

## WEBSITE APPEARANCE AND CUSTOMER LOYALTY IN ONLINE SHOPPING IN NIGERIA: THE MODERATING ROLE OF AGE AND EDUCATION

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### Article Info

**Keyword:** Website appearance, Website design, e-service quality, online customer loyalty, online shopping, demographic variables.

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### Abstract

This study examined the role of age and education in moderating the relationship between website appearance and customer loyalty in online shopping in Nigeria. The survey research design was adopted, and purposive sampling technique was used in selecting the respondents. A structured questionnaire was used in collecting primary data from members of the population who engaged in online shopping in the last one year. The questionnaire was administered online, and 353 online shoppers supplied useful data for analysis. Data analysis was performed using descriptive and inferential statistics. Specifically, hierarchical regression was used to test the hypotheses at 0.05 level of significance. Findings revealed that age and education significantly moderated the relationship between website appearance and customer loyalty. Based on the findings, it was concluded that taking into consideration, the age and education level of online shoppers, while focusing on designing a good website, can enhance customer loyalty in the Nigerian online retail market. Therefore, it was recommended that Nigerian online businesses should consider the age and education level of their customers while designing their website, because, how appealing the site appears, depends on the age and education level of the users.

## INTRODUCTION

### Background to the Study

Nigeria has one of the most vibrant online markets in the world. According to ecommerceDB, Nigeria emerged as the 39<sup>th</sup> largest online market in the world, ahead of Israel (ecommerceDB,2022). Nigeria's business-to-customer (B2C) e-commerce market is anticipated to increase annually by 12.96% to reach US\$13.1 billion in

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2023. The B2C e-commerce industry in Nigeria has the potential for lucrative medium- to long-term growth. By 2027, the nation's B2C Ecommerce Gross Merchandise Value, which was US\$11.6 billion in 2022, will be US\$18.7 billion in 2024 (Yahoo Finance,2023).

Within the Nigerian B2C eCommerce market, the largest market and source of 39.3% of all eCommerce sales is electronics and media. Following it are Fashion (22.3%), Furniture & Appliances (15.7%), Food & Personal Care (12.7%), and Toys, Hobby & DIY (10.1%) (e-commerceDB,2022).

There is no denying that e-commerce in Nigeria is expanding. Many people are now buying online. Since e-commerce sites like Jumia and Konga offer convenience, availability, and lower costs, consumers are now more at ease with the idea of buying online. In the years to come, it is anticipated that the e-commerce business will continue to develop significantly as the trend does not appear to slow down.

Despite the growth of e-commerce and online shopping in Nigeria, there are still some challenges. One of the main challenges in online shopping is the difficulty in achieving customer loyalty. A key strategy to gain the loyalty of customers and thrive in the highly competitive online environment is that which focuses on service quality (Rita et al., 2019). Service quality is defined as a service that satisfies customers' needs and fulfills their expectations (Sadaf & Rahela,2019). An online firm must deliver superior service experience to its customers to win their loyalty (Gournaris, Dimitriadis & Stathakopoulos, 2010).

One of the most important e-service dimensions in an online marketplace is the website appearance, which simply has to do with how the website looks in terms of the design. Understanding the connection between website appearance and customer loyalty in online shopping in Nigeria will help Nigerian online retailers design their websites in a way that will deliver the highest level of service quality to their customers in order to win their repeat purchases and loyalty. This will no doubt increase the profitability of these firms and consequently enhance the growth of the relatively young Nigerian online market. Therefore, this study aims to examine the effect of website appearance on customer loyalty in online shopping in Nigeria, through the moderation of demographic variables of age and education. This is because online buying behavior varies with age, education, and other demographic factors (Kotler & Keller,2009).

### **Objective of the study**

The objective of this study was to examine the role of age and education in moderating the relationship between website appearance and customer loyalty in online shopping in Nigeria.

### **Research Hypothesis**

H<sub>0</sub>: Age and education do not significantly moderate the influence of website appearance on customer loyalty in online shopping in Nigeria.

## **LITERATURE REVIEW**

### **Conceptual Review:**

#### **Website Appearance**

According to Poon and Lee (2012), website appearance refers to how the site looks and encompasses the aesthetics, information architecture, colour, animation, pictures, content, visual design, format, and sound. According to Taherikia & Shamsi (2014), every information on a website should be conveyed in plain English to ensure that most users can understand it. To attract customers, the user interface, according to Lee & Lin (2005), should be neat and appealing. Studies (Paulo, Tiago & Almira,2019; Khushdil,2018; Cox & Dale, 2001) have revealed that website aesthetics significantly influence how users assess the e-service quality of a business. Customers who shop online first access a business organization through its website. How a company's website

appears can affect how customers view the company and can entice customers to use online services. Thus, websites should be professionally designed to appeal to customers.

