

# Determinants of E-Commerce: A Case of Fashion Wears and Cosmetics E-Businesses in Nigeria

Wasiu Yusuf, Fausat Alesinloye, Ebnoluwa Oyegoke, Amina Tambaya

Department of Economics, Faculty of Arts and Social Sciences, Nile University of Nigeria, Abuja, Nigeria  
Email: [yusufwasiu@nileuniversity.edu.ng](mailto:yusufwasiu@nileuniversity.edu.ng)

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## Abstract

The growth of communication technology, modern technology, and the internet, electronic commerce (e-commerce) has brushed up through all walks of the world with an irrevocable trend. This has promoted the market in a great range of services or products, either digital or physical. However, information asymmetry and trust has played a significant role in customers' tenacity in carrying out transactions with online firms. This study assessed the determinants of e-commerce in the fashion wear, cosmetics markets, then determined the consumer behavior and preferences about the online and offline channels using questionnaire to elicit information from the respondents. Data obtained were analyzed using descriptive, inferential statistics, and Logistic regression analysis. The results of the analysis showed that majority of the respondents (43.3%) surveyed would not purchase makeup/perfume, fashion wears, and skin and body care products online because of Information Asymmetry and as a result of inability to smell, touch or test. These factors contributed to the level of adoption of e-commerce for makeup/perfume, fashion wears, and skin and body care products in Nigeria. Finally, it was recommended that a third-party insurance policy should be enacted that protect the customer's right against Information Asymmetry by the e-commerce vendors.

## Keywords

E-Commerce, Binary Logistic Regression, Information Asymmetry, Perceived Benefit, Perceived Risk

## 1. Introduction

E-commerce is among the qualities that are crucial to the internet period, par-

ticularly online buying which is a growing phenomenon all over the globe, and very popular in countries with well-built ICT structures, which can be designed for marketing and advertising tasks. A good number of businesses, individuals, and corporate organizations are using e-commerce in getting and selling products or rendering services in today's knowledgeable economy. Its reputation is currently built on convenience and flexibility. Nduji and Chris (2020) described e-commerce as the employment of the online world and the Web to transact service. It is an aspect of e-trading that involves the process of getting, selling, transferring, and sometimes swapping products, companies, and/or information that is relevant to local area networks, featuring the Net. E-commerce had existed for over thirty years, it emerged from the broadcast that is digital throughout the Berlin airlift that happened in 1948, it then expanded to what is today called Electronic Data Variation, through an Integrated Development Environment (IDE) which is a software application that provides comprehensive facilities for software development which is now largely utilized in e-commerce. Different teams of sectors converged and generated electronic data utilized for the investment, and also transport of their transactions. It has passed through stages and it has been defined and redefined to become what it is today called e-commerce and a large number of providers are employing it.

The purpose of e-commerce is to guaranteeing that online transactions are performed in a much better as well as faster method. That is, to guarantee that the marketplace transaction of products, as well as services, is performed online over the network because of the availability of software applications that helps in carrying out business activities on many websites, this is certainly electronically possible. These requests enable clients to display and also preview items accessible on stock, put an order, remit on the internet bank that is utilizing, or select repayment on the shipment for reliable delivery to the clients and as frequently as possible on such websites (notable example is found on <https://www.jumia.com.ng/> where individuals order as well as purchase wide arrays of product online in Nigeria).

Similarly, e-commerce has been recognized as a significant driver of economic development, and Nigerian economic environment is certainly not being an exemption. Nigeria possesses a sizable internet population and also an increasing consumer class, which offers an extremely appealing market for e-commerce. Goolsbee and Klenow (2018) documented that Nigeria is rated as the largest populace of internet users in Africa, following the usage largely coming from smartphones, this is due to the ease of access and also low cost of mobile data, that permits internet connection without a lot of infrastructural visibility. Along with the rapid development of cellphones as well as web utilization, Nigeria has revolved right into the digital era. The opportunity of making use of the Web, as well as its associated modern technologies as an enabler of shopping, has been easily recorded in academic publications, with the focus on the convenience of accessing worldwide markets. Despite the overwhelming benefits of e-commerce as a fast-growing place of brand new service particularly in Nigeria; however,

some difficulties such as prices, coordination of running an offline selling company, creating the market value suggestive of e-commerce are also applicable in Nigeria; even with the continuous craving for e-commerce in Nigeria, data shows that a large number of Nigerians, specifically specialists, are still steps back in the progression of e-commerce, that is, they still prefer to go shopping in the traditional methods (Turban et al., 2018).

Some studies have also revealed that even with Nigeria's populace of over 210 million people along with a GDP of ₦17.29 Trillion as at 2022, just \$12 bn is gotten from e-commerce (Adeyonu et al., 2022). Despite these perks, a cultivating nation like Nigeria seems to be lacking in areas of fostering e-commerce through consumers of various classes such as employees, younger, grown-up, aged, as well as trainees among others. This can be a result of some problems as pinpointed in the literary works like the expense of purchase, discretion, ease of access as well as personal privacy problems, security concerns, network integrity, credit card risks, originality, and many more (Adeyeye et al., 2015). The operating atmosphere that helps make use of e-commerce in Nigeria is susceptible to several difficulties. For example, there is a lingering issue of identity theft that is hung on the mis-usage of customers' personal identification information (PII) such as full name, account digits, credit card number, banking particulars, social safety numbers, e-mail addresses, many other things that are required during online transactions (Tajpour et al., 2013). It had also been identified that the motion of information coming from a web browser to a web server and vice-versa is actually at risk of external hazards (Ren et al., 2019). Other lingering issues of concerns are personal privacy issues, safety, and security susceptibilities, as well as specific options that could prevent the complete profiteering of e-commerce websites in Nigeria. So, the question is, exactly how do users optimize the benefits of e-commerce in Nigeria? This requires great scrutiny into the user's impression of some e-commerce websites in Nigeria. Though, a good number of studies have been done on e-commerce and consumers' intention to shop online in developed countries, only a few studies have looked at this subject in the context of developing countries like Nigeria with its unique system of a pay-on-delivery method that accommodates people without bank accounts, but who have access to the internet. This study therefore adds to the literature on the subject matter, and as well brings out the information asymmetry factors that hinder people's participation in e-commerce.

