

ELECTRONIC COMMERCE SOLUTIONS AND BUSINESS PERFORMANCE: AN EMPIRICAL INVESTIGATION OF SOME SELECTED SUPERMARKETS IN KATSINA METROPOLIS, KATSINA STATE, NIGERIA

Maikudi Shehu Musawa

Department of Office Technology and Management
Federal Polytechnic, Kaura Namoda

ABSTRACT

E-commerce offers a promising and exiting way for organizations to meet various challenges of a never-changing environment in these present days. E-Commerce could be partially important for the development of SMEs, E-commerce promise better business for SMEs. The emergence of e-commerce is changing many traditional ways of doing business and there are lots of success story regarding e-commerce in developed countries. These successes have prompted governments and business organizations in developing countries including Nigeria to step up their effort in the adoption and use of e-commerce technology. This research paper examined the impact of e-commerce on business performance with particular reference to the selected supermarkets in Katsina metropolis. The study sample was made up of 10 Supermarkets. Structured questionnaire designed by the researcher were used to collect data from each operator and 5 staff respectively, totaling 50 respondents. Data analysis was conducted with simple regression analysis. The result showed that e-commerce adoption has significant impact on service operations, cost operation reductions and profit levels. It was concluded that adoption of e-commerce by Nigerian supermarkets will reduce transaction cost, improve service operations, expand business base, better understand the needs of foreign customers, and increase profit levels. The paper recommended that the operators and staff of supermarkets should embark on more effective Information Technology (IT) training in order to further enhance their performance. And also management of supermarkets should procure quality IT gadgets that will enhance efficiency and customers' retention

© Ideal True Scholar

KEYWORDS: smes, e-commerce, e-business, customer satisfaction, business performance, organization

INTRODUCTION

Electronic commerce is now an alternative and convenient way of conducting business both nationally and internationally. 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 (E-Business) has continued to be a catalyst to accelerate economic growth in many developed countries around the world such Singapore, Denmark, Switzerland, United States of America, China, just to mention but a few. It is now a form of globalization. Nigeria, being giant of Africa not only in numerical strength but also in economic power and intellectualism has not really proved her leadership role in championing technological advancement in the black continent of Africa. Nigeria is a blessed nation both in human and natural resources, but economic growth of this country does not reflect the endowed capabilities in terms of the standard of living and social status. For Nigeria to realize her envisaged vision 2020, it is no doubt that Information Technology must play a vital role. One of the areas in which this vision could be realized is for Nigeria to move its economic activities to the Cyberspace through electronic Commerce. According to (Ribadu, 2011), "A

country determined to compete in a 21st century marked by globalization, fiercely competing markets, job opportunities, and rapid technological advances, must have commensurate infrastructure to drive its vision". Several developed nations of the world have plunged into Electronic Commerce in order to improve their economic activities. In fact eCommerce is now seen as one of the areas developed nations are now gaining competitive advantage over developing nations like Nigeria. Any nation that refuses to join this global trend cannot be a significant player in the global economy that will be driven by high powered e-Technology in the foreseeable future.

E-commerce refers to the use of communications technology particularly the internet to buy, sell and market goods and services to customers. 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). The amount of trade conducted electronically has grown extraordinarily with widespread Internet usage. The use of

commerce is conducted in this way, spurring and drawing on innovations in electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems. Modern electronic commerce typically uses the World Wide Web at least at some point in the transaction's life cycle, although it can encompass a wider range of technologies such as email as well. A large percentage of electronic commerce is conducted entirely electronically for virtual items such as access to premium content on a website, but most electronic commerce involves the transportation of physical items in some way. Online retailers are sometimes known as e-tailers and online retail is sometimes known as e-tail. Almost all big retailers have electronic commerce presence on the World Wide Web.

Electronic commerce that is conducted between businesses is referred to as business -to- business or B2B. B2B can be open to all interested parties (e.g. Commodity exchange) or limited to specific, pre-qualified participants (private electronic market). Electronic commerce that is conducted between businesses and consumers, on the other hand, is referred to as business -to-consumer or B2C. This is the type of electronic commerce conducted by companies such as Amazon.com. Online shopping is a form of electronic commerce where the buyer is directly online to the seller's computer usually via the internet. There is no intermediary service. The sale and purchase transaction is completed electronically and interactively in real-time such as Amazon.com for new books. If an intermediary is present, then the sale and purchase transaction is called electronic commerce such as eBay.com.

