

TELECOMMUNICATIONS CHALLENGES FOR NIGERIA IN THE 21st CENTURY

Engr. Ernest C. A. Ndukwe

From time immemorial, information and communications have always formed the basis of human existence. This fact has driven man to continuously seek ways to improve the processing of information and communicating such information to one another, irrespective of distance and on a timely basis.

Perhaps the greatest legacy that the 20th century scientists have bequeathed to mankind is the "Information Revolution" made possible by rapid development and advances in telecommunications and computer technology.

That no modern economy can be sustained today without an integral telecommunications infrastructure is widely acknowledged. In fact, recent World Bank studies indicate that for twenty US\$1 invested in telecommunications infrastructure, more than US\$6 is generated in economic returns by its impact on local employment and general economic growth.

Access to telecommunications is therefore critical to the development of all aspects of a nation economy including manufacturing, banking, education, agriculture and government.

In the 21st century the world will be witnessing an upsurge in the use of telecommunications and information technology in nearly all aspects of human endeavour. The wireless revolution and the internet phenomenon have recently changed the way people live and transact business, and the telecommunications/information technology industry has taken center stage in world affairs and will continue to be so far into the foreseeable futures.

Last year the International Telecommunications Union (ITU) confirmed that the world telecommunications and information technology industry was worth US\$ one trillion in market capitalisation and behind in size only to healthcare and banking.

Nearer home in Africa, the story is not as exciting. It was the South African President that was highlighting the dearth of telecommunications infrastructure in Africa and pointed out that there were more telephone lines in Manhattan - New York than in the whole of Sub-Saharan Africa. It is perhaps no wonder that African countries continue to wallow in illiteracy, poverty and disease. We spend more money on arms and ammunition than on such progressive industries as telecommunications and information technology. An immediate shift of paradigm therefore needs to be made if Africa will be emancipated in the 21st century.

At the ITU organised exhibition and forum, Africa Telecom '98 in South Africa which I was privileged to attend, the organisers launched what was called African Renaissance. A conscious attempt to awaken African countries to the need to improve teledensity urgently.

This was backed by tremendous spirit of optimism by all those in attendance including government ministers, speakers, exhibitors, delegates and the worldwide media.

It was also at that forum that Dr Chasia of the ITU pointed out that whereas Africa had by 1997 installed 14m lines in the century since the telephone was invented, China installed 20 million lines in 1997 alone! What this showed was that it can be done and we in Africa, can also catch up with the rest of the world very quickly.

Telecommunications and information technology therefore present copious opportunities for the creation of unprecedented wealth for Africa. What is required is the political will to create the right environment for investment in this sector.

Indeed the rapid and unprecedented growth in telecommunications and information technology elsewhere in the world, which is reaching saturation point, has shifted attention to Africa as one of the last emerging

markets. It is therefore necessary for African nations to plan for it and create the policies and enabling environment to enjoy the full benefits of this new scramble for Africa, in order to tap into the opportunities that the information revolution has created for the industrialised and intermediate economics. There in lies the telecommunications challenges for Nigeria in the 21st century.

At independence in 1960, Nigeria had only 18,724 telephone lines. Since then till today the installed capacity has risen to about 700,000 lines. What this indicates is that the subscriber base has grown at an average rate of only 10,000 lines per annum nation-wide over the past forty yearly. The picture is even worse when you realise that only about 400,000 lines are actually connected to subscriber. Also in mid. 1980's cellular service was commenced in Nigeria and today the number of cellular lines actually connected is just 20,000 representing an average annual growth rate of 1,250 subscribers per annum, A most regrettable situation.

In fact if we back-step a bit and analyse the present 400,000 connected subscribers-base critically it may be reasonable to assume that at least half of that number are actually lines to corporate and government organisations who have multiple lines. It might in fact be that not up to 200,000 individual Nigerian family units actually have telephone lines in their premises!

From the foregoing, analysis it is obvious that Nigeria is in desperate need for telecommunications facilities. This lack of adequate infrastructure has affected the economic life of the nation very adversely, Today credit cards are not widely in use as in other countries of the world because card validation machines depend heavily on reliable telecommunications facilities. Our streets are congested, because people have to travel long distances to pass on messages that could easily have been done over the phone.

In fact all sectors of the economy are adversely affected - healthcare, law enforcement, education, commerce, industry, banking, etc.

To support these other sectors and ensure rapid economic development, massive investment is urgently required for the expansion of our telecommunications network. Today Nigeria can easily absorb over 3 million telephone lines within a period of two years. To be able to access the Internet and be part of the revolution sweeping the globe basic requirement is a telephone line.

