Influence of Cybercrime on Consumers' Usage of Jiji Nigeria E-Commerce Store

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Abstract

Recent achievements in electronic commerce have been hindered by a lack of trust among online consumers due to rising cyber-criminal activities. Nigeria has been particularly affected by cybercrime issues, impacting the usage of the Jiji e-commerce store. This study aimed to investigate the impact of cybercrime on the usage of the Jiji e-commerce store. Utilizing a descriptive survey design, data was collected from 480 online shoppers in the Victoria Garden City Area of Lagos State, and both descriptive and inferential analyses were conducted. The results indicated that consumers' confidence in online transactions positively influences their usage of the Jiji e-commerce store ($\beta = 0.277$, $t = 5.256$, $R^2 = 0.131$, $p < 0.05$); and that the security concerns associated with e-commerce stores have negatively influenced the patronage level of Jiji amongst Nigerian online shoppers ($\beta = 0.290$, $t = 5.490$, $R^2 = 0.142$, $p < 0.05$). The study concluded that there is a concerning increase in cybercrime rates within Nigeria, which has significantly impacted public trust in the Nigerian e-commerce sector. Accordingly, the study recommended that the government implement comprehensive cyber laws to address the growing cybercrime trends in the country. Additionally, in order to support the advancement of the Jiji e-commerce platform, it is essential to establish stringent measures, including physical verification outlets to authenticate sellers and necessitate the submission of government-issued ID documentation and proof of address, such as bank statements, credit card statements, or utility bills. These measures are crucial for regulating sellers and ensuring the safety of buyers.

Keywords: Cybercrime, Consumers, E-commerce, Influence, Jiji, Online Shoppers

Introduction

The internet has significantly impacted the growth of electronic commerce in Nigeria over the years but amidst the highlighted successes over the years, the increasing rate of cybercrime has heightened consumers distrust in electronic commerce. Cybercrimes refer to offences that are committed against individuals or groups of individuals with a criminal motive to purposely harm the reputation of the victim or cause physical or mental harm to the victim directly or indirectly, using modern telecommunication networks such as the internet (chat rooms, emails, notice boards and groups) and mobile phones (Olumide et al., 2020). In the last few years, many criminal elements in Nigeria have utilized these modern telecommunication networks such as the internet and mobile phones to commit all forms of crimes that portray a bad image of the nation globally.

Research has shown that these crimes may threaten a nation's security and negatively impact its financial health (Olumide et al., 2020). The operating environment that aids the full utilization of e-commerce in Nigeria is prone to several challenges. For instance, there is a growing concern of identity theft that is hinged on the misuse of consumers' personal identifiable information (PII) such as full name, account numbers, credit card number, bank details, social security numbers, e-mail addresses, among others during electronic transactions (Tajpour et al., 2023). Although e-commerce is gradually gaining popularity among many Nigerians, there are pending issues of privacy concerns, security vulnerabilities, and individual choices that need to be addressed.

One of the foremost e-commerce stores in Nigeria is Jiji. It is an online marketplace that offers a platform for the exchange of goods and services ranging from used and new products such as cars, motor vehicles, electronics, clothes, accessories, and other related products with its main target audience being online shoppers

across Nigeria. The company expanded to four new geographies in 2019 which increased its monthly audience to over 8 million users following an acquisition by OLX which also increased its shopping ranking it was the first in the shopping category by Nigerian Android users in the same year according to data obtained from the company (www.jijing.com). Over the years, Jiji has amassed reviews ranging from inaccurate product descriptions, fraudulent sellers, and late product delivery amongst other positive ones which made it a suitable choice for this study.

It was therefore imperative to empirically examine the factors that account for consumers' distrust in e-commerce technologies, specifically the influence of cybercrime on consumers' perception of online shopping on one of the foremost e-commerce stores in Nigeria, Jiji with the intent to address how the increasing rate of cybercrime has shaped consumers' perception of online shopping in Nigeria as well as how the security and privacy concerns associated with online transactions affect consumers' trust level of Jiji e-commerce store.