Electronic commerce has facilitated the emergence of new strategies and business models in several industries in developing countries, Nigeria inclusive. Significant changes are happening in supermarket retailing with the introduction of online shopping, especially in terms of channel development and coordination, business scope redefinition, the development of fulfillment center model and core processes, new ways of customer value creation, and online partnerships. In fact the role of online supermarket itself has undergone some significant changes in the last few years (Irene Yousept, 2004). The electronic commerce segment of the retail market has witnessed tremendous growth in terms of participation in the Nigerian economy in the last one year. According to Johnson, (2014) over 100 firms both local and foreign have shown greater interest in the sector alleged to worth over \$50 billion annually. She said the industry has no doubt opened doors for the coming generation of young Nigerian

entrepreneurs. Electronic commerce industry has no doubt increased the percentage of local content in products and services as well as increased utilization of local capacity. Ayo et al, (2011) asserted that the adoption of e-commerce in Nigerian business organizations has increased since the users of internet in Nigeria has grown from 0.1% in 2000 to 29.5% of its population in June 2010 and still has the potential to grow higher. Although most of the retail in the ICT industry occurred in predominantly informal, fragmented market places like the Banex market in Abuja and the computer village in Lagos, the wholesale and retail trade sector accounted for 20 per cent of GDP in 2012; making it the second largest contributor to GDP (Johnson, 2012). Tunde (2014) also noted that online retail market in Nigeria has significantly impacted nation's economy. In the same vein, Mary-Anne (1998) affirmed that e-commerce offers a level playing ground for large businesses, as well as small and medium-scale enterprises (SMEs) to operate in the global marketplace; and for regional businesses and communities to participate in social, economic and cultural networks seamlessly across international boundaries. Many studies have been carried out to investigate the factors that influencing the adoption of e-commerce in both small and large businesses organizations, but there is no or little empirical research that examined the influence of e-commerce on business organizational performance, especially in Nigerian supermarkets after the technology has been implemented. Base on this fact, this research paper intends to examine the influence of e-commerce solution on business organization performance with particular reference to selected Supermarkets in Katsina.

LITERATURE REVIEW

The advent of the Internet has brought about a dramatic growth in the volume of online transactions all over the world. These business activities include electronic fund transfer (EFT), supply chain management, e-Marketing, online marketing, online transaction processing, electronic data interchange (EDI) and automated data management among others (Vladimir, 2003). The ICT has remained the dominant factor and platform for business transactions. The platforms offered for commercial transactions include the Internet (i-Commerce), the web (web-Commerce), the mobile devices (m-Commerce) and all are collectively referred to as electronic commerce (e-Commerce). From the mid-1990s e-commerce began to grow rapidly and to reshape many industries. The marketplace and the way the business is conducted will never be the same (Chong 2008). There were a lot of research efforts aimed at reviewing the current state of developments in the areas of e-Commerce and e-Business in Nigeria. Chiemeke (2006), presented the

problems inhibiting the growth of Internet banking in Nigeria as insecurity, inadequate operational facilities such as telecommunications and electricity supply. In a similar research that was aimed at evaluating the prospects of e-Commerce in Nigeria, it was observed that virtually all the companies assessed in Nigeria had online presence but with little or no commercial activities taking place (Ayo, 2006). That is, there were enormous motivation and opportunities for e-Commerce implementation but the ability of the populace to participate in it was very low because of the low level of e-Payment infrastructure. Ojo (2004) and Ovia (2003) reported the state of e-Payment in Nigeria; that the economy was described as largely cash-based with over 90% of cash in circulation as against the developed world which is about 7%. However, in view of the recent efforts of government to fast-track e-Commerce and e-Payment developments in Nigeria, the amount of cash in circulation is still on the increase (CBN Report, 2006).

