
Predictors of Purchase Decision on Products Advertised on WhatsApp: Perspectives from Postgraduate Students at Selected Universities in Lagos State, Nigeria

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ABSTRACT

This study identified social media commitment, normative and informational social influences, social interaction ties, trust in online vendors, and purchase intention as factors predicting purchasing decisions on products advertised on WhatsApp. Monthly upkeep, sex and age of postgraduate students were moderating variables in the study. A survey was conducted using an online questionnaire administered to 314 postgraduate students from three purposively selected universities - the University of Lagos, Lagos State University and Pan Atlantic University. Using a multistage sampling technique, a population of users of the WhatsApp social platform was selected from two homogenous faculties with 12 departments. The study applied descriptive statistical procedures to answer five research questions and linear regression analysis to test three hypotheses using SPSS version 26. Findings revealed that social interaction ties, normative social influence, trust in online vendors, monthly upkeep and sex significantly predicted postgraduate students' purchase decisions on products advertised on WhatsApp. It was recommended that business owners and marketers should intensify their efforts to advertise products on WhatsApp, and also ensure timely delivery of products and services.

Keywords: E-commerce, Online advertisement, Postgraduate students' purchase decision, Predictors, Products, Social media, WhatsApp, Lagos State, Nigeria

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1. INTRODUCTION

The use of the Internet has paved the way for the relative success of electronic commerce (e-commerce) and facilitated methods of doing commerce (Tokase & Mujmule, 2021). This introduced diverse terms such as digital business, online business, or electronic commerce which have become major channels for advertising and purchasing of goods and services (Jain, Malviya & Arya, 2021). The Internet has also provided direct links to various sites where products and services are advertised.

Advertisement can be defined as a paid form of promotion through various mass media ranging from newspaper, radio and television to the recent use of the Internet and social media (Ogunsola & Babalola, 2020).

Social media advertising has become one of the most important tools for sales promotion (Arobo, 2022; Štreimikienė, Mikalauskienė, Sturienė & Kyriakopoulos, 2021) as marketers use it to promote their products (Nadaraja & Yazdanifard, 2013) and communicate with customers. Apart from helping marketers to communicate with their customers, social media assists consumers in evaluating brands (Kang, Shin & Gong, 2016; Phua, Jin & Kim, 2017). It is a large platform that attracts local and international audiences and makes advertising easier than many other promotional tools (Butenko, 2020). It has been noted that many consumers consider online reviews to be more credible sources of information than other traditional outlets (Fang, Ye, Kucukusta & Law, 2016).

The concept of social media advertising emanated from online advertising and electronic commerce (Dar & Tariq, 2021) and includes the use of social media platforms like WhatsApp, Facebook, YouTube, and Twitter to promote sales of goods and services. Social media advertising features numerous advantages such as accurate targeting, advertising co-creation between users and advertisers, and multilateral interactions among communities, users, and advertisers (Zeng, Tao, Yang & Xie, 2017). This is due to social media being an automated technology that provides space and enhances the sharing of information, communication and other forms of expression through virtual networks and communities (Obar & Wildman, 2015). The different types of social media can be social networks, forums and social bookmarks which form an integral part of people's daily social lives.

Social media advertising utilises social media to increase brand awareness, brand equity and customer reach (Varghese & Agrawal, 2021), thus, making it a preferred avenue for advertising. Social media advertisement includes the use of text, images, pop-ups, banners and html adverts. Their dominance over other traditional methods of advertisement arises from their capacity to measure activities through the use of designed metrics (Jain, Malviya & Arya, 2021). For instance, a hit is a click made when a visit is made to a website. It is used to calculate the frequency of periodic visits to a website and the time spent on a particular website. Shubhangam, Srivastava, Ravi and Singh (2020) affirmed social media's effectiveness, speed and novelty in digital advertising. These qualities are used to predict consumer behaviour over several social media platforms.

The last two decades have revealed the inventions of several social media platforms such as GooglePlus, YouTube, Facebook, Instagram, Twitter, Snapchat, Telegram, and WhatsApp, which are popular among individuals, especially undergraduate and postgraduate students who are keen internet users (Punathambekar and Mohan, 2021). The importance of social media advertising cannot be over-emphasised especially among young people such as undergraduate and postgraduate students. This study, therefore, was designed to investigate the possible predictors of the purchase decision on products advertised on WhatsApp by postgraduate students in Lagos, Nigeria. This study uses social media commitment, normative and informational social influences, social interaction ties, trust and purchase intention to predict the purchase decision on products advertised on WhatsApp. It is believed that social media commitment is key to selecting the type of preferred social media platform to adopt (Kwahk & Ge, 2012). In choosing WhatsApp, the postgraduate students showed a measure of emotional bonding to the platform, which may also be set by the normative social influence of others. Lee & Gan, (2020) described this as submissive behaviour.

Reliance on social media by customers to make purchase decisions plays an important role in the type of products or services selected since referrals from friends and family members are not usually enough to provide the information required. Its effect is portrayed as a mechanism for weighing community behaviour towards the products (Jakstiene, Susniene & Narbutas, 2008). With the help of advertising, customers can evaluate their purchase decision with the other options available to them before the final purchase decision is made (Hanaysha, 2018). In some cases, purchase decision processes may involve discussing the need for the product, searching for information about the product, evaluating available alternatives, making the purchasing decisions and implementing the post-purchase activities (Pradana & Wijaksana, 2017).

