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Electronic Commerce Development for the New Economy in Nigeria: Challenges and Prospect

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Abstract

Electronic commerce includes performing transactions with customers over the Internet for purposes such as home shopping, home banking, and electronic cash use; performing transactions with other organizations through the use of electronic data interchange (EDI); gathering information relating to consumer market research and competitors; and distributing information to prospective customers through interactive advertising, sales, and marketing efforts. Benefits of e-commerce to companies include a wider potential market (i.e., global access); lowering of transaction costs; increase in the speed of transactions; improved economies of scale; minimization of human intervention in business processes; and unlimited access to product information for customers (Sesan, 2000). However, the emergence of electronic commerce has also brought with it a number of challenges, especially in the developing nations like Nigeria. This paper discusses the challenges of electronic commerce in Nigeria. In this study, the current status of E-Commerce in Nigeria is evaluated. The study highlighted the most important factors that needed to be considered in order to support the proliferation and advancement of e-commerce in Nigeria. The paper examines the challenges that is hampering the growth of e-commerce in Nigeria. The paper will equally survey the opportunities offered by ecommerce and lastly offer solution on how some of these critical challenges will be overcome.

Keywords: **E-Commerce, E-commerce development, E-commerce challenges, E-commerce in Nigeria**

1.0 Introduction

The availability and continued growth of Information Technologies (IT), especially the internet technologies have created great opportunities for users all over the globe to benefit from IT services and use them in a variety of different ways. The use of internet technologies to conduct business online is known as Electronic Commerce (E-Commerce). Electronic commerce is now an alternative and convenient way of conducting business both nationally and internationally (Akintola K. and Akinyede R., 2011). This revolutionary way of conducting business has since broken down the geographical boundaries of the market, where people originally visited markets to buy or sell. Internet Technology Driven Business (eBusiness) has continued to be a catalyst to accelerate economic growth in many developed countries around the world such Singapore, Denmark, Swiserland, United States of America, China, just to mention but a few. It is now a form of globalization. We are witnessing a boom of new technologies, especially in the service sector (IT, Telecommunications, Internet, etc.). Due to technological advances economic transactions have become much easier and faster and this is mainly because of the development of e-commerce. Real engine of the new economy, e-commerce is a remarkable source of competitive advantage for businesses and a new space for consumers. In the coming years, growth and profitability will depend most likely the ability to introduce these new emerging technologies and adopt new methods of business transactions (Kabango C. and Asa R., 2015). However for the purpose of this research work, E-Commerce will be looked at from a perspective that involves transactions that maybe either commercial or non-commercial and also if there is either a corresponding payment or otherwise thereby making E-Commerce synonymous with E-Business. While developed countries have harnessed and adopted E-Commerce, developing countries (including Nigeria) are not yet fully adapted to its adoption. The aim of this study is to investigate the factors that play a role in the adoption and development of E-Commerce and, hence, develop strategies that conceptualize the

influential factors that form as enablers and disablers of E-Commerce in Nigeria.

2.0 The Concept and Definition of E-Commerce

E-commerce refers to the use of communications technology particularly the Internet to buy, sell and market goods and services to customers. E-commerce is the use of the Internet for marketing, identification, payment and delivery of goods and services. Through the e-commerce technology, the Internet has revolutionized the mode of business transactions by providing consumers with the ability to bank, invest, purchase, distribute, communicate, explore, and research from virtually anywhere, anytime where there is Internet access (Anup, 1997). Most importantly, it has created electronic markets and provided opportunities for businesses to reach consumers in a very direct way. Also by virtue of the technology, it has enabled consumers' immediate access to these electronic markets. The Internet has brought about a fundamental shift in national economies that are isolated from each other by barriers to cross-border trade and investment; isolated by distance, time zones and language; and isolated by national difference in government regulations, culture and business systems (Mohammad, 2004). There are many other definitions for the concept of E-Commerce depending on the perspective of the viewer or commentator. For the purpose of this study, however, below are a few definitions of E-Commerce as described by different authors:

In the World Trade Organization (WTO) Work Program on Electronic Commerce (1998), E-Commerce is understood to "mean the production, distribution, marketing, sale or delivery of goods and services by electronic means". A commercial transaction can be divided into three main stages: the advertising and searching stage, the ordering and payment stage and the delivery stage. According to Vladimir Zwass (1996), "Electronic commerce is the sharing of business information, maintaining business relationships and conducting business transactions by means of telecommunication networks". Emmanuel Lallana et al, (2000) defined Ecommerce as "the use of electronic communication or and digital information processing technology in business transactions to create, transform and redefine relationships for value creation between or among organizations and between organizations and individuals". And according to Jelassi and Enders, (2005) "Electronic Commerce deals with facilitation of transactions and selling of products and services online either via the internet or any other telecommunications network".