Schneider (2011) as cited in Diyan, (2012) divided the development of e-commerce into two stages: first wave and second wave. "First wave" of e-commerce was adopted by large enterprises in USA with easy access to capitals, primarily from external sources. Evans and Wurster (1999) refer to e-commerce in this early stage as a "land grab". At once, the whole new marketplace was created and companies who had sufficient resources and willingness could "grab from the land". These large companies firstly understood the possibilities that e-commerce can offer and started exploring and developing them. Since most companies were dependent on external investors, achieving the profit was relatively rare. The pressure to the smaller companies was far more intensive, and many of them suffered losses. He said that in the beginning, the technology was simple, inexpensive and internet connection slow, the websites were mainly English based, e-mails were used unstructured and the integration of e-commerce with other processes were not efficient. "Second wave" is characterized with the technological boom after 2001, mobile broadband development, and increased speed of Internet on low cost price. The land was already captured and the key players shifted their attention from capturing to defending the land. Companies started to focus more on competitive advantage and developing strategies to achieve it (Evans and Wurster, 1999). This was a prerequisite for development and adoption of e-commerce from smaller companies using their internal resources. At the same time, certain difficulties arising from using new technologies should be overcome. Stockdale and Standing (2004) stated that the benefits using e-commerce should be visible and substantial so that the companies are encouraged to climb to the ladder

from a simple to a more complex stage of e-commerce.

TYPES OF E-COMMERCE

Sajuyigbe, (2012) identified eight (8) types of e-commerce as follows:

- (a) Business-to-business e-commerce (B2B), in this case, two or more businesses make transactions or collaborate electronically.
- (b) Collaborative commerce (c-commerce). In this type of e-commerce, business partners collaborate electronically. Such collaboration frequently occurs between and among business partners along the supply chain.
- (c) Business-to-consumers (B2C). In this case the sellers are organizations, the buyers are individuals.
- (d) Consumers – to - businesses (C2B). In this case consumers make known a particular need for a product or service, and organizations compete to provide the product or service to consumers.
- (e) Consumer-to-consumer (C2C). In this case an individual sells products (or services) to other individuals.
- (f) Intra-business (intra-organizational) commerce. In this case an organization uses EC internally to improve its operations. A special case of this is known as **B2E** (business to its employees) e-commerce.
- (g) Government-to-citizens (G2C) and to others. In this case the government provides services to its citizens via e-commerce technologies. Governments can do business with other governments (G2G) as well as with businesses (G2B).
- (h) Mobile commerce (m-commerce). When e-commerce is done in a wireless environment, such as using cell phones to access the Internet, we call it m-commerce.

PRINCIPAL ACTIVITIES OF E-COMMERCE IN NIGERIA

- (a) Government service and information
- (b) Business-to-business wholesale and retail services
- (c) Business-to-consumer (and consumer-to-business) retail transaction
- (d) Financial services
- (e) Banking
- (f) Usage baser telephony, online and Internet access services
- (g) Advertising and marketing services.

The level of development recorded for any of these transactions in an economy is hinged primarily on the level of technology available. The most notable obviously is communication technology. Thus developed countries with advanced economies and infrastructure are the pacesetters in electronic

commerce. An effective development of e-commerce requires a participating process of natural policy making and implementation involving all stakeholders in both the public and private sectors. This is especially applicable in the academic community, which serves as the grinding stone for the nation's manpower. This participating process will not only help in building trust on the system as a low-risk made of transacting business but greatly amplifies investments towards e-commerce growth (Hedström, 1998). Also, technology and infrastructure are major players in the growth of e-commerce. Nigeria scores low in this department, for e-commerce is built on reliable and equitably distributed telecommunication network, which is also the backbone of the Internet.

Benefits of E-Commerce

E-Commerce facilitates "one-to-one" marketing based on the understanding of the individual customer. Digital information goods such as news, articles, digital images, music, allow perfect copies to be created and distributed almost without cost via the internet. The Internet is thus precipitating a dramatic reduction in the marginal cost of production and distribution of these goods. All of these schemes can be thought of as aggregating information goods along some dimension. For example, aggregation can take place across products, such as a collection of contemporary goods and services, airline tickets; hostel room, a rental car, meals and amusement park admission ticket can be handled as a packaged leisure product. Products combined in this manner are often personalized and constitute a distinct product or service that takes on an enhanced value from the sum of its components. Aggregation can also take place across consumers as with the provision of a site license to multiple users for a fixed fee, or overtime, as with subscriptions.