Social interaction ties are often channels for the circulation of information and resources. They measure the strength of relationships, the amount of time spent, the frequency of communication among other social media users, and the link established through the reciprocal behaviour of two actors within social media environments (Kwahk & Kim, 2017). Trust is primarily determined by the credibility of online stores and their ability to deliver (Che, Cheung & Thadani, 2017). Purchase intention represents the probability that a person will obtain a particular product based on the interaction between the customer's needs, attitudes and perceptions of the product or brand (Beneke, de Sousa, Mbuyu & Wickham, 2016). Demographic factors such as monthly upkeep, sex, and age were adopted as the moderating variables for this study.

The study is in two parts. Part A centres on factors influencing the purchase decision on products advertised on Facebook, while Part B addresses the predictors of purchase decision of advertised products on WhatsApp. Part A has been accepted for publication in another research publication outlet. The choice of WhatsApp is important to this study because it has the third-highest number of users in Nigeria (Statista, 2021).

1.1 Brief Overview of Selected Universities in the Study

The University of Lagos (UNILAG) is a federal university founded in 1962 and located in Akoka, Lagos. Lagos State University (LASU) was established by the Lagos State government in 1983 and cited in Ojo. The Pan-Atlantic University (PAU) was established in 2002 and situated at Lekki. The three institutions have postgraduate programs that have attracted a high population of students over the years (UNILAG, 2021; LASU, 2021 & PAU, 2021).

1.2 Statement of the Problem

Previous studies identified limited predictors of purchase decisions on products advertised through social media. A study of Indonesians (Nugroho & Wuisan, 2021), showed how usage, e-word of mouth and trust predicted purchase decisions. Braimah (2019) investigated the adoption of online marketing by real estate managers in Lagos, Nigeria. The studies by Nugroho & Wuisan (2021), as well as Braimah (2019), did not consider social media commitment, normative social influence, informational social influence, social interaction ties, and trust in online vendors. This study filled this gap.

A study in China focused on social media effects on consumers' purchase decisions and revealed that social interaction ties, normative and informational social influences, social media commitment, trust in online vendors and purchase intention are major variables in purchase decisions of products advertised through social media (Kwahk, & Kim, 2017).

Another study used perceived usefulness, perceived ease of use, perceived risk, trust, attitude, subjective norm, demographic factors, infrastructure and socioeconomic factors to validate the factors predicting the use of e-

commerce in Nigeria (Ogunsola & Adetunji, 2020). Ogunsola and Akanji (2018) examined the influence of perceived risk on consumers' online shopping behaviour in Nigeria. None of these studies predicted the factors influencing the purchase decision of products advertised on WhatsApp by postgraduate students of UNILAG, LASU and PAU. This study was therefore designed to achieve this.

1.3 Research Objectives

The objective of this study is to investigate how social media commitment, normative and informational social influences, social interaction ties, trust in online vendors, purchase intention and demographic factors such as monthly upkeep, sex, and age predicted the purchase decision of products advertised on WhatsApp.

1.4 Research Questions

The following research questions were answered in this study:

1. To what extent has the advertisement of products on WhatsApp prompted customers' purchase decisions?
2. What is the level of normative and informational social influences on the purchase decision of products advertised on WhatsApp?
3. What is the level of social media commitment to the purchase decision on products advertised on WhatsApp by the selected postgraduate students?
4. To what extent do social interaction ties influence the purchase decision on products advertised on WhatsApp of the selected postgraduate students?
5. To what extent does trust in online vendors influence the purchase decision on products advertised on WhatsApp by the selected postgraduate students?

1.5 Research Hypotheses

Three hypotheses were drawn in null forms and tested in this study:

- H₀₁: There is no significant joint influence of the variables (social media commitment, normative social influence, informational social influence, social interaction ties and trust in online vendors) on the customers' purchase intention.
- H₀₂: There is no significant joint influence of the demographics variables (monthly upkeep, age and sex) on the customers' purchase intention.
- H₀₃: There is no significant influence of customers' purchase intention on the customer's purchase decision.

2. REVIEW OF RELATED LITERATURE

2.1. WhatsApp as a Social Media Application

WhatsApp is a cross-platform instant messaging service for mobile devices that relies on the Internet for the transmission of messages. For instance, it allows both iPhones and Android phones to use the application. Statista (2021) stated that in 2021, WhatsApp was the most popular global mobile messenger app worldwide with approximately two billion monthly active users, outranking Facebook Messenger's 1.3 billion and WeChat's 1.2 billion users. As of the third quarter of 2020, WhatsApp was the most popular social media in Nigeria, based on its low-cost subscription mode.

It is a cheap alternative to carrier-billed text messaging via SMS, especially for international or group messaging. The mobile messaging app enables users to share text, images, video, and voice messages and also supports video calls. According to Statista (2021), WhatsApp was mentioned by 93 per cent of internet users aged 16 to 64 years. Facebook and YouTube followed, being used respectively by 86 per cent and 81.6 per cent of the individuals with access to the Internet (Figure 1).

