young users by:

- launching its Shabab (or 'youth' in Arabic) prepaid tariff in 2014, which includes up to 10GB data and free unlimited YouTube access



- investing heavily in its infrastructure to improve network coverage and capacity (both of which were recognised issues in the past)
- refreshing retail stores and revamping its customer support channels
- partnering with SABB bank to offer a wide range of smartphones with a 0% instalment plan.

Our survey revealed that young smartphone users in MENA are dissatisfied with telecoms providers and less loyal than other age groups, which suggests that operators must improve their ability to market services to this segment. To help improve the retention of the youth, operators should consider:

- ensuring that service fundamentals are right, for instance, by enhancing network coverage and capacity, and improve user experience by revamping the different customer touch points (including support and retail)
- thinking beyond tailored tariffs, marketing campaigns and sponsoring contracts
- offering a choice of handsets as well as financing support.

More detail and additional information can be found in two reports published in Analysys Mason's *The Middle East and Africa* research programme:

- Connected Consumer Survey 2016: mobile customer satisfaction in the Middle East and North Africa
- Connected Consumer Survey 2016: mobile services and devices in the Middle East and North Africa.

Questions?

Please contact Karim Yaici, Senior Analyst at Analysys Mason, via karim.yaici@analysysmason.com

¹ NPS is used to measure customer loyalty and satisfaction. Scores given are between –100 and +100. NPS®, Net Promoter® and Net Promoter® Score are registered trademarks of Fred Reichheld, Satmetrix and Bain & Company.

Tech companies offer an alternative to PPP investments in broadband networks



“Investments made by multinational tech companies are likely to improve the availability of broadband infrastructure, but established operators will need to consider appropriate strategies to counter the competitive threat posed by these tech companies.”

This article presents the findings of a discussion paper written by Analysys Mason for the International Telecommunication Union (ITU) and presented at the Global Symposium for Regulators 2015 (GSR15).¹ This article concludes a series of articles based on the GSR15 discussion paper and focuses on alternative and innovative approaches to investing in broadband networks.²

Policy makers in developing and developed markets have used public-private partnerships (PPPs) to drive investment in broadband networks, particularly in areas with challenging economics. However, many governments have limited funds to invest in PPP broadband projects. This is where tech companies such as Facebook, Google and Microsoft can play a key role as they have invested in a range of broadband initiatives in developing and developed markets. This article examines recent investments made by these multinational tech companies and the broad range of market conditions in which they invest, the opportunities they present to existing and other tech companies, and whether they can be considered as complementary or as alternatives to PPPs.

GOOGLE AND FACEBOOK HAVE INVESTED IN WHOLESALE NETWORKS IN LESS COMPETITIVE MARKETS WHERE THE TELECOMS INFRASTRUCTURE IS NOT WELL ESTABLISHED

Internet players such as Facebook and Google are driven by the prospect of

generating revenue downstream through the take-up and usage of their content and services as a result of widespread broadband deployment. In November 2013, Google – through its Project Link initiative – announced that it had deployed a wholesale fibre backbone network in the City of Kampala, Uganda.³ Mobile penetration in Uganda is one of the lowest in sub-Saharan Africa, standing at 50.2%.⁴ Fixed broadband penetration is also very low, standing at only 0.3% of the population, and is hampered by the lack of fixed infrastructure investment by the incumbent Uganda Telecom. In addition, two operators (Airtel and MTN) control 87.9% of the mobile market share, suggesting a lack of competition. Google's wholesale fibre network deployment in Kampala has enabled mobile operators and Internet service providers (ISPs) to enhance their service propositions to end users, resulting in increased take-up and allowing Google to promote its services.

In 2012, Facebook joined a consortium of 12 investors supporting the roll-out of the Asia-Pacific Gateway (APG) – a 10 000km undersea cable designed to improve Internet speeds for citizens and businesses in South Asia.⁵ The existing broadband infrastructure in South Asia was limiting the user experience of Facebook users due to the high number of hops made by traffic, resulting in poor latency. The APG will provide countries in the region with an alternative to existing cables that have suffered from several cable breaks. The APG will use an

open-access model to ensure that all operators in the region benefit from the investment.

The creation of alternative wholesale fibre infrastructure will be good news for ISPs and mobile operators that don't own their own infrastructure, however, incumbent operators may feel threatened. In addition, it is likely that tech companies will focus on areas (such as cities) and investments that are commercially attractive and are unlikely to replace government-funded PPPs.