### **Customer Loyalty**

According to Godwin, Udo, & Bagchi (2010), customer loyalty is the behavior that expresses the connection between the customer and the business. It entails the behavior of the customer in relation to making repeated or frequent purchases and praising the business to others is considered a measure of loyalty (Rabinovich & Bailey, 2004).

Understanding a customer's level of loyalty is advantageous for both the business and the customer. According to Rabinovich & Bailey (2004), loyal customers are willing to purchase from businesses that provide the best value relative to their rivals. Over time, loyal customers will typically purchase more goods and be less demanding of the business. If there are few mistakes, loyal customers will likely ignore them; they will not mind if product prices go up and will spread positive word of mouth about the business and its offerings. Consequently, loyal customers constitute the foundation for long-term success and growth of the business.

Customer loyalty is a natural outcome of providing high-quality service (Zeithaml, 2000). It significantly affects a company's market share and profit margins (Rabinovich & Bailey, 2004). Customer loyalty is the behaviour that follows a transaction and is linked to the perception of the quality received, the service experienced, and the level of satisfaction derived (Godwin et al. 2010; Chang et al. 2009). Numerous studies have examined the impact of service quality on specific behavioural intentions, such as consumer willingness to recommend the business, willingness to pay a higher price to the business, and repurchase intentions (Rabinovich & Bailey, 2004; Sigala, 2009). Summarily, it is important to further examine e-service determinants that influence customer loyalty.

### **Age**

Age is an important demographic variable in marketing. This is because customer requirements and desires change as people age (Kotler and Armstrong, 2005). Different age groups consume different goods. Similarly, people in the same age group tend to have similar needs for purchases. For instance, infants require diapers, whereas seniors frequently require medications and health care supplies. Using the internet is an exciting activity that might not appeal to or pique the interest of different age groups to the same extent. In order to properly analyze internet purchasing in Nigeria, it is important to take age into account.

### **Education**

Education affects almost all aspects of life. Educated people typically have more knowledge than those without education. Online shopping is not for illiterates because using the internet and internet-connected devices requires a certain level of education. A study by Ifeanichukwu (2016) concluded that there is a favourable association between education and online shopping. People with a higher level of education are more likely to engage in online shopping than those with a lower educational level (Baldevbhai, 2015).

### **Conceptual Model**

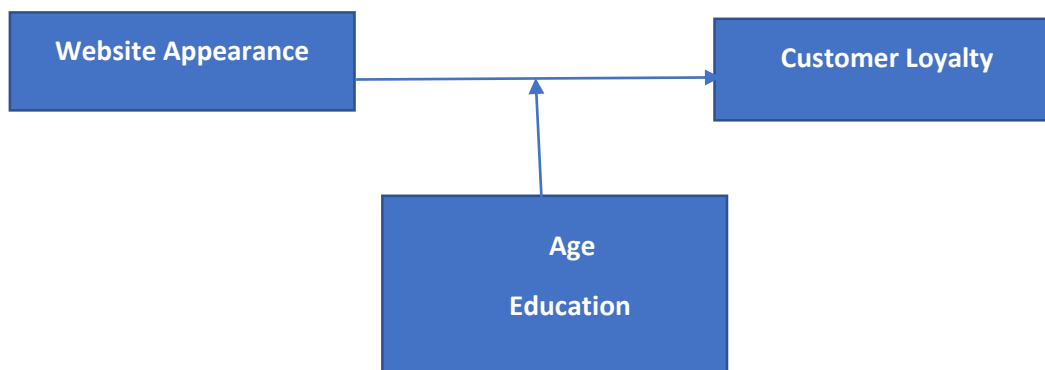


Fig. 1: Conceptual model of the moderating role of age and education in the relationship between website appearance and customer loyalty

### **Theoretical framework:**

#### **Social Identity Theory (Henri Tajfel and John Turner, 1970s.)**

Social Identity Theory (SIT) was developed by Henri Tajfel and John Turner in the 1970s. This theory explores the psychological processes that underlie the formation of social identity and subsequent intergroup behavior. At its core, SIT posits that individuals categorize themselves and others into social groups, deriving a sense of self and self-esteem from these group memberships.

In the context of e-service quality and customer loyalty in the online market, social identity theory plays a crucial role. SIT suggests that customers may develop a social identity with an online platform or brand. This social identity is constructed through shared experiences, values, and affiliations with the online community.