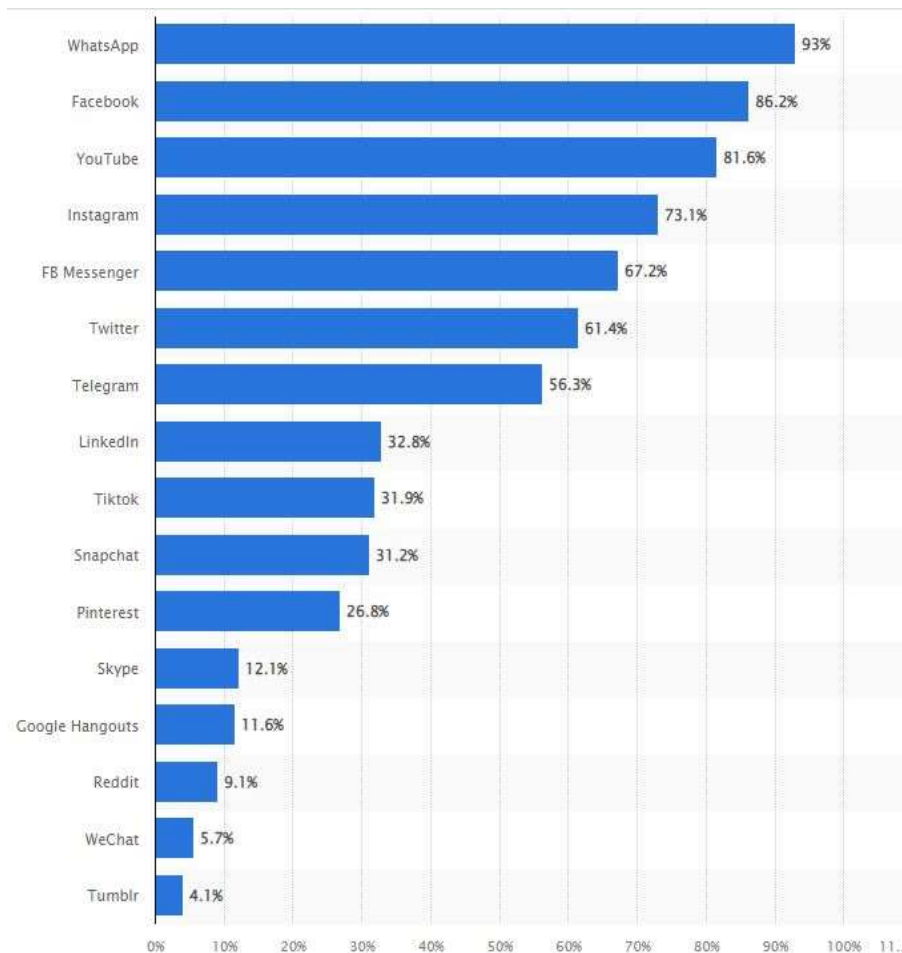


Figure 1: Number of WhatsApp users in Nigeria (in millions)
 Source: (Statista, 2021)

As shown in Figure 1, WhatsApp recorded the highest number of social media application users with 93% in Nigeria. One of the advantages of the use of WhatsApp for e-commerce is that the business account of WhatsApp gives room for catalogues, where business organisations can arrange their products and services according to albums. Figure 2 shows the name and schedule of activities on the WhatsApp business account.