The study is organized into five (5) sections; the first section is the introduction, wherein the background to the study and the statement of the problem is discussed; the second section presents the review of recent studies on the subject matter, the third section presents the methodology adopted such as the nature and sources of data, method of data collection, and analytical techniques. The fourth section discusses the result and presents the policy implication of findings, while the fifth section summarises the study, presents the conclusion, and the policy recommendations.

Given the focus of this study on the role of Asymmetric information and trust, The Technology Acceptance Model (TAM) was adopted and it suggests that immediately individuals perceive a technology to be important and simple to utilize, it brings real actions. E-commerce is believed to be simple and also an easy means of shopping, nonetheless, clients, especially in developing countries like Nigeria still lack the self-esteem to completely accept innovation. Also, studies on the effect of information asymmetry on the “intention to accept”, has been substantially performed in developed countries where there are innovative modern-day technologies and existing infrastructure. Yet, much has not been done on what factors influence intentions, in developing countries like Nigeria whose technological advancement is still expanding.

A good number of studies have been conducted studies on trust and their findings have been applied in various fields; while those that conducted related studies on E-shopping in some countries had finalized that, the pattern of adoption differs. [Al-Debei et al. \(2015\)](#) identified that the prominent antecedent of initial consumer trust in online vendors in countries that lack self-confidence, is un-biasedly different from the high-confidence countries (e.g., US). This suggests that the variables that influence individuals to make their first online purchase differ from country to country and with trust playing a significant function there. [Mouakket \(2020\)](#) however, observed that trust is an essential part of e-shopping, which was left out in the TAM model. Similarly, in the study carried out by [Santoso and Erdaka \(2015\)](#), consumers from developing countries reveal much less confidence in participating in e-commerce, especially first-time clients. This uncertainty creates a barrier to business participation in some nations. It is therefore considered that whether in service or product distribution, peer endorsements, fulfilment from previous purchases, branded websites, are great strategies for building trust, specifically when the endorser is famous within the environs, and likewise, customers are ready to shop online based on the reviews on the social networks ([Cespedes-Dominguez et al., 2021](#)). There is therefore a dearth of literature that captured the factor of Information Asymmetry and Trust in developing countries, given that they played significant roles in customers’ tenacity in carrying out transactions with online firms.

Findings from this study would help in shedding more light on the security, privacy and other general concerns of e-commerce customers; build trust and confidence in users, and remove skepticism between both parties, which has long been caused by the asymmetry of information. As well as, strengthen patronage of e-business sites by users. The study would as well help in identifying policy options that could be tailored in the direction of enhancing users’ expertise on e-commerce platforms and their services.

## 2. Empirical Literature

The Web has revolutionized the continuing business environment and has now created opportunities for companies all around the world. The growth that is

global; info-tech has introduced the electronic commerce (e-commerce) phenomenon. Even though the public has used the net since the 1990s, e-commerce became a phenomenon in highly developed nations only through 2000. A good number of businesses in the United States and Western Europe started to render their services online and the public started initially to purchase products through the internet, making use of safe and secure connections and repayment that is also digital. The developments on the net have led to the production of other new systems accessible to firms such as social media in the last past couple of years. The internet has allowed folks to have the possibility to utilize media that are social email to Twitter and Facebook, to interact with people without possessing the demand to meet in person. With the development of social networks and media that are social people can now easily access and share information. Social media provide different values to businesses such as facilitating word of mouth communication, improving brand popularity, generating social support for consumers, increasing sales, and sharing information in an enterprise context (Frost and Strauss, 2016). As a result of the advancement that is speedy of Web 2.0 application and social media. Social networking sites, electronic trade have changed from a social-centered one to a setting that is product-focused.

The internet has transformed the real ways people reside and function. The online world portals may be considered content aggregators whereby they could supply effective information that is relevant to online companies (Decker et al., 2016). The internet is thought of as entrances that are electronic even entryways that offer many links to various other web websites and in addition information technologies. Also, they may be able likewise to give a major focus and a resource of information that will be personalized (Collins-Thompson, 2014). Furthermore, the net allows individuals to have use of relevant information and compile comprehensive information. Consequently, the web plays an important duty among the world wide web communities as folks are constantly trying to gather much more information that is relevant. This will be vital for users, most especially profit and business that is non-profit to easily lessen time-consuming tasks, like information dissemination and also management duties (Rosenfeld and Morville, 2002).

Goolsbee and Klenow (2018) documented that Nigeria is rated as the largest populace of internet users in Africa, following the usage largely coming from smartphones, this is due to the ease of access and also low cost of mobile data, that permits internet connection without a lot of infrastructural visibility. Along with the rapid development of cellphones as well as web utilization, Nigeria has revolved right into the digital era. The opportunity of making use of the Web, as well as its associated modern technologies as an enabler of shopping, has been easily recorded in academic publications, with the focus on the convenience of accessing worldwide markets. Despite the overwhelming benefits of e-commerce as a fast-growing place of brand new service particularly in Nigeria; however, some difficulties such as prices, coordination of running an offline selling com-

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Consequently, buyers have accessibility to expertise that is social also know-how to guide them in better understanding the reason for online purchases and to become much more effective and informed ineffective buying decisions (Sturiale & Scuderi, 2016). Furthermore, social media sites have ended up being preferred and are now actually in trend, as it has developed a new distribution system in shopping. Social media motivates individuals to share the product's information along with other individuals that online even sell goods/services via social media (Newman, 2018). Likewise, online customers may also consult their community that is social to guidance based upon their online purchase selections.