Review of Empirical Studies

Adeta and Okeshola (2023) investigated the nature, causes and consequences of cybercrime in tertiary institutions in Zaria, Kaduna state. The study considered the socio-economic attributes of those involved in cybercrimes, the factors that are responsible for youth involvement in cybercrime and the negative impacts the menace poses to society. Respondents were selected using both probability and non-probability sampling techniques. Findings from the study showed that youths who are involved in cybercrime are smart and intelligent. The study recommended the inclusion of courses on cybercrimes, cyber management, and its prevention in academic curricula. Yaseen et al. (2022) examined how e-commerce could be facilitated in Jordan using exploratory research design. The study found that lack of government support, e-commerce legislation, functional postal services, payment systems, and adequate e-commerce awareness were vital issues that constituted barriers to e-commerce business. Apau (2019) conducted a study of the impact of cybercrime and trust on the use of e-commerce technologies. The survey research approach was adopted to draw a generalized conclusion based on the population sample. An online questionnaire was used as the primary instrument for collecting data and the respondents were workers. The study revealed that the increasing rate of cybercrime has negatively impacted consumers' trust and recommended proactive measures to minimize it.

Abubakar (2019) investigated the factors influencing consumers' trust in e-commerce adoption using a quantitative approach. He utilized a questionnaire as the research tool. The study revealed that consumers' perceived privacy, security and worthiness play a vital role in positively contributing to his/her trust in the adoption of e-commerce. Osho et al. (2016) assessed the security awareness of customers of e-commerce sites in Nigeria by identifying the factors that influence the acceptance of these platforms. Data were collected with the use of a questionnaire. Results showed that most customers are aware that their information is stored by the e-commerce sites and are concerned about the security of their data on these sites and the possibility of their information being transferred to a third party without their knowledge or permission. It was revealed that only a few respondents take time to check the security and privacy policies of the sites before making purchases. Also, only a few users are conversant with security technologies for securing e-commerce platforms. Based on these findings, the researcher suggested areas for further studies.

Methodology

The research method employed for this study was the descriptive survey design. As defined by Avedian (2014), it is a systematic method for gathering information from a sample of entities to construct quantitative descriptors of the attributes of the larger population of which the entities are members. This design provided the researcher with an avenue to cover a wide range of data and an accurate overview of the characteristics of the relevant concepts in this study.

Population
The selected study population were online shoppers in the Victoria Garden City Area of Lagos State which is a well-planned and mapped out residential and commercial scheme by the Lagos state government located along Lekki-Epe Express Way in the Eti-Osa Local Government Area of the State. The estimated population of VGC is 30,000 according to Lagos state's 2015 data. The study population is located among the commercial hubs of Lagos Metropolis and home to e-commerce giants and retail pick-up outlets. These findings informed the choice of the population as the respondents were abreast with electronic shopping In Nigeria, hence their insights were beneficial in drawing inferences for this study.

Sample Size and Sampling Technique
The sample size for this study was determined using the stratified sampling technique which allowed the researcher to divide the respondents into different sections for ease of data collection. The use of the arithmetical Taro Yamani formula was adopted to arrive at the sample size 'n' with a 5% level of significance (Asika, 2020).

$$n = \frac{N}{1 + N(e)^2}$$

Where n = The desired sample size
N= Population size
e =margin of error
1 = constant/unity

$$n = \frac{30,000}{1 + 24,600(0.05)^2}$$

$$n = \frac{30,000}{1 + 24,600(0.025)} = \frac{30,000}{1 + 61.5}$$

$$n = \frac{30,000}{62.5}$$

Therefore n = 480

The sample size of the study was 480 as ascertained from the formula used above. Furthermore, this study utilized the stratified sampling technique to divide the respondents into four age strata; 18-24 is the younger generation who buy and sell using the Jiji e-commerce platform, the 25-34 age group are more mature, the 35-44 are advanced in age and the 45 years and above are the more experienced adults.

Instrumentation
The primary instrument for data collection was a survey questionnaire. The design of the questionnaire was informed by the need to provide a frame of reference to ensure response specificity. The copies of the questionnaire were administered with the help of two research assistants who were adequately sensitized. The feedback collated was thoroughly analyzed to evaluate the influence of cybercrime on the usage of the Jiji e-commerce store and provide adequate answers to the highlighted research questions.

