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Towards Encouraging Mobile Applications Development Entrepreneurship In Nigeria

By

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Abstract

More than any economic trend or programme seen in modern times, mobile phones have become a force lifting many parts of the globe into a new realm of entrepreneurial opportunities (World Bank & infoDev, 2013). According to the World Bank, about three-quarters of the world's inhabitants now have access to a mobile phone and mobile communications and the number of mobile subscriptions in use worldwide, both pre-paid and post-paid, has grown from fewer than 1 billion in 2000 to over 6 billion in 2013, of which nearly 5 billion are in developing countries (World Bank, 2012). But the big story isn't how many phones are out there; rather, it's how they are being used, and the impact on societies, and this is largely determined by mobile applications(apps). This has led to the rise of what is aptly termed the "app economy". According to the World Bank report, more than 30 billion mobile apps were downloaded in 2011. Mobile applications not only empower individual users to make their own choices and decisions, enrich their lifestyles and livelihoods, but also have important cascade effects stimulating growth, entrepreneurship, and productivity throughout the economy as a whole. Most businesses based around mobile app technologies are at an early stage of development, but hold enormous employment and economic potentials, similar to that of the software industry in the 1980s and 1990s (D'Costa, 2013). Supporting the networking and incubation of entrepreneurs is essential to ensure that such potential is tapped. This paper highlights ways that governments at all levels, organisations and academic institutions can assist in this process.

Mobile application or mobile app for short, or just app, is application software developed specifically for use on small, wireless computing devices, such as smartphones and tablets, rather than desktop or laptop computers (Wigmore, 2013). Mobile apps are usually available through application distribution platforms, which began appearing in 2008 and are typically operated by the owner of the mobile operating system, such as the Apple App Store, Google Play, Windows Phone Store,

and BlackBerry App World. Some apps are free, while others must be bought. Usually, they are downloaded from the platform to a target device, such as an iPhone, BlackBerry, Android phone or Windows Phone, but sometimes they can be downloaded to laptops or desktop computers. For apps with a price, generally a percentage, 20-30%, goes to the distribution provider (such as iTunes), and the rest goes to the producer of the app ("mobile app", n.d.) The same app can therefore cost the average Smartphone user a different price depending on whether they use iPhone, Android, or BlackBerry devices.

Mobile apps were initially offered for general productivity and information retrieval and were relatively simple - for example, applications for email, calendar, notes, stock market, weather information, etc. Most of these apps did not require extensive processing capability and the use of smart phones. The increase of mobile processing power and the advent of smartphones coupled with the availability of developer tools have driven rapid expansion into other categories such as, social media, geo location-based services like mapping, tracking, and surveys, health and fitness apps, and mobile commerce including banking and ticket sales/purchases. The popularity of mobile apps has continued to rise, as their usage has become increasingly prevalent across mobile phone users. A May 2012 comScore study reported that during the previous quarter, more mobile subscribers used apps than browsed the web on their devices: 51.1% vs 49.8%, respectively (Mathur, 2014).

A direct effect of this pervasive use of personal mobile apps will be the relative ease of adoption of mobile apps in the enterprise. Whereas adoption of traditional IT and applications was seen as a hurdle by business users, there is no such perceived hurdle in the adoption of mobile applications as users are already using mobile applications in their personal space (Ludwig, 2012).
The Mobile App Marketplace [Seeing Explosive Growth]

▪ **Nigeria's Mobile Market**
Nigeria, Africa's most populous nation, is the largest mobile market in Africa and the tenth largest in the world (Agbaje, 2014). With low PC and fixed-line penetration, there's little surprise that the mobile device has long-since surpassed the PC as the way that Nigerians access the Web.

According to the Nigerian Communications Commission (NCC), there were 106,892,750 active mobile subscriptions in Nigeria, at the end of September 2012. By comparison there are only 474,345 fixed lines. The Nigerian population is around 162.5 million people, according to World Bank estimates, which means mobile penetration is around 63.8 percent. Mobile subscriptions are forecast to grow rapidly, reaching 130 million, equivalent to a penetration rate of around 70.7 percent, by the end of 2016

(Business Monitor International, 2012). This makes the mobile device the de facto communications device for calls, messaging and accessing the Web. Mobile access to the Internet overtook PC access in October 2011.