The commercial internet happens to be viewed as a disruptive technology that would completely change just how people interact with one another in the last previous years. The sales of e-shopping or online shopping have increased intensively because the mid-1990s. Utilizing the growth in operation to consumer (B2C) electronic commerce, consumers regularly buy from or sell to other consumers on the internet. The on-the-web selling or even on-the-web shopping is likewise a kind of e-commerce that enables consumers to acquire services or items directly from a seller utilizing the internet through the use of a browser that is the internet (Niranjanamurthy & Charhar, 2013). Shopping (e-commerce) has turned out to be a well-known matter that is subject to the mass media and in addition to the informatics cycles. The influences of e-commerce are most likely most obvious in the regions of selling along with economic companies (Beatty et al., 2011).

The proliferation of the Internet, wise smartphones, as well as e-money, have promoted the adoption as well as usage of the internet for purchases, thus increasing the growth of e-commerce, supplying much easier access and advertising benefit of purchasing around the mobilization. The convenience of access to your World web that is wide been identified being one that encourages the acceptance as well as the development of internet buying. Internet purchasing has

continued to modify the means businesses are accomplished since its development. Its development has delivered advantages to society, individuals, governments, industries, and organizations. Business can feature the sale of items, companies, as well as information (Bandana, 2018), and trading that is online is independent of the time and put (Castro et al., 2010). Turban et al. (2018) discuss that e-commerce enables businesses to no longer need an exchange that is physical for their clients to accomplish a transaction. For more than a few years, e-commerce has successfully replaced the market that is traditional face-to-face interaction is the order regarding the day between buyers and sellers.

Some users prefer e-commerce due to the several advantages it has over the traditional marketplace. Many organizations have opted for e-commerce sites as being a medium to reach a great number of users due to several advantages this has over physical store. Helpful adoption that is e-commerce. That is beneficial to companies concerning substantial expense discounts, earnings maximization, and remodeling in product shipping and client service. E-commerce is a significant area for research due to its potential positive impact on business performance. A lot of businesses in the United States and Western Europe began to represent their services online and the public started to purchase goods and services over the Internet using secure connections and payment that is electronic. Online retailing or shopping is online is also a form of e-commerce that enables consumers to get services or goods directly from a seller via the internet by employing a web browser. There are several different names of online shopping or retailing that are online e-store, e-shop, web-store, internet shop, virtual store, and online shop (Niranjanamurthy and Charhar, 2013). As people have observed the growth of the net revolution now folks are experiencing the second internet revolution that will be electronic commerce. The proliferation regarding the Internet, smart cellular devices, and money that is mobile facilitated the adoption and use of online shopping and thereby the growth of e-commerce, providing easier access and promoting convenience shopping across mobile application platforms.

### 3. Methodology

A cross-sectional survey design was used for the study, it was executed as a qualitative research using quantitative methodologies, and was carried out across some selected states in Nigeria. Primary data was collected through an online survey using well-structured questionnaire that was administered via Google form survey.

The target population were individuals from ages 15 - 50 years, who must be educated, either employed or not, and/or specialized in any aspects of life. They were chosen for the study because they are more likely to adopt e-commerce technology given their literacy level, intellectual ability, spending capacity and infrastructure needed to carry out online transactions. Given this, convenience sampling, (a non-probability sampling technique) was the most suitable for the study because it requires that a respondent must be educated at least up to sec-



ondary level. On this basis, sample size determination using either of Cochran technique or Yamane (1967) was practically impossible. The study only relied on the current population of internet users in Nigeria (109.2 million) as an assurance that sufficient number of internet user will respond to the online questionnaire the study post to them. Prior to the posting of questionnaire online to the selected commercial cities in Nigeria, it was first posted to faculties and students of Nile University of Nigeria, FCT Abuja through various department WhatsApp platforms. Their responses, when analysed gave better insight into the review and validation of the questionnaire.

Responses were gotten from different part of the country such Sokoto, Adamawa, Lagos, Abuja, Kano and Zamfara. These comprises of three states with high commercial activities (Lagos, Abuja, Kano) and three states with assumed low commercial activities (Sokoto, Adamawa, Zamfara).

A well-structured questionnaire titled Determinants of E-Commerce (Online marketing) in Nigeria was used for the study. The questionnaire tried to measure the awareness and adoption of e-commerce, problems and information asymmetric associated with e-commerce, as well as the influence of factors on e-commerce patronage among Nigerians. A total of four hundred and eighty-four (484) responses were gotten from the internet users, 34 were not completely filled, leaving 450 valid responses for this study. The questionnaire used was pilot tested and results gotten has ( $p$ -value  $< 0.05$ ) which was significant. Due to the result obtained, the instrument used was reliable.

The data generated from the survey was analyzed using SPSS version 25.0 software. A reliability test, test of association and logistic regression analysis was employed to give a good understanding of how the participants had reacted to the items in the questionnaire. To determine if the data is normally distributed, the constructs were also tested for skewness and kurtosis. For a normal distribution, skewness is assumed to have values between  $-2$  and  $+2$  (Almquist, Ashir, and Brännström, 2014; Ismail and Safa, 2014). Furthermore, bivariate correlation (Pearson correlation) was conducted to determine the relationship between the variables.

Logistic regression was used to predict a categorical variable from a set of predictor variables. With a categorical dependent variable as the subjects' decision or response, the predictor variables include their social and demographic status as well as pattern of engagements with e-commerce. Since it was established that the dependent variable is dichotomous e.g. "yes" or "no" response, a binary logistic was employed and we have some input variables which are also categorical. A dummy variable (binary variable)  $D$  is a variable that takes on the value 0 or 1 i.e.  $D = 1$  if you engage in e-commerce, and 0 if otherwise.

- Note that the labeling is not unique, a dummy variable could be labeled in two ways, i.e. for engaging in e-commerce:
  - $D = 1$  if you engage in e-commerce,  $D = 0$  if you do not engage in e-commerce; or
  - $D = 0$  if you engage in e-commerce,  $D = 1$  if you do not engage in



e-commerce.

