

**International Economics**

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**MOBILE MARKET IN AFRICA:
THE CASE OF NIGERIA****Abstract**

Africa is the world's second largest mobile market after Asia. Based on the fact that the continent's wide economic growth and an increasingly competitive marketplace, the number of subscriptions in Africa is set to reach one billion by 2015. The transformation of Nigeria's telecommunications access since the licensing of three GSM networks in 2001 and a fourth one in 2002 has yielded a huge result. The country continues to be one of the fastest growing markets in Africa with triple-digit growth rates almost every single year since 2001. In this paper we carried a report containing a market overview and analysis, key statistics, regulatory issues and forecast for the mobile market in 2017. In conclusion we find out that Nigeria has overtaken South Africa to become the continent's largest mobile market almost 100 million subscribers, but however, market penetration remains at only about 60% in early 2012 as a result of the global economic crisis, reinforced in 2010 but then declined again in 2011.

Key words:

Nigeria, mobile, market, subscriber, growth, gsm companies.

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Introduction

Mobile market is a means of marketing communication or the distribution of any kind of promotional or advertising messages to customer through wireless networks.

Mobile market has been on the increase in Africa driven by strong competition among mobile operators and the availability of new data services and strong economic growth on the continent. The Nigerian mobile market is a comparatively young market by African standards, with the first mobile services launched in 2001. However, the Nigerian mobile market has emerged as the fastest growing mobile market in Africa, registering triple-digit growth rates in subscriber numbers.

«According to Omega Performance Telecoms & Media Research (2012), the group found that the rapid growth in the mobile market has been primarily due to the government's liberalisation policy and the subsequent increase in competition in the market. The presence of competition in the market has resulted in a rapid growth in the countries subscriber base, reduced tariffs, wide network coverage and high quality of service, along with the creation of employment opportunities». The operators are witnessing lower Average Revenue Per User (ARPU)¹ and a slowing rise in profits, primarily driven by lower mobile tariffs and the growth of low-income and low-usage subscribers.

¹ Average revenue per user (ARPU) is a term used especially in the telecommunications industry to indicate how well a company is accessing its customers» revenue potential. ARPU is commonly calculated by dividing the aggregate amount of revenue by the total number of users who provide that revenue. Other measurements are tracked as well, including the revenue generated by new customers as compared with the revenue generated by existing customers and the revenue generated by new services as compared with the revenue generated by existing services. A company that tracks its average revenue per user will most likely want to know its profit potential in broad terms. Mobile phone companies, however, also track ARPU by examining revenues brought in by customers» incoming calls as compared with revenues generated by monthly or annual fees. In this way, ARPU can be both general and specific. It is not just telecom companies that calculate their average revenue per user, however, internet companies track ARPU as well including other electronic service providers. Although it does have some imperfections, ARPU has been found to be a useful method of tracking data, service use and revenue potential (BBC News 2005).

Overview (country's brief history)

With a population of 170.123.740 million people (as of July 2012) from 162.5 million people in 2011, Nigeria stands as the largest country in Africa and accounts for 47% of the population of West Africa. Nigeria is about the 10th most populous country in the world, and its population is projected to grow to between 235 and 250 million in 2025 – bringing it into the five or six most populous countries. «A study of the association model for the macroeconomic analysis in Nigeria (Nwaubani J C., 2011) has shown that Nigeria is a nation that is endowed with multifarious and multitudinous resources both human and natural. However, due to gross mismanagement, profligate spending, kleptomania and adverse policies of various governments of Nigeria, these resources have not been adequately channelled to profitable investments to bring about maximum economic benefits».

Nigeria is the second largest economy in Sub-Saharan Africa and constitutes the 41% of the region's GDP). It is governed under a three-tier Federal structure, comprising 36 state governments, 774 Local Government Areas, and Federal Capital Territory Abuja – located at the centre of the country. The States are grouped into six geopolitical zones, and the local governments are grouped into districts, traditional rulers or council areas, emirates especially in the areas of the far North.

The countries proven oil reserves, all located in the southeast and south-south coastal area, amount to an estimated 27 billion barrels, sufficient to last for about 37 years (2050) at the current rate of production. Annual production of 2.5 million barrels per day (mbd) compares favourably to 1.2 mbd in Mexico. Proven natural gas reserves are estimated at 174 trillion cubic feet (equivalent to 30 billion barrels of crude oil), with energy content slightly higher than the country's oil reserves. These reserves are comparable to those of Algeria, and will last for 110 years at current production levels. Export of gas is substantial after the year 2004. Nearly 80% of Nigeria's energy revenues flow to the government and 16% cover operational costs, and the remaining 4% go to investors. However, «the World Bank (2011) has estimated that as a result of corruption 80 percent of energy revenues benefit only 1% of the population.