The need to improved telecommunications infrastructure urgently has always been in discussion with successive administrations since the 1980's. Perhaps it was in the realisation of this that the Federal Government commercialised the then P&T giving birth to NITEL in 1985. The idea was to run he company as a fully commercialised entity.

Though the network growth rate improved following the birth of NITEL, the rate was, however, too small to compensate for the rate of population growth, It also did not reflect the improved wealth of the nation since the 1970's and the increased demand for telecommunications services. It has been suggested that the economic problems of the recent past are partly traceable to the lack of infrastructure facilities such as reliable electricity supply and adequate telecommunications facilities required to support industrialisation and economic growth.

The Federal Government again in 1992 decided to encourage private sector participation in the sector to attract private investment to expand the network more rapidly. The Nigerian Communications Commission (NCC) was consequently set up by Decree 75 of 1992 to regulate the industry, The NCC Board was, however, not constituted until July, 1993, which marked the beginning of the liberalisation of the telecommunications industry.

Since the 7-year life of the NCC, several licenses have been issued to private companies to undertake various services such as,

- (a) Fixed telephony services
- (b) Mobile telephony services
- (c) Fixed satellite services (VSAT)
- (d) Paging services

- (e) Payphone services
- (f) Internet services and other value added services,

Though quite a number of these licenses were issued several years ago only a limited number have commenced business in each of the license categories. Some modest contribution to the nation's installed base have, however, been recorded by the fixed telephony services licensees who have only been able to contribute less than 100,000 lines to the network to date. Questions have therefore been asked on why despite the numerous licenses issued no appreciable impact has been made in the area of growing, the subscriber base in the country quickly.

The reasons may be traceable, to the following:

- Political and economic isolation of Nigeria during the past military era which affected investment confidence. Telecommunications being a very capital-intensive business, international funding was required. Most major network expansion initiatives world-wide -have been facilitated by vendor finance and venture Capital instruments- Because of the political climate in Nigeria during that period it was difficult to obtain offshore finance.
- The timidity of major financial institutions in Nigeria. Despite the fact that economic isolation of the country has been lifted- Surveys have shown that apart from a few, most banks in Nigeria are not in tune with the development in the sector and were therefore unable to package local/international facilities to support competent companies, Most of the banks were quick to lend to traders who import container loads of commodities or cars for sale, in preference to hitech sectors.
- The delay interconnectivity to new operators on a timely basis, Even when connected the operators hardly have enough links to the existing network thereby, causing congestion and degradation of services. This singular factor has in fact imposed limit on how much expansion that can be undertaken by the operator and still maintain an acceptable level of quality of service.

In attempting to propose solutions, let me emphasis that even in an era of private sector-led economy the role of government is still very vital, but largely different from the past. Primary among the role of government is to create the right environment for doing business on a free trade basis. Since the Nigerian market has been liberalized and competition introduced, government's role should be that of an industry watchdog. The over-riding policy objective must be to grow the nation's telecommunications infrastructure rapidly and ensure a competitive environment that will reduce price and make services affordable to most.

To achieve this will require a strong industry regulatory body that will be sufficiently empowered to regulate the industry as a whole. The Honourable Minister of Communications has confirmed this intention of Government in his speech at the launching of the Telecom policy document in November, 1999. Government initiative to regulate the telecom industry has continue to be positive and the rule books are being made clearer in order to create a structured environment in which all the players and stakeholders know where they stand.

It must also be stressed that NITEL must continue to be strong and efficient in order to be able to play the role that is required of it today. NITEL is the only carrier in the network, which means that all new entrants depend on her to link their subscriber bases around the country. Adequate investment must therefore be made urgently by NITEL to be able to accommodate this. If such investments are made, there is no doubt that the private operators will patronise the services of the carrier. The important provision should be that interconnection must not be denied any operator duly licensed by NCC.

For the future, it is important that more attention is directed at the telecommunications and information technology industry. The current effort at the licensing of GSM operators in Nigeria is now being pursued with vigor. Analogue cellular service was introduced almost simultaneously in the mid-eighties in South Africa and Nigeria. Today, while Nigeria can only boast of just over 20,000 analogue cellular mobile lines in service covering less than 20% of country, South Africa now has two major GSM operators with total installed base of

about 3 million digital mobile lines covering over 80% of the country. In fact South Africa is now home to about 90% of the continent's cellular subscribers. One of the operators is said to be growing the subscriber base at the rate of about 150,000 lines per month.

