e-Commerce in Africa: The Case of Nigeria

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Abstract

Africa holds 15 % of world's population with an across sector infrastructure investments average returns of 15 to 20%. The diverse location of people living within the continent makes intercity, interstate, or inter-country transactions difficult and where it does happens, comes with huge transaction cost. This creates a wide gap in Africa's regional economy, resulting in wide spread of poverty, intra and inter regional conflicts within the continent. E-commerce provides a viable platform for bridging the gap in African economies. However, its adaptability and sustainability becomes a major concern. The level of development of e-commerce and its impact on the economy are analysed. Results show that e-commerce has made positive impact on the African economies but lack of trust on transactions within and from the continent is major challenge. Therefore, investment in e-commerce infrastructure in Africa (with more emphasis on Nigeria) will lead to rapid economic development within the continent.

1. Introduction

Electronic commerce (e-commerce) simply means the transacting of business activities using Information and Communication Technology (ICT) facilities. Globalisation and the information age have posed great challenges to businesses in Africa. According to [1], just over a fifth of the population in Africa uses the Internet compared to two thirds in Western Asia.

The African continent even though endowed with evenly distributed natural resources, has a relatively impoverished groups of people compared to other continents, many of its inhabitants are located in rural areas, where the benefits to be derived from ICT have not been felt. The sparse nature of ICT infrastructural development in most countries of the continent has resulted to the major differences in the sizes of the overall economies, in the level of expertise available, and other development issues.

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The Economic Commission for Africa, through its African Information Society Initiative (AISI), has identified e-commerce as one of the four key areas in Africa to exploit ICTs to best advance social and economic development.

2. e-Commerce in Africa

In the past five years, Africa has had the most rapid Internet growth rate in the world. Yet, Internet penetration rates remain low compared to other global regions. The main means of Internet connection in Africa is Mobile, as fixed connections make up less than 10% of the total Internet subscriptions in many countries throughout the continent, such as South Africa and Tunisia [2].

The rapid growth in internet connectivity has lead to consumers and producers seeing the advantages of e-commerce with convenience forming the major enticing factor for online businesses, for instance in Nigeria and Kenya. But even at that, only few Internet users in Africa have made an online purchase.

Two main factors are identified as the major barriers to wider acceptance of E-Commerce in Africa: delivery infrastructure and secure payment methods. Several countries lack even an organized physical address system, and cash on delivery is the main payment method that online merchants such as Takealot, Jumia and Konga among others, must deal with [2].

Any business transaction conducted within the African continent that involves the use of electronic communications processes and facilities (and especially the Internet) fall into three categories of interest. According to [3], these categories are:

Trade in Physical Goods. People living in African countries can now buy and sell goods from anywhere on the globe by placing orders and paying over the Internet. Also product advertisements, shipments of these goods can now be done electronically providing a leeway for African entrepreneurs to tap into the vastly larger markets for their goods.

Trade in Offline Teleservices and Virtual Goods. The lower wage environment of African countries provides opportunities for them to offer goods and services at significantly better rates than equivalent workers in United States and Europe. Virtual goods like downloadable music files and digital images, capturing medical records data, digitising architectural drawings, translations, etc can be created anywhere for electronic delivery to the client. African countries can themselves acquire these virtual goods with no concern about physical location.

Trade in Online services. Online forex trading, Online airline ticket booking and reservations, online banking services, online taxi/bus booking services, online auctions and supplies have become fully operational in African countries facilitating efficient trading by providing timely access to vital business information. The massive deployment of globally accepted electronic payment cards (mastercard, Visacard etc.) by African banks has actually bridged the gap in trade and payment methods between the continent and the western world.

2.1. Obstacles to e-Commerce in Africa

The obstacles to e-commerce are many and varied:

Legal Frameworks: Most countries are yet to institutionalize legal frame works that will handle issues concerning Intellectual Property Rights and Consumer Protection in the digital arena, digital signatures and contracts on the cyber space.

