



Telecommunication Engineering and Entrepreneur Opportunities in Nigeria

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors prepared, analyzed, read and approved the final manuscript.

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ABSTRACT

The positive development of entrepreneurs in any society enhances the socio-development of that society. Entrepreneurship thrives in competitive and challenging markets, under this competitive and liberalized environment, telecom industry is growing at an unimaginable pace. This paper examines the concept of Entrepreneurship from the perspective of telecommunication industry, specifically in the Nigeria Telecom scenario. The entrepreneurial opportunities in the sector were also presented.

Keywords: Telecommunication; entrepreneurial opportunities; broadband.

1. INTRODUCTION

Telecommunication engineering is unique from other field of engineering in terms of the knowledge, insight and entrepreneurship opportunities. Due to the fact that

telecommunication field is highly technical; domain knowledge at least to some extent becomes a pre requisite to thrive in the field [1]. Nevertheless, there are instances when a member of the team would have this proficiency and the team as a whole understands how to

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relate technology and develop it in a useful result or service, for which customers would like to pay and get value-for-money.

Different generations of not the same communities have different sets of societal challenges, events of the past made the clear. The rate of development of that generation is that societies are being measured by the solutions proffered. These challenges possibly natural and man-made exist not or neither end in themselves but through design they revolutionized the expertise of the people of that generation – in developing solutions and in creating it [2]. Nigeria Communication system which was managed by the then Nigeria Telecommunication Ltd (NITEL) in the late 90s had challenges: The network was expensive, service charges was immoderate, which allowed only few families and some corporate organization to own landlines. Maintenance of such facilities was a big problem; even managing NITEL was an issue. Complaints were made by the people to the Government but Government insisted that the people were getting the best and the cheapest service. At the end, the Government freed herself from the Telecommunication sector through deregulation.

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 industrialization and economic growth. The Federal Government 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 liberalization of the telecommunications industry. Since the 18-year life of the NCC, several licenses have been issued to private companies to undertake services such as; fixed telephony services, mobile telephony services, fixed satellite services (VSAT), paying services, pay phone services, internet services and other value added services.

Dramatic technological and regulatory events that changed the way in which products and

services were delivered to the customers were due to spurt in entrepreneurial opportunities available. Entrepreneurial opportunities are available to exploit these technological and regulatory charges using innovative ways.

2. ENTREPRENEURIAL ENVIRONMENT AND ATTRIBUTES

Entrepreneurship thrives in competitive and challenging market and competition spurs growth. The cellular subscriber growth rate in countries that allowed open competition were nearly 150% greater than the rate in duopoly market, and growth rate in duopolies were, in turn, nearly three times greater than monopoly market [3]. Under this competitive and liberalized environment, Telecom industry is growing at an unimaginable pace, thanks mainly to wireless technology. That Nigeria today is the fastest growing telecommunications market in Africa is an accepted fact [4]. Our tele-density in the past eight years is growing over 100% per annum and we do not expect anything different in the subsequent years. The result is a massive growth in subscriber lines from less than 25,000 analogue mobile lines in the country in May 2000 to about 12.8 m digital mobile lines by end of May 2005. Fixed lines have also grown from about 450,000 lines to over 1.2m lines during the same period. Thus giving a total subscriber level of about 14 m lines, [5], the mobile telecommunication subscribers were estimated at over 40m at the end of 2010 [4] but the actual figure of the active subscribers in 2011 will be known at the end of the SIM registration exercise conducted by all the telecom operators in Nigeria as directed by the NCC.

An entrepreneur will continuously enhanced his skills in all areas, which will keep looking for new opportunities to provide better value to his customers and will do more than what is expected by providing help out of the way. As against a normal business man who uses opportunities, entrepreneurs not only use existing opportunities but create opportunities through expanding in value chain and generating new idea, to get better value. An entrepreneur also continuously expands his network through additional help, not only through himself, but through his network as well. His relationship with manufacturers, suppliers and customers will be flexible with a view to provide convenience and a higher value for their money. While competition brings with its challenges, risks and failures, entrepreneur are not deterred by failures. In fact,

it is very important to experience some failures as it broadens your comfort zone and you realize that failure is not all that bad. You become a lot bolder in terms of taking risks [6].