Regarding e-service quality, SIT emphasizes that the perceived quality of online services contributes to the formation and reinforcement of social identity. Positive experiences with the online platform or brand strengthen the customer's identification with that particular group, fostering a sense of belonging and attachment.

Moreover, in terms of customer loyalty, SIT suggests that individuals are more likely to exhibit loyalty to groups with which they identify. Therefore, the positive relationship between E-service quality and customer loyalty in the online market can be explained by customers' social identification with a particular online service provider. High-quality e-services contribute to a positive social identity, leading to increased customer loyalty as individuals preferentially support and engage with the in-group (the online service provider) over out-groups.

In summary, social identity theory provides insights into the social dynamics that influence customer behavior in the online market. It underscores the importance of creating a positive social identity through high-quality e-services to enhance customer loyalty by fostering a strong sense of belonging and affiliation with the online brand or platform.

#### **Expectation Confirmation Model (Oliver, 1980)**

The Expectation Confirmation Model (ECM) was introduced by Oliver in 1980. This model delves into the dynamics of post-purchase customer satisfaction and loyalty. According to ECM, customer satisfaction is influenced by the confirmation or disconfirmation of a customer's initial expectations regarding a product or service.

In the realm of e-service quality and customer loyalty in the online market, ECM is particularly relevant. It posits that if customers' expectations related to the quality of online services are met or exceeded, it leads to a positive confirmation, enhancing customer satisfaction. This positive confirmation is crucial for establishing customer loyalty in the online environment.

For e-service quality, ECM emphasizes the importance of aligning the delivered service with customer expectations. Meeting or surpassing these expectations contributes to positive confirmation, thereby fostering satisfaction and potentially building long-term customer loyalty. In essence, ECM provides a framework to understand and manage the customer experience in online markets, emphasizing the significance of meeting or exceeding expectations for the establishment and maintenance of customer loyalty in the digital realm.

### **Review of empirical studies**

Brown and Martinez (2022): "Exploring the Impact of Website Design on Customer Loyalty in E-commerce: A Case Study of Spanish Online Retailers." This study investigated the relationship between website appearance and customer loyalty among Spanish online shoppers. Through a comprehensive analysis of website design

elements and customer loyalty metrics, the findings underscored the significant influence of website aesthetics on fostering customer loyalty in the e-commerce domain. However, a notable gap exists in the literature concerning the nuanced interplay between specific design features and their respective effects on different segments of online shoppers.

Garcia et al. (2023): "Assessing Website Visual Appeal and Its Impact on Customer Loyalty: A Study of Brazilian Online Shopping Platforms." This empirical investigation examined the role of website visual appeal in shaping customer loyalty within the Brazilian online shopping landscape. By employing user surveys and statistical analyses, the research revealed a noteworthy association between website aesthetics and enhanced customer loyalty, emphasizing the pivotal role of visual appeal in e-commerce contexts. Nonetheless, there remains a need for further exploration into the cultural and socioeconomic factors that may shape consumers' perceptions of website aesthetics and their subsequent loyalty behaviors.

Patel and Nguyen (2024): "Examining the Relationship between Website Interface Design and Customer Loyalty in Vietnamese E-commerce: An Empirical Analysis." This study scrutinized the link between website interface design and customer loyalty in the Vietnamese e-commerce sector. Through a combination of user feedback and quantitative assessments, this study elucidated the positive correlation between effective website interface design and heightened levels of customer loyalty, offering insights for e-commerce practitioners seeking to optimize user experience. However, a research gap persists in understanding the specific design elements that resonate most strongly with Vietnamese consumers, thereby influencing their loyalty preferences and behaviors.

Khan and Lee (2023): "The Impact of Website Navigation Structure on Customer Loyalty in South Korean Online Retail: A Quantitative Study." To investigate the influence of website navigation structure on customer loyalty, this study focused on the South Korean online retail environment. Using data analytics and user surveys, this study demonstrated the significance of intuitive website navigation in bolstering customer loyalty, underscoring the importance of user-friendly interfaces in driving repeat purchases and sustained engagement. Nevertheless, there remains a gap in understanding how cultural nuances and technological preferences may shape users' navigation patterns and loyalty tendencies in diverse market contexts.

Wang and Chen (2024): "Enhancing Website Usability and Customer Loyalty in the Taiwanese E-commerce Market: A Mixed-Method Approach." This empirical inquiry explored strategies for enhancing website usability to foster customer loyalty within the Taiwanese e-commerce landscape. By integrating quantitative usability metrics with qualitative user feedback, the study identified key usability enhancements that positively impacted customer loyalty, providing actionable insights for e-commerce platforms seeking to optimize user experience. However, a gap persists in exploring the evolving role of emerging technologies, such as augmented reality and voice interfaces, in reshaping user interactions and loyalty dynamics within e-commerce platforms.

