THE REWARDS AND CHALLENGES OF INVESTING IN TELECOMS IN DEVELOPING COUNTRIES: NIGERIA IN FOCUS – OLALEYE ADEBIYI*

INTRODUCTION
Right now, the telecom industry is in a state of flux. In the wake of the deregulation of the telecom sector in the US and Europe beginning in 1996, demand for internet and wireless services was matched by huge spending by telecom companies on both sides of the Atlantic. Telecom giants and upstarts spent huge amounts of money building networks that could carry voice, data and high-speed internet access. Demand for these services was expected to grow in double digits per year.

To crown this optimism, European telecom giants, like BT, France Telecom, Deutsche Telecom and KPN, took a bet on the future, borrowed heavily to pay for 3G licences to enable them provide high speed data transmission and video on demand among other services. The estimated roll out date for 3G services has now become as uncertain as which of the major licensees will retain its current structure going forward. The long and short of all these is that US and European telecom companies spent more money in the good old days than the opportunities that are now available.

Too many players are chasing too little business setting up crippling price competition that has eroded profits. The situation is better described by Business Week1 as follows “Now, what once looked like the land of promise, is quickly turning a wasteland, as profits vanish, revenues slump, stocks plummet, and companies begin going belly-up”. Spates of debt defaults and credit downgrades have been competing with unimaginable bankruptcies. If things are this bad in the developed world, the question is, why should anybody invest in a developing economy?

Well, the surprising thing is that, any telecom company interested in growth cannot ignore developing countries. The reason is simple. Unlike in the developed economies, where there are too many players chasing too little business, in developing countries, because of the perceived risks, there are too few players exploring vast opportunities. The purpose of this paper is to examine the “rewards” and challenges of investing in telecom services in Nigeria. In this regard, we will examine the vast telecom business opportunities in Nigeria and the experience of current operators in the Nigerian telecom sector.

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1 Business Week Online, April 23, 2001 --Telecom Meltdown
TELECOM REGULATIONS AND OPERATORS

Telecom is regulated in Nigeria by the Nigerian Communication Commission (NCC) which grants licences and manages available spectrum.²

In addition to the internet and data service providers, there are three broad categories of telecom operators in Nigeria, namely-

- the fixed wire/wireless services providers such as the Government owned Nigeria Telecommunications Limited (NITEL), the newly licensed Second National Operator (Globacom), a number of fixed wireless operators and those operating the Fixed Wireless Access technology.
- the cellular operators such as MTN Communications and Econet Wireless, the two dominant GSM operators. NITEL and Globacom also hold Digital Mobile Licences to provide cellular services based on the GSM technology.
- the Long Distance Operators such as NEPSKOM Communications Limited and Mobile Telecommunications Service Limited. Interestingly, NEPSKOM is a Joint Venture (JV) between ESKOM, a South African electricity company, and the Nigeria Electric Power Authority (NEPA). The JV is basically expected to utilize NEPA’s transmission infrastructure to provide transmission backbone to telecom companies that may require it.

THE REWARDS

There are immense opportunities in the telecom sector in Nigeria which in our view overshadow any perceived risk.

Huge and untapped opportunities

Nigeria is the most populous country in Sub-Sahara Africa, and one of the countries with the lowest tele-density ratio at four (4) telephone lines per 1000 people³. The World Bank’s World Development Indicator database stated that Nigeria’s population in year 2000 was 126.9 million growing at a rate of 2.4% per annum⁴. This implies conservatively an annual increase in population of 2m – 2.5m. There is therefore a lot of pent-up demand for telecommunication services.

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² NCC Powers are derived from the Nigerian Communications Commissions Act 1992 as supplemented by the Nigerian Telecommunication Policy issued in May 2000.
³ EIU County Profile 2001: Nigeria pg. 12
⁴ EIU County Profile 2002: Nigeria pg. 13
Pyramid Research estimated that from a market value of $800m in 2001, the Nigerian market will be worth $2.5 to $3.5 billion by the end of 2006.5

With that growth potential, Nigeria market is ranked second in Africa after South Africa. However, with a Compound Annual Growth Rate (CAGR) of about 50% between 2001 and 2006, Nigeria ranked first among the top four markets in Africa.6

Based on pent-up demand, resulting from a bad telecoms infrastructure, growth is expected from mobile services, internet, data communications and fixed voice services.