One way of formulating the common-slope model is

$$Y_i = \alpha + \beta X_i + \gamma D_i + \varepsilon_i \quad (1)$$

where  $D$ , called a dummy-variable regressor or an indicator variable, is coded 1 for engage in e-commerce and 0 for do not engage in e-commerce:

$$D_i = \begin{cases} 1 & \text{engage in E-commerce} \\ 0 & \text{do not engage in E-commerce} \end{cases}$$

Thus, for those who do not engage in e-commerce the model becomes

$$Y_i = \alpha + \beta X_i + \gamma(0) + \varepsilon_i \quad (2)$$

and for those who engage in e-commerce

$$Y_i = \alpha + \beta X_i + \gamma(1) + \varepsilon_i \quad (3)$$

Interpretation:

- The observed units are split into 2 groups according to  $D$  (e.g. into Yes to e-commerce and No).
- The group with  $D = 0$  is called the baseline (e.g. No).
- The regression coefficient  $\beta_1$  of  $D$  quantifies the expected effect of considering the other group (e.g. No to e-commerce) on the dependent variable  $Y$ , while holding all other variables (e.g.  $X$ ) fixed.
- The null hypothesis  $\beta_1 = 0$  corresponds to the assumption that the average value of  $Y$  is the same for both groups.

The R-language binary logistic regression is an extension of the general linear model to binary categorical data. Logistics regression model that is commonly used and written as:

$$Y_i = X_i \beta + e_i \quad (4)$$

However, since the dependent variable is categorized, we use

$$\pi_i = \ln \left[ \frac{\pi_i(x)}{1 - \pi_i(x)} \right] \quad (5)$$

where

$$\ln \left[ \frac{\pi_i(x)}{1 - \pi_i(x)} \right] = \beta_0 + \beta_1 X_1 + \dots + \beta_n X_n \quad (6)$$

where  $\beta_0$  is called the intercept.

$\beta_i$  is called the parameter.

$X_i$  are set of predictors. The quantity to the left is called logit. It is the log of odds that an event occurs. The odd that an event occurs is the ratio of the number of people who experience the event to the number of people who do not. The linear equation and the coefficients in the logistic regression model which shows how much the logit changes based on the values of the predictor variables.

Sometimes, there exists a minus sign before the coefficient for the predictor variables instead the customary plus sign as in equation to show if the explana-

tory variable of the parameter is negatively or positively correlated with the dependent variable. The term  $\beta_0$  is called intercept or threshold values. These values do not depend on the independent variables for a particular case. They are used in the calculation of predicted values. The binary logistic regression models the relationship of  $y$  as

$$\ln \left[ \frac{\pi_i(x)}{1 - \pi_i(x)} \right] = \ln \left[ \frac{\pi_0 + \pi_i}{1 - (\pi_0 + \pi_i)} \right] \quad (7)$$

This test assesses the fit of a logistics model against actual outcomes. It helps in determining whether the model adequately describes the data or provide an overall measure of the fit of the model. It is usually not sensitive when the fit is poor for just a few cases.

Furthermore, there are several R-like statistics that can be used to measure the strength of association between the dependent variable and the independent predictor variables. The well known  $R^2$ -statistics which measure the variability in the dependent variable that is explained by a linear regression model cannot be computed for logistics regression models because of the nature of the dependent variable. Rather, the pseudo  $R^2$  statistics which is designed to have similar properties to the true  $R^2$  statistics are used because our dependent variable is dichotomous rather than continuous. Pseudo  $R^2$  in the binary logistics is the same as  $R^2$  in linear regression model. This shows the proportion of total variation in outcome that was accounted for by the explanatory variables. The large the pseudo  $R^2$ , the better the model fits. It is computed upon the likelihood ratio.

Two commonly used statistics that are defined by Cox and Snell (2018) and Nagelkerke (1991) are Cox and Snell  $R^2$

$$R_{cs}^2 = 1 - \frac{\ell(\hat{\beta})}{\ell(\bar{y})} \quad (8)$$

$$\text{Nagelkerke's } R_N^2 = R_{cs}^2 / 1 - L(\beta)^{\frac{2}{n}} \quad (9)$$

where  $L(\beta)$  is the log likelihood function of the model with the estimated parameters and  $L(\beta^0)$  is the log likelihood with just the intercept and  $n$  is the number of cases (sum of all weights).

The following are abbreviated as;

E-commerce = E-com; Asymmetric Information = AI; Perceived Benefit = PB; Facilitating Condition = FC; Cost = C; External Influence = EXT INFL; IT Skills/Experience = IT Perceived Risk = PR.

Therefore, the model is presented below as:

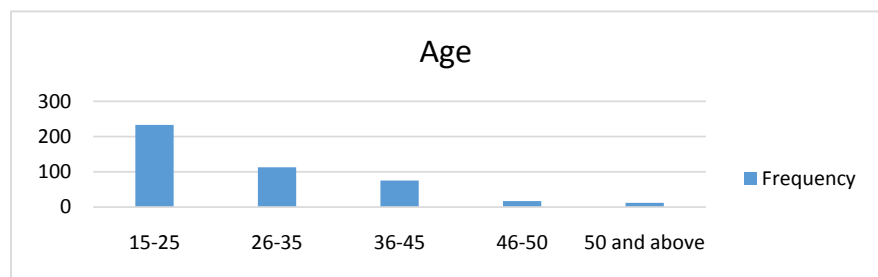
$$\ln \left( \frac{P_i}{1 - P_i} \right) = \beta_0 + \beta_1 \text{AI} + \beta_2 \text{PB} + \beta_3 \text{FC} + \beta_4 \text{C} + \beta_5 \text{EXTR INFL} + \beta_6 \text{IT} + \beta_7 \text{PR} + \mu \quad (10)$$

where  $P_i$  is the probability of adopting a baseline e-commerce on the dependent while  $1 - P_i$  is the probability of not adopting e-commerce.