Lopez and Kim (2023): "Investigating the Influence of Website Loading Speed on Customer Loyalty in Mexican Online Retail: A Longitudinal Analysis." To examine the impact of website loading speed on customer loyalty, this longitudinal study analyzed data from Mexican online retail platforms. Through performance testing and customer behavior analysis, the study revealed a significant correlation between faster website loading times and increased customer loyalty, highlighting the importance of optimizing website performance for enhanced user satisfaction and loyalty. However, further research is required to explore the scalability of performance optimization strategies across different e-commerce platforms and infrastructure environments.

Chen et al. (2024): "Understanding the role of website personalization in driving customer loyalty: Insights from the Chinese e-commerce industry". This study delved into the role of website personalization in driving customer loyalty within the Chinese e-commerce sector. Through a combination of data analytics and user surveys, this



study uncovered the positive impact of personalized user experiences on customer loyalty, offering practical implications for e-commerce platforms aiming to tailor their offerings to individual user preferences. Nonetheless, a gap exists in understanding the ethical implications and privacy concerns associated with data-driven personalization strategies, which warrants further exploration in future research endeavors.

Nguyen and Park (2023): "Exploring the Influence of Website Security Features on Customer Loyalty in Vietnamese Online Retail: A Cross-Sectional Study." This cross-sectional study investigated the influence of website security features on customer loyalty within the Vietnamese online retail landscape. By analyzing user perceptions and security metrics, the study highlighted the pivotal role of robust security measures in fostering trust and confidence among online shoppers, ultimately contributing to enhanced customer loyalty. However, there remains a gap in understanding how emerging security threats and vulnerabilities may impact users' trust perceptions and subsequent loyalty decisions in an evolving online security landscape.

Rodriguez and Wu (2023): "Assessing the Influence of Website Content Quality on Customer Loyalty in the Colombian E-commerce Sector: An Empirical Analysis." This empirical analysis explored the influence of website content quality on customer loyalty within the Colombian e-commerce sector. Through content analysis and user feedback, this study identified key content attributes that positively impacted customer loyalty, shedding light on effective content strategies for engaging and retaining online customers. However, a gap exists in understanding the dynamic nature of content consumption patterns and the evolving preferences of Colombian online shoppers, necessitating further exploration in future studies.

Martinez and Tan (2024): "Understanding the relationship between website trustworthiness and customer loyalty: Evidence from Singaporean e-commerce platforms". To investigate the relationship between website trustworthiness and customer loyalty, this study focused on Singaporean e-commerce platforms. By leveraging user feedback and trust indicators, this research unveiled the critical role of trust-building mechanisms in fostering customer loyalty, providing valuable insights for e-commerce practitioners aiming to establish credibility and reliability among online shoppers. However, a gap exists in understanding the contextual factors that may influence users' trust perceptions and loyalty behaviors across different demographic segments and industry verticals in Singapore.

Kim et al. (2023): "Analyzing the Impact of Website Interactivity on Customer Loyalty in the South Korean Online Retail Landscape." This empirical analysis examined the impact of website interactivity on customer loyalty within the South Korean online retail landscape. Through user engagement metrics and behavioral analysis, this study elucidated the positive correlation between interactive website features and enhanced customer loyalty, highlighting the importance of dynamic and engaging user experiences in driving repeat purchases and brand advocacy. Nevertheless, further research is warranted to explore the optimal balance between interactivity and usability, considering diverse user preferences and technological capabilities.

Hernandez and Chen (2024): "The Role of Website Accessibility in Fostering Customer Loyalty: Insights from the Mexican E-commerce Market." This study investigated the role of website accessibility in fostering customer loyalty within the Mexican e-commerce market. By assessing accessibility standards and user experiences, this study identified accessibility barriers that hindered customer loyalty and proposed strategies for enhancing website accessibility to better serve diverse user demographics and preferences. However, a gap exists in understanding the intersectionality of accessibility challenges with socioeconomic disparities and digital inclusion efforts, which warrants further investigation in future research endeavors.

Nguyen and Singh (2023): "Examining the Impact of Website Search Functionality on Customer Loyalty: A Study of Malaysian Online Retailers." This empirical study examined the impact of website search functionality

on customer loyalty among Malaysian online retailers. Through usability testing and user surveys, the research revealed the pivotal role of efficient search functionality in facilitating user navigation and product discovery, ultimately contributing to heightened levels of customer loyalty and satisfaction. Nonetheless, a gap exists in understanding the underlying cognitive processes and decision-making mechanisms that influence users' search behavior and subsequent loyalty tendencies in e-commerce contexts.