Nigeria's $1 billion mobile applications market is expected to witness significant growth this year riding on the back of rising smartphone ownership and improvement in broadband internet service (Uzor, 2013).

Nigeria's smartphone market is currently worth N245billion. While Nigeria is believed to be the fastest growing market globally for smartphones, a shift from high-end devices to cheaper ones is driven by rise in demand, especially amongst low income earners, thereby fuelling the speedy adoption of mobile applications. Nigeria has the potential to become the biggest app market in the African continent as there is huge demand for mobile applications (Okpamen, 2013).

According to global market research company, TNS, at present, 25 percent of Nigeria's over 116 million mobile subscribers use smartphones (Agbaje, 2014). This is an indication of the enormous potential inherent in the smartphone market. According to the latest smartphone report from Juniper Research, it could just be a few years away before cheap smartphones sales overtake high-end sales. The research company expects 'ultra-low cost' smartphone sales to grow to 200 million in 2018, and it predicted only 10 million in sales for that segment next year. "The sub-$100 smartphone is steadily becoming a reality globally. Low-end smartphones are increasingly available and these types of mobile phones will likely grow at a Compound Annual Growth Rate (CAGR) of 15 percent over the coming years," (Rutherford, 2013).

Intense competition for a share of the mobile app segment, according to industry analysts, is spreading and user appetite for app downloads appears substantial. Telecommunications operators, vendors and Original Equipment Manufacturers (OEMs) are seeking direct ties to developers and programmers.

With mobile app developers earning 50 percent to 70 percent of retail price via the app-store platforms of Apple, Google, Nokia, Blackberry and Windows, incubating young developers' innovation could have significant multiplier effect domestically. Global mobile app store revenues are projected to reach $90 billion by 2018, primarily driven by growing mobile subscriber base, strong mobile broadband penetration, and rising sales of smartphones (Perez, 2012).

Over 100 million Nigerians do not have access to the internet. Many Nigerians are not going to be able to afford $500 laptop. But with an affordable smartphone with

a quality screen, software and user experience, the smartphone will be the window to the world for many Nigerians. It will also drive mobile application development.

Most of the resources required to develop apps are freely available online. What is most required is infrastructure in terms of stable power supply and affordable quality internet access. This, according to analysts, would help position Nigeria to produce a generation of innovative start-ups that would grow into successful multi-million naira entities.

- **The Global Mobile Apps Market**

Mobile app stores will see annual downloads reach 102 billion in 2013, up from 64 billion in 2012, according to Gartner, Inc. Total revenue in 2013 will reach $26 billion, up from $18 billion in 2012. Free apps will account for 91 percent of total downloads in 2013 (see Table 1). Gartner said that in-app purchases (IAPs) will account for 48 percent of app store revenue by 2017, up from 11 percent in 2012(Perez, 2012).

"We expect strong growth in downloads through 2014, but growth is forecast to slow down a bit in later years," said Sandy Shen, research director at Gartner. "The average downloads per device should be high in early years as users get new devices and discover the apps they like. Over time they accumulate a portfolio of apps they like and stick to, so there will be moderate numbers of downloads in the later years."

According to Blau (2013), "Free apps currently account for about 60 percent and 80 percent of the total available apps in Apple's App Store and Google Play, respectively," "iOS and Android app stores combined are forecast to account for 90 percent of global downloads in 2017. These app stores are still increasingly active due to richer ecosystems and large and very active developer communities. However, we expect average monthly downloads per iOS device to decline from 4.9 in 2013 to 3.9 in 2017, while average monthly downloads per Android device will decline from 6.2 in 2013 to 5.8 in 2017. This relates back to the overall trend of users using the same apps more often rather than downloading new ones."