According to Turban et al (2008), E-Commerce can be defined from different perspectives which include but not limited to: From a communications perspective, E-Commerce is perceived as the delivery of information, products and services and/or payments over varied communication lines i.e. telephones, computer networks, or other electronic channels. From a business perspective, E-Commerce is perceived as the application of technological applications towards the automation of business transactions and flow of work. From a service perspective, E-Commerce is perceived as a tool that caters for consumers, management of firms to reduce service costs in an effort to improve quality of goods and foster the speed of delivering services. From an online perspective, E-Commerce makes possible an enabling atmosphere for products transaction, services and information via the internet and other services that are available online. The definitions above however reflects the many different views and perspectives of E-Commerce proposed by varied authors and commentators, we want to believe they all have a point depending on which perspective we view this from.

In the light of all the above, E-Commerce is all about fully integrating the operations of an organization in such a way that all its various external activities and its internal business processes of research and development, sales and marketing, manufacturing, finance and accounts, inbound and outbound logistics, human resources management using information and communication technology (Jelassi & Enders, 2005).

2.1 The Historical Background of E-Commerce

The first E-Commerce in history dates back to 1886, when a telegraph operator by name Richard Sears who after obtaining a shipment of watches that was refused by the local jeweler, used the telegraph to sell the watches to fellow operators and railroad employees. In a matter of months, he had saved up enough money to quit his job to start his own business which later became Sears, Roebuck and co. (Sears, 1863-1914). While the event described above could be described as the first of what can ever be referred to as E-Commerce in history, its purest form according to Vladimir Zwass (Editor in Chief of International Journal of Electronic Commerce) in recent times can be traced to 1948 electronic transmission of messages during the Berlin airlift. (FDU Magazine, 2000). The next stage of E-Commerce according to Turban et al, (2008) was the development of Electronic Data Interchange (EDI) which started in the 1960's in form of cooperative efforts at producing a common electronic data formats between industry groups. This format were used only for purchasing, transportation and in intra-industry transactions and it was not until the 1970's that work started on national Electronic Data Interchange (EDI) standards that eventually created a platform for Electronic Funds Transfer (EFT). This was used by businesses to send commercial documents like purchase orders, invoices and also to facilitate online payment for business transactions as well as funds transfer. This however was not without its own challenges at inception due to the fact that there was no standardization and as such, two companies must have the same application software or else, transactions cannot take place between them. Turban et al (2008) also added that the EDI was very expensive and limited to very rich global corporations who for their own benefit pressurized and at times incentivized small suppliers to implement it at very high cost. This challenge of standardization was however surmounted with the introduction of ASC X12 standard in 1984, as a standard which became a reliable means of handling a large number of transactions and EDI became an efficient system for the transfer of information between organizations and trading partners though, the implementation cost for small businesses was still very high. It was the advent of internet that actually lowered the barrier of E-Commerce for small businesses. According to Turban et al (2008), one of the major events in the 90's was the introduction of Asymmetrical Digital Subscriber Line (ADSL) services which helped to increase internet access speed by up to 50 times more the initial level of28.8 kilobits by a company known as SBC Communications, this happened in May 1998, and this was used to serve more than 200 communities in the state of California. This led to increased inter-net usage due to the higher bandwidth which invariably created an atmosphere for increased commercial activities online. Due to these developments, PayPal launched pay service; Google started its own version of E-commerce operations, while Yahoo opened Yahoo store. Turban et all (2008) also went further, in December 1998, Amazon and AOL took advantage of the massive online holiday shopping spree to generate sales in excess of $1 billion, which generated lots of waves and fear to offline firms who did not embrace the massive opportunities on online transactions as this was and became a defining moment in the history of E-Commerce. As time moved on, the events of the 2000's still as opined helped in shaping the history of E-Commerce. Turban et al (2008) outlined further that in January 2000, AOL an online juggernaut merged with Time Warner to create a purely E-Commerce platform, which introduced various dimensions business transactions and exposed the potentials of E-Commerce. However, in February of the same year, the hacking of E-Commerce sites of major online companies like Amazon, Yahoo, and eBay in a series of well-coordinated assaults led to loss of confidence in doing business online because of the rise in scrutiny issues in online transactions. In May however, things began to look up as there year extension of moratorium on specific internet taxes, and in 2002, eBay acquired PayPal, and also CSN stores started selling different products through several targeted domain were additional dimension. In 2003, Apple launches iTunes store while the Can-Spam act was passed into law by the American Congress. In 2004, PCI data card security standard was created by the credit card company. In 2005, YouTube was launched with a 2.0 version debut and also there was the release of Virtue Mart, which despite the fact that it was an open source of E-Commerce solution, it provides performance, good usability and security like any other professional software. While most of