Further to the invitation of bids for the Second National Operator Licence, the NCC carried out a Fixed Market Demand data survey. According to the NCC, the primary objective of the Market Demand Analysis was to analyse the total fixed network voice, data and IP demand for Nigeria and construct a nationwide market demand model7. The NCC also stated that although the model is essentially a needs-driven analysis, it included a poverty index to influence the calculation of the addressable market. This is particularly because a large part of the perceived demand of telecomms services lies in rural areas, which are relatively very poor, and isolated.

The NCC believes the demand of this larger percentage of the population could be met though the provision of shared facilities, e.g. community tele-centres, public call offices and/or innovative services, including those on Fixed Wireless Access Technology. Below is an analysis of fixed line demand and voice traffic forecast by NCC for 2001-2009.

**Fixed Line Demand - Voice Line**

<table>
<thead>
<tr>
<th>Million Lines</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Lines</td>
<td>4.03</td>
<td>4.93</td>
<td>6.04</td>
<td>7.07</td>
<td>7.77</td>
<td>8.85</td>
<td>9.43</td>
<td>9.83</td>
<td>10.25</td>
</tr>
<tr>
<td>Of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>0.65</td>
<td>1.06</td>
<td>1.42</td>
<td>1.53</td>
<td>1.61</td>
<td>1.69</td>
<td>1.74</td>
<td>1.80</td>
<td>1.85</td>
</tr>
<tr>
<td>Residential</td>
<td>3.38</td>
<td>3.87</td>
<td>4.62</td>
<td>5.54</td>
<td>6.16</td>
<td>7.16</td>
<td>7.69</td>
<td>8.03</td>
<td>8.40</td>
</tr>
<tr>
<td>Teledensity (based on demand)</td>
<td>3.4%</td>
<td>4.1%</td>
<td>4.9%</td>
<td>5.5%</td>
<td>5.9%</td>
<td>6.5%</td>
<td>6.8%</td>
<td>6.9%</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

Assessment of Voice Line Demand, 2001 – 2009 Source: NCC – Information Memorandum for SNO

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5 Pyramid Research: Nigeria Now Capitalizing on Africa’s Fastest Growing Market – June 2002 by Guy Zibi pg. 2
6 Egypt CAGR is estimated at 27% while South Africa and Morocco are estimated at 11% each – Pyramid Research
7 NCC: Information Memorandum and Application Instructions licensing – A Second National Operator in the Telecommunications Market, pg. 25. The contents of the Information Memorandum form a substantial part of this section of the paper
Voice Traffic Forecast

Source: NCC – Information Memorandum for SNO

- Calls are charged based on distance. Rates per minute range from US$0.4 cents to US$0.40 cents for domestic calls while the minimum rate for international calls is about US$0.90 cents per minute.

- Assuming long distance calls represent 40% of the traffic, then conservatively for 2003, 2006 and 2009, long distance traffic will generate about US$518m, US$878m and US$1.4b respectively.

- Right now NITEL, the Government-owned telecom company controls 70%-80% of the long distance traffic.

Assumptions

- An annual population growth rate at 2.83% was applied

- The average household size across the country of 4.89 was assumed to remain constant throughout the forecast period.

- The addressable market for residential lines is derived from the percentage of the labor force within ages 15 to 64 who are above the poverty line.

- The immediate total residential fixed line demand is 3, 511, 712 representing household penetration of 14.6%. This was determined by factoring the household income ranking for urban households into the addressable market.

- Based on current demand evolution and a forecast of percentage growth of household penetration vis-à-vis the poverty ranking of individual states, the overall penetration based on the demand for lines is 30.64% by 2009.
**Business Lines**

The 36 states were separated into three tiers according to the current level of commercial activities.

