

Broadband: A Catalyst for National Development

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Abstract

The study was on *Broadband: A Catalyst for National Development of country Nigeria*. The study adopted secondary data as sources of information. *Relevant literatures on* broadband in Information and Communications Technologies (ICTs) and national developments were elicited from various impact journals and critically reviewed. The study viewed broadband as an “ecosystem” that comprises different elements that use high-speed connectivity to interact in different ways. Findings provided evidence of broadband been a key enablers for national development of developing countries like Nigeria, this is because of its crosscutting nature thus affecting all sectors of the nation’s economy ranging from socio-economics, agriculture, commerce, education, oil and gas, government expenditure computation, security, healthcare, environment, among others. Adoption and proper utilization of broadband in ICT will lead to sustained increase in economic growth, hence aggregate national development. Government at all levels should as a matter of urgency intensify awareness about broadband and encourage the development of broadband-enabled applications and services, build ICT skills and technological capabilities among firms and her citizen as this would enhance the nation’s annual Gross Domestic Product (GDP) positively.

Keywords: Broadband, Information and Communications Technologies (ICTs), National Development, Nigeria

1.0 Introduction

The Information and Communications Technology (ICT) is the most transformative technology of our present generation and its development, even from the earliest days, has benefited from close partnership between government and various private sector companies which has continues to accelerate national development in Nigeria (Nwabueze and Ozioko, 2011). Development is partly determined by the ability to establish a synergetic interaction between technological innovations and human values (Iwu and Nzeako, 2012). Also national development implies a sustainable growth and development of a nation to a more desirable one (Adekoya and Kolade, 2012). National development is people oriented and its success is evaluated in terms of the impact it has had in improving the lot of the masses (Enyi, 2014).

Development is essential and critical to growth and sustenance of any country (United Nations Conference on Trade and Development, 2005). In order to successfully enhance meaningful national development in all area of the economy in Nigeria, effective strategies must be evolved. Hence one of those strategies for national development is deployment broadband in ICT. The Broadband Commission for Digital Development was launched by the International Telecommunication Union (ITU) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) in response to UN Secretary-General Ban Ki-Moon’s call to step up efforts to meet the Millennium Development Goals (MDGs). Established in May 2010, the Commission unites top industry executives with government leaders, thought leaders, policy pioneers and international organizations concerned with development (www.broadbandcommission.org).

However, the term “Broadband” is used to describe a high-speed communications network that connected end-users at a data transfer speed greater than 256 Kbit/s (Nigerian National Broadband Plan, 2013). Therefore, broadband within the Nigerian context refer to an internet experience where the end user can access the most demanding content in real time at a minimum speed of 1.5 Mbit/s which are Digital Subscriber Line (DSL)and Cable Modem amongst others (NNBP, 2013). Also broadband upholds the a high-speed internet connectivity that is always on and faster than the traditional dial-up access (US-Federal Communication Commission, 2008). However, Kelly et al., (2009) have argued that while this is a popular definition, it is still void in knowledge as connectivity is the critical component, but broadband is more than just a network. Rather, they viewed broadband as an “ecosystem” that comprises different elements that use high-speed connectivity to interact in different ways (See Figure 1).

In the same vein the study of Kelly et al., (2009) on broadband shared view with the report of the Minister of Communications Technology, Mrs. Omobola Johnson who asserted that the broadband connectivity remained a critical element in ensuring that information and communication technologies are used as effective delivery vehicles for health, education, governance, trade and commerce in order to achieve sustainable socio-economic growth and national development (Thisday Newspapers, 22nd May, 2014).