the historic events and developments discussed above are major upsides in the history of E-Commerce, this section will not be complete without also mentioning the downsides. According to Turban et al (2008), major reference to dot.com burst era of 2000 and 2001, when quite a few E-Commerce companies like WorldCom, Boo.com, startups.com, open.com and the likes collapsed and totally disappeared from the online business space. However the positives of the events were that it helped rephrase and re-define the structure of online business for sustainability. The learning and outcomes of the events has often been used as case studies in business schools on how not to run online businesses. However regardless of the events of the dot.com burst, as argues by Turban et al (2008), the massive potentials inherent in E-Commerce was recognized by business analysts as they made projections for growth in revenue and profits of E-Commerce for the future as also companies who still practiced the traditional brick and mortar way of doing business like Wal-Mart and the likes, were to begin to have more presence on the internet while they also still operate their offline businesses, thereby giving birth to a mixed strategy application which was a blend of online and offline stores in other to have a market edge. Haven identified the many prospects serving a wide range of online global consumers electronically on E-Commerce platform; the traditional offline companies used the experience from factors that led to E-Commerce companies that were first movers and as such, they were able to build well-structured E-Commerce platforms that made adjustments for the considerable risks and errors which led failure of earlier dot.com firms. Additionally, the historical development of E-Commerce cannot be totally complete without making proper reference to acceptance and growth, acceptance and development of telephone banking in the 1980's, data mining and data warehousing in the 1990's, credit cards, Automated Teller Machines(ATM), Enterprise Resource Planning(ERP), and also more recently, developments in Electronic Governance (eGovernance), and also eLearning, all of which have come to be known and generally accepted as part of E-Commerce (Turban et al., 2008).

2.2 Benefits of E-commerce

E-commerce is not limited to the purchase of a product, it include, beside e-mail and other communication platform, all information or services that a company may offer to its customers over the internet, from pre-purchase information to after sale service and support. These are essentially two major uses of e-commerce. The first is to use it to reduce transaction cost by increasing efficiency in the use of both time and procedure, and thus lowing cost. The other is to use it both as a marketing tool to increase sales (and customer services) as well as to create new business through it for example, information technology enabled business, call-centers, software maintenance services etc. It is thus a tool for both existing business as well as an opportunity for new business, both for existing companies as well as for new entrants. Organizations benefit from e-commerce as follows:

1. Reduce administrative and operating costs
2. Reduce inventory costs
3. Reduce the cost of procurement
4. Improve customer service and satisfaction
5. Streamline procurement procedures
6. Increase communication efficiency and interaction with employees, vendors, customers and strategic partners
7. Increase revenues and profit margins

