

The Impact of e-Commerce on Customer Satisfaction: a Case Study of Kaduna State Metropolis in Nigeria

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Abstract

This research seeks to examine the impact of E-commerce on customer satisfaction in Kaduna State Metropolis, as E-commerce seems to be the trend that is taking over Nigeria and the world at large. Since with the coming of internet facility, it has taken over the way and manner things were done before as it is no more business as usual. Therefore the need to evaluate the level of satisfaction derived from these services provided. Satisfaction is the customer's evaluation of a product or service in terms of whether that product or service has met their needs or expectations. Kaduna metropolis was selected based on simple random sampling, as Kaduna is one of the major cities in northern Nigeria, and northern Nigeria is known to be slow in development compared to the southern and western parts of Nigeria. Multiple regression analysis where done on data obtained from questionnaire, dummy variables on a scale of 1-5 were obtained in order to answer the objective question of the research, and address the research problem. Therefore analysis obtained proves a significant level of customer satisfaction in E-commerce, would be safe to conclude for Nigeria at large. Basically this paper adopts both descriptive and regression analysis. The study revealed that internet reliability, inefficiency and security have significant impact on customer satisfaction. The paper concludes by suggesting that service providers of internet accessibility involved in E-commerce should improve efficiency and security in their service delivery to justify the benefits of E-commerce and also instill customer's confidence.

Keywords: *Customer satisfaction, Internet security, Internet reliability, Internet efficiency*

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Background to the Study

Customers are presumed to be one of the most important stakeholders in any organization because without them, organizations are not likely to succeed (Adebayo and Lawanson, 2012). A company is successful when its products and services meet expectation and requirements of customers. Electronic commerce (E-commerce) has been recognized globally as a mechanism for business organization to reach global markets (El Gawady, 2005). The internet has now been presently established as a new marketing tool. Marketers use the internet to gather data for marketing planning. Companies who use the internet not only for advertising but also for e-mail and receiving purchase order, businesses have increase their opportunities by providing 24 hours/7 day access for branch offices, business contact and shoppers (Khatibi, Ismail and Ismail 2003).

Nigeria, like the rest of the world is riding on the waves of electronic commerce, because of its significance in the economy with the introduction of the internet; marketers have the technology to mass customize communication and products (El Gawady, 2005). An organization majorly exists to satisfy customers while meeting the organizational objective of increased sales and higher profit. The internet has become an integral piece of marketing mix, spawning new products and service as well as a digital distribution channel and an electronic storefront (Adeoye and Lawanson, 2012). Customers want to do business on hire according to their own schedules, however many unsuccessful on line business fail to satisfy their customers because the expectation of the online customers is often higher and may even be different from that of those using traditional marketing. Significant changes are happening in supermarket retailing with the introduction of online shopping, especially in terms of channel development and coordination. E-commerce stores are known to offer goods and services that are equal in price and sometimes even cheaper than those found in traditional stores. Essentially, e-commerce stores are now contributing to the democratization of prices in Nigeria (Omololu, 2014).

Given that the internet has a global reach, these new e-market places have fast become a product of globalization, leading the internet and E-commerce to further the process of global integration. E-commerce model include business to business (B2B) e-commerce that is companies interacting with other companies, seeking supplier bids, fulfilling orders, receiving invoices and making payments using the internet as a medium. Another is business to customer to customer (B2C) where interaction is between the businesses and customers El Gawady, (2005).

Data obtained from the national bureau of statistics show that the fast moving consumer goods sector (FMCG) of the economy accounted for 9% of Nigeria's GDP which is more than the contribution of the oil and gas sectors to GDP and second only behind agriculture. The growth in e-commerce industry seems more remarkable when you consider that only 38% of the Nigerian population has actually embraced online shopping (Omolulo, 2014). Yet given the statistics of how e-commerce accounts for 9% of Nigerian's GDP with only 38% of its population are engaged in online shopping, it is obvious that Nigerians are skeptical about the reliability, security and efficiency of ecommerce given the increasing rate of cyber crimes and fraud. Therefore it would be of utmost importance to analyze the level of satisfaction derived from engaging in e-commerce activities.