Patel et al. (2024): "Investigating the Influence of Website Aesthetics on Customer Loyalty in Indian E-commerce: A Longitudinal Study." This longitudinal study investigated the influence of website aesthetics on customer loyalty within the Indian e-commerce sector. By analyzing design elements and user perceptions over time, the research provided insights into the evolving preferences of Indian online shoppers and underscored the importance of visually appealing interfaces in driving sustained engagement and loyalty. However, a gap persists in understanding the cultural nuances and regional variations that may shape users' aesthetic preferences and loyalty behaviors across diverse market segments in India.

Garcia and Kim (2023): "Assessing the Impact of Website Responsiveness on Customer Loyalty: A Comparative Analysis of Spanish and South Korean Online Retailers." This comparative analysis examined the impact of website responsiveness on customer loyalty across Spanish and South Korean online retailers. Through performance testing and user feedback, the research identified cross-cultural differences in user expectations and highlighted the universal importance of responsive design in enhancing user experience and fostering customer loyalty. Nonetheless, a gap exists in understanding how cultural factors may influence users' perceptions of website responsiveness and their subsequent loyalty behaviors in global e-commerce contexts.

Wang and Tan (2024): "Exploring the Influence of Website Localization on Customer Loyalty in the Indonesian E-commerce Market." This empirical study explored the influence of website localization on customer loyalty within the Indonesian e-commerce market. By analyzing language preferences and cultural nuances, the research revealed the importance of localized content and user experiences in resonating with Indonesian consumers and fostering long-term loyalty to e-commerce platforms. However, a gap exists in understanding the scalability of localization strategies and their effectiveness in addressing diverse user needs and preferences across different regions of Indonesia.

Chen et al. (2023): "Understanding the Role of Website Navigation Design in Driving Customer Loyalty: Insights from the Taiwanese E-commerce Industry." This study investigated the role of website navigation design in driving customer loyalty within the Taiwanese e-commerce industry. Through usability testing and user surveys, the study highlighted the significance of intuitive navigation structures in facilitating user engagement and enhancing overall user experience, thereby fostering greater levels of customer loyalty and satisfaction. However, a gap exists in understanding the long-term effects of navigation design choices on user engagement and loyalty, particularly in the context of evolving user expectations and technological advancements.

Nguyen and Garcia (2024): "Analyzing the Impact of Website Performance on Customer Loyalty in Vietnamese E-commerce: A Longitudinal Perspective." This longitudinal study analyzed the impact of website performance on customer loyalty within the Vietnamese e-commerce landscape. By tracking performance metrics and user behavior over time, this study identified the critical role of website speed, reliability, and stability in shaping user perceptions and fostering long-term loyalty among Vietnamese online shoppers. Nevertheless, a gap persists in understanding the scalability of performance optimization strategies and their applicability across different e-commerce platforms and industry verticals in Vietnam.

Kim and Hernandez (2023): "Examining the Relationship between Website Trust Signals and Customer Loyalty: Evidence from the Mexican E-commerce Sector." This empirical investigation examined the relationship between

website trust signals and customer loyalty within the Mexican e-commerce sector. By analyzing trust indicators and user perceptions, this study elucidated the pivotal role of trust-building mechanisms in establishing credibility and fostering long-term loyalty among Mexican online shoppers, highlighting the importance of transparency and security in e-commerce transactions. However, a gap exists in understanding the interplay between trust signals and user experiences across different stages of the customer journey, necessitating further exploration in future research endeavors.

## **METHODOLOGY**

### **Research Design**

The survey research design was adopted to examine the relationship between website appearance and customer loyalty in the Nigerian online market, as moderated by age and education. This design allows for the use of a questionnaire to collect data from participants at a point in time to draw inferences about the population of interest.

### **Population of the study**

The target population for this study comprised residents of Nigeria who shopped from any Nigerian online store such as Konga, Jumia, and OLX in the last one year. However, this population is infinite as we cannot know the exact number of online shoppers in Nigeria who meet the stated criteria.

