

# MOBILE E-COMMERCE AND THE CHANGING CONSUMER BEHAVIOR IN NIGERIA

**Dr. Dennis Ayaga and  
Emmanuel Nyagba**

Department of Business  
Management, Benue State  
University Makurdi, Nigeria.  
Correspondent contacts:  
ayagadennis@yahoo.co.uk,  
+2347036431606

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## ABSTRACT

*This study examined the effect of mobile e-commerce on changing consumer behavior in Nigeria. The specific objectives of the study were to examine the effect of mobile electronic payment system, mobile electronic customer support service, order and delivery, mobile electronic advertising and mobile electronic marketing on consumer behavior in Nigeria. The survey design was adopted for the study. The study purposively sampled 500 respondents (i.e 50 customers each from the top ten Mobile e-commerce platforms for online B2C shopping in Nigeria viz: Jumia Nigeria, Konga, Payporte, VConnect Nigeria, Kara, Printivo Store, Jiji Nigeria, Obiwezy, Ajebomarket and Kusnap). The study collected primary data through structured questionnaire on a five point Likert scale with 5=Strongly Agree (SA), 4= Agree (A), 3=Neutral (N), 2=Disagree (DA), and 1=Strongly Disagree (SD). In all 448 questionnaires were correctly attended to. Multiple regression analysis was used to test the hypothesis with the aid of SPSS 23. Result of analysis revealed that mobile e-payment system ( $t= 3.224$ ;  $p\text{-value} = 0.002$ ), mobile e-customer support service ( $t= 4.111$ ;  $p\text{-value} = 0.00$ ), order and delivery ( $t= 7.256$ ;  $p\text{-value} = 0.002$ ) and mobile electronic marketing ( $t= 3.178$ ;  $p\text{-value} = 0.002$ ) have significant and positive effect on the changing consumer behavior in Nigeria. Findings also revealed that mobile e-advertising has positive effect but was found to be negligibly not significant. The study therefore concludes that mobile e-commerce plays a vital role in changing consumer behavior in Nigeria. The study recommends that there is need for online shopping platforms to address the issue of uncertainty about the internet so as to improve the level of trust and retention; Customers who buy online should also ensure that all online transactions are done with trusted organisations whose identities are not anonymous; And lastly, there should be customers' privacy in order to safeguard the banking credentials and information of customers.*

**Keywords:** *Mobile electronic payment system, Mobile electronic advertising, Mobile electronic marketing, Mobile electronic customer support service, Order and delivery, Consumer buying behavior*

## 1.1 Introduction

In today's competitive marketplace where a good number of online marketers are after same customers, business transactions need to be fast and efficient so as to attract and influence the buying behavior of customers. Electronic commerce (e-commerce) has been hailed as a disruptive technological innovation that has radically transformed business-to-consumer (B2C) interactions in both domestic and cross-border retail sales by providing advanced tools for building audience engagement, reaching customers, improving sales, and improving efficiency and productivity (Kong, Wang & Ramizo, 2021). The internet retail landscape is again transforming with the advent of mobile electronic commerce (Mobile e-commerce), the buying and selling of goods and services through wireless handheld devices such as smartphones and tablets (Chege, 2018). Mobile e-commerce evolution has been pertinently described as one of the most significant shift in consumer behavior (Aremu, 2018). Mobile phones and wireless technologies are rapidly changing the way we transact online businesses, making e-commerce increasingly convenient, attractive and profitable. Mobile e-commerce is now revolutionizing almost everything from retail, mobility, payments and digital banking to marketing, aviation and hotel reservations, among others.