Table 1. Mobile App Store Downloads, Worldwide, 2012-2017 (Millions of Downloads)

	2012	2013	2014	2015	2016	2017
Free Downloads	57,331	92,876	127,704	167,054	211,313	253,914
Paid-for Downloads	6,654	9,186	11,105	12,574	13,488	14,778
Total Downloads	63,985	102,062	138,809	179,628	224,801	268,692

	2012	2013	2014	2015	2016	2017
Free Downloads %	*89.6*	*91.0*	*92.0*	*93.0*	*94.0*	*94.5*

- *Source:* Gartner (September 2013)

IAP purchases will drive 17 percent of the store revenue in 2013 and increase to 48 percent in 2017. However, as with downloads, IAP is expected to have strong growth in 2013 and 2014 and slow in later years. This is due to smart devices reaching more mass-market consumers whose willingness and/or affordability to spend on IAPs is lower than early adopters. Nevertheless, IAP will become a major monetization method for apps stores and developers.

Research shows that IAP contributes to a significant amount of Apple's App Store revenue from iPhones worldwide. Other platforms have not reached such high levels as the iPhone, but analysts expect they will also see IAP contributions increase in the future.

"We see that users are not put off by the fact that they have already paid for an app, and are willing to spend more if they are happy with the experience, as a result, we believe that IAP is a promising and sustainable monetization method because it encourages performance-based purchasing; that is, users only pay when they are happy with the experience, and developers have to work hard to earn the revenue through good design and performance." (Blau, 2013).

Key Characteristics of Successful Entrepreneurs

The key to being a successful entrepreneur lies in the ability to take an idea and then, through the process of innovation, develop it in such a way that it becomes a marketable product or service. Research indicates that there are a number of characteristics that are quite likely to be present in high-achieving entrepreneurs:

- **Tenacity:** Starting a business is an ultra-marathon. An entrepreneur has to be able to live with uncertainty and push through a crucible of obstacles for years on end. This trait is known by many names; perseverance, persistence, determination, commitment, resilience.

- **Vision:** One of the defining traits of entrepreneurship is the ability to spot an opportunity and imagine something where others haven't. Successful entrepreneurs have a curiosity that identifies overlooked niches and puts them at the forefront of innovation and emerging fields. They imagine another world and have the ability to communicate that vision effectively to investors, customers and staff.

- **Passion:** At the onset, successful entrepreneurs are not necessarily driven by money, but are fuelled by a passion for their product or service, by the opportunity to solve a problem and make life easier, better, cheaper.

- **Tolerance of Ambiguity:** This classic trait is the definition of risk-taking; the ability to withstand the fear of uncertainty and potential failure. As the saying goes, "nothing ventured, nothing gained". Successful entrepreneurs are risk-takers who have all gotten over one very significant hurdle: they are not afraid of failure.

- **Self-Belief:** Self-confidence is a key entrepreneurial trait. An entrepreneur has to be crazy-sure his product is something the world needs and that he can deliver it to overcome the naysayers, who will always deride what the majority has yet to validate.

- **Flexibility:** Business survival, like that of the species, depends on adaptation. Oftentimes, an entrepreneur's final product or service likely won't look anything like what he started with. Flexibility that allows him to respond to changing tastes and market conditions is essential. He has to have a willingness to be honest with himself and say, 'This isn't working.'

- **Self Motivation:** They are also often very passionate about their ideas that drive towards these ultimate goals and are notoriously difficult to steer off the course.

- **Positive Attitude:** There might be initial hurdles and failures in ventures. A successful entrepreneur learns from his mistakes and does not get dismayed by initial failures. He always sees the light at the end of the tunnel and continues with his journey. Positive attitude also helps in making a strong team which might be very instrumental in the ultimate success of the venture.

- **Excellent Leadership Qualities:** A successful entrepreneur must have excellent leadership qualities. It earns the trust and respect of his team by demonstrating positive work qualities and confidence. They foster a positive environment and then proliferates these values through the team.

- **Innovator:** Successful entrepreneurs are innovators and usually have an 'out of the box' approach to solving problems. They usually identify gaps in consumer demands or needs which have been ignored for long. They welcome change and are consistently innovating with the changing demand patterns.