In the electronic market, it is much more easily to match buyers directly with sellers and as such the role of traditional intermediaries may be reduced or even eliminated leading to dis-intermediation. The extinction of intermediaries by the electronic market will more than be compensated for by the promotion of the growth of new types of electronic intermediaries. These intermediaries will perform functions like matching buyers with sellers, providing product information to buyers and marketing information to sellers, aggregating information goods, integrating the components of consumer processes, managing physical deliveries and payments, providing trust relationships and ensuring the integrity of the market.

HINDRANCES TO THE GROWTH OF E-COMMERCE

Identified as the major constraints on the diffusion of the Internet especially in developing countries include shortages of infrastructure, price of Internet access, education and lack of content in the appropriate language.

- (a) Lack of sufficient awareness about IT.
- (b) Negative attitudes of governmental agencies through adequate funding
- (c) Inadequate sustainability of manpower
- (d) Insecurity of sensitive information transmitted on computer digital networks
- (e) Low-income level
- (f) Unreliable power supply, lack of secured and stable political environment and appropriate pricing.
- (g) Unreliable Telecommunication facilities.
- (h) Privacy the control over one's personal data and security

MAJOR ISSUES IN ELECTRONIC COMMERCE

1. Legislation and Bye-laws

- (a) Domain name registration regulations
- (b) Consumer protection issues
- (c) Contract laws and regulations
- (d) Privacy laws and regulations

2. Enforcement processes

- (a) Regulatory Process and agency
- (b) Specialized Law Courts and practitioners

(a) Domain Name Registration Regulations

E-Mail is the major vehicle for e-commerce and e-mail is based on domain name registration. Domain name is a finite resource mainly because it depends on alphabets, numbers, dots and dashes and therefore requires efficient management. Domain name has also been the subject of disputes and court cases in different parts of the world e.g. copyright infringement, cyber-squatting, anti-competitive acts etc.

(b) Consumer protection issues

Consumer Protection Council Act 1992 makes absolutely no provision in regard to electronic transactions. This covers sale of goods or services through distant communications of which e-mail is a ready example;

- (a) Full identity of supplier;
- (b) Main characteristics of goods or services;
- (c) Cost of delivery;
- (d) Payment arrangements;
- (e) Validity period of offer
- (f) conditions and procedures for exercising right of withdrawal;
- (g) Geographical address of supplier's place of business where consumer may address complaints;

- (h) After sales services and guarantees
- (i) Conditions for unspecified a year. etc.

- (d) Processing of children’s data must have the consent of the parents and there must be verification of such consent through regular mail; and
- (e) Strict criminal and pecuniary sanctions are imposed in the event of default.

CONTRACT AND EVIDENCE LAWS

Major issues in e-commerce contracts are

Documentation and Signature

Traditional contract consummation require that contracts be reduced into writing and properly signed by the parties. E-commerce presents peculiarities in this regard. Encryption and Digital signature provide the best method for guaranteeing the legality of documents

E-commerce documents must guarantee

- (a) Authentication - that document was executed by the parties
- (b) Integrity - document was not modified or tampered with between being sent and received
- (c) Non-repudiation - parties cannot resale and deny document
- (d) Confidentiality of document

Encryption takes care of confidentiality while digital signature ensures authentication, integrity and non-repudiation. Third party authorities are necessary for certification - they keep the public key for the encryption

- (a) Some administrations and businesses insist on back-up confirmations e.g. standard documents and signatures to confirm contract.
- (b) Nigeria’s Evidence Laws makes no provision for digital signatures and even admission of e-mail as documentary evidence, particularly when not signed.

PRIVACY LAWS AND REGULATIONS

- (a) This is absolutely essential to protect parties in regard to publication of market survey details and information
- (b) In the processes of business transactions, it is customary for organizations to collate personal data of their customers and clients. Different countries have laws that restrict release of personal information e.g.
 - (a) Data subjects’ consent is required;
 - (b) Data must be used for purposes for which they were compiled;
 - (c) Data user may request, free of cost, for blocking or rectification of inaccurate data or enforce remedy against breach of confidentiality;

RESEARCH QUESTIONS

The following questions will be answered in the course of this study

- (a) Does e-commerce adoption by supermarkets improve service operations?
- (b) Does e-commerce adoption by supermarkets reduces operations cost?
- (c) Does e-commerce adoption in supermarkets increase profit level?