E-commerce offers a level playing ground for large businesses, as well as small and medium-scale enterprises (SMEs) to operate in the global market-place; and for regional businesses and communities to participate in social, economic and cultural networks seamlessly across international boundaries (Mary Anne, 1998). It equally fosters direct access to distant markets and promotes globalization of commercial activities; and blurs many of the current distinctions between domestic and foreign companies to an extent that it becomes practically impossible to determine the origin of products (Georges, 1997). Hitherto, multinationals that operated in a number of countries had to adjust their products and services to accommodate the diverse operating environments at a relatively high cost, which the virtual marketplace has reduced. All these put together have influenced in one way or the other

the implementation of e-commerce in Nigeria. The recent reform in the banking sector was responsible for the drastic reduction in the number of banks from 89 to 25 banks with strong capital base. The resulting banks are strong, vibrant and highly competitive and are operating at the cutting-edge of ICT. Thus, these banks are expected to bring about a radical change towards embracing e-banking culture, particularly, the use of e-payment system. Benefits of e-commerce to companies include a wider potential market (i.e., global access); lowering of transaction costs; increase in the speed of transactions; improved economies of scale; minimization of human intervention in business processes; and unlimited access to product information for customers (Sesan, 2000; Wood, 2003). With the paradigm shift in the mode of operation occasioned by the advent of the Internet, global corporations now operate with much consistency and at reduced cost of transactions as if the entire world were a single entity. The Internet has changed the face of businesses and is providing consumers with the ability to bank, invest, purchase, distribute, communicate, explore, and research from virtually anywhere, anytime there is Internet access (Anup, 1997).

2.3 Category of E-Commerce

The general category of e-commerce can be broken down into two parts (Goldsmith E. and Sue L., 2000):

1. E-Merchandise: selling goods and services electronically and moving items through distribution channels, for example through internet shopping for groceries, tickets, music, cloths, hardware, travel, book, flower or gifts.

2. E-Finance: banking, debit cards, smart cards, banking machines, telephone and internet banking, insurance, financial service and mortgages on-line

2.4 Classification of E-commerce

The various classifications of E-Commerce are described below as outlined by Turban et al, (2008):

a. Consumer to Business (C2B): This kind of E-Commerce transactions can also be referred to as demand collections, Turban et al (2008), describes it to be an avenue where individual sells products and services through the internet to other individuals and organizations. Involves a situation where the customer based on his/her requirements makes an online post with a price or at least a set budget, and businesses makes bids based on this, the customer in turn reviews the bids and makes selections as appropriate.

b. Consumer to Consumer (C2C): This is a type of E-Commerce transaction that is directly between individuals that is void of any human intermediary; it uses a platform that serves as an invincible intermediary. The platforms are often used for sales and auctions of online expertise and also online advertisement of personal services. Examples of these sites includes eBay, MSN.com, and other social networking site like Facebook, Twitter, My Space etc. fall into this category.

c. Business to Business (B2B): This according to Turban et al (2008) is the largest form of E-Commerce transaction based on value as both the buyers and also the sellers are business organizations with the exemption of individual consumers from such transactions.

Also, Gebrezigabiher, (2001) stressed that the earlier forms of B2B was transacted using Electronic Data Interchange (EDI), which mainly involved manufacturers and wholesalers. Gebrezigabiher (2001) went further by positing that B2B is often relational driven and most times it involves the transaction of commodities and standardized products while pricing is mostly based on quantities ordered which makes it negotiable which makes its activities transactional and also relationship building. This helps in direct consumer interaction, building customer loyalty, savings in distribution as well as transaction cost.

d. Business to Consumer (B2C): This is a type of E-Commerce transaction that involves businesses and consumers in which the businesses sells directly to the consumer. The platform for this type of E-Commerce transactions could be for transaction purposes or relationship and brand building, with the main purpose changing consumer attitude by getting more patronage for the products and services. Here the consumer is able to compare prices before making a buying decision and also the business can relate directly with the consumer without the use of intermediaries. Sale of non-standardized products is also possible on this type platform. Examples are

compUSA.com, amazon.com, indiaballs.com among others. Multinational companies like British Petroleum, Accenture are also involved in B2C E-Commerce.

e. Business to Employee (B2E): This is mostly used by for organizations that that has quite a few mobile staff and/or also run a virtual office as information, goods and services are passed on to the employees through this medium. Turban at all (2008) describes the role of government transaction among many other groups and sectors of the economy.

Jelassi and Enders (2005) describe Business-to-Business-to-Customer (B2B2C) as a type of E-Commerce transaction where a business owner provides a product or service it receives from another business to its customer without adding any extra value on the product or service provided. In this type of transaction, the client acts as an intermediary.