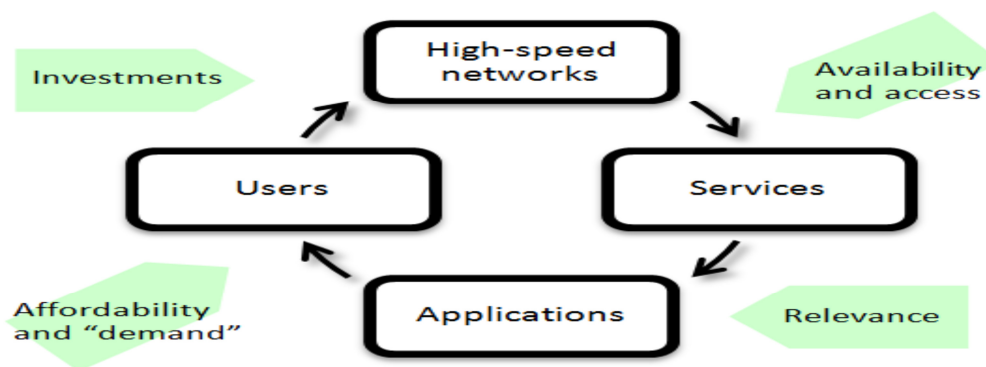


Figure 1: The virtuous circle for Broadband: Connecting the elements

Source: (World Bank, 2008 Cited in Kelly et al., 2009 and NNBP, 2013) “Broadband Policy Development in Developing Countries

Despite the need for national development and the rapid growth in broadband networks that has already taken place in most developed countries (Harindranath and Maung, 2007), broadband is still in the early stages of deployment in developing nations of which Nigeria is included (Abiodun and Oreolu, 2010).

The finding is in consonance with the assertion of Daily Trust Newspapers of (13th November, 2013) which opined that as at 2012, Nigeria’s broadband penetration rate was put at six per cent, which means the country is seeking to achieve 30 per cent penetration by the end of 2018. The evidence is being confirmed each day by poor internet and data speed, services and poor usage in Nigeria (International Telecommunication Union, 2011). This situation raises questions on the need for broadband in ICT as a panacea for national development.

Also there is a growing awareness that ICT are not reaching to rural dwellers to enhance their socio-economic and livelihood activities as well as the Nigeria aggregate national development (Bello and Aderbigbe, 2014). The main reason could be attributed to the poor linkages between research organization, and rural dwellers and poor technical know-how. Meanwhile several studies (Kelly et al., 2009; Rong et al., 2010; Opeke, 2011; NNBP, 2013 and Okwuke, 2014) on broadband in ICT have focused more on policies and implication of deployment of broadband in ICT. However, no study has rigorously modelled the deployment of broadband in ICT as a catalyst for National Development in Nigerian. This has left a void in research, knowledge and literature. Also level of awareness about broadband deployment in ICT in telecommunication industries for national development in Nigeria remains significantly low. Empirical evidence remains largely scanty, isolated and devoid of in-depth analysis of the role of integration of *Broadband in ICT for Nigeria National Development*. Thus to fill this dearth in research and awareness, it becomes pertinent that the study is undertaken.

2.0 Conceptual Framework

2.1 Broadband and National Development

The role of deployment of broadband in ICTs for aggregate economic, social and national development is rapidly becoming one of the most important and widely discussed issues in our telecommunication industries in Nigeria (Omobola, 2014 cited in Thisday Newspapers, 22nd May, 2014). Also the pride of any government is the attainment of higher value level of development in such a way that its citizens would derive natural attachment to governance. However, for a nation to be in a phase of development there must be some pre-requisites, which include socio-political and economic stability in all areas of the economy (Tolu and Abe, 2011). Today, ICTs, and especially broadband networks and services, are vital for countries’ economic growth (Qiang and Rossotto, 2009).

They enable fast and efficient communications across countries and continents, driving success in today’s global economy. Not only that, but ICT products and services are part of the higher-value high-tech sector in their own right, the sector which is growing fastest in international trade, and which can sustain faster growth in incomes. It is this dual role of ICTs and broadband – as enablers leveraging technological competitiveness across other sectors, as well as an economic sector in their own right – which makes ICTs critical for the overall competitiveness of nations. Broadband is essential for generating new skills and generating economic growth and technological change across the entire economy – from agriculture to finance, education, healthcare and modern services (National Broadband Plan, 2013).

Broadband is an essential infrastructure of the 21st Century. It enables access to business and job opportunities, improves healthcare, education and government services, and facilitates social interactions (NNBP, 2013). Meanwhile the increasing broadband capacity in the country, which is presently at 19.8 terabytes and 340 gigabytes respectively, with investment now in excess of \$2.24 billion, has renewed calls for governance over

the current traffic that passes through the country and the need for stimulus packages to aid investors (Thisday Newspapers, 30th March, 2014). In the same vein, the Executive Vice Chairman, Nigerian Communications Commission (NCC), Dr. Eugene Juwah, at the recently held Mobile World Congress in Barcelona, Spain, said that the Commission would champion the open access module, which would make government at different levels contribute to the deployment of broadband for national development in Nigeria (Thisday Newspapers, 30th March, 2014). The broadband vision for Nigeria is one of a society of connected communities with high speed internet and broadband access that facilitate faster socioeconomic advancement of the nation and its people (NNBP, 2013).