Mobile cellular is a major business area with huge potentials for growth in Nigeria. I am sure that the Honourable Minister for Communications would be feeling vindicated for the \$100 million US Dollars fee demanded for GSM mobile license. A total of 18 companies responded to the bid for four GSM licenses with full commitment to pay the \$100 million US Dollars fee, Judging from the tremendous interest shown so far it may in fact be that other criteria may be adopted to select the four companies to be granted the license. Whatever the case, speed is of essence in finalising the licensing process so that the companies can go to work.

Digital Wireless and Mobile Communications Systems can help Nigeria leapfrog into the global village as a respectable nation. Nigeria's immediate requirement for local access to the telephone network is enormous and the required capital and time investment needed to complete a full deployment using wire lines are daunting, Wireless systems offer quicker solution to providing network access than traditional copper lines and therefore more desirable.

Today, Internet services are becoming available on even mobile phones making it possible to transact a wide range of services formally only available using a computer device. There is no doubt that the Internet is one quick way of bridging the gap between what are, now generally referred to as the "information rich" and the "information poor".

Fixed and mobile wireless systems offer key advantages in making Internet services universally available because of the speed of deployment. Fast deployment means quicker connections to subscribers resulting in faster payback of capital investment. The rapid rate of deployment will also make phones services widely available quicker and thereby accelerate the pace of national economic development and growth.

However, wireless deployment in Nigeria is faced with some problems. Key among them is the unreliable power supply situation in Nigeria. The public electricity power supply situation must improve urgently for Nigeria to enjoy the full benefits accruable from wireless systems deployment, Power backup systems for subscriber terminal in case of fixed wireless systems are suitable for 2 to 8 hours of battery life. A situation where power outages could stretch to 12 to 48 hours and in some cases more, the situation can only be described as unacceptable.

The second problem is the limited funding available locally to finance a massive build out. Without a large deployment there can be no economies of the scale. In a low-income environment, the price per line for the systems must be right to guarantee a reasonable return on investment. Order must therefore be of sufficient size to ensure the vendors can achieve those economies of scale and guarantee affordability for a larger number of people and profitability for the operator.

CONCLUSION

Telecommunications is the infrastructure of the emerging global information society, as we enter the 21st century our challenge is to rapidly grow our telecommunications as a way to emancipate our people economically. The challenge to our leaders is to come up with policies that will rapidly build Nigeria's capacity to compete effectively with other economies. Without a solid telecommunications infrastructure the country will not attract the right level of urgently needed local and foreign investment to build our economy,

With a population of over 100 million people and its economic potential Nigeria still remains Africa's most important market. We cannot tap the full potential of this market without a sound telecommunications and information technology base. For the enterprise in today's highly competitive world, the strategic components in developing and maintaining competitive edge are telecommunications and information management. The expansion of our telecommunications network will therefore accelerate development across the nation. Even

for the rural or previously disadvantaged areas, access to telecommunications will contribute a great deal towards improving education, developing businesses and creating jobs.

With respect to technology options, let me emphasize once more that fixed wireless and mobile cellular technologies provide a quick way of expanding telecommunications networks and are therefore important for Nigeria. With wireless systems, strong networks can be rolled out quickly. However, in very low density and widely dispersed areas satellite communications systems can fill in the gaps. Satellite systems today can deliver a huge range of services directly to subscribers in remote areas including broadband services necessary for Internet connectivity for distance learning.

The expansion of our telecommunications facilities must go side by side with the development of the human resource capacity that will support the industry. We must develop our knowledge skills and competencies to understand the complex linkages of wireless networks, fiber optics, satellite systems, computer to computer networks, Internet webs and a host of other telecommunications technologies.

Let me also quickly add that manpower requirements for telecommunications infrastructural development does not only stop with the engineers and technicians. There will also be required, well-trained personnel in other specialist areas such as financial planning, law, accountancy consultancy services, business management, personnel management etc. Such skilled staffs are most needed in the middle and upper management levels, and they need to be re-trained and up-to-date.

Africa is looking up to Nigeria to take advantage of its vast human and material resources and become the catalyst for economic emancipation of the African continent.

In the last millennium, Africa moved from human slavery to economic slavery, we need to avoid the third wave of slavery - information slavery.

Telecommunications and information technology, therefore offer Nigeria the platform to launch the nation with dignity into the 21st century.

March 28, 2000

Engr. Ernest C.A. Ndukwe
EXECUTIVE VICE-CHAIRMAN/CHIEF EXECUTIVE
NIGERIAN COMMUNICATIONS COMMISSION