Other classifications according to Turban et al (2008) also include:

a. Peer to Peer (P2P): This is a particular type of E-Commerce platform whereby individuals share computer resources without the use of a web server, however there is need to install software or download which will allow for electronic sharing of video, music and other digital files.

b. M-Commerce: This is otherwise called Mobile Commerce, because this type of E-Commerce transactions is done in a wireless environment through the use of a mobile device which is internet enabled, it allows parties involved in the transactions to be connected in a wireless business environment.

c. Intra-Business E-Commerce: This type of E-Commerce transactions includes all the internal activities within an organization which involves exchange of goods and services as well as information. It basically involves the use of the intranet.

Other forms of E-Commerce transactions the government engages into are analyzed below:

1. Government to Consumer (G2C): This can also be referred to as Government to Citizen, and this transactions are government related payments such as taxes, levies etc. and is also used in the dissemination of governmental information to the citizens. Mostly used by the IRS and other revenue managing agencies on behalf of the government.

2. Government to Business (G2B): In this type of E-Commerce transaction, designated government agencies relate with business owners and organizations in the aspects of corporate taxes, levies, legal regulations etc.

3. Consumer to Government (C2G): This according to Gebrezigabiher (2001) may also be referred to as Citizens to Government, which creates a platform for feed-backs to the government on happenings and policies from individuals and pressure groups alike, as it allows the citizens to be to make valuable inputs and contribute their own quota to governance and also to make enquiries about governmental services provided to the citizens. Others transactions according to Turban et al., (2008), includes, Government to Employee (G2E), which is transactions between the government and its various employees; Business to Government (B2G), which is basically transactions that exists when business to give feedbacks to government agencies and departments in aspects of public procurements and contract bids etc; and also Government to Government (G2G), which helps to exchange information, and also intra and inter-government service issues.

3.0 E-Commerce Development in Nigeria

A study by Folorunso et al., (2006) shows that 70% of the respondents surveyed had heard about E-commerce before, but only 32% had used it. This shows that, only a very small percentage of the sample surveyed actually used e-commerce (about 22%) and is evident in most researches done on ecommerce adoption in Nigeria. In Nigeria, as a developing country, ICT is growing gradually, with Internet users making up 16.1% of the total population (Internet World Stats, 2009). This shows a considerable increase compared to users in 2006 (3.1% of total population). With more people becoming computer literate and open to adopting ICT usage, e-commerce is gradually gaining

popularity among many Nigerians. However, previous studies have shown that e-commerce has not been fully adopted in the country. In order to understand reasons behind the low percentage of e-commerce users, Ajayi et al., (2008) identify common e-commerce activities among users in Nigeria as products browsing (74%), products selection (56%), online payment (15%), offline payment (82%), checking results online (43%). From these percentages it is obvious that though consumers were interested in shopping online (by browsing online and selecting products), only a handful were actually making online payments (Ajayi et al., 2008). This low level of adoption of e-commerce in Nigeria has been attributed to various factors by previous researchers. Folorunso et al., (2006) identifies factors affecting the adoption of e-commerce in Nigeria as "establishing cost, accessibility, privacy and confidentiality, data security, network reliability, credit card threat, authenticity, citizen's income and education". Data security and citizen's income were concluded to be the major factors impeding the adoption of e-commerce in Nigeria. Ayo, (2006) also identifies the issue of cybercrime as a major factor responsible for the low level of e-commerce implementation in Nigeria. Ayo et al., (2008) states that "Internet penetration is still abysmally low and is one of the major threats to ecommerce implementation" in the country. Other factors identified in previous studies include substandard online payment methods, lack of trust in web retailers, poor technological infrastructures, and fear of inadequate security in online environments (Adeyeye, 2008; Ajayi et al. 2008; Ayo et al., 2008; Adeshina and Ayo, 2010).

3.1 Challenges of E-commerce in Nigeria

This section discusses some pitfalls and issues on the way to electronic commerce, and addresses some potential solutions.