<table>
<thead>
<tr>
<th>Tier</th>
<th>States</th>
<th>Annual company growth</th>
<th>Average lines/co. 2001</th>
<th>Average lines/co. 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>Lagos, Abuja</td>
<td>6%</td>
<td>20</td>
<td>35</td>
</tr>
<tr>
<td>Tier 2</td>
<td>Akwa Ibom, Anambra, Bauchi, Borno, Cross-River, Delta, Edo, Enugu, Imo, Kaduna, Kano, Oyo, Plateau, Rivers</td>
<td>2%</td>
<td>12</td>
<td>28</td>
</tr>
<tr>
<td>Tier 3</td>
<td>Abia, Adamawa, Benue, Bayelsa, Ebonyi, Ekiti, Gombe, Jigawa, Katsina, Kebbi, Kogi, Kwara, Nassarawa, Niger, Ogun, Ondo, Osun, Sokoto, Taraba, Yobe, Zamfara</td>
<td>1%</td>
<td>4</td>
<td>12</td>
</tr>
</tbody>
</table>

*Source: NCC – Information Memorandum for SNO*

**Residential**

- Due to the high number of users per telephone line, the level of minutes per line per month is 600 – double the average figure for US, Western European Countries. This is expected to depreciate gradually as the teledensity increases.

**Business**

- The number of minutes per business line is presently 650 minutes per line per month. This is also expected to gradually depreciate over the period.

**Dial-up Internet Traffic**

There are currently about 30 active ISPs out of the 100 licensed to render services. NCC estimated total of approximately 115,000 internet users in Nigeria by the end of 2001 at an average of four users to each computer with internet or e-mail connection. This translates to one internet user for every 1,000 people, compared to a world average of one user for every 30 people, or one user for 3 people for North America and Europe.

By 2009, NCC demand model forecast one internet user for every 17 people. Whilst the number of per minute connection currently averages 400 minutes per month, by 2008 this is expected to increase to average of 1,400 minutes per connection per month as bandwidth access increases and connection becomes more reliable.
Data Service Demand

A large percentage of data traffic is currently carried over private networks e.g. VSAT and satellite systems. Increase in future demand for data services is expected to come from:

- Increasing reliance on always-on internet access;
- Higher level of e-Business activities both by Government and commercial enterprises.
- Enterprise networks between the head office and branch sites.

NCC estimated that in the short and medium term, the emphasis will be on 64Kbit/s and 128 Kbit/s connections. Higher speed connections in large corporations are expected to represent a smaller number of total connections. What this means is that there is abundant opportunity for high speed data connections.

Mobile Services

Pyramid Research estimated the addressable market at 24 million by 2006, with 9 million connections by all mobile operators. However, one of the operators estimated the expected market at 13 million by 2010 out of which it will connect 7.5 million (5.5% penetration). With an average of about 50,000 connections per month in 2002, these estimates are reasonable. There were a total of about 375,000 mobile connections in 2001.
Barely a year after commercial launch, MTN and Econet, the two current GSM operators have as at September 2002 a total subscriber base of about 1.25 million. And like all emerging markets, it is expected that new users will opt for mobile rather than fixed lines.

Apart from MTN, Econet, NITEL and Globacom, most, if not all the rest, PTOs are small players offering spotty service quality, have a narrow service portfolio, and their fixed lines are too expensive for the average user.9

ARPU as at December 2001 was about $80 (excluding connection fees) and in September 2002 about $60. Although this figure is expected to fall to about $30 by 2003, this is still slightly above the projected African average.10

Favourable Tax Regime

Nigeria has a favourable tax regime. The corporate tax rate is 30%. In addition, telecom companies depending on their level of investments, could qualify for Pioneer Status. With the Pioneer Status, the companies are exempted from tax for a period ranging from between three and five years. Any aggregate loss or losses incurred during the tax relief period is deemed incurred on the first day following the tax relief period and is available for carrying forward for a maximum of four years. In addition the import duty rate on telecom equipment has been reduced from 25% to 5%.