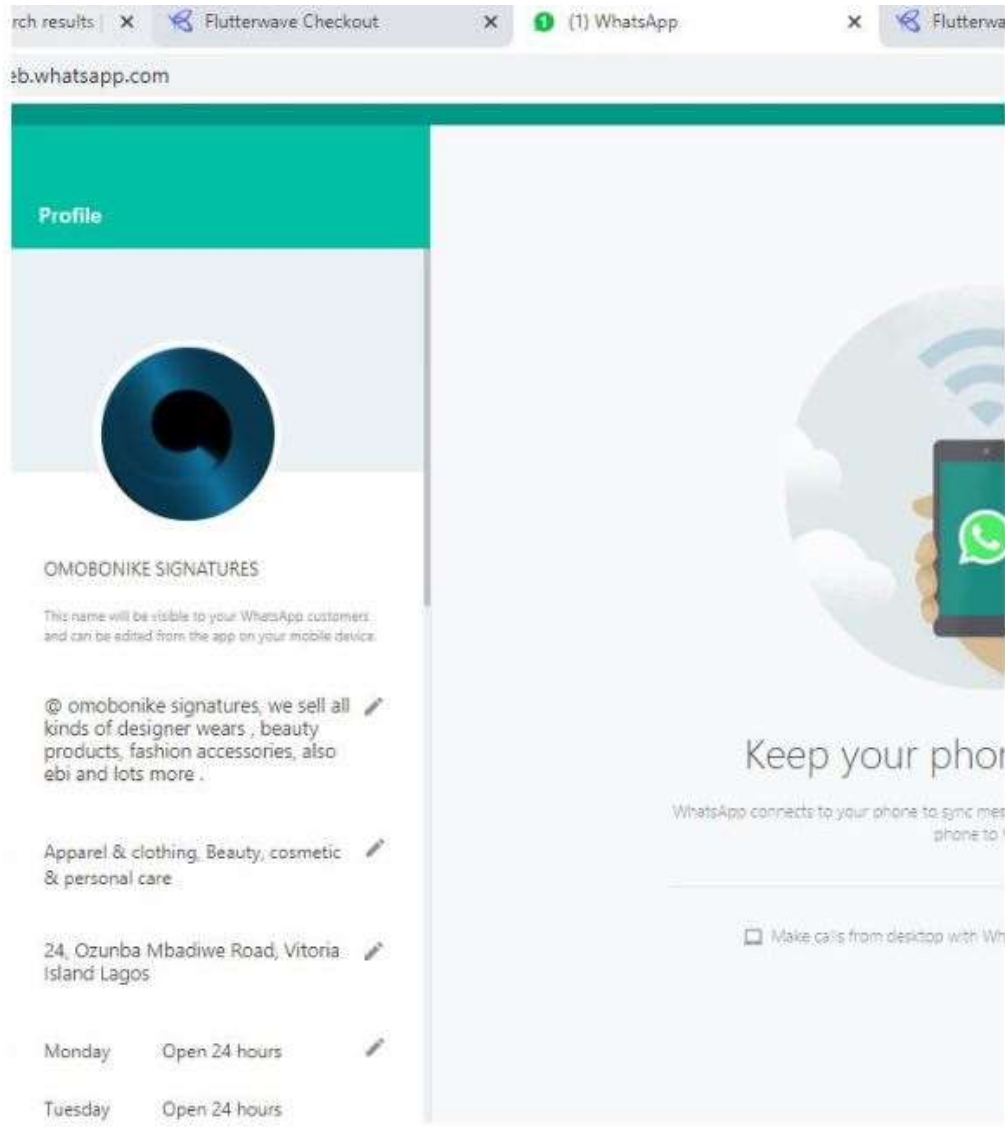


Figure 2: Example of Product Advertised on WhatsApp (information about the business)
Source: WhatsApp (2021)

Figure 3 shows the product catalogue interface with the product description and add-to-cart stage.

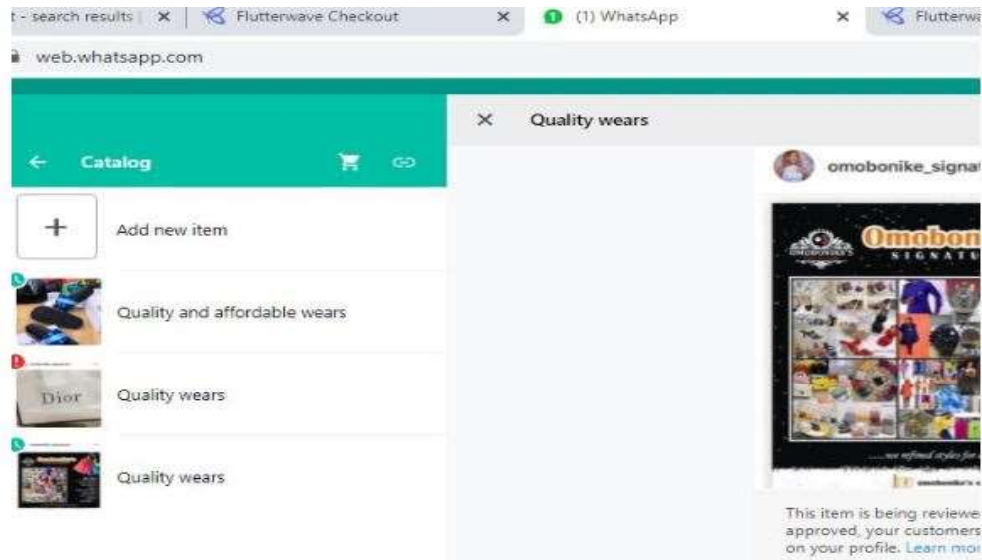


Figure 3: Example of Product Advertising on WhatsApp (product display catalogue and carting)
 Source: WhatsApp (2021)

2.2 Empirical Review of Related Works

This section evaluates studies closely related to the study variables. Fabowale (2016) examined the influence of trust, subjective norm, perceived usefulness, perceived risk, personal characteristics and perceived ease of use on the adoption of online shopping and utilised a survey-based approach to gather information from 388 respondents who were undergraduates of the University of Ibadan. Latela (2019) worked on the assessment of the influence of social media advertisements on consumers' purchase intention. It examined the advertisement features of interactivity, credibility, informativeness, entertainment, and irritation and their influence on consumers' purchase decisions. The survey-based approach was utilised to collect data from 100 respondents. The outcome showed that informativeness and credibility had a significantly positive relationship with consumers' purchase intentions on social media advertising at the Institute of Finance Management, Dar es Salam, Tanzania. Mwiti (2020) studied a sample size of 133 junior and senior managerial cadres to determine the influence of social media advertising on consumer buying behaviour in a Kenyan hospitality facility.

Findings revealed a significant relationship between social media reach, social media frequency, and social media tools' influence when compared with consumer buying behaviour. Salihi (2019) investigated youths' social media usage in one of the highly populated counties in Oyo State and reported that youths were especially attracted to social media for job search and that usefulness and perceived ease of use had no negative impact on the use of social media platforms. Another study by Dorsey & Odoi (2017) which assessed the consumer buying behaviour of technical students in Ghana showed that only a third of the students sampled used social media for shopping even though they all had access to a minimum of one social media platform.

Facebook was the most preferred. Chatting with friends was the most common use of social media rather than shopping. However, the greater use of social media for other activities other than shopping did not reduce the efficacy of accessing the preferred platforms when seeking product information. The challenges experienced

when using social media for shopping are fear of being hacked, cyberbullying and unsolicited offensive materials.