HYPOTHESES

The following hypotheses were formulated in null form.

- H1: e-commerce adoption has no significant influence on service operations
- H2: e-commerce adoption has no significant influence on operation cost reduction
- H3; e-commerce adoption has no significant influence on profit level

RESEARCH METHODOLOGY

The study sample was made up of 10 Supermarkets (Ladan Wapa, Maidabino, Chake, Magama, Managal, Green House, Jifatu, Umar stores, Attah and Kalamu Waheed Supermarket). Structured questionnaire designed by the researchers were used to collect data from each operator and 5 staff respectively, totaling 50 respondents. The response format was in Likert format with responses ranging from strongly agree (5) to strongly disagree (1). In order to establish the reliability of the research instrument, a test - retest method was used. In confirming the facts and contents validities of the instrument, it was given to experts for verification.

In respect to measuring the reliability of the scale, the reliability coefficients (Cronbach’s) of the e-commerce adoption was 0.792. Businesses performance was measured through the economic goals of the businesses such as return on investment and profitability (Hartenian and Gudmundson, 2000). The scale was subjected to item analysis in order to ensure it is valid and reliability and it yielded reliability alpha of .85. Data analysis was conducted with simple regression analysis

DATA ANALYSIS AND INTERPRETATION

Table 1: Regression Analysis

Variable	SEOP	t- value	P	COSP	t-value	P	PROL	t- value	P
E-CADOPT	0.775	8.119	P<.05	0.350	2.572	P<.05	0.537	4.382	P<.05
Coefficient	0.783			0.348			0.535		
R2	0.583			0.121			0.286		

Table 1 shows that e-commerce adoption by supermarkets has significant impact on the service operations with ($\beta = 0.783$; $t = 8.119$) at 5% level. This implies that e-commerce has positive impact on service operations. This result agrees with Alrawi, (2007) who asserted that that e-commerce have changed the way of delivering the product and consumers can have more choices than they could easily locate otherwise and transaction can be made 24 hours a day, from almost any location. Result also revealed that e-commerce adoption by supermarkets has significant impact on cost reduction with ($\beta = 0.348$; $t = 0.121$) at 5% level. This indicates that the adoption of e-commerce will reduce cost of operations. This result also conform to Allen and Fjermestad (2001) findings, that e-commerce has given new possibilities for distribution of the product and international expansion with relatively lower costs and allows lower inventories by facilitating pull-type supply chain management. Result indicated that e-commerce adoption by supermarkets has significant impact on the profit level with ($\beta = 0.535$; $t = 0.286$) at 5% level. This means that the adoption of e-commerce will improve profitability level tremendously

CONCLUSION

E-Commerce is a hi-tech breakthrough which provides both buyer and seller facilities to transact business in the comfort of their homes or offices and at competitive prices. Meaningful studies and research findings have shown that the Internet and E-commerce will transform traditional business, the global market and consumer life. For business, the benefits of E-commerce using the Internet are undoubtedly very compelling. The Internet has therefore become the ultimate platform and lifeline for business continuity, Academic growth, socio-economic development, sustainable growth and global competitiveness. This research paper examined the impact of e-commerce on business performance with particular reference to the selected supermarkets in Katsina metropolis. The result showed that e-commerce adoption has significant impact on service operations, cost operation reductions and profit levels. It can be concluded that adoption of e-commerce by Nigerian supermarkets will reduce transaction cost, improve service operations, expand business base, better understand the needs of foreign customers, and increase profit levels. E-commerce has been identified as important tool that will assist Nigerian supermarkets to acquire information about particular customer needs and foreign competitors from foreign distributors all over the world 24/7.

RECOMMENDATIONS

It was then recommended that the operators and staff of supermarkets should embark on more effective Information Technology (IT) training in order to further enhance their performance. And also management of supermarkets should procure quality IT gadgets that will enhance efficiency and customers' retention. Nigerian Supermarkets must put up web sites that are rich enough for consumers to be certain of making right choices. Also adequate information must always be provided. Online vendors need to take perceived risk into account in their website planning efforts and improve on increasing consumers trust. To diminish perceived risk, adequate information must be made available on the web site. Adaptive Web site approach can also be adopted to improve consumers' sense of privacy.