Market overview and analysis

A «London-based Omega Informa group forecast (2012) claimed that the number of Africa's mobile subscriptions reached approximately 761 million in 2012, making the continent, once again, the fastest growing market in the world

and suggests that subscribers in Africa will reach 1.13 billion by the end of 2017.» Additionally, the continent's biggest mobile market, Nigeria, with 100 million subscriptions, is set to rise to 169 million by the end of 2017. The group forecasts that the African market will have grown by 18 per cent by the end of 2013, against the world average of 11 per cent and substantial opportunities for further growth remain, because the rate of mobile penetration in Africa is the lowest among major world regions and fixed networks are under-developed or absent across much of the continent.

In 2011 the GSMA industry association said that the mobile industry in Africa accounted some 3.5 per cent of total GDP, or \$56 billion of which mobile operators made up the largest considerable or substantial amount. The **Global System for Mobile Communications Arena (GSMA)** represents the interests of mobile operators worldwide. Spanning more than 220 countries, the GSMA unites nearly 800 of the world's mobile operators with more than 230 companies in the broader mobile ecosystem, including handset makers, software companies, equipment providers and Internet companies, as well as organisations in industry sectors such as financial services, healthcare, media, transport and utilities.

Current role on mobile market in Nigeria

The current role calls of GSM operators consists of Airtel – Celtel, Glomobile, MTN, and still notionally providing a service, NITEL's M-Tel. All operators provide services based on 2G (GSM), 2.5G (GPRS) and 3G (UMTS) networks. The 3G (UMTS) was launched recently based on Universal Mobile Telecommunications System and serves as an umbrella term for the third generation radio technologies developed within 3GPP. At the same time the operators are rolling out national fibre backbone networks to support the ever increasing demand for bandwidth. At least two operators are rolling out fourth generation (4G) LTE networks.

The radio access specifications provide for Frequency Division Duplex (FDD) and Time Division Duplex (TDD) variants, and several chip rates are provided for in the TDD option, allowing UTRA technology to operate in a wide range of bands and co-exist with other radio access technologies.

Additionally, Code Division Multiple Access (CDMA) which has been in use for a long time lack national coverage and comprehensive geographical coverage weighing against it. Current operators are Visafone, Multilinks, Starcomms and ZoomMobile. The Nigerian mobile market also has a large number of value-added services companies such as MTech, TaviaTxt, SaveMyContacts, Textnigeria, Entegration Solutions, Cellulant, 3G Reality Centre and A3&O, which generate mobile content to deliver value-added services via the GSM network operators. The mobile operators share the revenues equally with these private value-

added services companies, with exemption of M-Tel, which is yet to develop a relationship with a VAS company.

Market Size

The total number of mobile subscribers in Nigeria has a penetration rate of approximately 55 percent. The subscriber base more than tripled in one year, increasing from 3.15 million at the end of 2003 to 9.58 million at the end of 2004. «A Research conducted by Portio (2012) suggests that the number of mobile subscribers in Nigeria increased at a Compounded Annual Growth rate (CAGR) of approximately 30.2 percent from 18.56 million at end of 2005 to 90.47 million at the end of 2011.» The corresponding penetration rate increased from 14.4 percent to 60.9 percent. Consequently, the 3G services that were launched in 2006 accounted for approximately 13.4 percent of the total subscribers in 2011. CAGR is not an accounting term, but remains widely used, particularly in growth industries or to compare the growth rates of two investments because CAGR dampens the effect of volatility of periodic returns that can render arithmetic means irrelevant. CAGR is often used to describe the growth over a period of time of some element of the business, for example revenue, units delivered, registered users, etc.

1. Formula

$$CAGR(t_0, t_n) = (V(t_n)/V(t_0))^{\frac{1}{t_n-t_0}} - 1$$

$V(t_0)$: Start value, $V(t_n)$: finish value, $t_n - t_0$: number of years.

Market Evolution

As with any developing market, many of the country markets in Africa are rapidly maturing, and indeed transitioning through their natural growth stages very quickly. Market evolution tends to follow through stages of deregulation, liberalisation, entry of competition, rapid growth and then consolidation and maturity. Many of the mobile markets in Africa have gone through great changes in recent years, evolving from state-run monopolies to competitive growth markets. Much of the rapid growth in the last 2 or 3 years has been spurred by this liberalisation, and now these markets are evolving from this explosive growth phase into a more controlled, more mature phase.