3. SERIAL ENTREPRENEURS

Serial entrepreneurs, who are funded and run multiple startup companies, are an unusual lot, who after building enough wealth for comfortability go out and risk it again. They have a knack for seeing profit and an eye on the next big thing. While many entrepreneurs hang on to their original enterprises, telecommunication entrepreneurs have proved more fluid. These entrepreneurs love the chaos uncertainty and adrenaline of working for challenging ventures, and love the opportunity to build and win against big companies. These entrepreneur entrepreneurships as a career choice and they will be happy, moving on from the first opportunity to the next and so forth. Many of the industry's top executives have started vendor or career businesses in the wake of deregulation and have not hesitated to sell those businesses when the right buyer came along. Then they move on to a new thing to do it once again, while wealth generation is a motive for many of them, it is the psychological reward of having an impact which drives them. The telecom industry is where the serial entrepreneur thrives if one chooses entrepreneurship as a career one will definitely be successful [7].

4. OPPORTUNITIES IN TELECOM SECTOR

Plentiful opportunities are available in telecommunication and related areas, due to liberalization, privatization, and competition. New innovation in technology such as Wi-Max, 4G, VOIP, Wi-Fi, NGN etc. with these technologies, advance telecom applications development is possible and at lesser cost than before. With these merits, there are many options provided by websites to talk, chat, exchange files, video chatting at a negligible cost. This business models provide an improved generation of revenue and better profits through other supplementary sources [8]. All applications designed to operate on computer and internet will be possible on mobile phones as well, which will not only provide immense entrepreneurial opportunities but will also have positive impact on political, social and economic life. Progressive increase in features in mobile telephones like blackberry, iPhone, Android, etc, provide

opportunities for various value added services, which include content provisions. Provision of various information and entertainment media, including news, stock market prices, foreign exchange rate, maps, voting results, and astrology, provide opportunities for entrepreneurs. Furthermore, development which is taking place in the telecom field is convergence of various devices like mobile, camera, Television, computer etc. in one device, likewise services like communication, broadcasting and technologies (GSM, CDMA, Fixed) these developments will provide ample opportunities for small startups to play a major role in the growth and development of telecommunication services, enabling the service operators to concentrate on their core strength.

Secure transmission of information - the growth in e-commerce and related products, secured transactions and digital security issues accessing your account statements, making online money transfer and sharing of files are among the opportunities that will be further provided.

With the growth in Business Process Outsourcing (BPO), Call Centres, Application Service Providers, media applications and others, telecommunication traffic in voice, data, video and mobile segment is poised to grow. Another development which is taking place in the telecom field is convergence of various devices (mobile, camera, Television, computer etc. in one device), services (communication, broadcasting, gaming) and technologies (GSM, CDMA, Fixed) and these developments will provide ample opportunities for small start ups to play a role in the growth of telecommunication services so that service operators can concentrate on their core strength [4].

Technologies under development will provide for anytime, anywhere communication. What it means is that with a single ID for a person, s/he will be accessible at all places and at all times. The same ID will transfer the call to different devices in different manner depending on his location and availability such as by dialing the same phone number the ring will go to his office number when he is in office, to his mobile when he is moving out, to his residence number when he is at his residence and alert on his computer when he is working on his laptop. With the growth in e-commerce and related products, secured transactions and digital security issues including secure transmission of information,

accessing your account statements, making online money transfer and sharing of files will provide further opportunities [7].

The telecommunications industry is one of the most lucrative markets in any country, and businesses within these market record huge sales all year round regardless of economic conditions. This is because communication is an everyday necessity—something we all depend heavily on.
<http://www.mytopbusinessideas.com/telecommunication>

The telecommunications engineering industry is one of the most lucrative markets in any country, businesses within these market record huge sales all-round the year regardless of economic conditions. This is due to the fact that communication is an everyday necessity. There are huge opportunities for new players with new technologies and innovations springing up every day in the telecommunications industry. Even in the absence of huge funds to start with, there are options that will suit any budget. Here are some of the profit oriented business ideas within the telecommunication industry that should be considered [10]

- i. Sales of Smartphone: the use of mobile devices like smartphones, iPads, tablet PCs are fast taking the place of desktop PCs and laptops which are fast passing by. The huge demand for these devices give room for huge profit opportunities for businesses that sell them.
- ii. Phone repair: There are millions of phone users in Nigeria based on the number of subscribers Active subscriber's population across all GSM networks as at 2014 was 139,143,610 with teledensity of 99.39 (NCC 2014). The graphical picture of subscriber' growth between 2010 to 2014 is shown in Figs. 1 and 2; and the Table in Table 1.
Therefore there is a good market for phone repairers, it will only require little training and purchase of instruments for repair which is of a low cost.
- iii. Recharge card sales: Since Making calls is a necessity on daily basis, average number of active subscriber 152,123,172 [9]. This will give rise to huge demands for airtime (recharge cards). These can be done either by printing recharge cards and sell on a large scale to sub-dealers/shops or buy from wholesalers and sell directly to

consumers. It all depends on the available of fund.