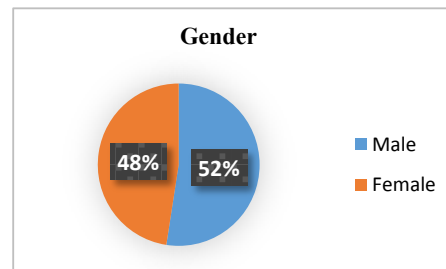
In this study, the adoption of e-commerce is the dependent variable (dichotomous in nature), which is proxied by the extent of e-commerce usage by individuals, this is in line with the work of Gibbs and Kraemer (2004), where the extent of e-commerce usage is explained as “the degree of e-commerce usage for a variety of various tasks in the value chain, from marketing and advertising to sales, procurement, services and support, information exchange with clients and producers, as well as assimilation of business processes”.

## 4. Results and Discussions

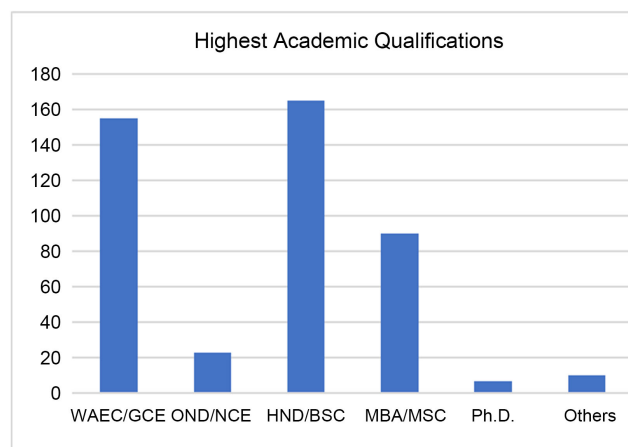
### Socio-economic characteristics of respondents



**Figure 1.** Summary of socioeconomic characteristics of respondents. Source: Authors’ computation using SPSS 20.



**Figure 2.** Summary of socioeconomic characteristics of respondents. Source: Authors’ computation using SPSS 20.



**Figure 3.** Summary of socioeconomic characteristics of respondents. Source: Authors’ computation using SPSS 20.

Testing the Research Questions

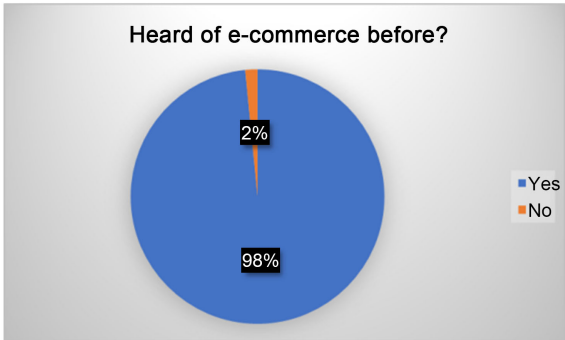


Figure 4. Summary of Research Questions tested on respondents. Source: Authors' computation using SPSS 20.

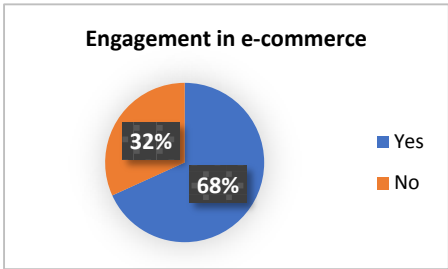


Figure 5. Summary of Research Questions tested on respondents. Source: Authors' computation using SPSS 20.

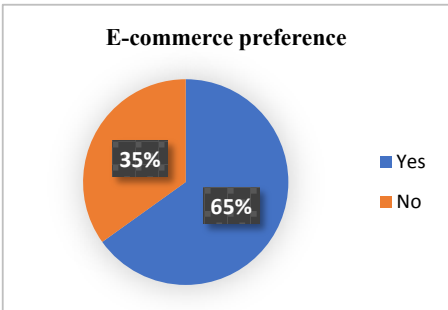


Figure 6. Summary of Research Questions tested on respondents. Source: Authors' computation using SPSS 20.

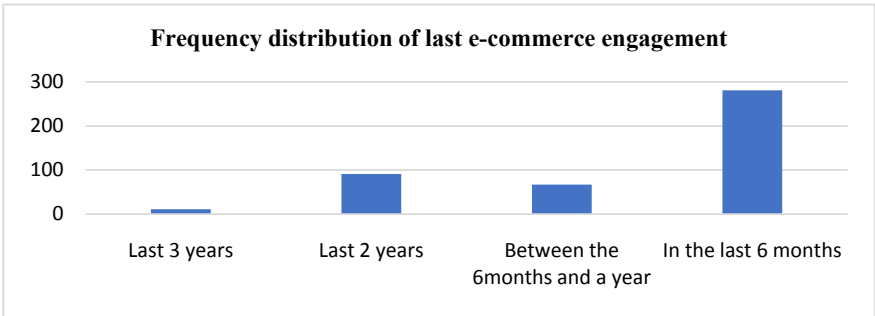
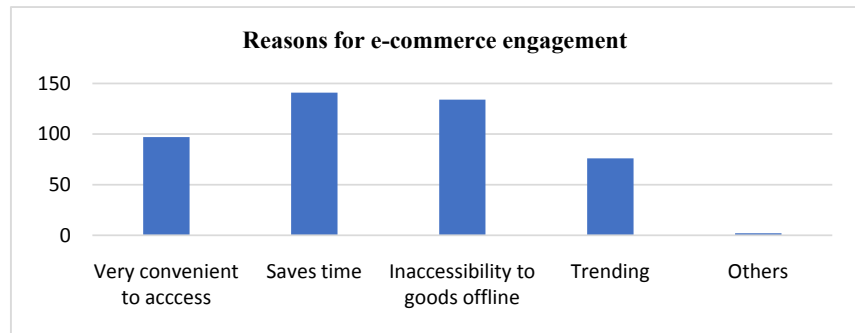
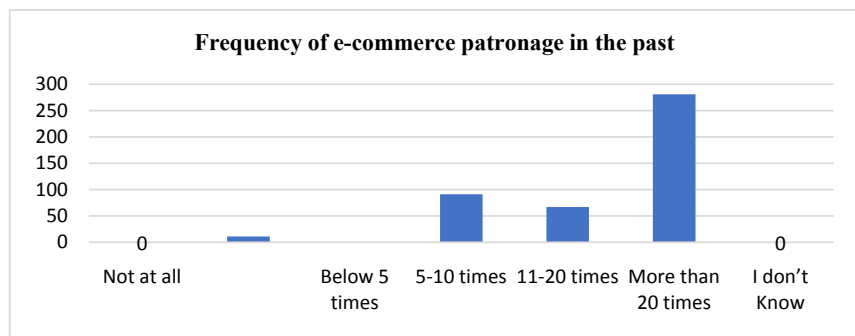