Opportunities for Telecom Equipment Manufacturers

According to Pyramid Research11, based on operators’ CAPEX plans, the Nigerian Market has a CAPEX potential of about $3.7 billion between 2001 and 2002. This is expected to rise as the four dominant operators, MTN, Econet, NITEL and Globacom attempt to meet the agreed roll-out targets to retain their licences. For example the GSM Operators are each required to connect 100,000 lines, 750,000 lines and 1,500,000 lines respectively in 12 months, 36 months and 60 months. All the operators have had to build or upgrade their transmission network, and migrate to IP technologies. Key equipment suppliers right now include Ericsson, Siemens and Alcatel. In October 2002, Alcatel signed a $10 billion equipment supply and financing deal with Globacom, the SNO.

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9 Nigeria Now: Capitalizing on Africa’s Fastest-Growing Market, June 2002 Guy Zibi Pyramid Research pg. 22
10 Same as above pg. 5
11 Supra pg. 24
Opportunities to Acquire a Number of Small Players

The market as pointed out above is fragmented. There are too many small players chasing the same customers mainly because they do not or could not afford to make the necessary investments to expand their geographic presence or market share. A number of Fixed Wireless Access (FWA) licences was granted recently. Any interested investor may buy two or more of the FWA licences and make the necessary investments to penetrate the market. Given the conditions of infrastructure, fixed wireless hold the key to the future since it can be deployed more rapidly and not is dependent on dominant operator’s last mile infrastructure. A number of other marginal Fixed Wireless Operators are also seeking to expand their national coverage and therefore searching desperately for investors.

Also, at the right price, with a strong balance sheet, and more than 70% of fixed access market the government-owned NITEL represents a good target for acquisition. However, this is dependent on whether the government goes ahead with planned restructuring. Early this year, the Government attempts to sell 51% of this entity to a core investor was aborted after the investor could not pay the purchase price at the agreed time.

Shared Services

As explained above, some of the operators in the Nigerian market are marginal players who require basic support in many areas of their business. Due to reasons ranging from lack of funds to infrastructure support, some of the telecom operators in Nigeria do not maintain accurate billing system. This is an area where one of the major providers of this service abroad may become relevant in rendering this service to interested operators locally. Even the operators who maintain accurate billing system can also outsource this service.

THE CHALLENGES

To quote the Economist Intelligence Unit\footnote{EIU County Profile 2002: Nigeria pg. 13} “Nigeria has in recent years become synonymous with so-called “419 scams”………. organised drug-trafficking groups, international prostitution networks and money laundering. Though all are a problem in their own right, they do not pose a specific threat to conducting business in Nigeria”. Thus, in other words, most of the negative
stories you read about Nigeria in the press or on the internet, do not constitute challenges to doing genuine business in the country.

The challenges identified here are specifically applicable to Nigeria. However, as experience has shown, some or a substantial number of the identified challenges are representative of developing countries. The first of these is country risk. The highly regulated infrastructure sector is usually of great concern to investors because politically motivated regulatory changes can directly affect cash flow. Nigeria’s democracy is still in its infancy and therefore liable to changes in policies. The political class has a lot of interests to satisfy. Observers are still evaluating how much of the current policies will be retained going forward.

**Competition Law/Agency**

Pending the enactment of the draft Telecommunications Bill, there are currently three laws regulating telecommunication activities in Nigeria:

(a) The Nigerian Communication Commission Act 1992;
(b) The Wireless Telegraphy Act 1990; and
(c) Nigeria Broadcasting Commission Act, 1990.

Neither these existing Acts nor the proposed replacement, provides for the equivalent of the United States Department of Justice Anti-Trust Division or the Federal Trade Commission. Thus Nigeria does not have a competition body or an agency that can:

- stop practices that are considered anti-competitive;
- obtain required information from operators for the purpose of investigating alleged abuse of dominant power;
- impose fines on operators for abuse of dominant position.