2.2 Strategic Goals and Objectives for Broadband as Outlined by NNBP, 2013

The key objectives of the Nigerian National Broadband Plan are to promote pervasive broadband deployment; increase broadband adoption and usage; and ensure availability of broadband services at affordable prices. All these are aimed at maximising the political and socioeconomic benefits of broadband. It is intended during the period of this plan to see more than a fivefold increase in internet and broadband penetration figures. It is also intended that all state capitals and urban cities have metro fibre infrastructure installed.

On a national scale, it is the intention of government to facilitate full rollout by operating companies of 3G networks as a minimum on all base stations by 2015. This will ensure that Nigerian citizens will enjoy World Class wireless broadband as a basic access medium for the society. Broadband is an essential right and basic utility for societal transformation and development, necessary for all segments of society.

The strategies put forward for achieving these objectives as reported by NNBP, (2013) and Uwaje and Tomi (2014) by are that the Government shall:

- a) Provide periodic review of the broadband penetration targets in order to determine further action for broadband expansion;
- b) Promote both supply- and demand-side policies that create incentives for broadband backbone and access network deployment;
- c) Facilitate broadband development and deployment, leveraging on existing universal service frameworks;
- d) Provide special incentives to operators to encourage them to increase their investment in broadband rollout and
- e) Promote e-Government and other e-services that would foster broadband usages.

Broadband is a key driver of economic, national growth and the competitiveness of nations (Organisation for Economic Co-operation and Development, 2008). Recent World Bank research, presented in the Information and Communication for Development 2009 report, suggests that the contribution of broadband to economic growth is indeed substantial, and may be more profound than comparable narrowband or voice-based ICTs, providing a boost of 1.38 percentage points on GDP growth in developing countries for every ten percentage points increase in broadband penetration (See Figure, 2). Broadband is a General Purpose Technology (GPT) (OECD, 2007) which is having a major impact on the way in which we live and work. Companies are using broadband to improve productivity through remote monitoring, logistics management and online procurement (Kelly et al., 2009).

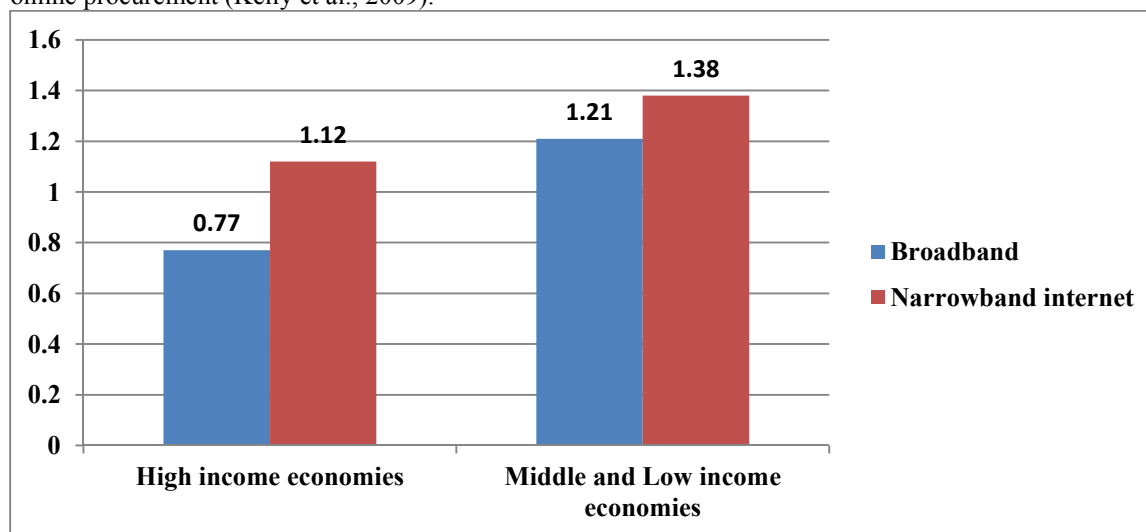


Figure 2: Impact of a ten per cent increase in penetration of selected ICTs on GDP per capita

Source: Adapted from World Bank (2009) "Information and Communication for Development: Extending Reach and Increasing Impact". Note: Based on an analysis of 120 economies, 1980-2006.