### **Determination of the sample size**

Since the population is infinite, the sample size was determined using the Cochran (1963) formula for an infinite population, as shown below:

$$n_o = Z^2 pq / e^2$$

where:

$n_o$  = sample size

$Z$  = selected critical value of the desired confidence level

$P$  = estimated proportion of an attribute present in the population

$q = 1-p$

$e$  = desired level of precision

Assume  $p=0.5$ (maximum variability), and we desire 95% confidence level and  $\pm 5\%$  precision, then  $Z= 1.96$ . Thus,

$$n_o = (1.96)^2 (0.5) (0.5) / (0.05)^2$$

$$= (3.8416) (0.25) / 0.0025$$

$$= 0.9604 / 0.0025 = 384.16$$

$$n_o = 384$$

### **Sampling Technique**

Following the fact that the population is not known, the non-probability sampling technique was used. Specifically, purposive sampling technique was employed to select the respondents. Purposive sampling involves the judgmental selection of respondents by the researcher, based on the consideration that the respondents are reliable and competent to provide the required information. This technique allowed members of the population that were considered sufficiently qualified to participate in the study. The researcher had to ensure that each participant had shopped in a domestic online store in Nigeria in the last one year. Thus, before a participant was selected, the researcher must have had a discussion (online or offline) with the person and probed to know if the person is fit enough to partake in the study.



### Method of Data Collection

This research aimed to determine the moderating role of age and education in the relationship between website appearance and customer loyalty. To measure the said relationship, a survey was conducted to collect primary data purposively from online shoppers in Nigeria who have shopped from domestic online stores in the last one year. Data were collected online through the use of a structured questionnaire. The questionnaire entitled, online shopping questionnaire, was distributed online through social media (Whatsapp and Facebook) to the respondents, who were chatted with and adjudged qualified to participate in the study.

### Method of Data Analysis

Data were analyzed using descriptive and inferential statistics. Descriptive statistics (frequency count and simple percentages) were used on the demographic and behavioural data, as well as on responses to Likert scale items, while inferential statistics (hierarchical regression) were used to examine the interaction between the variables.

## DATA ANALYSIS, RESULTS, AND DISCUSSION OF FINDINGS

### Response rate

The questionnaire was administered online. The targeted number of respondents was 384, however, useful responses were submitted by 353 respondents, giving a response rate of 91.9%. A response rate of 70%, according to Baruch & Holtom (2008), is considered sufficient to draw inferences on the relationship between the variables of interest.

### Respondents' demographic data

This section presents the demographic data captured in the questionnaire, which include the gender, age, education, and income of the respondents. However, only age and education were used to moderate the relationship between the dependent and independent variables

**Table1: Demographic profile of respondents**

Demographic Characteristics	Frequency	Percentage
<b>Gender:</b>		
Male	171	48.4
Female	182	51.6
<b>Total</b>	<b>353</b>	<b>100</b>
<b>Age:</b>		
16- 25	99	28.0
26- 35	194	55.0
36- 45	45	12.7
46 and above	15	4.3
<b>Total</b>	<b>353</b>	<b>100</b>
<b>Education:</b>		
Primary education	2	0.6
Secondary education	70	19.8
Tertiary education	281	79.6
<b>Total</b>	<b>353</b>	<b>100</b>
<b>Income:</b>		
Below N30,000	49	13.9
N30,000 – N50,000	99	28.0
N51,000 – N100,000	180	51.0
N101,000 – N200,000	16	4.5
Above N200,000	9	2.6
<b>Total</b>	<b>353</b>	<b>100</b>

**Source:** Field Survey, 2024

Table 1 shows the demographic characteristics of the respondents. With respect to the gender of respondents, the table indicates that 171 (48.4%) of the respondents were male, while 182 (51.6%) were female. This means that female respondents were more than male by just 3.2%. Thus, gender is reasonably balanced. The table also shows how the respondents were categorized with respect to age. Those between the ages of 16-25 years were 99 (28.0%), 194 (55.0%) were between the ages of 26–35 years, 45(12.7%) were between the ages of 36-45 years, and those that were 46 years and above were 15(4.2%). Therefore, most of the respondents were people aged 35 years and below. Specifically, young people aged 26–35 years were the majority of online shoppers captured. At this age, many of them should be gainfully employed with a reasonable income. With respect to the educational level of respondents, the table shows that those with primary education were 2 (0.6%), those who had secondary education were 70 (19.8%), and 281 (79.6%) were those who had obtained tertiary education. Clearly, most respondents had tertiary education, indicating that online shoppers are well educated. With respect to income, the table indicates that respondents whose monthly income is less than N30,000 were 49 (12.95%), those with income within the range of N30,000 – N50,000 were 99 (28%), those whose monthly income is between N51,000 and N100,000 were 180 (51%), those with income between N101,000 and 200,000 were 16 (4.5%), and those with income above N200,000 were 9 (2.5%).