Financial Environment: e-commerce is yet to take its proper shape in Africa due to skepticism on the use of Credit cards for online transactions and payments. Major gaps exist in most African countries. While some economies in the African continent have embraced the cashless society as experienced in developed countries, many economies are almost entirely cash-based. In such cash-based economies, credit cards are virtually non-existent and central bank clearing facilities are very limited.

Information Infrastructure: there is high cost of equipment and connectivity of e-commerce as relates to physical goods or teleservices in the African continent. Limited bandwidth adds to the problem of providing off-line teleservices and online teleservices as such services demand high quality fast network access.

Transportation and Delivery System: The placing of an instant order (and perhaps the equally quick debiting of the consumer's account) has to be followed up with appropriately quick delivery of the goods. While this is eminently feasible for virtual goods such as music files, it is far from that when it comes to physical goods. Airfreight is risky, infrequent and expensive in Africa; customs clearance procedures are long and complex; local warehousing facilities hardly exist [3].

Human Capacity: brain drain has become a major setback in the attempt to bridge the digital divide among countries in the African continents and the western world. The right people required for effective implementation of e-commerce have to be ICT compliant, deeply oriented towards the digital economy and conversant with web languages and technologies. Most people who have these skills leave their countries in search of greener pastures in Europe and America.

2.2. e-Commerce in Nigeria

This The growth of Internet usage in Nigeria continues to increase, recording over 90% growth from 2000 to 2008 and up to 2016. While businesses in Nigeria are reported to have online access with opportunity for e-commerce activities, customers in the country however access business websites only to source for information but make purchases the traditional way [4], [5].

In recent time, in Nigeria, many online shopping sites have sprang up and many more are still developing, offering online shopping and business services to millions of internet users within and abroad. However considering the population of Nigeria with over 180 million, it is expected that the number of people involved in e-commerce activity would have increased in proportionate order with the population size. The problem is that many Nigerians still treat the issue of e-commerce with much scepticism. Many doubt the security of their accounts while making payment through an e-payment site. Others include high cost and inefficient means of transportation (predominantly road transport on dilapidated road networks), the genuineness of the business and the business partner involved in the online transaction.

ICT plays a pivotal role in the growth, development and sustainability of e-business all over the world. According to [6], ICTs can reduce business costs, promote transparency, rules-based systems, and improve communication. Governments need to work with the private sector to create an investment climate and a business environment that encourage the use of ICTs within private firms as well as in government. The potential of ICTs can then be realized through adequate infrastructure and skills, and a commitment by governments to making markets work effectively.

Many factors have actually contributed to the recent slight growth of e-commerce in Nigeria. These factors include:

- Rapid growth in the number of Internet users
- Availability of broadband technology
- Mobile revolution (Rapid uptake of Internet-enabled mobile phones (smart phones)
- Increasing awareness and use of social networking media
- Governments' involvement in provision of e-government services allowing for online transactions
- Growth in the number of e-commerce firms and secured e-payment systems.
- Legal framework for combating of cyber-crime.

2.3. e-Commerce Growth and Economies in Africa

[7] observed that the global growth rate of e-commerce is 16.8% while Africa's e-commerce space is growing at a rate of 25.8%. Nigeria, South Africa and Kenya are the top three countries that shop online which has contributed immensely the growth of their economies.

[8] observed that e-commerce is at the rudimentary stage in Nigeria, with an overwhelming impact on business transactions in the country. According to him, the Nigerian Bureau of Statistics reported that ICT enabled online businesses contributes about 8.4% of Nigeria's GDP and recorded a 16.4% growth in 2014, and the industry boasts of about 300,000 online orders daily. The

fast growing e-commerce industry with an estimated 25% annual growth could stimulate the growth of a non-oil economy adding to diversification in the medium to long term. "While counting the gains of e-commerce to the Nigerian economy, it is important that its weaknesses are measured also as the challenges of e-commerce are yet to be combated."