3.1.1 Power Supply

According to Akintola et al, (2011), the internet is permeating public and commercial transactions in Nigeria with much speed. The study noted that the first priority area is government intervention in ecommerce by solving the problems presently confronting e-commerce in Nigeria. This they observed, can be achieved by government providing regular power supply as no industry can survive either electronic business or the brick and mortal business without adequate power supply. Also, Onyema, (2011) observed that Nigeria faces severe problems and hurdles in becoming a part of the global e-commerce experience noting that power supply amongst several other factors have contributed to the underdevelopment of e-commerce in the country.

3.1.2 Trust, Security and Privacy

The traditional architecture of Internet is vulnerable to serious kinds of security threats (Todd Lammle, 2013). And so willingness to take risks may be one of the few characteristics common to all trust situations. Kee and Knox, (1970) argued that to appropriately study trust there must be some meaningful incentives at stake and that the trustor must be cognizant of the risk involved. The definition of trust proposed in this research is the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustee, irrespective of the ability to monitor or control that other party (Park and Kim, 2003). Trust is a willingness to be vulnerable to the actions of another person or people (Mayer et al, 1995). This is based on expectations that the other person will behave in a responsible manner (Pavlou 2003) and will not take advantage of a dependence upon him or her (Gefen and Straub, 2003). Trust is perhaps a critical component in building economic relationships in an online environment such as e-commerce due to a greater perception of risk and uncertainty. There are a number of researchers who have continually approached the 'trust' issue from a technical side such as Internet and network security and even web interface design (Fernandes, 2001; Clifford et al., 1998; Pittayachawan, 2008). Nonetheless, according to Klang, (2001) and Ratnasingham and Kumar, (2000), considering just the technical perceptions will not guarantee trust in e-commerce. Unless individuals trust the technology, in which this negative possibility will not occur, it is more likely that the technology will not be adopted (Nor, 2007).

Security is defined as the extent to which consumers believe that his or her payment online is free from unauthorized access, use, alteration, and destruction (Olusegun, 2006). This may be due to a higher threat

of possible inappropriate behaviors such as security lapses where vital private information can be stolen by hackers (Suh and Han, 2002). The security lapses may result in financial losses to the users or adopters of the technology. A widely cited issue with on-line systems these days is security, although many specialists consider it to be a matter of perception rather than reality (David Kline, 1995). Nevertheless, customer perceptions are really what matters in terms of new technology adoption. The only answer which can currently be given is that the security of on-line systems is evolving quickly, and that by the time an electronic commerce strategy will be implemented, new technical solutions will have emerged. At this stage, most security systems are good enough to be used for most commercial transactions, and the evolving legislation in the field will allow the development of better systems (i.e. crypto-systems with longer keys) and their export worldwide.

It is widely acknowledged by both government and industrial organizations that, from a consumer point of view, issues of information security are a major obstacle to the growth of E-Commerce. The perception of risk regarding Internet security has also been recognized as a concern for both experienced and inexperienced users of Internet technologies (Miyazaki and Fernandez, 2001). Furthermore, Miyazaki and Fernandez, (2001) have identified the fraudulent behaviour by online retailers as a key concern for Internet users and, therefore, E-Commerce users Rose et al. (1999) identifies hackers as an obvious security threat to E-Commerce. This happens because the online availability and accessibility of the stored data of many corporations gives any hacker on the Internet the chance to steal data from these corporate databases. These threats have been identified in several new studies (Aleid et al., 2009; Al-Ghaith et al., 2010). Dixit and Datta (2010) studied the acceptance of e-banking among adult customers in India. The findings depicted that many factors like security and privacy, trust, innovativeness, familiarity, and awareness level increase the acceptance of e-banking services among Indian customers.

Nigeria, from the survey conducted for Cyber Source Corps, was chosen as the country posing the highest risk of online fraud (31%). From these, many Nigerians believe that their credit card information is not secured on internet (Olusegun, 2006). The public nature of the Internet has made it vulnerable to a lot of security threats. Thus, it requires a systemic approach to guarantee its security on the fronts of web clients, data transmission, web server, and network server operating system. Similarly, moving businesses online requires efficient and effective management of operations in the contexts of security (integrity, nonrepudiation, encryption), confidence (credit, payment, confidentiality), and control (traceability, transparency, authenticity) (Ramaswami, 1998; and Larry, 1998). The challenges of privacy and security could lead to a backlash against suppliers using such systems, or simply to customers avoiding the use of these systems. Some believe that customers will be reluctant to provide their suppliers with data on their demographics information, buying patterns or product needs.