Mobile e-commerce is an emerging concept that describes the process of buying and selling or exchanging of products, services, and information via mobile electronic devices including the use of Internet (Triandra, Hambali, Nurasia, & Rosalina, 2019). Mobile e-commerce is a term coined to describe the kinds of transaction handling enabled by electronic fund transfer systems (EFT). Mobile e-commerce is where business transactions take place via telecommunications networks, especially the

Internet (Ardyanto, Susilo & Riyadi, 2015). It covers any form of buying and selling of products and services via computer networks by methods especially designed for receiving or placing of orders. These purchases and sales are conducted via various media devices including personal computers, laptops, tablets, and mobile phones (Yadnya & Santika, 2017). Mobile e-commerce has distinct models depending on agents involved in the transaction, it can be business to business (B2B) consumer to consumer (C2C) and business to consumer (B2C) (Shayena & Lakshmi, 2018). Since our study is aimed at examining the effect of mobile e-commerce on changing consumer behavior, our preferred mobile e-commerce model shall be B2C.

In B2C, businesses sell to the general public through catalogues utilizing shopping cart software (Sarkar, Chauhan & Khare 2020). In order to supplement retailing activities, firms like Jumia.com sells their merchandise online directly to their customers, banks allow consumers to enjoy various banking services such as cash withdrawals, cash transfer, or facilitating the fulfilment of transaction (Myovella, Karacuka & Haucap 2020). This exchange or transaction of goods, services or information from companies to their respective customer (s) is called business to consumer (B2C) transaction (Okeke, Oboreh & Ezeaghaego, 2016). The interaction of B2C activities in Nigeria results into the purchase/sale of goods and services between a business and consumer (s), including tangible goods such as equipment, clothing, electronic, food wares, digital product such as music videos, data and information, consumer electronics, real estate and airline tickets, as well as intangible services such as financial information and health information (Akanbi & Akintunde, 2018). The most important thing here is that retail transaction is conducted on the Internet/Web, rather than in a brick and mortar (physical store) location.

Businesses across the world have borne the burdens of the Covid-19 pandemic, and where that is especially apparent is in the African market. Africa's retail industry struggled significantly during 2020. However, the pandemic has also been a catalyst for online sales, pushing many shoppers on the continent to buy online more than ever and shoppers in less remote areas to buy online for the first time Oluwole (2021) In Nigeria, B2C mobile e-commerce is an emerging model of new selling and merchandising tools in which buyers are able to participate in all phases of a purchase decision, while stepping through those processes electronically rather than in a physical store (Ogbo, Ugwu, Enemuo & Ukpere, 2019). The processes in electronic commerce include enabling a customer to access product information, select items to purchase, purchase items securely, have the purchase settled financially and deliver the products to the customer successfully (Hartati, Widyastuti, Suroso, Sastrodihardjo & Rianto, 2021). As at 2018, Jumia mobile report stated that Nigeria's Mobile e-commerce was worth an estimated US\$1.3b. Three years later, Nigeria's Mobile e-commerce is worth US\$12.1b in 2021 (Oluwole, 2021).

Given that Nigeria is the largest mobile market in Africa with over 198 million active mobile subscribers as at April 2021, the country holds a great potential for mobile e-commerce businesses (Ayelola, 2021). No wonder, there is a wide spread evangelism concerning the promising future, businesses hold in mobile e-commerce in Nigeria considering the possibility of its growth and acceptability in Nigeria and the escalating figures of its worth (Anekwe & Nwokediba, 2019). It is from the foregoing that investigating mobile e-commerce, especially different mobile e-commerce applications such as mobile electronic payment system, mobile electronic advertising, mobile electronic marketing, mobile electronic

customer support service, and order and delivery and its relationship with the changing consumer behavior in Nigeria is apt. The proceeding discussions in this article are done in sections; the second section treats theoretical/conceptual framework, the third is methodology, fourth results and discussion and lastly, the fifth section is conclusion and recommendations.

## 1.2 Objectives of the Study

The broad objective of this study is to examine the effect of mobile e-commerce on consumer behavior in Nigeria. The specific objectives of the study are:

- i. To examine the effect of mobile e-payment system on consumer buying behavior in Nigeria.
- ii. To examine the effect of Mobile e-customer support service on consumer behavior in Nigeria.
- iii. To examine the effect of order and delivery on consumer behavior in Nigeria.
- iv. To examine the effect of mobile e-advertising on consumer behavior in Nigeria.
- v. To examine the effect of mobile e-marketing on consumer behavior in Nigeria.