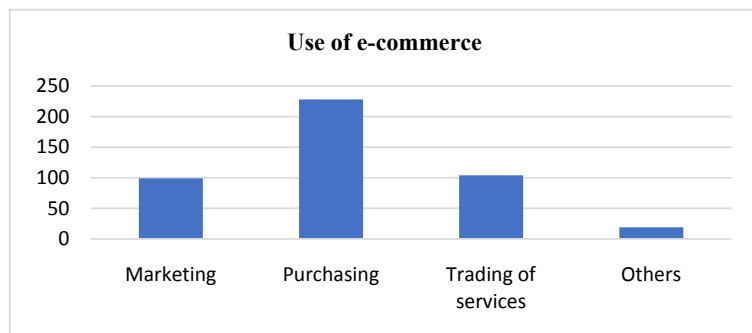
Figure 7. Summary of Research Questions tested on respondents. Source: Authors' computation using SPSS 20.



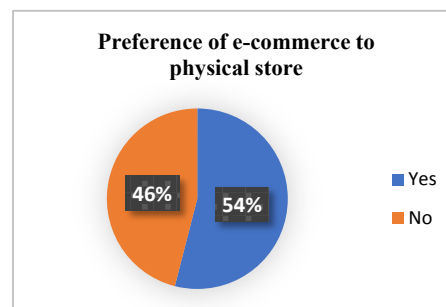
**Figure 8.** Summary of Research Questions tested on respondents. Source: Authors' computation using SPSS 20.



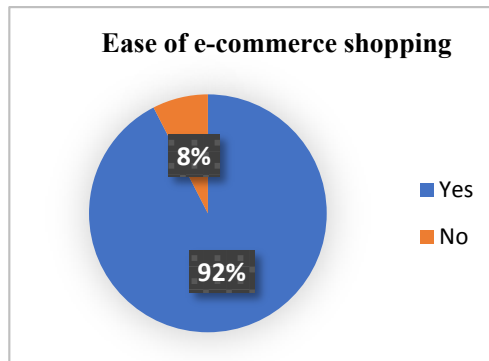
**Figure 9.** Summary of Research Questions tested on respondents. Source: Authors' computation using SPSS 20.



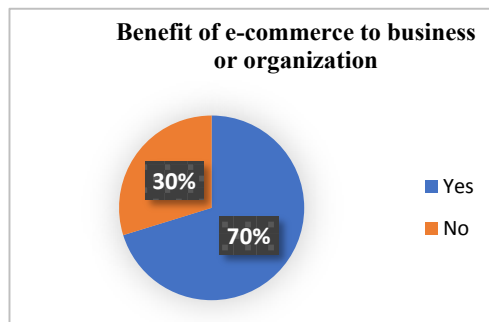
**Figure 10.** Summary of Research Questions tested on respondents. Source: Authors' computation using SPSS 20.



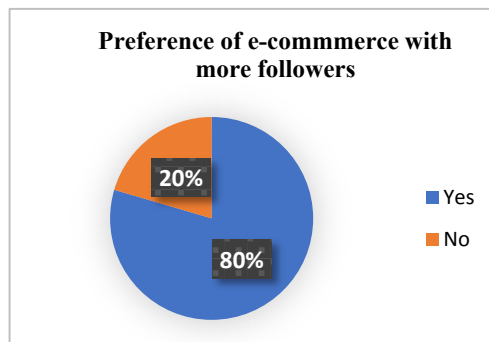
**Figure 11.** Summary of Research Questions tested on respondents. Source: Authors' computation using SPSS 20.



**Figure 12.** Summary of Research Questions tested on respondents. Source: Authors' computation using SPSS 20.



**Figure 13.** Summary of Research Questions tested on respondents. Source: Authors' computation using SPSS 20.



**Figure 14.** Summary of Research Questions tested on respondents. Source: Authors' computation using SPSS 20.

**Figures 1-3** show 51.8 percent of the respondents were within the age 15 - 25 years, 25.1% were within 26 - 35 years, 16.7% were within 36 - 45 years, those between 46 - 50 were 3.8% while those older than 50 years were just 2.7%. Also, out of the 450 participants whose data were analyzed, 52% were males while 48% were females. Furthermore, the educational qualification of the respondents were 34.4 percent secondary school completion status, 41.8 percent comprised the post-secondary OND/NCE/HND/B.Sc bracket, while 21.6 percent of the respondents were holders of various postgraduate qualifications. Similarly, about half of the respondents (44.9%) of the respondents were students, 26.9 percent

were civil servants, 26.0% were self-employed, while others were mere 2.2 percent. All these imply that the study largely used the youths as respondents, maintained gender balance, relied on their education as major socioeconomic criteria for their willingness to take decision with respect to e-commerce.

From **Figures 4-14**, more than 98.4 percent claimed to have heard of e-commerce before while 68.2% had engaged in e-commerce while 31.8% have not engaged in e-commerce. 65.1% agreed that e-commerce was better 34.9% claimed e-commerce was not their preference. In addition, 62.4% have actually engaged in e-commerce in the last 6 months, 14.9% have patronized at least an e-commerce platform between 6 months and a year, this sum up to more than three-quarter of the respondents had engaged in various e-commerce platform in the last one year and at different frequencies from 20 times (62.4%) to about 5 - 20 times (35.1%). More than one third of the respondents agreed that e-commerce helps to save time, some claimed it's convenient to access, it's trending; while complained of inaccessibility of some good offline. Moreover, 54% preferred e-commerce to physical store while 46% of the respondents stated otherwise. 70.2% inferred that e-commerce has benefited their business or organization while 79.6% of the preferred to shop on e-commerce platforms with more followers.