- **Dependable:** Successful, sustainable business people maintain the highest standards of integrity because, at the end of the day, if an entrepreneur cannot

prove himself a credible business person and nobody will do business with him, then he is out of business. Therefore, a successful entrepreneur should have strong sense of basic ethics and integrity. In short, he should be dependable.

- **Resourceful:** Most new businesses have limited resources such as money, information and time. Successful entrepreneurs figure out how to get the most out of these resources. They are masters at stretching a dollar and making a few resources go a long way.

- **Communicator:** A successful entrepreneur must be a good communicator. Excellent inter-personal and networking skills go a long way in business success.

- **Achievement Oriented:** Successful entrepreneurs are achievement oriented. They value accomplishment and the intrinsic rewards that go along with achieving difficult goals.

Towards Encouraging Mobile Apps/Technology Entrepreneurship in Nigeria

Today's knowledge based economy is fertile ground for entrepreneurs. It is rightly believed that Nigeria has an extraordinary talent pool with virtually limitless potential to become entrepreneurs. Therefore, it is important to get committed to creating the right environment to develop successful entrepreneurs. To achieve this, Nigeria must focus on four areas.

- **Launch of Annual Mobile App Challenges/Competitions**

Against the backdrop of a rapidly changing and developing world fuelled by the demands of young people for jobs and economic opportunity, governments in partnership with technology companies and other institutes should initiate or launch annual mobile apps challenges comprising of teams of between five to seven members, under 35 years of age, who will work to develop applications for mobile phones that address needs in the education, health, entertainment or employability/entrepreneurship sectors. The winning teams should receive cash prizes.

This challenge encourages team of students or youths to develop innovative mobile applications for today's most pressing societal needs. The main objectives of the competition are to introduce young Nigerians to the concept of entrepreneurship and the path to successful business start-up, as well as opportunities for enhancing employability skills particularly relevant to the tech space. Teams should go through an acceleration process, opportunities for multiple workshops, and also be assisted by experienced mentors who will provide coaching and advice on how to turn good ideas into viable businesses.

- **Promote Competitive Markets that Spur Productive Entrepreneurship**

It is imperative to create a national environment ripe for entrepreneurship and risk-taking that allows companies to be internationally competitive in a global exchange of ideas and innovation. Through competitive markets, innovations diffuse and scale appropriately across industries and globally.

Successful SMEs are therefore important to stimulate economic growth, and employment, in both countries. Government at all levels must strive to foster a business environment that enables small companies to succeed by creating a business environment that is most user-friendly. Important as it is to adopt an entrepreneurial mindset, it is also critical for governments to set policy frameworks that create an enabling environment to give small businesses the best chance of success.

- **Ensure that Entrepreneurs have access to 'Smart Capital':** For a long time, entrepreneurs have had little access to capital. It is true that in the last few years, several Venture Funds have entered the Nigerian Market. Venture capitals (VCs) are providing capital as well as critical knowledge and access to potential partners, suppliers, and clients across the globe. However, Nigeria has only a few angel investors who support the idea in the early stages before VCs become involved.

- **Enable Networking and Exchange:** Entrepreneurs learn from experience - theirs and that of others. The rapid pace of globalization and fast growth of world economies present tremendous opportunities and challenges for Nigeria. Through planning and focus, Nigeria can aspire to create a pool of entrepreneurs who will be the region's –and the world's-leaders of tomorrow.

- **Increasing Access to the Internet**

The internet encourages young people to become more entrepreneurial. Technology opens up communication channels in society. Technology is the basis of a modern, forward-thinking and functional society. Today's youths are hungry to improve their career prospects, educate themselves, become more entrepreneurial and broaden their horizons by connecting with each other and the rest of the world. Research has shown that young people in most parts of the world understand the transformative power of technology and the opportunities provided by ICT.