2.4. Business – to – Business (B2B) e-Commerce

This is the body text with no indent. This is the body text with no indent. According to [9], Business to Business or B2B refers to e-commerce activities between businesses. These transactions are usually carried out through Electronic Data Interchange or EDI. This allows more transparency among businesses involved; therefore businesses can run more efficiently. Electronic Data Interchange (EDI) will require agreement between trading partners (buyers and suppliers) in order to govern their electronic trading relationship. It is a standard format for exchanging business data. EDI is one form of e-commerce that also includes e-mail and fax. EDI data exchange among parties that know each other well and make arrangements for one-to-one connection. EDI is the inter-organizational, computer-to-computer exchange of business documentation in a standard machine processed format.

2.5. Business –to – Consumer (B2C) e-Commerce

Business to Customer or B2C refers to e-commerce activities that are focused on consumers rather than on businesses. Figure 1 shows that Business to Customer (B2C) e-commerce sales have been geometrically increasing in developed countries like Asia-Pacific, Western Europe and North America but slowly growing in Eastern Europe, Latin America, Middle East and Africa.
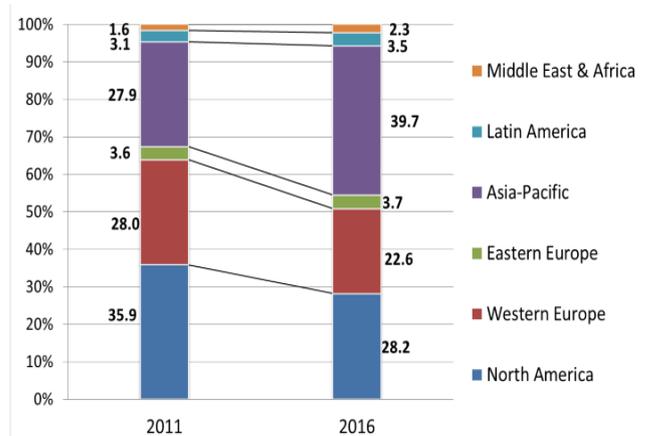

Figure 1. E-commerce sales by region 2011 and 2016 [10]

Figure 1 above shows that developed economies dominate the market but emerging economies (Asia-Pacific) will catch up by the year 2016.

According to [10], in China, e-commerce has grown by 120% a year since 2003; set to surpass US in 2013 as largest e-commerce market. China, India and Indonesia are expected to grow fastest in 2013. Latin America's e-commerce market grew from $1.6 billion to $43 billion in past decade. Brazil accounts for largest market share (59%), while Middle East and Africa has its share in global e-commerce expected to rise from 1.6% to 3.5% by 2016. This projection by [10] has been confirmed as [11] observed that Today, China is world biggest ecommerce market led by e-commerce subsidiaries of Alibaba group; namely Taobao, Alibaba.com, Tmall and others. With a 35% of annual growth, China is also one of the fastest growing ecommerce markets with annual online sales **of** $672 billion and *commerce share of total retail sales of 15.9%*. Coming fourth on the list is Japan and also the leading m-commerce player in the world, which of course is the future of e-commerce. Rakuten is Japan's leading e-commerce platform, which over the years has acquired many e-commerce websites across the world. It has annual online sales of $79 billion and *e-commerce share of total retail sales of 5.4%*. The country with the fastest wireless internet speed, South Korea comes at seventh place on this list. South Korea is also one of the leading m-commerce markets. Biggest e-commerce names in the country include Gmarket and Coupang. It has *annual online sales of $37 billion, e-commerce share of total retail sales of 9.8%*.

In the [1] report on e-commerce Index for various countries across the globe, computed using the following formula:

A1 = share of individuals using internet (% of population)
B1 = share of individuals with credit card (% age 15+)
C2 = secure internet servers per 1 million people (normalized to 100 by rescaling the value)
D1 = Postal reliability score

$$\text{B2C Index} = (A1 + B1 + C2 + D1)/4. \qquad (1)$$

Nigeria emerged top in Africa with a B2C E-commerce Index of 30.4 and ranked 100th position out of the 137 countries covered in the study. It also had an average of 3.8 million online shoppers as at 2014.

However, with the current economic recession in the country and the unfriendly foreign exchange policies that restrict the use of naira denominated debit and credit cards for online transaction on e-commerce sites involving foreign exchange, the e-commerce sector of the economy has suffered great losses.