**Table 1** showed that most of the respondents (43.3%) would not buy makeup/perfume; fashion wears; and skin and body care online because they could not smell, touch or test it. Rather, they prefer to get the makeup/perfume products right away in stores. They also claimed that delivery costs were too high especially in makeup and perfumes and skin and body care products. Also, 42.9% chose that they would not buy skin and body care products online because they "cannot receive personal advice in store". Many of them 42.0% would not buy online for "fear of buying fake/counterfeit product". The fear of time/complexity to return the products in the respondents was almost equal regarding makeup/perfume and fashion wears products with 37.8% and 35.8% respondents respectively. However, majority of the respondents 44.7% were of the opinion that most vendors don't even know about their skin and body care products relative to makeup/perfume (34.9%) and fashion wears product (20.4%).

**Table 2** reveals the respondents' determining factors associated with their e-commerce patronage. Majority (91.8%) agreed that they have access to smartphones that are compatible with different online applications for e-commerce. As much as 79.4% of the respondents agreed that their IT skills and experienced enhanced them to patronize the internet. While almost 70% agreed that the cost of delivering was too high and hindered their e-commerce patronage. About one-third (31.7%) agreed that "accessibility to internet facilities" hindered them from purchasing goods online, and not less than 26.3% of the respondents said they encountered internet connectivity problem whenever they access e-commerce websites. However, quite a lot of people (77.8%) either agreed or strongly agreed that terms and conditions of social media platform, exchange rate, government policies and regulations were factors that determined their e-commerce patronage.



**Table 1.** Responses on the information asymmetry in fashion wears/Cosmetics.

Reasons not to buy products online at all in Nigeria	Makeup/perfumes (%)	Fashion wears (%)	Skin and body care (%)
Cannot smell, touch or test	195 (43.3)	119 (26.4)	136 (30.2)
Can get the product right away in stores	190 (42.2)	163 (36.2)	97 (11.3)
Delivery costs are too high	181 (40.2)	124 (27.6)	145 (32.2)
Can receive personal advice in store	146 (32.4)	111 (24.7)	193 (42.9)
Fear of buying fake/counterfeit product/different product	189 (42.0)	131 (29.1)	130 (28.9)
Time/complexity to return product	170 (37.8)	161 (35.8)	119 (26.4)
Vendors don't know more about their product	157 (34.9)	92 (20.4)	201 (44.7)

Source: Online survey, 2022.

**Table 2.** Responses on the influence of determining factors of e-commerce activities.

Statements	SA (%)	A (%)	UD (%)	D (%)	SD (%)
I have access to smartphones that are compatible with different online applications for e-commerce	261 (58)	152 (33.8)	20 (4.4)	13 (2.9)	4 (.9)
The cost of delivering is too high and hindered my ecommerce patronage.	103 (22.9)	211 (46.9)	-----	120 (26.7)	16 (3.6)
Accessibility to internet facilities hindered me from purchasing goods online	41 (9.1)	106 (23.6)	28 (6.2)	186 (41.3)	89 (19.8)
My IT skills and experience enhanced me to patronize the internet	124 (27.6)	233 (51.8)	32 (7.1)	46 (10.2)	15 (3.3)
Loss of goods or damage hindered me from online goods patronage	88 (19.6)	156 (34.7)	37 (8.2)	142 (31.6)	27 (6.0)
Whenever I access e-commerce I encounter internet connectivity problem	25 (5.6)	92 (20.4)	44 (9.8)	243 (54.0)	46 (10.2)
Terms and conditions of social media platform, exchange rate, government policies and regulations are factors determining e-commerce patronage	129 (28.7)	221 (49.1)	30 (6.7)	53 (11.8)	17 (3.8)

Source: Online Survey, 2022.

### Tests of Model Coefficients

From **Table 3**, it is observed that the significant value for the model is .000, i.e.  $p$ -value  $< 0.005$ . This shows that the model for the analysis is significant and can be further interpreted.

### Goodness of Fit Test

The significant value for the model in **Table 4** is 0.749, i.e.  $p > 0.005$ . This shows that the model fits the data and the data can be further analyzed.

### Model Accuracy Test

From **Table 5**, it is observed that the percentage correct is 70.7. This implies that the model is 70.7% accurate and reliable.

### Model Summary

**Table 6** explained the variation in the dependent variable based on the model. This implies that the independent variables were able to explain 22.7% of the variation in the dependent variable.

**Table 3.** Omnibus tests of model coefficients.

		Chi-square	df	Sig.
Step 1	Step	79.466	23	0.000
	Block	79.466	23	0.000
	Model	79.466	23	0.000

**Table 4.** Hosmer and Lemeshow test.

Step	Chi-square	df	Sig.
1	5.075	8	.749

**Table 5.** Classification table.

Observed	Predicted			
	Do you engage in e-commerce (online shopping)			Percentage Correct
	Yes	No		
Step 1 Do you engage in e-commerce (online shopping)	Yes	273	34	88.9
	No	98	45	31.5
Overall Percentage				70.7

**Table 6.** Model summary.

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	483.199 <sup>a</sup>	0.162	0.227

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than 0.001.

**Table 7** presents the logistic regression model of adoption of e-commerce among Nigerian youths in Nigeria. The table indicates that External Influence, Perceived Benefits, and Perceived Risk were found to influence the adoption of e-commerce among Nigerian youths in Nigeria. These factors determined whether Nigeria youths will adopt e-commerce or not. While Asymmetry Information, Facilitating Condition, IT Skills/IT Experience and Cost of using e-commerce do not significantly determine whether the respondents will use e-commerce or not. Respondents who disagreed to the impact of external influence are 3 times less likely to adopt e-commerce than those who strongly disagreed. Respondents with perceived benefits were 1.9 (CI = 1.209 - 3.09) times more likely to adopt e-commerce than those without perceived benefit. Respondents who strongly agreed to perceived risk were 3 (CI = 1.09 - 11.02) times less likely to adopt e-commerce than those who strongly disagreed to perceived risk.