## 1.2 Hypotheses of the Study

As depicted in the conceptual framework above, the following hypotheses are set in a null form:

- i. Mobile e-payment system has no significant effect on consumer behavior in Nigeria.
- ii. Mobile e-customer support service has no significant effect on consumer behavior in Nigeria.
- iii. Order and delivery have no significant effect on consumer behavior in Nigeria.
- iv. Mobile e-advertising has no significant effect on consumer behavior in Nigeria.

- v. Mobile e-marketing has no significant effect on consumer behavior in Nigeria.

**ii. Theoretical /Conceptual Framework**

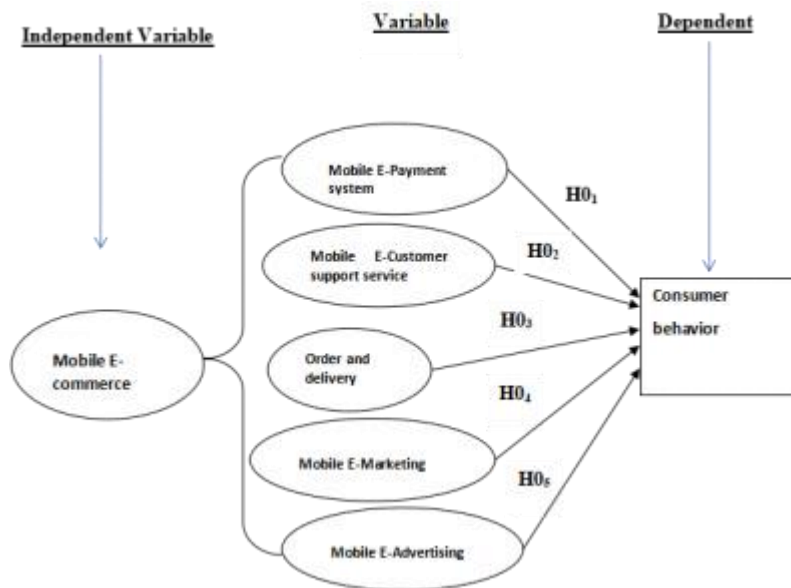
**2.1 Theoretical Framework**

The theoretical underpinning of this study is hinged on the theory of Creative Destruction, as propounded by Joseph Schumpeter. This theory deals with the innovative trend that E-commerce presents (Ogbo, Ugwu, Enemu & Ukpere, 2019). Creative destruction is an important tool that tackles the economic and sociological aspects of capitalism. According to Schumpeter, as captured by Ciborowski (2016), in the long-term, evolution produces economic development as a fallout from sets of innovative solutions, giving rise to enhancements of living standards. This theory explained the industrial mutation process, which persistently transforms the structure of the economy from within, thereby extinguishing the previous economic order, and ushering in a new one. The creative

destruction process, in both the original work by Schumpeter, and in his very recent treatises, is a process by which advanced technological innovations were recognized as the key source of growth in an economy, the corollary of which is improvements in living standards (Diamond, 2006).

This theory is relevant to the study, as mobile e-commerce is an emerging trend spontaneously overhauling the traditional model of business and is creating a new digital technological model that influences buyer behavior and ensures customer satisfaction and improvements in quality of life. It is also common knowledge that the evolution of mobile e-commerce will make obsolete certain aspects of the traditional model (like cash payment and physical customer support system). This will occur as new modern electronic commerce application such as electronic payment system, advertising, marketing, customer support service, and order and delivery takes the center stage.