GOOGLE HAS ALSO INVESTED IN OTHER VERY COMPETITIVE MARKETS, WHERE THE OPPORTUNITY FOR TECH COMPANIES CAN BE MORE CHALLENGING

In the USA, Google – through its 'Google Fiber' initiative – is investing in fibre networks across 12 US cities, offering residential users the potential to receive gigabit broadband.⁶ In March 2011, Google Fiber announced its intention to build a fibre-to-the-premises (FTTP) network in Kansas City, Missouri, offering fixed broadband and TV services directly to end users. Fixed broadband providers in Kansas City include AT&T, Comcast, Consolidated Communications, Level 3, Time Warner Cable and Zayo. AT&T and Time Warner Cable have the highest broadband coverage across Kansas City compared with the other fixed broadband providers.⁷ Despite the dominance of AT&T and Time Warner Cable, Google identified an opportunity to provide an alternative fibre network in Kansas City.



The city was also chosen for its good economic infrastructure and its business-friendly environment; for example, the presence of utility conduits meant that there was no need to dig up streets. In addition, local administrations helped with access to rights of way, speeding up planning permits and providing assistance with marketing and public relations to promote the service.⁸

The level of infrastructure competition will vary across cities and not all local administrations will have the same business-friendly approach as Kansas City. Based on this particular example, we can deduce that tech companies in established and competitive markets are more likely to invest in infrastructure on a case-by-case basis and are unlikely to invest in ubiquitous national broadband networks. For this reason, we believe that tech companies will not pose a major challenge to established operators in competitive markets.

MICROSOFT IS EXPLORING WHETHER TV WHITE SPACE PROVIDES AN AFFORDABLE OPPORTUNITY TO CONNECT REMOTE AND RURAL AREAS

Investing in rural areas can be expensive due to the need to build infrastructure (for example, base stations) to cover large areas where there are few subscribers. In some cases, there is also a lack of available spectrum. Data transmission using TV white space⁹ can address these issues because it is licence-exempt and its strong propagation characteristics mean fewer base stations are required to cover a given area.

Microsoft's '4Afrika' initiative is exploring the commercial feasibility of white-space technologies in Africa. In February 2015, Microsoft and Spectra Wireless launched the first commercial high-speed Internet service in Ghana using TV white-space spectrum.¹⁰ The commercial launch follows a pilot in 2014 and its objective is to provide affordable high-speed Internet services to students. Students will be able to use Microsoft applications such as

Microsoft Office 365 and Microsoft Virtual, allowing Microsoft to increase the exposure of its applications to end users. White-space pilot projects have also been launched across the world for unique applications, such as connecting remote health units in Bhutan¹¹ and providing Internet access on ferry boats in Scotland.¹²

The use of TV white space by tech companies is unlikely to present any significant threat to established operators, and is likely to complement current operator strategies, as it is isolated to unique applications and to remote areas where existing infrastructure is typically underdeveloped.

Iqbal Bedi regularly briefs government ministers and policy makers on policy-affecting issues in the telecoms and media sector such as digital inclusion, broadband plans, data centres and broadband investment strategies.

Questions?

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¹ The paper, *Investment strategies for the deployment of broadband and access to the digital economy*, draws on practical examples from a wide range of countries to develop best-practice guidance for regulators and government policy makers ('managing authorities') that wish to foster and secure investment in broadband networks. The paper is available at http://www.itu.int/en/ITU-D/Conferences/GSR/Documents/GSR2015/Discussion_papers_and_Presentations/Discussion%20paper_investment.pdf

Since its inception in 2000, GSR – attended by chief regulatory officers, policy makers and senior industry executives – has met annually to examine key issues affecting the regulation of telecoms and digital services. See also <http://www.itu.int/en/ITU-D/Conferences/GSR/Pages/GSR2015/default.aspx>

² The first article in this series can be found at <http://www.analysysmason.com/About-Us/News/Insight/Broadband-investment-strategies-digital-economy/> and the second article in this series is available at <http://www.analysysmason.com/About-Us/News/Insight/Broadband-network-investment-three-actions-for-regulators-and-policy-makers/>

³ See <http://www.google.com/get/projectlink/>

⁴ Mobile and fixed penetration results as of 1H 2014. Source: Analysys Mason's Uganda telecoms market report 2015

⁵ Facebook has noted that the APG will improve the Facebook experience for users in India, Indonesia, Malaysia, the Philippines, Hong Kong and Singapore