Today, access prices are high and broadband penetration stands at just 6%. Yet, signs of progress are evident and the Government has recently unveiled an ambitious vision and broadband plan. Clearly though, hard work lies ahead to connect ordinary Nigerians across the length and breadth of the nation and unlock the socio-economic benefits that affordable access can bring (Boakye, 2014).

- **Learn the Necessary skills in Technology:** With the way things are going, not every skill, vocation or training will be relevant for the future. It is time for more young Nigerians to get into the field of Software Engineering, Microelectronics, Nanotechnology, Computer and information sciences, Physics, Mathematics and related courses. Here, it's not just getting the certificate or degrees and then go to look for a job, but learning it in order to be able to start up something with what have been learnt, and then begin to create value in the society as well.

- **Generate Ideas from Problems Around:** Nigeria is faced with a lot of problems no doubt; it simply means that there are a lot of opportunities in finding the solution to those problems. Studying the problems and proffering a solution to them using technology is what the focus should be about. Generate ideas that will address those problems like poverty, lack of quality Education, unemployment, social changes, bad governance, environmental challenges, technology deficiency, health and many others. As mobile is said to be the future of Africa, explore the use of Mobile phones and Mobile Internet then Mobile Applications; these are growing so fast in Africa. Jeff Bezos, the founder of Amazon.com said this about the Internet just before he started "Anything growing that fast is going to be ubiquitous very quickly". Seeing this about the Internet at that time motivated him to start Amazon.com and today Amazon is a leading Tech company in the World. m-Commerce, m-Health, m-learning, m-agriculture, m-governance, m-social etc. offer new opportunities.

- **Imbibe the Success Attitude:** The words of Thomas Edison, the great inventor suitably summarizes the attitude any aspiring techpreneur must possess. He said" The most important factors of invention can be described in few words. They consist first of definite knowledge as to what one wishes to achieve, one must fix his mind on that purpose with persistence and begin searching for that which he seeks, making use of all accumulated knowledge on the subject. He must keep searching no matter how many times he may meet with disappointment. He must refuse to be influenced by the fact that someone else may have tried the same idea without success. He must keep himself sold on the idea that the solution of his problem exists somewhere and that he will find it. When a man makes up his mind to solve any problem, he may at first meet opposition, but if he holds on and keeps on searching, he will be sure to find some sort of solution. The trouble with most people is that they quit before they start. In all my experiences, I do not recall having ever found solution to any problem connected with my work on my first attempt. And one of the most surprising things is the fact that when I discovered the thing for which I am searching, I generally find that It has been within my reach all the time; but nothing except persistence and a will to win would have revealed it"

▪ **Society's Support of Entrepreneurship should also Continue.** This support is critical in providing both motivation and public support. A major factor in the development of this societal approval is the media. The media should play a powerful and constructive role by reporting on the general entrepreneurial spirit in the country highlighting specific success cases of this spirit in operation.

Finally, large companies should show an interest in their special form of entrepreneurship-intrapreneurship-in the future. These companies will be increasingly interested in capitalizing on their Research & Development in the hyper competitive business environment today.

Conclusion

According to Omeruo (2013), the critical question is "What is the Government doing to facilitate the growth of Youth Tech Entrepreneurship in Nigeria?" Indeed, over the years Government has not played their role in creating the enabling environment for these young Tech entrepreneurs to thrive; it seems government is beginning to appreciate the importance as seen by the recent efforts of the newly created Ministry of Communications Technology led by Mrs. Omobola Johnson. The ministry has set up Software Venture Fund, commissioned two software incubation centres in Lagos and Calabar, inaugurated a Technology Innovation Committee, these are all steps in the right direction which are commendable but a whole lot needs to be done by government to support technology entrepreneurs in Nigeria. One of the major tasks of government is not to be a player but to help structure, facilitate and promote the growth of the ecosystem in Nigeria where Venture capitals, Accelerators, Incubators, Angel investors, the Private Public Partnership, the academics, Multinational Companies will be stakeholders in the ecosystem driving innovation. Most importantly, the right people with hands-on experience in Technology entrepreneurship should be involved to make these projects by government achieve the desired goals.

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