Method of Data Analysis
The analysis of the study data was carried out using descriptive statistics. The analysis is in two categories which are the demographic data and analysis of research questions and hypotheses. A total number of 480

copies of the questionnaire were distributed to respondents in the Victoria Garden City Area of Lagos State. Responses from the questionnaire were retrieved and validated for further analysis. The data collated from this study were processed and analyzed with the Statistical Product and Service Solutions (SPSS) 20.0 version.

Results
Data Presentation and Analysis
Four hundred and eighty (480) copies of the questionnaire were distributed to respondents in the commercial and residential areas of the selected population and validated for further analysis, making a 100 per cent response rate.

Table 1: Presentation of Demographic and Background Information

Variable		Frequency (n)	Percentage (%)
Gender	Male	257	53.5
	Female	223	46.5
	Total	**480**	**100.0**
Age	18 – 24 years	119	24.8
	25 – 34 years	134	27.9
	35 – 44 years	123	25.6
	45 years and above	104	21.7
	Total	**480**	**100.0**
Level of Education	SSCE	87	18.1
	B.Sc	255	53.1
	M.Sc	126	26.3
	Ph.D	12	2.5
	Total	**480**	**100.0**
Occupation Status	Employed	233	48.5
	Unemployed	81	16.9
	Self-employed	166	34.6
	Total	**480**	**100.0**

Source: Field Survey, 2024

Analysis from Table 1 shows the comprehensive demographic data of the study population, revealing details about their gender, age, level of education and occupation status. The data illustrates a gender distribution where both genders are well represented. The female gender constitutes 53.5% of the population, while males account for 46.5%. Invariably this means that the study's outcomes and interpretations suggest an unbiased gender insight into the study.

The age distribution among the respondents is predominantly youthful, with the 25-34 years category forming the largest segment at 27.98%. This is closely followed by the 35-44 years group, which encompasses 25.6% of the sample, indicating a significant concentration of respondents in their early to mid-thirties. The 18-24 years and 45 years and above categories constitute a fair share of 24.8% and 21.7%, respectively, reflecting a diverse but youth-centric demographic profile. A substantial majority of the respondents possess a first degree (B.Sc.), representing 53.1% of the sample, underscoring a highly educated cohort. The postgraduate (M.Sc) holders constitute 26.3%, adding to the academic diversity. Interestingly, SSCE qualifications are held by 18.1% of the respondents, while 2.5% of the respondents reported having doctorate (PhD) degrees, highlighting the advanced educational backdrop of the study population.

The occupation status reveals a dynamic workforce with 34.6% of the respondents identifying as self-employed, indicating a strong entrepreneurial spirit or freelance inclination among the participants. Employed individuals

make up 48.5%, contributing to the professional diversity of the sample. The unemployed segment, although smaller, is still significant at 16.9%, potentially pointing towards recent graduates or those in transitional career phases.

Table 2: Audience perception of increasing rate of cybercrime on the Nigerian e-commerce industry

Items	SA Freq. (%)	A Freq. (%)	D Freq. (%)	SD Freq. (%)	U Freq. (%)	Mean $\bar{x}$	Standard Deviation (SD)
The increasing rate of cybercrime has an influence on your trust level of Nigerian e-commerce stores.	166 (34.6)	189 (39.4)	47 (9.8)	41 (8.5)	37 (7.7)	3.85	0.88
The increasing rate of cybercrime makes you paranoid to transact online.	178 (37.1)	192 (40.0)	43 (9.0)	33 (6.9)	34 (7.1)	3.93	0.67
The increasing rate of cybercrime makes you reluctant to pay before delivery.	154 (32.1)	184 (38.3)	58 (12.1)	49 (10.2)	35 (7.3)	3.78	0.65
The increasing rate of cybercrime makes you reluctant to use your card details when transacting online.	172 (35.8)	190 (39.6)	43 (9.0)	35 (7.3)	40 (8.3)	3.87	0.66
The increasing rate of cybercrime makes you hesitant to recommend online stores to friends and family.	155 (32.3)	187 (39.0)	52 (10.8)	48 (10.0)	38 (7.9)	3.78	0.69
Average Overall Mean						**3.84**	**0.71**