Different countries in Africa are currently at different stages in their market evolution, with a few markets, such as Ethiopia and Rwanda, still operating as monopolies and some at the other end of the scale facing maturity and intense

competition, such as South Africa with Virgin Mobile having launched the first mobile virtual network operator (MVNO) and Mobile Virtual Network Enabler (MVNE) on the African continent, the market conditions in Africa's more competitive markets offer ample MVNO and MVNE services. As MVNOs proliferate worldwide, particularly in Europe and North America, Africa has become an exciting target market for MVNO growth, where regulatory market conditions allow.

Mobile Network Operators

Nigeria's mobile market is competitive in nature with eight operators providing mobile services. However, the three leading operators, Globacom Nigeria Limited, MTN Nigeria Communications Limited and Airtel/Celtel Nigeria together accounted for more than 90 percent of the country's total subscribers at the end of November 2012. The other operators are much smaller players in the market.

The principal operators in alphabetical order currently providing mobile services in Nigeria are:

- Airtel – Celtel Nigeria
- Etisalat, Emerging Markets Telecommunication Services Limited – One Naija, Multilinks Telkom Limited
- Glo Mobile, Globacom Nigeria Limited
- M-Tel, Nigeria Mobile Telecommunicarions Limited
- MTN, MTN Nigeria Communications Limited
- Starcomms, Starcomms Nigeria Plc
- Visafone, Visafone Communications Limited
- ZOOM Mobile, ZOOMmobile NIGERIA

Useful solutions to mobile market

Modern mobile devices, other than an integral part of our everyday life, have more advanced features that a comprehensive marketing plan must take into account. The mobile marketing can be used in many ways, some of which are:

SMS Advertising: Send bulk sms or mms to customers of your business, to inform them about a new product or service or to alert them on time for the expiration of a service.

SMS Contests: They can enhance the visibility of a product with another way of advertising (online, print, radio, etc). Customers are invited to send sms with a code which are found on your product or on your advertising and thereby automatically participate in a competition.

Mobile Advertising: Promotion via advertising on Google, users who surf on their mobile phone or use one of the thousands of available mobile applications.

Mobile version Site: Users who view your website from their mobile phone, subsequently increases. Take care to ensure that those users will find what they are asking for, giving them a lighter and simpler version of your online website.

Mobile Applications: Have you an important idea of where you want us to implement? Do you want to stand out from your competition and strengthen your prestige, creating a useable or handy iphone application?

Mobile market through mobile SMS (Short Message Service) became increasingly popular in the early 2000s in Europe and some parts of Asia when businesses started to collect mobile phone numbers and send off wanted (or unwanted) content. On average, SMS messages are read within four minutes, making them highly convertible. Over the past few years SMS marketing has become a legitimate advertising channel in Africa. This is because unlike email over the public internet, the carriers who monitor their own networks have set guidelines and best practices for the mobile media industry (including mobile advertising). The IAB (Interactive Advertising Bureau) and the Mobile Marketing Association, as well, have established guidelines and are evangelising the use of the mobile channel for marketers. While this has been fruitful in developed regions such as North America, Western Europe and some other countries, mobile SPAM messages (SMS sent to mobile subscribers without a legitimate and explicit opt-in by the subscriber) remain an issue in Africa especially in Nigeria and in many other parts of the world, partly due to the carriers selling their member databases to third parties. For instance, in India, however, government's efforts of creating National Do Not Call Registry have helped cellphone users to stop SMS advertisements by sending a simple SMS or calling 1909.

Mobile market via SMS has expanded rapidly in Nigeria as a new channel to reach the consumer. SMS initially received negative media coverage in many parts of Africa for being a new form of spam as some advertisers purchased lists and sent unsolicited content to consumer's phones; however, as guidelines are put in place by the mobile operators, SMS has become the most popular branch of the Mobile Marketing industry with several 100 million advertising SMS sent out every month in Nigeria alone.

Mobile SMS market services typically run off a short code, but sending text messages to an email address is another methodology. Short codes are 5 or 6 digit numbers that have been assigned by all the mobile operators in a given country for the use of brand campaign and other consumer services. Due to the

high price of short codes, many small businesses opt to share a short code in order to reduce monthly costs. The mobile operators vet every short code application before provisioning and monitor the service to make sure it does not diverge from its original service description. Another alternative to sending messages by short code or email is to do so through one's own dedicated phone number. Besides short codes, inbound SMS is very often based on long numbers (international number format, e. g. +234 1 xxx xxxx), which can be used in place of short codes or premium-rated short messages for SMS reception in several applications, such as product promotions and campaigns. Long numbers are internationally available, as well as enabling businesses to have their own number, rather than short codes which are usually shared across a number of brands. Additionally, long numbers are non-premium inbound numbers.