### Test of the Hypothesis

**H<sub>06</sub>:** Age and education do not significantly moderate the influence of website appearance on customer loyalty in online shopping in Nigeria.

**Table2: Model summary of hierarchical regression analysis of age and education in moderating the influence of website appearance on customer loyalty in online shopping in Nigeria**

Model Summary <sup>d</sup>									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.615 <sup>a</sup>	.378	.376	.46498	.378	212.997	1	351	.000
2	.625 <sup>b</sup>	.390	.387	.46562	.385	215.029	1	350	.000
3	.650 <sup>c</sup>	.423	.401	.46548	.397	221.210	1	349	.000
a. Predictors: (Constant), website appearance									
b. Predictors: (Constant), website appearance, age									
c. Predictors: (Constant), website appearance, age, and education									
d. Dependent variable: customer loyalty									

**Source: Field Survey, 2024 (SPSS Version 22 computation)**

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	46.051	1	46.051	212.997	.000 <sup>b</sup>
	Residual	75.888	351	.216		
	Total	121.939	352			
2	Regression	96.057	2	48.029	216.218	.000 <sup>c</sup>
	Residual	75.882	350	.217		
	Total	171.939	352			
3	Regression	146.319	3	48.668	219.258	.000 <sup>d</sup>
	Residual	75.620	349	.217		
	Total	221.939	352			

a. Dependent variable: customer loyalty
b. Predictors: (Constant), website appearance
c. Predictors: (Constant), website appearance, age
d. Predictors: (Constant), website appearance, age, and education

Coefficients <sup>a</sup>											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.187	.203		5.860	.000					
	websiteappearance	.693	.047	.615	14.594	.000	.615	.615	.615	1.000	1.000
2	(Constant)	1.193	.206		5.791	.000					
	websiteappearance	.694	.048	.622	14.460	.000	.615	.612	.610	.981	1.019
	Age	.156	.033	.272	4.693	.000	.577	.290	.271	.981	1.019
3	(Constant)	1.361	.257		5.307	.000					
	websiteappearance	.695	.048	.627	14.493	.000	.615	.613	.611	.980	1.020
	age	.160	.033	.283	4.848	.000	.577	-.298	.325	.974	1.026
	education	.348	.109	.247	3.193	.000	.519	.259	.346	.991	1.009

a. Dependent variable: customer loyalty

Source: Field Survey, 2024 (SPSS Version 22 computation)

Excluded Variables <sup>a</sup>							
Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics	
						Tolerance	VIF
1	age	-.272 <sup>b</sup>	-4.893	.000	-.614	.981	1.019
	education	-.247 <sup>b</sup>	-3.193	.000	-.259	.998	1.002
2	education	-.466 <sup>c</sup>	-3.193	.000	-.259	.991	1.009

a. Dependent variable: customer loyalty

b. Predictors in the Model: (Constant), website appearance

c. Predictors in the Model: (Constant), website appearance, age

Source: Field Survey, 2024 (SPSS Version 22 computation)

The results of the hierarchical regression are presented in table2. In model 1 (model summary), the revealed that, when website appearance and customer loyalty among online shoppers in Nigeria are regressed against each other in the equation model, the result obtained was ( $R = 0.615$ ,  $R^2 = 0.378$ , Adjusted  $R^2 = 0.376$ ,  $p = 0.000$  less than  $0.05$ ,  $R^2\Delta = 0.378$ ). As shown in the results, website appearance accounts for 37.6% variation in customer loyalty among online shoppers in Nigeria. This implies that website appearance has a tangible relationship with customer loyalty among Nigerian online shoppers. The variable coefficient in Model 1 of website appearance shows ( $\beta = 0.615$ ,  $p = 0.000$  less than  $0.05$ ). The coefficient of website appearance of 0.615 indicates that a unit increase in website appearance, holding other variables constant, leads to 0.615 unit increase in customer loyalty among online shoppers in Nigeria. The overall result in model one (1) (Anova Table) was statistically significant with an F- value of 212.997 and a p-value of 0.000

When age was introduced as the first moderator in the second model, the result of the 2<sup>nd</sup> model statistically increased as follows:  $R = 0.625$ ,  $R^2 = 0.390$ , Adjusted  $R^2 = 0.387$ ,  $p = 0.000 < .05$ ,  $R^2\Delta = 0.385$ . This shows that the introduction of age into the model as a moderating variable and website appearance jointly account for 39.0% variation in customer loyalty among online shoppers in Nigeria, as opposed to 37.8% explained by website appearance alone. From the result, there is a significant and positive change when age is introduced as a moderating variable in the equation. This signifies that age moderates the effect of website appearance on customer loyalty among Nigerian online shoppers.