Source: Field Survey 2024; Freq. = Frequency

Key: [SA] = Strongly Agree, [A] = Agree, [D] = Disagree, [SD] = Strongly Disagree, [U] = Undecided
[* Decision Rule: If mean is less or equal to 1.49 = Undecided, 1.5 to 2.49 = Strongly Disagree, 2.5 to 3.49 = Disagree, 3.5 to 4.49 = Agree, 4.5 to 5.0 = Strongly Agree]**

The analysis from Table 2 above shows the respondents' views on the increasing rate of cybercrime and their perception of the Nigerian e-commerce industry, it can be concluded that the increasing rate of cybercrime influence the perception of the Nigerian e-commerce industry ($\bar{x}$=3.84). The responses gathered showed that most of the respondents agreed that the increasing rate of cybercrime has an influence on their trust level of Nigerian e-commerce stores. ($\bar{x}$=3.85). Subsequently, it can be seen that most of the respondents believed that the increasing rate of cybercrime makes them paranoid to transact online ($\bar{x}$=3.93), agreed that the increasing rate of cybercrime makes them reluctant to pay before delivery ($\bar{x}$=3.78), agreed that the increasing rate of cybercrime makes them reluctant to use their card details when transacting online ($\bar{x}$=3.87), agreed that the increasing rate of cybercrime makes them hesitant to recommend online stores to friends and family ($\bar{x}$=3.78). The analysis clearly showed that the increasing rate of cybercrime influenced the perception of the Nigerian e-commerce industry to a high extent.

Table 3: Influence of previous shopping experience on the recommendation of Jiji e-commerce platform

Items	SA Freq. (%)	A Freq. (%)	D Freq. (%)	SD Freq. (%)	U Freq. (%)	Mean $\bar{x}$	Standard Deviation (SD)
The sellers on *Jiji* website are trustworthy.	98 (20.4)	100 (20.8)	76 (15.8)	96 (20.0)	110 (22.9)	2.96	0.90
The product catalogue on *Jiji* was easy to access.	134 (27.9)	161 (33.5)	63 (13.1)	58 (12.1)	64 (13.3)	3.51	0.82
The delivery process was seamless.	112 (23.3)	133 (27.7)	95 (19.8)	77 (16.0)	63 (13.1)	3.32	0.86
The products delivered were exactly as described.	103 (21.5)	144 (30.0)	79 (16.5)	70 (14.6)	84 (17.5)	3.23	0.79
The customer care team was accessible for my complaints and inquiries.	117 (24.4)	156 (32.5)	67 (14.0)	59 (12.3)	81 (16.9)	3.35	0.74
Average Overall Mean						**3.27**	**0.82**

Source: Field Survey 2024; Freq. = Frequency

Key: [SA] = Strongly Agree, [A] = Agree, [D] = Disagree, [SD] = Strongly Disagree, [U] = Undecided [*** Decision Rule: If mean is less or equal to 1.49 = Undecided, 1.5 to 2.49 = Strongly Disagree, 2.5 to 3.49 = Disagree, 3.5 to 4.49 = Agree, 4.5 to 5.0 = Strongly Agree]

The analysis from Table 3 above shows the respondents' responses on the influence of their previous shopping experience on Jiji on their recommendation of the e-commerce platform. From the responses gathered and analyzed in the table, it can be seen that the previous shopping experience on Jiji influenced the recommendation of the e-commerce platform ($\bar{x}$=3.27). The analysis shows that most of the respondents disagreed on the notion that the sellers on Jiji website are trustworthy ($\bar{x}$=2.96). However, most of the respondents agreed that the product catalogue on Jiji was easy to access ($\bar{x}$=3.51). It can however be seen that most of the respondents disagreed on the notions that the delivery process was seamless ($\bar{x}$=3.32), the products delivered were exactly as described ($\bar{x}$=3.23) and that the customer care team was accessible for their complaints and inquiries ($\bar{x}$=3.35). The analysis clearly showed that the previous shopping experience on Jiji influences the recommendation of the e-commerce platform to a very large extent.

Testing of Hypotheses
Hypothesis One
H_1: Consumers' perceived trust in online transactions positively influences their adoption of Jiji e-commerce store.