**2.2 Conceptual Framework**



**Conceptual Model:** Adapted with modifications from Pembi (2016)

### 3.1 Methodology

The survey design was adopted for the study. The population of the study comprised of customers of top ten Mobile e-commerce platforms for online B2C shopping in Nigeria viz: Jumia Nigeria, Konga, Payporte, VConnect Nigeria, Kara, Printivo Store, Jiji Nigeria, Obiwezy, Ajebomarket and Kusnap. The study employed primary source of data collections. Since the study population is infinite, purposive sampling was adopted and 50 customers were selected from each platform, making the sample size 500 respondents. The structured questionnaire was administered to 500 users of these platforms to collect primary data. The questionnaire were designed to ask the respondents the degree of agreement or disagreement to statements on mobile e-commerce applications (mobile electronic payment system, mobile electronic customer support service, order and delivery, mobile electronic advertising, mobile electronic marketing) and consumer buying behavior using five point Likert scale with 5=Strongly Agree (SA), 4= Agree (A), 3=Neutral (N), 2=Disagree (DA), and 1=Strongly Disagree (SD). In all 448 questionnaires were correctly attended to. The questionnaires collected were analysed using regression analysis to test the hypothesis using SPSS 23.0. The regression model for the study posits that consumer behavior is a function of mobile e-commerce. In this vein, the explicit form of the regression model for the study is stated thus:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

where:

Y= Consumer behavior

X<sub>1</sub>= Mobile e-payment system

X<sub>2</sub>= Mobile e-customer support service,

X<sub>3</sub>= Order and delivery

X<sub>4</sub>= Mobile e-advertising

X<sub>5</sub>= Mobile e-marketing

$\alpha$  = Intercept of the Model

$\beta_1$  to  $\beta_5$ = coefficients of X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, X<sub>4</sub> and X<sub>5</sub> respectively.

## 4. Results of Data Analysis And Discussions

### 4.1 Regression Analysis

The study carried out regression analysis to establish the statistical significant relationship between the independent variables namely; mobile e-commerce applications of mobile electronic payment system, mobile electronic customer support service, order and delivery, mobile electronic advertising, mobile electronic marketing and the dependent variable, consumer behavior. This technique was adopted to help generate equation that describes the statistical relationship between predictor variables (mobile electronic payment system, mobile electronic customer support service, order and delivery, mobile electronic advertising, mobile electronic marketing) and the response variable consumer buying behavior. The regression analysis results were presented using regression model summary tables, analysis of variance (ANOVA) table and beta coefficient tables.

**Table 1: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.934a	0.875	0.800	0.1861

a. Predictors: (Constant), Mobile E-marketing, Mobile E-Advertising, Order and Delivery, Mobile E-Customer Support Service, Mobile E-Payment System. b. Dependent Variable: Consumer behavior

On Table 1, the coefficient of determination is 0.875 which implies that 87.5% of the change in consumer behavior was explained by mobile electronic payment system, mobile electronic customer support service, order and delivery, mobile electronic advertising, mobile electronic marketing. This implies that there existed a strong positive relationship between the independent variables and the

changing consumer behavior in Nigeria. The remaining 12.5% can be explained by other variables not included in the study. The findings mean that the regression equation appears to be very useful for making predictions since the value of *R*<sup>2</sup> is close to 1 and therefore there is a high variation that can be explained by the model.

**Table 2: ANOVA**

Model		Sums of squares	Df	Mean square	F	Sig.
1	Regression	22.430	4	5.607	162.007	.000 <sub>b</sub>
	Residual	3.219	443	.035		
	Total	25.649	447			

a. Dependent Variable: Consumer behavior

b. Predictors: (Constant), Mobile E-marketing, Mobile E-advertising, Order and Delivery, Mobile E-customer Support Service, Mobile E-payment System.

The ANOVA showed that the regression model was adequate. The effect size of the regression model was shown to be over 162

that contributed by the residual mean sum of squares. The F critical at 5% level of significance was 162.007 since F calculated is greater than the F critical (value = 1.684), this shows that the overall model was significant.

**Table 3: Beta Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Constant	.420	.153		2.746	.007
	Mobile e-payment system	.161	.050	.156	3.224	.002
	Mobile e-customer support service,	.162	.039	.230	4.111	.000
	Order and delivery	.574	.079	.638	7.256	.000
	Mobile e-advertising	.003	.078	.003	.042	.967
	Mobile e-marketing	.174	.034	.226	3.178.	.003

a. Dependent Variable: consumer buying behavior

The study further determined the beta coefficients of mobile electronic payment system, mobile electronic customer support service, order and delivery, mobile electronic advertising, mobile electronic marketing verses the changing consumer behavior in Nigeria. The findings are presented in Table 3. The model can be represented as: Consumer

behavior = 0.420 + 0.161 Mobile e-payment system + 0.162 Mobile e-customer support service + 0.574 Order and delivery + 0.003 Mobile e-advertising + 0.174 Mobile e-marketing.