2.5. ICT and e-Commerce Challenges in Africa

[12] identified the following challenges facing e-commerce in Africa: distrust, cost of broadband, logistics, Africa's open market, fragmented market and literacy rate.

[8] observed too that distrust is a serious challenge facing e-commerce in Africa. According to him, in Nigeria, the Inter-Bank Settlement System (NIBSS) in 2015, reported the high level of fraudulent transactions, which amount to 8.8% of online transactions.

It therefore becomes crystal clear that the major challenge that has persistently kept many from buying and selling online is distrust, which is tied to the security system of online payment platforms. It is a case that seems to defy all measures being put in place to curb financial fraud resulting from cyber crimes. According to [12], phishing is very common in Nigeria, where people are skeptical about putting their credentials online. As a result of this, many companies offer cash on delivery to alleviate this challenge. E-commerce sector therefore becomes attractive mainly to students and younger population.

ICT software in particular provides the much needed platform for e-commerce development and sustainability in Africa. However, this all important sector (software development) is grossly being under developed in the continent.

The [6] report identified limited access to venture capital as the biggest challenge to the software sector of the Information and Communication technology industry in African countries and this situation has not changed. The report shows that ICT software and services are dominated by the developed world with some developing economies catching up. It further highlighted that enhanced access to ICTs in developing countries is widening opportunities in areas including health, education, governance and business creation and expansion. "Software production can contribute to the structural transformation of economies, that is, weans them away from dependence on low-technology goods and on a limited number of products for export." It identified Kenya and South Africa as top suppliers of software and services for domestic consumption in the continent, especially in the areas of smart phones and tablets, as well as mobile applications driven by mobile broadband Internet services.

Piracy, poor ICT infrastructure and inadequate protection of intellectual property rights are some of the major challenges hindering ICT software development and service (e-business) expansion in Africa [13].

3. The Way Forward

E-commerce has come to stay and the Africa continent cannot work in isolation. There is urgent need for a paradigm shift in our approaches to business and methods

of business transactions, to conform to the modern way of transacting business which is more efficient, timely and globalized. Investments in ICT infrastructure and appropriate legal framework to guide and protect the emerging e-commerce in the continent have therefore become inevitable.

For effective development and utilization of e-commerce potentials in Africa, the following issues have to be addressed:

- ICT infrastructure (Internet, broadband) should be made affordable and available even the remotest parts of the region
- there should be massive and continuous ICT literacy training programmes among producers *and* users (consumers)
- people should be properly sensitized on the effectiveness and use of Electronic payment systems to boost their level of confidence on the system.
- e-commerce platforms should have enough local content to ensure easy maintainability of the systems.
- e-commerce systems operating in the countries should be well branded and recognized globally
- delivery and distribution networks (physical transportation) should be highly efficient and less expensive.
- there should be proper systems for tracking, monitoring and taxing of transactions
- governments should put in place appropriate legal framework to build trust
- appropriate policies should be put in place to remove or avoid trade barriers
- group Action: Business associations, Chambers Of Commerce, Cooperative societies, and NGOs in Africa can bridge the economy of scale on the technology required for e-commerce by setting up online malls showcasing a pool of their members' sites, products and services [14].

4. Conclusion

This study has shown that Africa has a lot of prospects for e-commerce development. Investing in key ICT infrastructure will continually provide the much needed platform for e-commerce growth and rapid economic development on the continent. Also the issue of distrust, which is a global problem but seems to be domesticated in Africa due largely to inadequate ICT skills, especially in electronic systems.

5. Future Work

Having identified distrust as a major challenge to the growth of e-commerce in the African continent, the authors have commenced a work on developing a highly secured e-commerce system model for the continent. The objective of the work is to develop a highly secured payment platform that will leverage on the Biometric Verification system of banks (commencing with Nigeria) to ensure that e-commerce transactions are carried out by the real account holders linked to their payment cards. It will ensure that any e-commerce transaction (both ordering and payment for goods) originating from the captured country(s) within the continent must pass through biometrics-based verification process that will never allow any transaction via proxy. This will go a long way in curbing identity theft and other cyber crimes and ultimately boost the trust level of e-commerce sites users.

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