Anti-trust issues are raised by the Nigerian Securities and Exchange Commission only when a notification of a merger is filed, and this does not happen often. The impact of this absence of competition agency came to surface both in 1997 and again in 2001 when some PTOs and GSM operators were licensed, respectively. In 1997, NITEL, as dominant operator, initially refused to interconnect newly licensed PTOs. When it finally agreed to interconnect, the terms of the interconnectivity agreements were unfavourable to the PTOs. Also in 2001, NITEL, which then had the largest customer base gave, limited interconnection to the GSM operators citing network challenges.

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13 HBS Current Research Summaries: Private Equity in Developing Countries by Josh Lerner
Up till now, NITEL has not provided full interconnection to the GSM operators. And yet, it has
not been sanctioned even after moral persuasion had failed. Part of the reasons for this is because,
the 1992 Nigerian Communication Commission Act excludes NITEL from NCC oversight role.
However, it is gratifying to note that the Bureau of Public Enterprises, the agency of government
responsible for the privatization of federal SOEs, is working on a draft Federal Competition Bill
which will soon be forwarded to the National Assembly.

**Judicial System**

Happily enough, the problem of lack of the independence of the judiciary, which was prevalent
during the military regime has abated. However, the associated problem of slow process of
justice administration is still a major issue. Administration of justice is cumbersome, working
facilities are not available in most State High Courts. Thus, delays are common, adjournments at
the instance of both presiding judges and counsel are prevalent. It takes at least 2 – 3 years to
conclude simple commercial disputes, excluding interlocutory and appellate proceedings which
can last for more than a couple of years.

As a result, parties tend to resort to arbitration which in itself may not be entirely immune from
the problems identified above when parties seek interlocutory (temporary) relief.

**Telecom Infrastructure**

Beyond the licence fees, operators have had to build their own infrastructure. Inherent in the
decision to invest in a new market is the assumption that the existing dominant operator will
interconnect new entrants into its transmission infrastructure. Newly licensed operators
discovered to their surprise that NITEL was not in a position to support them in terms of growth
plan, quality service and coverage. Most of them, therefore, have had to build their own
transmission backbone.

Above all these is the need for the mobile operators to provide generators in cell sites either to
generate power or as backup in case of electricity failure which is not uncommon. To build
supporting basic infrastructure, the average cost estimate, so far, is about $1 billion. Poor
infrastructure adds to the cost of doing business and reduces competitiveness.
Protection of Intellectual Property

Even though efforts have been made in this regard by Government, questions are constantly being asked on the level of protection afforded intellectual property rights in Nigeria or the enforcement of these rights. It is still unclear how rapid imitation could be avoided on a successfully developed product. Meanwhile, there is an on-going joint effort by both the private and public sector to strengthen the protection and enforcement of intellectual property rights.

Bureaucracy

The Nigerian economy, like in most developing countries, is public sector-led. In many ways, businesses need to relate with government ministries and agencies for one approval or the other. Government parastatals are centrally located in the Federal Capital Territory, Abuja. Simple approvals sometimes require a lot of documentation. Since Nigeria is generally ‘E-Absent’, businesses do not have opportunity to either apply for anything or file paperwork online. This need for face time with officials, sometimes leads to unnecessary delays.

Human Capital

Human capital tends to be unproductive where the skills acquired in school do not match market opportunities. Trained technical talent at the managerial level is scarce. Over the years excessive spending on education bureaucracies and school infrastructure rather than on teaching staff and supplies have depressed the quality of education. So do poorly trained teachers and failure to set high standards for the students. Progressively over the years, there have been declining level of interest or pass rate in science subjects.

For example, between 1997 and 2000, an average of 173,109 students per year took Physics examination at the secondary school level, with an average pass rate of 20.35%. The number of science graduates is less than 40% of the total University graduates, and out of 1000 Nigerians, less than 5 will be scientists and technicians. Although this situation is better than what obtains in most African countries, it is below the prevailing average in other countries in Asia. So a significant cost of doing business is the need to import unavailable skills from abroad. These could be a combination of Nigerians and foreign nationals who are usually required to spend a considerable part of their time imparting knowledge to local residents.