Ranawi, Yaakub & Jusoh (2019) examined Malaysian students based on electronic word-of-mouth, perceived usefulness and value-consciousness and found that the three social media factors significantly influenced consumers' purchase intention as they stressed the relevance of positive electronic word-of-mouth in disseminating information to consumers and how value conscious customers are engaged. A more recent study by Sriram, Namitha and Giridhar (2021) highlighted the use of attention-grabbing details, emotional appeals and endorsements by celebrities as major factors with considerable impact on the purchase intention of consumers. None of these afore-mentioned studies examined social media commitment, normative social influence, informational social influence, social interaction ties, and trust in online vendors were considered.

3. METHODOLOGY

The descriptive survey design was adopted for this study. The target population consists of purposively selected postgraduate students from three universities in Lagos, Nigeria. Lagos State was selected for being the most commercialised in the country and for having the largest population of social media users and shoppers (Nairametrics, 2019). Data was collected using an online structured questionnaire developed with Google Forms. The faculties of social sciences and management sciences were selected in the three universities. The School of Media and Communication in PAU was included because the courses offered were classified as social sciences in UNILAG and LASU. The postgraduates were chosen because they had higher income earning capacity than undergraduates.

Postgraduate students tend to have income and may pay for their educational, and financial commitments at times; some are on scholarship programmes and are exposed to online shopping via the WhatsApp platform. Statista (2022) acknowledged WhatsApp as the most popular social media platform in Nigeria in 2020, thereby justifying its selection for the study. This study adopted the Slovin (1960) sampling selection formula to achieve a sample population of 312 from 5,545 postgraduate students within departments at the University of Lagos (4,225), Lagos State University (1,049), and Pan Atlantic University (271). A pre-test of the research questionnaire was conducted with twenty postgraduate students selected from the University of Ibadan using convenience sampling methods. The questionnaire had eight sections. Section one was based on the demographic characteristics of respondents.

The Cronbach's Alpha score of the variables was as follows: for section 2-Normative social influence (0.747), section 3 - informational social influence (0.793), section 4 - social media commitment (0.805), section 5 - trust in online vendor (0.726), section 6 - social interaction ties (0.829), and section 7- purchase intension (0.821) and the dependent variable; section 8 - purchase decision rated (0.877). Descriptive statistics, Spearman rank correlation and multiple linear regression analyses were carried out using SPSS version 26.

4. DATA ANALYSIS

The demographic information of respondents is presented in this section:

Age Range	Frequency	Percentage (%)
20 and below	1	0.3
21-25 years	79	25.2
26-30 years	77	24.5
31-35 years	57	18.2
36-40 years	45	14.3
41 years and above	55	17.5
Total	314	100
Sex	Frequency	Percentage (%)
Male	135	43.0
Female	179	57.0
Total	314	100
Monthly income Range (in Naira)		
20,000 and below	91	29.0
21,000-40,000	59	18.8
41,000-60,000	34	10.8
61,000-80,000	51	16.2
81,000 and above	79	25.2
Total	314	100
Institution		
University of Lagos (UNILAG)	151	48.1
Lagos State University (LASU)	105	33.4
Pan-Atlantic University (PAU)	58	18.5
Total	314	100.0
Department		
Accounting	3	0.6
Banking and Finance	61	19.3
Business Administration	50	15.7
Economics	25	7.9
Employment Relations and Human Resource Management	10	3.1
Psychology	17	5.3
Sociology	36	11.4
Geography	4	1.3
Lagos Business School	19	6.1
Public Administration	33	10.4
Political Science	2	0.6
School of Media and Communication Study	43	13.7
Total	314	100

Table 1 shows the demographic information of respondents who participated in the study based on age, sex, monthly income range, institution, and department. Table 1 reveals that many of the respondents were female (57.0%), while respondents aged 21-25 years had the highest representation (25.2%). Most respondents (29.0%) have a monthly upkeep of N20,000 and below which is the lowest level of monthly income range in this study.

4.1 Answers to Research Questions

Research Question 1: To what extent has the advertisement of products on WhatsApp prompted customers' purchase decisions?

The different responses to the question above are presented in Table 2:

Item	Not at all	Low extent	Moderate extent	High extent	Very high extent	SD	Mean
Advertisement of products & services on WhatsApp has prompted me to buy products & services	6 (1.9%)	10 (3.2%)	25 (8.0%)	113 (36.0%)	114 (36.3%)	1.147	2.87 (4 th)
I enjoy the process of purchasing and receiving the products and services advertised on WhatsApp	6 (1.9%)	12 (3.8%)	36 (11.5%)	104 (33.1%)	110 (35.0%)	1.159	2.81 (5 th)
I saw many products I have an interest in via WhatsApp advert	5 (1.6%)	7 (2.2%)	31 (9.9%)	99 (31.5%)	126 (40.1%)	1.147	2.92 (3 rd)
I often notice online advertisements on WhatsApp	5(1.6%)	8(2.5%)	20(6.4%)	99(31.5%)	136 (43.3%)	1.154	2.98 (1 st)
I got to know about many products and services via WhatsApp advert	5(1.6%)	8(2.5%)	21(6.7%)	100(31.8%)	134m (42.7%)	1.152	2.9 (2 nd)

Research Question 2: What is the level of normative and informational social influences on the purchase decision on products advertised on WhatsApp?