They are also using broadband to provide services such as media content, online shopping and electronic banking services. Broadband is also increasingly the primary mechanism for accessing information. Information is a public good which is essential for all forms of economic activity and good governance. Broadband provides access to new technologies, allow companies to explore new business opportunities, access customers and obtain information about market prices. Better access to information makes markets work more efficiently (Jenny, 2008) and raises producer incomes (Jensen, 2007).

Ready access to information about the performance of government and politicians helps improve government accountability (Timothy and Robin 2002) and improves quality of service provision (World Bank, 2003). By reducing the cost of accessing information about what governments are doing, broadband is becoming a key facilitator of good governance. Finally, broadband networks are increasingly being used to deliver public services: financial services, health-care, electronic voting, electronic land-registration are all examples of services that were previously delivered manually but are now being automated and delivered over broadband networks, often substituting online interaction for travel or the physical displacement of goods (Kelly et al., 2009).

2.3 Broadband Ecosystem

As mentioned above, Broadband can be considered in terms of an ecosystem that provides a holistic view to the various components required to deliver an end to end solution in the provision of broadband services (Kelly et al., 2009). Notably, the components are: Investment which leads to the availability of networks and services, the relevance of the service to the user, and affordability.

2.3.1 Investments

NNBP (2013) asserted that there are three broad sources of investment and funding for the build-out of broadband infrastructure: the private sector capital, government intervention funds, and Public Private Partnership funds.

In general, private sector investors fund broadband networks only where they can earn good returns on investment. Nevertheless, in some cases, private companies are simply unable to cope with the level and speed of investment needed to close the broadband supply gap while still providing services at affordable price levels. In such cases direct government intervention or public-private partnership funding will be required, especially to address unserved and underserved areas.

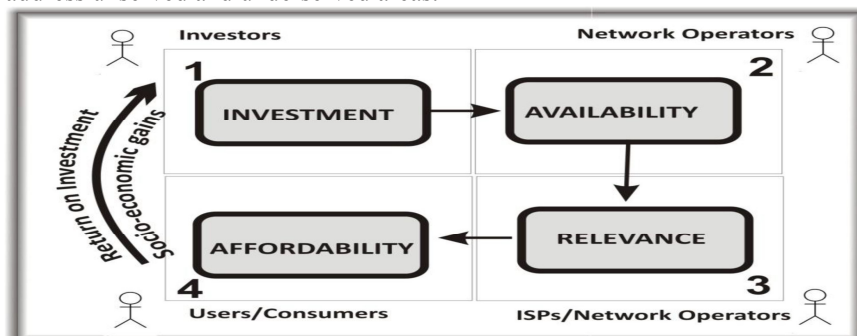


Figure 3: The Economics of the Broadband Ecosystem

Source; Nigerian National Broadband Plan (2013)

Conclusion and Recommendations

Reflecting on and re-examining specific aspects of the literature is an essential activity in the progress of a field. This study is such a reflection. It contributes to the literature in two ways. First, by building on existing work, the study adds to the building of a cumulative tradition in broadband, ICTs and national development for development research. Such a tradition allows the academic community to compare findings across studies and re-interpret prior findings. Second, while the paper contributes to the building of 'descriptive' (explanatory) knowledge, it may also be useful as the basis for developing 'prescriptive' (actionable) knowledge. Meanwhile broadband is the key enablers for economic growth and national development of developing countries like Nigeria, because of its crosscutting nature thus affecting all sectors of the nation's economy ranging from agriculture, commerce, education, oil and gas, government, national safety, healthcare among others. Adoption and proper utilization of broadband will lead, among others, to increased yields and quality production of goods and services. ICT and the nation's telecommunication industry can be resourced, properly managed and mainstreamed into a significant contributor to national Gross Domestic Product (GDP).

To accelerate the impact of broadband on national development, more can be done to liberalize telecommunication markets, encourage investment, make services more affordable and promote ICT skills and technological capabilities. Incentives are needed to build out broadband infrastructure, encourage the

development of broadband-enabled applications and services, and build ICT skills and technological capabilities among firms.

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