When the second moderator (education) was introduced into the equation in 3<sup>rd</sup> model, the result was significant as follows ( $R = 0.650$ ,  $R^2 = 0.423$ , Adjusted  $R^2 = 0.401$ ,  $p = 0.000 < .05$ ,  $R^2\Delta = 0.397$ ). This implies that the introduction of education and age as moderating variables and website appearance explained 42.3% of the change in customer loyalty among online shoppers in Nigeria, as opposed to 37.6% and 38.7% explained by website appearance and age, respectively. The  $R^2$  disparity is high, and the result implies that; the introduction of age and education strongly moderates the effect of website appearance on customer loyalty among online shoppers in Nigeria. An F-value of 221.210 at a probability value of 0.000 was observed from the regression analysis. This implies that; website appearance as the independent variable and the moderators (age and education) were statistically significant in the model. Thus, the introduction of age and education as moderating variables significantly increased the effect of website appearance on customer loyalty among online shoppers in Nigeria from 0.615 to 0.627 units. The overall result in model 3 (Anova Table) was statistically significant with an F-value of 221.210 and a p-value of 0.000. The regression equation from the result is as follows:

$$CL = 1.361 + 0.695WEP + 0.160AG + 0.348EDU + ei \dots \dots \dots 4.6$$

where CL = Customer loyalty

WEP = Website appearance

AG = Age

EDU = Education

Therefore, the result signifies that age and education have a statistically significant effect on the relationship between website appearance and customer loyalty in online shopping in Nigeria. Thus, the null hypothesis was rejected in favour of an alternative hypothesis, which states that age and education significantly moderate the influence of website appearance on customer loyalty in online shopping in Nigeria.

### **Discussion of the Findings**

Objective: To examine the effect of website appearance on customer loyalty in online shopping in Nigeria, moderated by age and education.

A hypothesis was developed to achieve this objective. The hypothesis stated that age and education do not significantly moderate the influence of website appearance on customer loyalty in online shopping in Nigeria. The result of hierarchical regression invalidated this hypothesis as it revealed that age and education significantly moderate the influence of website appearance on customer loyalty in online shopping in Nigeria. The results also revealed that website appearance has a significant influence on customer loyalty.

This implies that online shoppers are influenced to stay with a particular online vendor simply through the design of the website. The website should convey information in plain English, and should be visually appealing. It should provide adequate information and display visually \_pleasing, easy-to-read contents as well as a wide variety of products with proper description. Apart from this, the age and education level of online shoppers should be given due attention as it can improve the effect of website appearance on customer loyalty.

This result is supported by Oladele & Ojo (2023), who investigated the effect of website design on customer loyalty in e-commerce in Nigeria, and found a significant positive association between website design and customer loyalty. The result is also supported by Abiola & Bello (2023). These scholars examined the moderating effect of age on the link between e-service quality and customer satisfaction among Nigerian online shoppers. The results revealed that age moderates this relationship. The findings of Akbar (2013) also support this result. Akbar examined the effect of sociodemographic factors on the relationship between service quality and customer loyalty. The results revealed that demographic variables such as gender, age, marital status, and education are significant moderators of the relationship between service quality and customer loyalty.

## **SUMMARY, CONCLUSION, AND RECOMMENDATIONS**

### **Summary**

This study examined the role of age and education in moderating the relationship between website appearance and customer loyalty in the Nigerian online shopping business. The review of literature relevant to the study was conducted to cover conceptual review, theoretical framework, and review of empirical studies. Thus, the relevant concepts surrounding the study were reviewed. The survey research design was adopted for the study, which allowed the use of a questionnaire to collect data from the participants. The target population of the study comprised residents of Nigeria who had shopped from any Nigerian online store such as Jumia, Konga, etc. in the last one year. The administration of the questionnaire was done online, and 353 respondents submitted useful data for analysis. Descriptive and inferential statistics were used to analyze the data. Specifically, hierarchical regression was used to test the hypotheses to understand the connection between the variables. The study hypothesis stated that age and education do not significantly moderate the influence of website appearance on customer loyalty in Nigeria. The hypothesis was rejected on the basis of the hierarchical regression result. The results showed that age and education significantly moderated the influence of website appearance on customer loyalty in Nigerian online shopping.

### **Conclusion**

It was concluded that taking into consideration the age and education level of online shoppers, while focusing on designing a good website, can enhance customer loyalty in the Nigerian online retail market.

### **Recommendation**

Nigerian online businesses should consider the age and education level of their customers while designing their website, because how appealing the site appears depends on the age and education level of the users.

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