Nigeria: Country Code: **+234**, International Call Prefix: **009**, Trunk Prefix: **0**

The area codes in Nigeria vary between 1 (Lagos, Ibadan and Abuja) and 3 (for GSM networks) digits long. The non-GSM mobiles are given area codes of the geographical location where they are registered. One key criterion for provisioning is that the consumer opts in to the service. The mobile operators demand a double opt in from the consumer and the ability for the consumer to opt out of the service at any time by sending the word STOP via SMS. These guidelines are established in the Mobile Market Association (MMA) Consumer Best Practices Guidelines which are followed by all mobile marketers in Africa. In Nigeria, opt in will be mandatory once the Fighting Internet and Wireless Spam Act comes in force in the near future.

Cross-area code roaming

With the advent of Unified Licensing by the Nigeria Communication Commission, the private telephone operators (Non GSM Telecoms) are starting to introduce cross-area code roaming.

| Code | Operator |
|-------|-------------|
| 07025 | Visafone |
| 07026 | Visafone |
| 07028 | Starcomms |
| 07029 | Starcomms |
| 07027 | Multi-Links |
| 0703 | MTN Nigeria |
| 0704 | Visafone |
| 0705 | Globacom |
| 0706 | MTN Nigeria |

| Code | Operator |
|------|------------------------------|
| 0707 | ZoomMobile (formerly Reltel) |
| 0708 | Airtel Nigeria |
| 0709 | Multi-Links |
| 0802 | Airtel Nigeria |
| 0803 | MTN Nigeria |
| 0804 | MTEL |
| 0805 | Globacom |
| 0806 | MTN Nigeria |
| 0807 | Globacom |
| 0808 | Airtel Nigeria |
| 0809 | Etisalat Nigeria |
| 0810 | MTN Nigeria |
| 0812 | Airtel Nigeria |
| 0813 | MTN Nigeria |
| 0815 | Globacom |
| 0816 | MTN Nigeria |
| 0817 | Etisalat Nigeria |
| 0818 | Etisalat Nigeria |
| 0819 | Starcomms |

Summary and conclusion

As a consequence of the booming of mobile market in the 2000s, Africa now contributes for about 7% of the world's mobile market. Mobile telephone providers that introduced mobile marketing in Africa in the 2000s adopted business models explicitly designed to reach the poorest (and largest) section of the population, with low-priced mobile phones and small denomination prepaid cards.

Another key success factor in the providers' strategy in Africa has been the cutting down of roaming costs. This is especially relevant in Africa since strong relationships often hold between neighboring communities that happen to be separated by national borders. Celtel was the first operator to provide free roaming with the 2006 One Network campaign, whereby roaming became free between Uganda, Kenya, and Tanzania. In 2007, it extended to Gabon, DR Congo, Congo-Brazzaville, Burkina Faso, Chad, Malawi, Niger, Nigeria and Sudan. Other providers operating in African markets such as Globacom Nigeria Limited,

MTN Nigeria Communications Limited have joined Celtel with the intention to gradually reduce and eventually abolish roaming costs for certain areas.

Mobile market technology in Nigeria has grown significantly over the past decade thereby overtaken South Africa to become the continent's largest mobile market almost close to 100 million mobile phone lines, making it Africa's largest telecoms market. Mobile market has changed so many lives in Nigeria by providing the much needed connectivity to the most remote parts.

Bibliography

1. Waters, D. (2007, October 29). *Africa waiting for net revolution*. «BBC News».
2. BBC News (2005) «Tracking a suspect by mobile phone», 3 August 2005, Retrieved 14 March 2009.
3. ITU (2007), *Telecommunications/ICT Markets and Trends in Africa*.
4. Nwaubani J. C. (2011). Association model for the macroeconomic analysis in Nigeria, *Department of Applied Informatics, University of Macedonia Thessaloniki Greece, Published by Data Analysis Bulletin, Copyright – Greek Society of Data Analysis, Issue 12/11, No. 12, pp. 64–82*.
5. Omega Performance (2012). *Africa is world's fastest growing mobile market, November 13, 2012, Telecoms & Media, Copyright Informa plc*.
6. Portio Research (2012). *The Vertical Markets Research Portal, Copyright 1997–2012, Global Information, Inc*.
7. Reuters (2008). *Celtel Expands Free Roaming Network to 12 African Nations*.
8. World Bank (2011). The Concept of Wealth. In: *The Wealth of Nations in the Twentieth Century: The Policies and Institutional Determinants of Economic Development*.

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