#### 4.2: Test of Hypotheses and Discussion

The study show that  $\beta_1 = 0.161$  (p-value = 0.002 which is less than  $\alpha = 0.05$ ). This implies that we reject the null hypothesis that there is no significant relationship between Mobile e-payment system and consumer behavior. The results mean that each unit increase in the positive improvement in Mobile e-payment system, there is a 0.161 unit change in consumer behavior. Furthermore, the effect of Mobile e-payment system was stated by the t-test value = 3.224 which implies that the effect of Mobile e-payment system surpasses that of the error by over 3 times.

To test the second hypotheses, the study also show that  $\beta_2 = 0.162$  (p-value = 0.000 which is less than  $\alpha = 0.05$ ) which indicates that we reject the null hypothesis stating that there is no significant relationship between Mobile e-customer support service and consumer behavior. This indicates that for each unit improvement in the positive effect of Mobile e-customer support service, there is 0.162 units change in consumer behavior. Also the effect of Mobile e-customer support service was stated by the t-test value = 4.111 which implies that the effect of Mobile electronic customer support service surpasses that of the error by over 4 times.

To test the third hypotheses as presented in Table 3, the value of  $\beta_3 = 0.574$  (p-value = 0.000 which is less than  $\alpha = 0.05$ ) which implies that we reject the null hypothesis stating that there is no significant relationship between order and delivery and consumer behavior. This indicates that for each unit improvement in order and delivery of online B2C, there is up to 0.574 units change in consumer behavior. The effect of order and delivery is stated by the t-test value = 7.256 which indicates that the effect of order and delivery is over 7 times that of the error associated with it.

To test hypotheses 4, results on Table 3 also showed the value of  $\beta_4 = 0.003$  (p-value = 0.967 which is greater than  $\alpha = 0.05$ ) which implies that we do not reject the null hypothesis stating that there is no significant relationship between Mobile e-advertising and consumer behavior. This indicates that for each unit increase in Mobile e-advertising, there is up to 0.003 units change in consumer behavior which is very negligible. The effect of Mobile e-advertising is stated by the t-test value = 0.042 which indicates that the effect of Mobile e-advertising is almost absent and near the error associated with it.

Lastly, to test the fifth hypotheses, Table 3 showed that  $\beta_5 = 0.174$  (p-value = 0.003 which is less than  $\alpha = 0.05$ ). This implies that we reject the null hypothesis that there is no significant relationship between Mobile e-marketing and consumer behavior. The results mean that each unit increase in the mobile electronic marketing, there is a 0.174 unit change in consumer behavior. Furthermore, the effect of Mobile e-marketing was stated by the t-test value = 3.178 which implies that the effect of Mobile e-marketing surpasses that of the error by over 3 times.

In general, the results of the study showed that Mobile e-commerce applications have positive effect on the changing consumer behavior. The findings agree with Pembri (2016) who found a positive impact of electronic commerce application on business process in small and medium scale enterprises.

#### 5. Conclusions And Recommendations

The result showed that all mobile electronic applications under study (mobile e-payment system, mobile e-customer support service, order and delivery and mobile electronic marketing) have significant and positive effect on the changing consumer behavior in Nigeria except mobile e-advertising whose positive effect was found to be negligible. It is

therefore concluded that mobile e-commerce plays a vital role in changing consumer behavior in Nigeria. The study however recommends that there is need for online shopping platforms to address the issue of uncertainty about the internet so as to improve the level of trust and retention. Customers who buy online should also ensure that all online transactions are done with trusted organisations whose identities are not anonymous. And lastly, there should be customers' privacy in order to safeguard the banking credentials and information of their customers.

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