⁶ See <https://fiber.google.com/about/>

⁷ See <http://www.telecomramblings.com/metro-fiber-maps/great-plains/>

⁸ See <http://www.forbes.com/sites/eliseackerman/2012/08/04/how-kansas-won-the-google-fiber-jackpot-and-why-california-never-will/>

⁹ The term 'TV white space' usually refers to currently unoccupied portions of spectrum in the VHF/UHF terrestrial television frequency bands in some geographical areas

¹⁰ <http://mybroadband.co.za/news/wireless/118405-tv-white-spaces-not-competition-for-operators-microsoft.html>

¹¹ See http://www.telecomreviewasia.com/index.php?option=com_content&view=article&id=641:white-space-a-gold-mine-of-untapped-spectrum&catid=67:august-september-2014&Itemid=264

¹² See <http://www.scotsman.com/news/scotland/top-stories/rural-scotland-to-lead-with-white-space-internet-1-3569913>

Our Africa expertise

Analysys Mason has completed more than 200 consulting projects in Africa in the last 10 years alone.

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Experience	<ul style="list-style-type: none"> More than 700 projects executed in the area, covering in excess of 100 countries <ul style="list-style-type: none"> - 120 projects involving African countries 	<ul style="list-style-type: none"> Over 1000 projects executed worldwide, covering in excess of 100 countries <ul style="list-style-type: none"> - 80 projects involving African countries 	<ul style="list-style-type: none"> More than 4000 projects completed worldwide, covering in excess of 100 countries <ul style="list-style-type: none"> - 140 projects involving African countries 	<ul style="list-style-type: none"> More than 50 projects executed worldwide, including cross-border projects involving multiple countries in Africa and Latin America <ul style="list-style-type: none"> - 12 projects involving African countries

Our research and analysis across the key challenges and issues continues to inform industry players in African telecoms markets.

See our latest research on Africa telecoms markets:

- Connected Consumer Survey 2016: OTT and digital economy services in the Middle East and North Africa
- Connected Consumer Survey 2016: mobile services and devices in the Middle East and North Africa
- Connected Consumer Survey 2016: mobile customer satisfaction in the Middle East and North Africa
- Middle East and North Africa telecoms market: trends and forecasts 2015–2020
- Mobile services in Sub-Saharan Africa: trends and forecasts 2015–2020
- Mobile money in the Middle East and Africa: trends and forecasts 2015–2020
- Mobile money in the Middle East and Africa: opportunities and best practices
- Smartphones in Sub-Saharan Africa: trends and forecasts 2015–2020
- Sub-Saharan Africa telecoms market: trends and forecasts 2015–2020
- The Connected Consumer Survey 2016: South Africa

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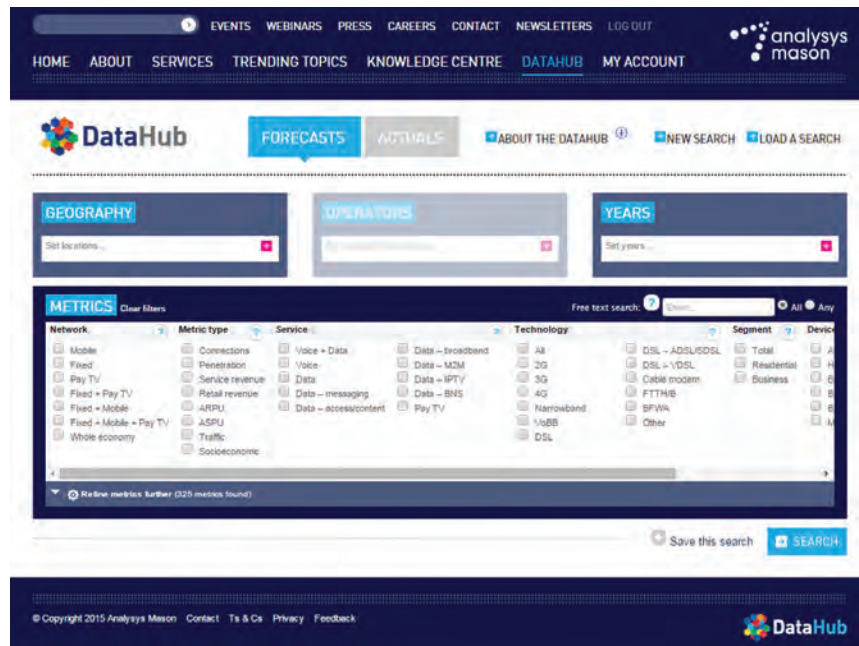
This bi-weekly snapshot features recent opinion pieces, articles based on our most recent research or consulting projects, as well as the latest industry news and views.