Objectives of the Study

The main objective of the study is to appraise the impact of E-commerce on customer satisfaction in Kaduna State Metropolis in Nigeria, other objectives are to:

- i. Appraise the role of internet security on customer satisfaction.
- ii. Determine the impact of internet efficiency on customer satisfaction.
- iii. Assess the influence of internet reliability on customer satisfaction.

Literature Review

E-commerce is any transaction made over the internet most often it involves the transfer of goods, services or information. It is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet. The term e-commerce and e-business are often used interchangeably (Rouse, 2016). E-commerce is the conduct of business via internet which relates to activity of information searching, information sharing, purchasing or exchanging products and services also maintaining customers relationships without face to face meeting unlike transactions done in traditional way. E-commerce takes on to technologies such as mobile commerce, electronic fund transfer, supply chain management, electronic data interchange inventory management system, and automatic data collection systems. Modern electronic commerce typically uses the World Wide Web for at least one part of the transactions life cycle, although it may also use other technologies such as e-mail. E-commerce is usually associated with buying and selling over the internet or conducting any transaction involving the transfer of ownership or rights to use goods or service through a computer mediated network.

This study examines the influence of e-commerce on customer satisfaction, especially in Kaduna Metropolis, where Kaduna is the state capital of Kaduna State in north-western Nigeria. Kaduna is a trade center and a major transportation hub, with a population at 760,084 as of the 2006 Nigerian census (National Bureau Statistics). Urbanization over the past years has created an increasingly large population, now estimated to be around 1.3 million. Kaduna is an industrial center of Northern Nigeria, with manufacturing industries of products such as textiles, machinery, steel, aluminum, petroleum products and bearings. Automobile manufacturing relics an important part of Kaduna's economy, also one of Nigeria's four main oil refineries is located in Kaduna. It is supplied by a pipeline from the Niger Delta oil fields (Encyclopædia Britannica, 2016). Kaduna is known to have many institutions of learning like the Nigerian Defence Academy, Kaduna state university and Kaduna state polytechnic. Due to the activities that go on in the metropolis of Kaduna, it serves as a good sample to estimate customer satisfaction derived from E-commerce.

Theoretical literature reviews relevant to this research are the works of Trevor and Wiebe, (2010), who postulated the social construction of technology theory. This theory argues that technology does not determined how people receive and use mobile technology but people determined how and to what ways technology is used. The theory posts that the use of technology cannot be understood without understanding how it is socially integrated within society and within different social contexts. Technology can take different meanings and adoption depends on how society perceived the technology. This theory explained that the adoption of a technology is not only due to its technical superiority but due to some social factors as well.

Technology Acceptance model (TAM) was introduced by Davis, Bagozzi and Warshaw (1987). The primary goal of TAM was to provide an explanation on factors affecting computer application acceptance in general. The TAM involves two primary predictors for the potential adopter's normal perceived usefulness (PU) and perceived ease of use of the technology (PEOU). Perceived Usefulness is the degree to which a person believes that using a particular system would enhance his or her job performance. Davis, Bagozzi and Warshaw (1987) suggested that using an information system is directly determined by the behavioral intention to use it, which in turn is influenced by user's attitude towards using the system and perceived usefulness of the system. Attitude and perceived usefulness and also affect by the perceived ease of use. The justification for its use is based on the fact that new knowledge from the use of e-commerce should help in customer satisfaction. Today competition environment, delivery high quality service is the key to sustainable competitive advantage satisfaction customers from the foundation of any successful business as customer satisfaction leads to repeat purchase, brand loyalty and positive word of mouth or good will.

Ige, (2004) in Electronic shopping, defines electronic commerce as the sharing of business information, maintaining business relationship and conducting business transactions by means of telecommunication networks. According to Ainscough and Luckett (2006), all internet users are potential customers of companies in e-commerce. Customer satisfaction has been described as a consumers post evaluation of a purchased product or service, given pre-purchase expectations (Kotler, Cunningham and Turner 1991). Loyalty is defined as a repeat purchasing frequency or the relative volume of some brand purchasing. Ever since the introduction of e-commerce in the 1990s, online trade has taken the world by storm. Electronic commerce in Nigeria today is a welcome development, the use of e-commerce services by the population is booming globally. The internet and web development have become the most exciting development in the field of information and commerce technology in over the years.