3.1.3 Electronic Payment Systems Issues

The electronic payment system is a major pre-requisite for e-commerce implementation, but the Nigerian economy is largely cash-based with over 90% of funds in circulation. Thus payment for goods and services is mostly by cash due to reasons largely attributed to ignorance, illiteracy and lack of adequate infrastructure to guarantee availability and security of transactions (Ojo 2004, Ovia 2002, and Bickersteth 2005). Other factors that are responsible for the low level of e-commerce participation is the image problem (Oiesin 2006, and Ezeoha 2006a). Payment cards with origin from Nigeria are rejected outside because of the level of Internet fraud and Advance Fee Fraud known as 419.

Electronic business transactions can only be successful if financial exchanges between buyers and sellers can occur in a simple, universally accepted, safe and cheap way. Various systems have been proposed, some of them based on traditional mechanisms (e.g. credit cards accounts) while others rely on new designs, such as electronic money. The key here will be to find a few widely accepted mechanisms, which can be used by most actors. The recent agreement between Mastercard and Visa on one security standard for credit card transactions over the Internet, and its backing by most major software vendors is one step in the right direction.

This doesn't diminish the need for more specialized systems, for instance to allow micro-transactions, the exchange of very small amounts of money (a few cents) in exchange for information or services. These new payment mechanisms will in turn enable new business models such as pay-per-article newspapers.

3.1.4 Reliability

This refers to individuals' perception of the ability of ecommerce to perform its required functions as stated without failures (Gholami and Ogun, 2009). Also, there is the ability of company to rely on the transfer of its confidential and critical data over the internet, these can be caused by the existence of outdated web server or application that were not carefully installed initially (Soliman and Janz, 2004 cited in Olusegun, 2006). Nigeria as a developing country still suffer from good communication network (Olusegun, 2006)

3.1.5 Cost Factor

Cost is used to describe charge of the e-commerce services to users via transactional charges and savings derived from e-commerce efficiencies, financial incentives, etc. The cost of a transaction in an ecommerce system, to both the customer and the merchant, should be low, especially if micro payments are supported. The transaction cost should be very inexpensive and should depend on the number of transactions being made. Also, many Nigerians believe that the cost of implementing e-commerce (internet connection) is too high (Olusegun, 2006). Where available, the cost of ICT is a critical factor relative to per capital income. This makes the cost of entry higher compared to developed countries (Dankwambo, 2009).

3.1.6 Accessibility

Olusegun, (2006) defined accessibility as the extent to which the needed technology for e-commerce are available for individuals to use. Henry (2006) defines web accessibility as getting people to use, perceive, understand, direct and interact with the web. The International Standards Organizations (ISO) has defined accessibility as "the usability of a product, service, environment or facility by people with the widest range of capabilities". However, citizens of Nigeria do not have easy and often access to all the technology needed for e-commerce like internet, credit cards, etc. Gummerus et al., (2004) define the user interface as the channel through which customers are in contact with the e-service provider. Park and Kim (2003) found that the quality of the user interface affects customer satisfaction directly, since it provides physical evidence of the service provider's competence as well as facilitating effortless use of the service.

3.1.7 Awareness and Perceived Usefulness

Awareness is defined as the state of consciousness or quality of being aware of a product, brand name, company, new concept or trademark. The real reason why customers would use E-Commerce is that they find it a useful facility for conducting shopping online (Alghamdi, 2011). In Nigeria there is also the issue of awareness, because the e-commerce is still new, the needed awareness is not there. Out of 140 million Nigerians, how many have cards? According to Sathye, (1999) research, the use of online banking services, which is a good example of e-commerce, is new knowledge to many customers, and the lack of awareness of online banking is a crucial factor in preventing customers from adopting it. The acceptability deserves to be a function of education, people need to be educated on how to use it. (IT News Africa, 2009). Also The Economist Intelligence Unit, (2006) noted that the introduction of e-commerce services is hampered by a lack of public awareness on how to use the technologies. GSM phone technology (introduced in August 2001), however, is gradually drawing consumers, and there has been a rapid growth in electronic-cash transfer services such as Western Union, MoneyGram and Travelex in recent years.