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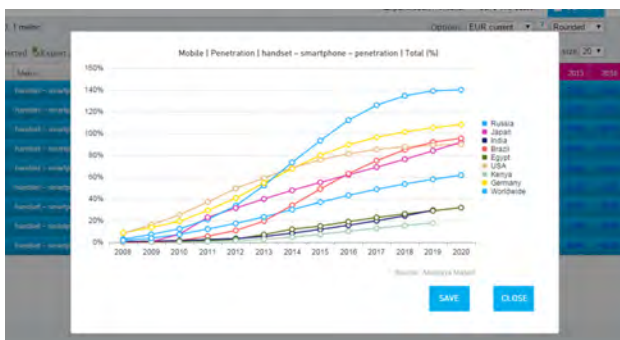


FIGURE 1: ANALYSE TRENDS USING ON-SCREEN CHARTS, AND MAKE COMPARISONS BETWEEN MARKETS AND OPERATORS
[SOURCE: ANALYSYS MASON, 2015]

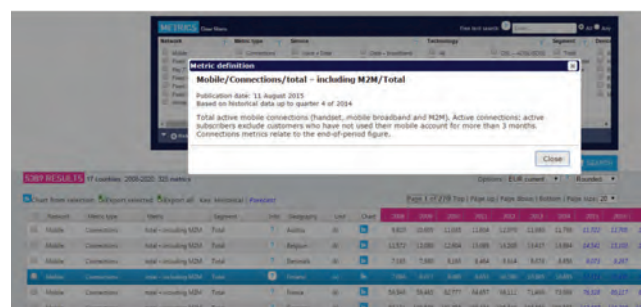


FIGURE 2: UNDERSTAND THE DATA YOU SEE USING CLEAR ON-SCREEN DEFINITIONS
[SOURCE: ANALYSYS MASON, 2015]

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Analysys Mason is the global specialist adviser on telecoms, media and technology (TMT). Since 1985, Analysys Mason has played an influential role in key industry milestones and helping clients through major shifts in the market. We continue to be at the forefront of developments in the digital economy and are advising clients on new business strategies to address disruptive technologies.

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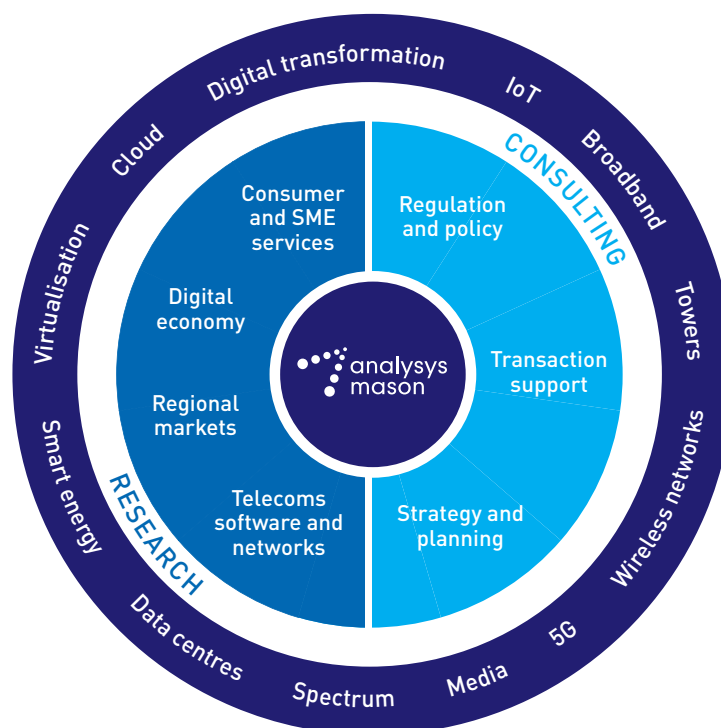
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“Analysys Mason is the global specialist adviser on telecoms, media and technology (TMT). Since 1985, Analysys Mason has played an influential role in key industry milestones and helping clients through major shifts in the market. We continue to be at the forefront of developments in the digital economy and are advising clients on new business strategies to address disruptive technologies.”

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