- iv. Bulk SMS business: several millions of text messages are sent and received by users [9]. A smart way to accrue profits from this trend is to start a business that sells customized bulk SMS to individuals and organizations that need to send messages to several hundreds or thousands of recipients at once. Those customers involved for this business include corporate organizations, religious, and non profit organizations.
- v. Mobile marketing: Many businesses have come to the realization of the effectiveness of the internet as a tool for creating trademark awareness and attracting customers and are adopting different internet marketing strategies. Nonetheless, a more streamlined form of internet marketing is mobile marketing, which is aimed at internet users who surf the web using mobile devices, such as tablets and smartphones. Since millions of people are surfing the web on these devices, companies are trying to attract more customers by targeting mobile device users.
If how mobile marketing works is known and how it support businesses to boom, then mobile marketing agency will be one of the top priorities in Telecom entrepreneur.
- vi. Blogging: sharing of relevant and valuable information relating to the telecommunications industry with people who need it is another good idea to make money in the long term. Take for example, sharing information on how to maximize the best out of mobile phones, how to set up internet connections, how to use cloud computing, modern technologies and developments in the telecommunications industry, and so on.
- vii. Affiliate marketing: Smartphones and tablets can be sold as an affiliate marketer even if the available fund is not much. These devices will be promoted online using numerous internet marketing strategies. There will always be a percentage commission on each sale anytime someone buys a device through the facilitator.
- viii. Internet service: Another opportunity in telecommunications market is offering internet services to people. This can be achieved either by starting a cyber cafe or

by setting up a wireless hotspot where people will pay for accessing the internet.

Table 1. Total active voice subscription (2010-2014)

Year	Total active subscriptions	Tele-density
2010	88,348,026	63.11
2011	95,886,714	68.49
2012	113,195,951	80.85
2013	127,606,629	91.15
2014	139,143,610	99.39

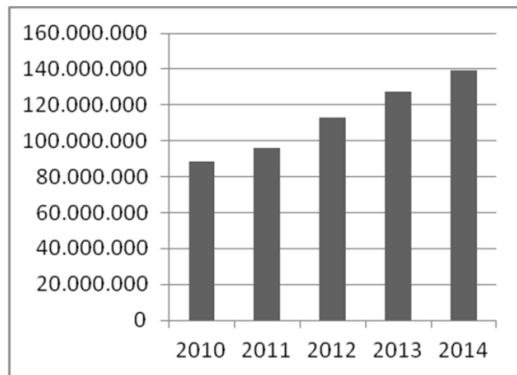


Fig. 1. Graph of total active voice subscriptions

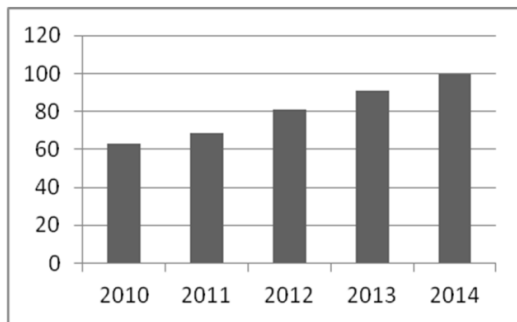


Fig. 2. Graph of Tele-density

5. IMPACT OF DEVELOPMENT IN TELECOM SECTOR ON ENTREPRENEURSHIP

The developmental changes in telecommunication areas have not only provided various opportunities for entrepreneurs in the field of telecom, but also change the characteristics of entrepreneurship as a whole. With the dawn of voice over internet protocol (VOIP) and next generation networks (NGN) technologies 'Death of Distance' in the field of communication will be realized [6].

Internet provides opportunities for the entrepreneur to offer Internet related products, with new system of advertising, communications and information medium. New opportunity for the sale and delivery of non internet related products will also be provided. Globalization in true sense is possible only with telecommunication developments. Information dissemination is much better and the world is moving towards becoming a near perfect market due to internet and communications technologies. There are many gateways which provide you with comparative rates of products available in market through various sources. An entrepreneur can market its product without investing severely in infrastructure through the use of internet [8].

6. CONCLUSION

Growth visualized, pace anticipated, and opportunities available in the field of Telecommunication Engineering are enormous. Nigerian entrepreneurs have to make use of them. The broadband developing business model, provision of various information, entertainment and increase in feature of rich mobile telephones, audio video content, etc. will provide ample opportunities for small start-ups to play a role in the growth of telecommunication services: interest, passion and risks are there and rewards are huge.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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