The different responses from the sampled population are presented in Table 3:

Item	Undecided	Strongly disagree	Disagree	Agree	Strongly agree	SD	Mean
I purchase products and services advertised on WhatsApp because my friends do	13 (4.1%)	13 (4.1%)	24 (7.6%)	111 (35.4%)	105 (33.4%)	1.225	2.75 (3 rd)
I achieve a high sense of belonging with other people when I buy products advertised on WhatsApp	7 (2.2%)	16 (5.1%)	10 (3.2%)	122 (38.9%)	110 (35.0%)	1.179	2.84 (1 st)
Other people's recommendations influenced my decision for online purchases of products advertised on WhatsApp	13 (4.1%)	14 (4.5%)	6 (1.9%)	117 (37.3%)	116 (36.9%)	1.236	2.83 (2 nd)
I purchased on WhatsApp in other to be more like my friends	15 (4.8%)	24 (7.6%)	16 (5.1%)	111 (35.4%)	100 (31.8%)	1.269	2.67 (4 th)

Table 3 shows that respondents who show a high sense of belonging with others due to purchases of products and services advertised on WhatsApp were more while respondents who want to be more like their friends were the least in number.

Table 4: Level of Informational Social Influence on WhatsApp in the Three Selected Universities (N=314)

Item	Undecided	Strongly disagree	Disagree	Agree	Strongly agree	SD	Mean
I make most of my purchase decisions on products and services advertised on WhatsApp on the recommendations of my friends	16 (5.1%)	6 (1.9%)	10 (3.2%)	139 (44.3%)	93 (29.6%)	1.202	2.75 (4 th)
Before making a purchase decision on products and services advertised on WhatsApp, I read the customer reviews	9 (2.9%)	8 (2.5%)	9 (2.9%)	134 (42.7%)	105 (33.4%)	1.154	2.86 (1 st)
I rarely make any purchase of products and services advertised on WhatsApp without seeking the opinion of others	11 (3.5%)	7 (2.2%)	11 (3.5%)	128 (40.8%)	108 (34.4%)	1.178	2.85 (2 nd)
Before making an online purchase of products and services advertised on WhatsApp, I ask for diverse opinions on WhatsApp	8 (2.5%)	8 (2.5%)	15 (4.8%)	138 (43.9%)	96 (30.6%)	1.131	2.82 (3 rd)

Table 4 shows that respondents who consult customer reviews before making a purchase decision on products and services advertised on WhatsApp recorded the highest mean score of 2.86 (1st) while respondents who based most of their purchase decisions on the recommendations of their friends recorded the lowest mean score of 2.75 (4th).

Research Question 3: What is the level of social media commitment to the purchase decision on products advertised on WhatsApp by the selected postgraduate students?

The different responses obtained from the respondents are presented in Table 5:

Table 5: Level of Social Media Commitment of the Respondents from Three Selected Universities on WhatsApp (N=314)

Item	Undecided	Strongly disagree	Disagree	Agree	Strongly agree	SD	Mean
I have a sense of commitment to other customers on WhatsApp	16 (5.1%)	11 (3.5%)	10 (3.2%)	137 (43.6%)	88 (28.0%)	1.218	2.69 (4 th)
I enjoy spending lots of time on WhatsApp	7 (2.2%)	5 (1.6%)	6 (1.9%)	138 (43.9%)	107 (34.1%)	1.126	2.90 (1 st)
I expect that I will continually purchase products on WhatsApp, to keep in touch with other customers on WhatsApp	12 (3.8%)	10 (3.2%)	12 (3.8%)	127 (40.4%)	10 (3.2%)	1.198	2.79 (3 rd)
I enjoy exchanging product purchase experiences with other customers on WhatsApp	11 (3.5%)	8 (2.5%)	7 (2.2%)	136 (43.3%)	101 (32.2%)	1.176	2.82 (2 nd)

Table 5 shows that respondents who enjoyed spending lots of time on WhatsApp recorded the highest mean score of 2.90 (1st) while respondents who had a sense of commitment to other customers on WhatsApp recorded the lowest mean score of 2.69 (4th).

Research Question 4: To what extent do social interaction ties influence the purchase decision on products advertised on WhatsApp of the selected postgraduate students?

Answers to this research question were obtained from the respondents and are presented in Table 6:

Table 6: Influence of Social Interaction Ties on Purchase Decision on Products Advertised on WhatsApp in the Three selected Universities (N=314)

Item	Undecided	Strongly disagree	Disagree	Agree	Strongly agree	SD	Mean
Close relationship with other customers on WhatsApp makes the purchase decision easier for me to make	17 (5.4%)	8 (2.5%)	13 (4.1%)	126 (40.1%)	99 (31.5%)	1.237	2.74 (2 nd)
I enjoy interacting with other people who make purchases on WhatsApp	14 (4.5%)	6 (1.9%)	12 (3.8%)	138 (43.9%)	93 (29.6%)	1.187	2.76 (1 st)
I am more likely to purchase if I have frequent communication with friends on WhatsApp	22 (7.0%)	6 (1.9%)	11 (3.5%)	127 (40.4%)	95 (30.3%)	1.274	2.68 (3 rd)
I make purchases because my WhatsApp friends do	20 (6.4%)	10 (3.2%)	21 (6.7%)	116 (36.9%)	96 (30.6%)	1.270	2.66 (4 th)

Table 6 shows that respondents who enjoyed interacting with other people who make purchases on WhatsApp recorded the highest mean score of 2.76 (1st) while respondents who made purchases on WhatsApp because of their friends recorded the lowest mean score of 2.66 (4th).