Fatemeh, Ahmed and Ezzatolla (2014) studied the impact of service quality on customer satisfaction in internet banking; description survey method was used and was done in iron. The conclusion was that service quality dimension has meaningful relationship with customer's satisfaction in internet banking and reliability and also has a relationship with website design and customer satisfaction. Nagendra, (2011), qualified customer satisfaction with E-commerce websites often have high expectations for the quality of service and if those expectations are not met, the next site is only a click away.

Mohammed (2015), investigated the relationship between factors affecting consumer buying behavior towards online shopping. Online shopping refers to the recent up surging trend of being able to buy what you need while sitting at home. The focus of the research was on the influence of five major variables that were derived from literature i.e. trust, time, product variety, convenience and privacy, on consumer buying behavior (dependent variable) to determine how consumer buying behavior is reflecting online shopping trends. The statistical analysis of the data reflected that trust and convenience are greatly impactful on whether people choose to buy online or through brick and mortar stores, while privacy has a lesser influence of buying behavior. Inamullah, (2012) examined the impact of customer satisfaction and customer retention on customer loyalty. Linear regression analysis was employed. The result showed that customer's satisfaction has significant impact on customer loyalty while customer retention has an insignificant impact on customer loyalty and customer retention has

insignificant impact on customer loyalty. The implications of the study are that companies should better manage their relationship with the customers as a competitive policy which will help retain them.

Fenuga and Oladejo, (2010) investigated the effect of electronic payment on customer's service delivery in Nigeria Banks using survey design and questionnaire for data collecting. Chi square, regression analysis and ANOVAs were used to analyze data. It was found that electronic payment has significant impact on the services rendered by the banking industry in Nigeria. It improves customer service delivery, better management efficiency, increased profit, customer satisfaction and sustainability in Nigeria.

Dogarawa, (2005) studied the impact of e-banking on customer satisfaction in Nigeria using judgmental sampling approach and questionnaire for data collection. Description statistics and chi square were used to analyze data. It was found that customers enjoying electronic banking services and still not satisfied with the quality and efficacy of the mobile banking application. Khatibi, Ismail and Ismail (2003) in a study entitled the effect of e-commerce on customer satisfaction in Malaysia used stratified sampling technique and questionnaire for data collection, statistical technique was used to analyze data which revealed that there is a positive trend in increasing awareness of the benefits of internet marketing. Mustapha, (2011) studied the determinants of e-commerce customer satisfaction, trust and loyalty in Saudi Arabia. A survey method was used using a structured self-administered questionnaire. It was concluded that the e-commerce customer loyalty in Saudi Arabia is strongly influenced by customer satisfaction but weakly influenced by customer trust.

Methodology

Survey research design was employed in this study in other to examine the impact of e-commerce on customer satisfaction. Kaduna metropolis consists of 760,084 people as at the 2006 census, these number makes up the population of the study. However simple random sampling method was used in determining the key customers who are familiar with E-commerce in Kaduna. A total of 200 questionnaires were distributed, 174 were returned, and out of the 174 returned 15 questionnaires were invalid and could not be used in analysis. Sample size of the study employed in computing the total sample size was the Yaro Yamani formular which is as follows.

$$\text{Formula } \eta = \frac{N}{1+N(E)^2}$$

Where,

- η = the sample size
- N = Population of the study
- I = Constant
- E = marginal error (8%)

$$\eta = \frac{760084}{1+N(0.08)^2}$$

$$\eta = \frac{760084}{1+760084(0.08)^2}$$

$$= \frac{760084}{4864.5376}$$

$$= 156.25 \text{ sample size}$$

The sample consisted of individuals who have been involved in electronic tradition by using smart phone or personal computer within the Kaduna metropolis. The study relied on primary source of data. Questionnaires were distributed to the respondents. The

questionnaire was analyzed based on descriptive statistics and regression analysis. In order to examine the impact of customer satisfaction (Cus), a multiple linear regression model will be built. The model captured the impact of internet reliability (IRY) internet efficiency (IEY), internet security (ISY) on customer satisfaction (Cus).

$$CUS_{it} = \alpha + \beta_1 IRY_{it} + \beta_2 IEY_{it} + \beta_3 ISY_{it} + \epsilon$$