REFERENCES

- Allen, E. &Fjermestad, J. (2001). E-commerce marketing strategies: an integrated framework and case analysis. *Logistics Information Management*, Volume 14. Number 1/2. 2001. pp. 14-23.
- Alrawi, K. (2007). The internet and international marketing, Competitiveness Review. *An International Business Journal*, Vol. 17 No. 4, 2007, pp. 222-233
- Ayo, C.K, Adewoye, J.O and Oni, A.A (2011). Business- to – consumer e-commerce in Nigeria: Prospects and challenges. *African Journal of Business Management*. 5 (13), 5109-5117.
- Buderi R (2005). E-Commerce gets smarter. *TechnologyReview.com*. Available at http://www.technologyreview.com/articles/05/04/issue/features_ec.
- Chaffey, D., Ellis-Chadwick, F., Johnston, K. & Mayer, R. (2000), *Internet Marketing: Strategy, Implementation and Practice*, Pearson Education Limited.
- Chong, S. (2008). Success in electronic commerce Implementation, A cross-country study of small and medium-sized enterprises, *Journal of Enterprise Information Management*, Vol. 21 No. 5, 2008, pp. 468-492
- Clinton, W.J (2000). A frame for Global Electronic Commerce. Retrieved from www.Whitehouse.gov/http://computer.org.
- Diyan, I (2012).The impact of e-commerce on small-size companies in Sweden. Master Thesis of Kari stand University, Sweden.

- Evans, P. & Wurster, T.S. (1999), Getting real about virtual commerce, *Harvard Business Review*, November-December 1999, pp. 84-94.
- Gbolagade. A, Ayo- Oyebiyi, G.T and Adebayo, S.A (2013). An Empirical Study of Factors that influence the Adoption of e-commerce in Nigerian Business Organizations. *International Journal of Business and Management Invention* 2 (9), 28-33.
- Gilmore, A., Gallagher, D., & Henry, S. (2007). E-marketing and SMEs: Operational lessons for the future. *European Business Review*, 19, 234–247.
- Irene Yousept, F (2004). Online supermarket: Emerging strategies and business models in the UK; 17th Bled e-commerce conference e-global. Bled, Slovenia, June, 21-23, 2004.
- Jeffcott, J., Chappell, C., & Feindt, S. (2002). Best practice in SME adoption of e-commerce. *Benchmarking: An International Journal*, 9, 122–132.
- Johnson O (2014) How e-commerce platform boosts SMEs. Available at: <http://dailyindependentnig.com/2013/08/how-e-commerce-platform-boosts-smes/>
- Mary-Anne G (1998): "E-COMM-AWARE! E-Commerce awareness programme for regional communities", *Journal of Internet Banking and Commerce*, Vol 3, no 2, [online], <http://www.arraydev.com/commerce>
- Mohammad T (2004): "Roles of E-Commerce in 21st Century. *Journal of Internet Banking and Commerce*. 8(2), [online], <http://www.arraydev.com/commerce/JIBC/0311-06.htm>.
- Molla, A., & Licker, P. S. (2005). E-Commerce adoption in developing countries: A model and instrument. *Information and Management*, 42, 877–899.
- Morri, K and Siege, L. N (2003). E-commerce, *Journal of Nigerian Computer Society*. 14 pp 60.
- Rainer, K. & Cegielski, C. (2011). *Introduction to Information Systems: Enabling and Transforming Business*. Third Edition. John Wiley & Sons Inc.
- Sajuyigbe, A.S (2012). Adoption of e-commerce to Business Operations: A key to Achieving Nigeria Vision 20:2020. A paper presented at 2012 National Conference on Nigeria's Transformation and the Vision 20:2020 Policy of the Federal Government. Organized by faculty of Business and Communication Studies. The polytechnic, Ibadan, Nigeria.
- Schneider, G. (2011) in Diyan, I (2012). The impact of e-commerce on small-size companies in Sweden. Master Thesis of Kari stand University, Sweden