Research Question 5: To what extent does trust in online vendors influence the purchase decision on products advertised on WhatsApp of the selected postgraduate students?

The responses obtained during the course of the study are presented in Table 7:

Item	Undecided	Strongly disagree	Disagree	Agree	Strongly agree	SD	Mean
Most of the time, WhatsApp vendors are usually true to their promise of delivery	35 (11.1%)	9 (2.9%)	16 (5.1%)	121 (38.5%)	82 (26.1%)	1.316	2.64 (3 rd)
When I need to buy something, I check WhatsApp first before trying a physical store	4 (1.3%)	5 (1.6%)	7 (2.2%)	135 (43.0%)	108 (34.4%)	1.217	2.87 (1 st)
WhatsApp vendors always deliver per the product specification advertised online (what I ordered versus what I got)	23 (7.3%)	9 (2.9%)	16 (5.1%)	119 (37.9%)	94 (29.9%)	1.265	2.73 (2 nd)

Table 7 above shows that respondents who checked WhatsApp before trying the physical store for their purchases recorded the highest mean score of 2.87 (1st) while respondents who believed WhatsApp vendors are always true to their promise of delivery recorded the lowest mean score of 2.64 (3rd).

4.2 Test of Hypotheses

All the hypotheses were tested at a 0.05 level of significance. Thus, the null hypotheses were accepted if the p-value is ≤ 0.05 and rejected if above 0.05.

H₀₁: There is no significant joint influence of the variables (social media commitment, normative social influence, informational social influence, social interaction ties and trust in online vendors) on the customers' purchase intention

Presented in Tables 8a and 8b is the result of the multiple linear regression analysis of the influence of the independent variables (social media commitment, normative social influence, informational social influence, social interaction ties and trust in online vendors) on the customers' purchase intention.

Table 8a: Relationship between the independent variables and customers' purchase intention

Model	R	R ²	Adjusted square	R	F	P value (sig)
All	0.799 ^a	0.639	0.633		109.056	.000 ^b
UNILAG	0.777	0.604	0.590		44.170	.000 ^b
LASU	0.860 ^a	0.740	0.727		56.381	.000 ^b
PAU	0.797 ^a	0.635	0.600		18.124	.000 ^b
Model	Sum of Squares	DF	Mean Square	F	P value (sig)	
Regression	9732.593	5	1946.519	109.056	.000 ^b	
Residual	5497.436	308	17.849			
Total	15230.029	313				

Table 8b: Individual contribution of the independent variables on customers' purchase intention (N=314)

Model	Un-standardised Coefficients		Standardised Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	1.788	.726		2.462	.014
Social Media Commitment	.182	.096	.118	1.896	.059
Normative Social Influence	.204	.079	.139	2.584	.010
Informational Social Influence	.127	.088	.081	1.436	.152
Social Interaction Ties	.201	.085	.139	2.369	.018
Trust in Online Vendor	.886	.092	.461	9.580	.000

Table 8a presents the multiple linear regression analysis of the relationships between the independent variables and purchase intention. Table 8a shows that there is a joint significant influence of the independent variables on purchase intention ($p = 0.000$). This is also the same for UNILAG, LASU and PAU. Table 8b shows that normative social influence ($\beta = 0.139$, $t = 2.584$, $p = 0.010$), social interaction ties ($\beta = 0.139$, $t = 2.369$, $p = 0.018$) and trust in online vendors ($\beta = 0.461$, $t = 9.580$, $p = 0.000$) had a significant influence on purchase intention of postgraduate students. The other independent variables, informational social influences and social media commitment, had no significant individual influences on the purchase intention of the products advertised on WhatsApp.

H₀₂: There is no significant joint influence of the demographics variables (monthly upkeep, sex and age as at last birthday) on the customers' purchase intention.

Tables 9a and 9b present the multiple linear regression analysis of the influence of monthly upkeep, sex, and age as at last birthday on the customers' purchase intention.

Table 9a: Relationship between the Demographic Variables and Purchase Intention

Model	R	R ²	Adjusted square	R	F	P value (sig)
All	0.246 ^a	0.061	0.052		6.672	0.000^b
UNILAG	0.305 ^a	0.093	0.075		5.027	0.002^b
LASU	0.330 ^a	0.109	0.082		4.113	0.008^b
PAU	0.170 ^a	0.029	-0.025		.534	0.661
Model	Sum of Squares	DF	Mean Square	F	P value (sig)	
Regression	923.678	3	307.893	6.672	0.000^b	
Residual	14306.350	310	46.150			
Total	15230.029	313				

Table 9b: Individual Contribution of the Demographic Variables on Purchase Intention (N=313)

Model	Un-standardised Coefficients		Standardised Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	16.005	1.122		14.266	0.000
Monthly Upkeep	0.834	0.305	0.189	2.735	0.007
Sex	-2.365	0.775	-0.168	-3.053	0.002
Age	-0.046	0.337	-0.009	-0.136	0.892

Table 9a presents the multiple linear regression analysis of the relationships between the demographic variables and the purchase intention of postgraduate students. Sex was re-coded as 1 and 0 before it was included in the multiple regression analysis. Table 9a shows that there is a joint significant influence of the independent variables on purchase intention ($p = 0.000$). This is also the same for both UNILAG and LASU. However, for postgraduate students of PAU, there is no significant relationship between demographic variables and purchase intention. Hence, the null hypothesis is rejected for UNILAG and LASU but accepted in the case of PAU.