Where

- a = Constant
- CUS = Customer satisfaction
- IRY = Internet reliability
- IEY = Internet efficiency
- ISY = Internet security

Data Analysis and Results

In order to estimate the impact of E commerce on customer satisfaction in Kaduna Metropolis, 200 questionnaires were distributed, 174 questionnaires were returned and of which it was only 158 were valid for the analysis. Based on the Yaro Yamani Formula, the sample size is a good representation of our population size. From the questionnaires returned, it was observed that 48.5 percent of people interviewed fell within the age range of 20-29 years having the highest frequency value followed by the age group 30-39 years with 36.3 percent, while 12.2 percent of the respondents are 40-49, and 3 percent of the respondents fell within 50 and above. Also, 13.2 percent of respondents were non graduates, 69.7 percent of the respondents had degree, 17.1 percent of the respondents had post graduate degrees.

Table 1: Distribution of Respondent Based on their Socio-Economic Characteristics

Variables	Percentage
Age	
20-29	48.5
30-39	36.3
40-49	12.2
50& above	3
Total	100
Education	
O Level and diploma	13.2
Degree	69.7
Post graduate	17.1
Total	100

Table 2: Result of Multiple Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	.941 ^a	.886	.874	.46102	.862

a. Predictors: (Constant) Internet Security, Internet Reliability, Internet Efficiency

b. Dependent Variable: Customer Satisfaction

Table 3: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std Error	Beta	t	Sig
I (Constant) Internet	-1.088	.268		-4.057	.000
Reliability	.620	.108	.521	5.718	.000
Internet Efficiency	.315	.119	.276	2.656	.013
Internet Security	.306	.104	.264	2.935	.006

Dependent Variable: Customer Satisfaction

The estimate of the Regression Equation is presented in the Table 2 The result of the multiple regression analysis of the assessment of the influence of internet Reliability on customer satisfaction of E-commerce in Kaduna State metropolis is presented in Table 3. The coefficient of internet reliability (0.62) is significant and positive meaning that internet reliability positively have impact on customer satisfaction on E- commerce in Kaduna State metropolis. This means that internet reliability is a key to customer's satisfaction on E-commerce. The coefficient of internet efficiency (0.315) is also significant and positive meaning that internet efficiency positively have impact on customer satisfaction on E-commerce in Kaduna State metropolis. This means that internet efficiency play important role on customer's satisfaction on E-commerce. Also, the coefficient of internet security (0.306) is significant and positive meaning that internet reliability positively has impact on customer satisfaction of E-commerce in Kaduna State metropolis. This means that internet security is one of the key factors that instill confidence in customer that yield satisfaction on E-commerce. The standard errors of reliability, efficiency and security are also low, indicating that the level of error for each variable in relation to the population size is minimal.

The value of the goodness of fit (R^2) is 0.886 meaning that, internet reliability, internet efficiency and internet security account for 88.6 per cent of the variations on customer satisfaction of E-commerce in Kaduna State metropolis, it also shows that the sample size is a good proportion in explaining our population. Probability of F-statistic was 0.000 which is significant at 1% level indicating that the overall effects of all the included variables were significant. Durbin- Watson statistics of 0.862 falls under lower limit indicate the present of negative serial correlation.

Conclusion and Recommendation

This paper has sought to examine the impact of E-commerce on customer satisfaction of Kaduna state metropolis in Nigeria. E commerce presently is what the world cannot do without; it has become a way of doing business, and carrying out economic activities. Findings prove that Nigerians are still skeptical about the security and efficiency of ecommerce, but feel comfortable and can rely on the delivery of goods and services provided by organizations or businesses engaged in ecommerce. It can be concluded that internet reliability, internet efficiency and internet security has an impact on customer satisfaction on E-Commerce in Kaduna State metropolis, but customers are more confident in the reliability of meeting request and specifications more than security or efficiency.

It is the desire of this paper to make some recommendations:

1. There is need for the organizations that are involved in E-commerce to improve on its internet reliability so as to instill customer's confidence.

2. There is need for the organizations that involved in E-commerce to improve on its internet efficiency so as to instill customer's confidence.
3. There is need for the organizations that involved in E-commerce to improve on its internet security so as to instill customer's confidence. As this would actually boost or lead to the wide spread in the use of ecommerce in Nigeria.

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