**Table 7.** Logistic regression of the adoption of e-commerce in Nigeria.

Predictors	<i>p</i> -value	Odd Ratio	95% CI	
			Lower	Upper
<b>Asymmetric Information</b>				
<i>Make up/ Perfume</i>		1.000		
Fashion Wears	0.095	0.620	0.354	1.087
<i>Skin and Body Wears</i>	0.949	0.983	0.586	1.651
<b>Facilitating Condition</b>				
<i>Strongly Disagreed</i>		1.000		
<i>Disagreed</i>	0.622	2.229	0.092	54.022
<i>Undecided</i>	0.477	3.028	0.143	64.126
<i>Agreed</i>	0.431	3.177	0.179	56.368
<i>Strongly Agreed</i>	0.390	3.540	0.198	63.159
<b>Cost</b>				
<i>Strongly Disagreed</i>		1.000		
<i>Disagreed</i>	0.194	7.069	0.369	135.376
<i>Undecided</i>	0.637	1.850	0.144	23.759
<i>Agreed</i>	0.601	1.964	0.156	24.738
<i>Strongly Agreed</i>	0.851	1.280	0.097	16.848
<b>External Influence</b>				
<i>Strongly Disagreed</i>		1.000		
<i>Disagreed</i>	0.005**	0.036	0.004	0.368
<i>Undecided</i>	0.390	1.916	0.434	8.450
<i>Agreed</i>	0.726	1.253	0.355	4.418
<i>Strongly Agreed</i>	0.918	1.069	0.302	3.790
<b>Perceived Benefits</b>				
<i>No</i>		1.000		
<i>Yes</i>	0.006**	1.935	1.209	3.098
<b>Perceived Risk</b>				
<i>Strongly Disagreed</i>		1.000		
<i>Disagreed</i>	0.399	1.601	0.537	4.774
<i>Undecided</i>	0.854	0.883	0.233	3.338
<i>Agreed</i>	0.563	1.384	0.461	4.159
<i>Strongly Agreed</i>	0.034**	3.477	1.097	11.021
<b>IT Skills/IT Experience</b>				
<i>Strongly Disagreed</i>		1.000		
<i>Disagreed</i>	0.540	0.617	0.131	2.898
<i>Undecided</i>	0.586	1.564	0.313	7.819
<i>Agreed</i>	0.854	0.876	0.212	3.613
<i>Strongly Agreed</i>	0.110	0.299	0.068	1.316

Note: Variable(s) used for logistic regression are AI, FC, DC, EXTI, PERB, PERR, IT; and Odd Ratio is interpreted as the estimate (beta) for each variable given the nature of the qualitative response model (Logit model) adopted for the study, while the *P*-value indicates the significance, while variables with \*\* shows significance at 5 percent.

### **Discussion of the result**

The results of the analysis have shown that majority (about 98%) of the respondents are fully aware of e-commerce but only 68% of them adopt e-commerce. This is as a result of problems associated with e-commerce. The other respondents who do not patronize e-commerce gave different reasons such as fraud, perceived risk, inability to inspect and confirm goods and lots more. Other problem associated with online shopping was the disadvantage of being able to physically inspect the products before they are purchased online. This was strongly agreed upon by the majority of the respondent. Though, majority of the respondents who adopt e-commerce have access to smartphones that are compatible with different online applications for e-commerce.

Also, majority of the respondents (43.3%) surveyed would not purchase makeup/perfume, fashion wears, and skin and body care products online because of Information Asymmetry and as a result of inability to smell, touch or test. This is in line with findings made in Poland, Germany, Sweden and France where similar survey was carried out (The effects of vertical restraints and online sales in the cosmetics industry. A report for cosmetics in Europe, 2019). Another factor that has hindered the adoption of e-commerce by the respondents is the high cost of delivery added to purchase goods. The results of this finding has also showed that majority (70%) of those who patronize e-commerce has perceived different benefits paved by e-commerce.

Most of the respondents (77%) strongly agreed to the statement that “Terms and conditions of social media platform, exchange rate, government policies and regulations are factors determining e-commerce patronage in Nigeria”. About 70% also claimed that their IT skills and experience enhanced them to patronize the online shopping.

### **Policy Implications of Findings**

Research has shown that there are no current standing policy guiding e-commerce in Nigeria, however there exist some scanty provision of the law which has not addressed the salient issues pertaining online businesses. The finding of the study has shown that majority of those who failed to patronize make up/perfume, Fashion wears and cosmetics, were afraid of being fraud by the internet fraudsters and particularly in most cases the information they have about a product before buying usually differ from the real product. This is generally the apprehension being nursed by the majority of prospective online buyers of various products. It is not only limited to fashion and cosmetics which were the focus of this study, it is common to other products that sell online. Therefore, it is advised that the Federal Commission in charge of Consumer Protection should help control all form of online fraud and crime.

## **5. Conclusion and Recommendations**

### **5.1. Conclusion**

Conclusively, study has shown that the information Asymmetry in e-commerce

has not stopped people from patronizing make-up, fashions wears and cosmetics via online shopping though they may be sceptical of getting what they really want. Also some customers wanted a preferential and personal treatment when it comes to their patronage of e-commerce stores regarding cosmetic and fashion wear products and as a result they may not be willing to purchase them online. These findings could be used to study the buying patterns of customers generally for those who engage in e-commerce retailing of physical products and especially cosmetics and fashion wears product.

## 5.2. Recommendations

The following recommendations were made based on the findings:

Cosmetics and fashion wears e-tail stores could win customer's loyalty if they provide adequate education about their products and have it displayed in various multiple dimensions. A third-party insurance policy should be enacted that protect the customer's right against information Asymmetry by the e-commerce vendors. Federal government should through its economic policies, reduce the exchange rates so as to foster the e-purchase or export of cosmetics and fashion wears products especially one with the other countries.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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