Table 9b shows that monthly upkeep ($\beta = 0.189$, $t = 2.735$, $p = 0.007$) and sex ($\beta = -0.168$, $t = -3.053$, $p = 0.002$) had significant influences on purchase intention, while age as at last birthday did not. This is probably because many of the respondents were within the same age range.

H₀₃: There is no significant influence of customers' purchase intention on the customer's purchase decision.

Tables 10a and 10b present the linear regression analysis of the influence of customers' purchase intention on the customers' purchase decision.

Model	R	R ²	Adjusted square	R	F	P value (sig)
All	0.685 ^a	0.469	0.467		16.590	.000
UNILAG	0.621 ^a	0.385	0.381		93.325	.000 ^b
LASU	0.590 ^a	0.349	0.342		55.142	.000 ^b
PAU	0.787 ^a	0.620	0.613		91.274	.000 ^b
Model	Sum of Squares	DF	Mean Square	F	P value (sig)	
Regression	1627.278	1	1627.278	219.627	.000 ^b	
Residual	2311.693	312	7.409			
Total	15653.949	313				

Model	Un-standardised Coefficients		Standardised Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	2.635	0.602		4.375	0.000
Purchase Decision	0.298	0.031	0.615	9.477	0.000

Table 10a shows that there is a significant influence of the purchase intention ($p = 0.000$) on the purchase decision. The result in Table 10b shows that there is a significant influence of the purchase intention on the purchase decision of postgraduate students ($\beta = 0.615$, $t = 9.477$, $p = 0.000$).

5. DISCUSSION OF FINDINGS

The findings of this study indicate that most of the respondents have developed excellent social media product purchase practices through WhatsApp. This corroborates the findings by Kotler and Keller (2018) that advertising ensures convictions that will assist in the final purchases of products and services. The implication is that social media has a great impact on the purchase decisions of online consumers. Prasad, Gupta, and Totala (2017) also corroborate this study's findings outlining social media's great influence on purchase decisions. A salient part of this study's findings shows that respondents rely on suggestions and information from other customers whenever they want to purchase products and services on WhatsApp. This is an effect of social interaction on purchase decisions and supports Wang, Yan & Chen's (2019) assertion that informational social influence saves search costs, makes them feel they belong; and this helps them to rationalise their purchase decisions.

Social media network users who interact with people who make purchases via WhatsApp have significant influence over their purchasing decisions as validated by Hasan & Sohail (2021). This study asserts that social media users make WhatsApp their purchase preference over the physical store as corroborated by Aparicio, Costa, & Moises (2021). The results of this study also indicate that there is a joint significant influence of the independent variables (social media commitment, normative social influence, informational social influence, social interaction ties and trust in online vendors) on customers' purchase intention in line with Kwahk & Kim (2017).

This study shows that trust in online vendors has the highest significant influence on the purchase intention of products advertised on WhatsApp. This corroborates the findings of Nugroho & Wuisan (2022) and Ogunsola & Adetunji (2020) that trust in online vendors influences the decision to adopt and use e-commerce. Further results from this study show that sex and monthly upkeep significantly influence the purchase intention of postgraduate students as earlier reported by Ogunsola and Adetunji (2020) whose study showed sex as a demographic variable that influences the adoption and use of e-commerce.

This study reveals a significant relationship between intention to use social media and the purchase decision of postgraduates in selected universities in Lagos, Nigeria. It agrees with the findings of Mwiti (2020) and Shubhangam, Srivastava, Ravi, & Singh (2020) on the influence of social media advertising on customers' purchase decisions. The findings suggest that respondents are committed to products advertised via WhatsApp. The implication of these for business owners is that they should explore this advantage and intensify their efforts on product advertisement on WhatsApp. According to the results, purchase intention had a significant influence on the purchase decision of postgraduate students in the three universities. These results are in line with the findings of Shubhangam, Srivastava, Ravi, & Singh (2020) on the influence of social media advertising on customers' purchase decisions. The study by Harb, Fowler, Chang, Blum & Alakaleek (2019) on social media reveals that it is a marketing tool for events.

6. CONCLUSION AND RECOMMENDATIONS

This study concludes that normative social influence, social interaction ties, as well as trust in online vendors are important variables that predict customers' purchase decisions of products and services advertised on WhatsApp. The following recommendations were made:

1. Business and enterprise owners who advertise their products and services on WhatsApp should take advantage of the three aforementioned variables as keys to customer purchase decisions.
2. Results from this study suggest that business owners who advertise their products and services online are wary of professional misconduct in dealing with WhatsApp users. Therefore, business owners and marketers should ensure the timely delivery of good products and services so that they can retain customers' trust.
3. Prospective researchers could adopt different theories or models to examine the influence of customers' purchase decisions on products advertised on social media. The study's adoption of structured open and closed-ended questionnaires for data collection may be used with in-depth interviews and focus group discussions to check for new information and results.

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