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14 NESG Economic Indicator – September 2000, pg. 43 – a publication of the Nigerian Economic Summit Group
15 NESG Economic Indicator – December 2000 pg. 43
16 NESG Economic Indicators – July – September 2001 pg. 58
Poverty Level

According to World Bank data, Nigeria is the world’s 13th poorest nation with income per head of US$744, measured at Purchasing Power Parity in 1999. A substantial percentage of the population can barely make ends meet. This in effect affects disposable income that may be expended on telecom services. Moreover, a large number of the population live in rural areas not served by electricity or other infrastructure. However, given the penetration rate of mobile phones in Nigeria in the last one year, (especially among drivers, mechanics and other artisans) it seems, that people are willing to spend part of their income on meeting telephone needs in preference to other day to day consumptions, e.g non-alcoholic beverages.

Taxation

In addition to the tax specifically provided for in legislation, as a way of shoring up their dwindling finances, the different tiers of government impose one form of levy or the other on items ranging from car stickers to company owned boreholes. These multiple levies add up on the corporate tax rate of 30%. Also, all of the operators have Universal Service Obligations to extend their services to rural areas which lack basic infrastructure. However, under the current tax regulations, the incentives available to companies which operate in rural areas do not cover telecom services.

Land Acquisition

In setting up its infrastructure, a telecom operator needs to acquire pieces of land. Even though theoretically, the law vests interest in the land in each State in the Governor of the State, in actual fact, land is still largely vested in individuals, families or communities. In many instances, the land is not registered making verification of title difficult. Prices are largely speculative, (could be more expensive when multinationals are buying) and post-acquisition, title perfection could be cumbersome and expensive depending on the location of the land.

Currency Risk

Nigeria is a mono-product economy depending almost entirely on crude oil export revenue. It is also substantially import dependent even for basic items. All these tend to put pressure on its foreign reserves, which in turn makes the exchange rate volatile. Between 1997 and September 2002 the official exchange rate of the national currency to the US$ has declined close to 500%. A major devaluation like this could lead to a sharp drop in returns enjoyed by investors. The level to which this cost could be passed down to consumers is a matter of conjecture.
Raising the Finance to Fund Operations

Due to reasons ranging from deliberate Government regulation and the level of economic development, very few banks operating in developing countries have foreign affiliation. As a result, the money market, more often than not, cannot provide the necessary funding required to develop an infrastructure dependent sector like telecommunications. Raising the required fund from abroad may be the only alternative (there are actually incentives for this). However, exchange control regulations, which are altered from time to time, may impact repayments.

Investment through preference shares, as a form of achieving control, which is possible in other jurisdictions, may not also be feasible in Nigeria. This is because, under the law, different classes of shares with different voting powers are not permitted.

‘Wiring the Wilderness’17

About 70% of Nigerian population lives in the rural areas. A substantial number of these people have no access to electricity. Aside from the challenges/cost of connecting rural towns/villages, rural dwellers may not be the most attractive customers. Whilst pre-paid cards may make up for inability to pay bills, given the level of prevalent poverty, it is doubtful even for voice traffic, whether this class of people can generate profitable business. Also, when compared with some other countries, Nigeria’s literacy rates seem to be on a steady decline. Whilst illiteracy level may not affect voice traffic, data traffic and internet penetration may suffer.

CONCLUSION

In the face of manageable challenges, the rewards of investing in Nigeria are enormous. The government has done a lot to improve the investment climate. The economy is gradually becoming private sector-led and there is respect for the rule of law. The key issue is for investors to do the necessary planning ahead, and should not make any inherent assumptions that are common in structured markets. One way to succeed in this market is to make provisions of 10% to 20% of costs to cater for contingencies. To quote Guy Zibi,18 “The challenge in Nigeria, however, has consistently been to transform an undisputed potential into a concrete opportunity and ultimately, into business that are healthy and profitable over the long term”.

17 The Economist, June 10 2000, pg. 87
18 Nigeria Now, (as above) pg. 3.