3.1.8 Cultural/Language Factor

There are currently more than 250 ethnic tribes in present-day Nigeria. The three largest and most dominant ethnic groups are the Hausa, Yoruba, and Igbo. English is the official language of Nigeria used in all government interactions and in state-run schools. English is the only language common to most people (Curry, 2010). The dominant indigenous languages of Nigeria are Hausa, Yoruba and Igbo. Pidgin, a mix of African languages and English, also is common throughout southern Nigeria (Curry, 2010). Generally, the internet and e-commerce is text based and usually in English language. This of course, makes language a barrier

that could hinder e-commerce adoption if not adequately addressed.

3.1.9 Organizational Factors

Organizations differ significantly in their inclination to deploy E-Commerce (EC) technologies. It is necessary to analyse the factors that determine the organizational inclination to deploy EC technologies because this would help firms design appropriate interventions in order to control it. Top management, aspects of organization culture, characteristics of Information Systems professionals, and organization structure are organizational factors that affect the propensity to employ E-Commerce technologies in Nigeria.

3.1.10 Customer relations

Early experiences with electronic commerce in the banking industry, which has been a pioneer in the use of electronic systems, can be used to learn of some potential dangers and issues to be taken into account. The use of Automated Teller Machines and electronic home banking systems has increasingly allowed customers to bank outside of traditional bank facilities, for most of their usual transactions. This was consistent with the cost-savings strategy of most banks, which discovered that electronic transactions were about seven times less costly compared to the manual handling of these transactions by a bank teller. Nevertheless, the fact that customers' only contact with their banks was through (rather unsophisticated) electronic interfaces, and the major difficulties in integrating the legacy systems of a typical bank, prevented banks in many cases from selling additional products to customers (cross-selling). The insurance companies are taking opportunity of that to grab business from banks, selling savings products to customers through their extensive distribution network. Similarly, the decrease in human interaction with customers could also lead to a less sophisticated understanding of their needs, as they're not always able to express comments, criticisms or requests for new products while interacting with machines. This should lead to a design of electronic commerce systems which incorporate capabilities for customer understanding and for proactive selling of new products.

4.0 Conclusion and Recommendations

4.1 Conclusion

Electronic commerce is no doubt a budding phenomenon in commercial transactions in Nigeria and it has been amply demonstrated by this paper that because of its peculiar nature and idiosyncrasies coupled with the abysmally low level of technological development in Nigeria, it is imbued with many problems which have left the consumers in e-commerce gasping for protection. However, given the speed with which the internet is permeating commercial transactions in Nigeria, especially in the banking and telecommunications sectors of the economy, the best that can be suggested is that the challenges presently confronting e-commerce in Nigeria should be addressed directly and expeditiously, in the interests of the teeming population of Nigerian consumers. In this paper, we have x-rayed the benefits of e-commerce and some major issues surrounding its full implementation in Nigeria.

4.2 Recommendations

In order to ensure a successful practice of E-commerce in Nigeria, the following are recommended:

1. The Nigerian government should help in reducing the cost of interconnectivity and general Information and Communication Technology (ICT) access. This will ensure public access to cheap and fast telecommunication services.

2. The rising cases of Internet related frauds in Nigeria have made the E-commerce environment in Nigeria very complex. In addition to regulating cyber activities in Nigeria, there should be a promulgation and objective enforcement of necessary E-commerce laws and policies in line with international standards as suggested by Ezeoha (2006).

3. Acquiring software that would be capable of handling the emerging divergence in the banking system is also a challenging issue as banks are already complaining of the huge cost of integration. Ezeoha, (2006) suggested that the Central Bank of Nigeria would have to ensure that cost is not a hindrance in the needed systems integration among the emerging banks, especially since most applications in use, prior to consolidation, lacked the

capacity and scope to match the new trend in the industry.

4. The developments of organizations' websites should go beyond information purposes. Organizations should put in place procedures for maintaining and updating their websites, including the various security features and key ingredients of E-commerce which includes confidentiality, integrity, availability and effective communication.

5. The Nigerian government, in collaboration with the business organizations, should educate and inform its citizens and customers on the workability and effectiveness of E-commerce. This will instill more confidence in the customers and hence guarantee their patronage of E-commerce services.

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