Table 4 Simple Regression of Consumers' perceived trust and the adoption of Jiji e-commerce store

		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.109	.200		15.579	.000
	Consumers' perceived trust	.277	.053	.362	5.256	.000
a. Dependent Variable: Adoption of Jiji e-commerce store						
R= .362 R^2= .131 F$_{(1, 480)}$ =27.622 P<0.05						

Table above shows the simple regression analysis results of the consumers' perceived trust on the usage of Jiji e-commerce store. The result reveals that consumers' perceived trust (β = .277, t = 5.256, p<0.05) has a positive and significant influence on the adoption of Jiji e-commerce store with an R value of 0.362 to support the result. This also shows that consumers' perceived trust has a strong and positive effect on the adoption of Jiji e-commerce store. The F(1,404), and P<0.05 statistics shows the fitness of the model, and the value of F(1,404) reveals that consumers' perceived trust positively influences their adoption of Jiji e-commerce store. This led to the acceptance of the alternate hypothesis which states that consumers' perceived trust in online transactions positively influences their adoption of Jiji e-commerce store.

Hypothesis Two
H₂: The security concerns associated with e-commerce stores have negatively influenced the patronage level of Jiji amongst Nigerian online shoppers.

Table 5: Simple Regression of security concerns associated with e-commerce store and patronage level of Jiji

		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.188	.221		16.101	.000
	Security concerns associated with e-commerce stores	.290	.059	.377	5.490	.000
a. Dependent Variable: Patronage level of *Jiji*						
R= .377 R²= .142 F$_{(1, 404)}$ =29.001 P<0.05						

Table 5 above shows the simple regression analysis result of the influence of the security concerns associated with e-commerce stores on the patronage level of Jiji amongst Nigerian online shoppers. The result reveals that security concerns associated with e-commerce stores (β = .290, t = 5.490, p<0.05) has a negative and significant effect on the patronage level of Jiji with an R value of 0.377 to supports the result. This also shows that the security concerns associated with e-commerce stores have a strong and negative effect on the patronage level. The F(1,404), and p<0.05 statistics shows the fitness of the model, and the value of F(1,404) reveals that the security concerns associated with e-commerce stores negatively influences the patronage level of Jiji. This led to the acceptance of the alternate hypothesis which states that the security concerns associated with e-commerce stores have negatively influenced the patronage level of Jiji amongst Nigerian online shoppers.

Discussion of Findings
This study assessed the influence of cybercrime on the consumers' usage of online shopping in Nigeria, specifically the Jiji e-commerce store. The findings indicated that the increasing rate of cybercrime has negatively influenced the perception of the Nigerian e-commerce industry to a high extent. Consumers are hesitant to transact online due to inaccurate product descriptions, data breaches and the increasing cybercrime rate associated with digital technologies amongst others. These findings are in tandem with the results of Apau (2019), Henson (2020), and Yaseen et al (2022), which revealed that the concern of being targeted by cyber criminals has significantly affected the willingness of many individuals to engage in online transactions. This apprehension leads consumers to avoid making purchases online, prompting them to prefer physical stores despite the convenience of online shopping.

Also, the study found that previous shopping experiences on Jiji significantly influence the recommendation of

the e-commerce platform. This aligns with Saleh's (2016) assertion that cybercrime has had a negative impact on both victims and the e-commerce industry as a whole. Saleh also noted that the fear of cybercrime has increased customers' distrust in e-commerce, emphasizing the importance for sellers to ensure maximum website security to regain the trust of potential customers. Additionally, Behl's (2019) study revealed that the perceived risk of cybercrime negatively affects the use of apps for online transactions and undermines user confidence. Similarly, Abubakar (2019) found that consumers' perceptions of privacy, security, and reliability significantly contribute to their trust in adopting e-commerce. Koranteng (2020) highlighted that trust in internet media and perceptions of cybercrime are key factors influencing consumers' intention to purchase internet technologies, emphasizing the need to incorporate security features to reduce the vulnerability of e-commerce platforms. Jensen et al. (2020) also found that consumers' fear of cybercrime has led them to prefer making purchases at physical stores despite the convenience of online shopping.

Conclusively, the findings from this study revealed that the security and privacy concerns associated with online transactions affect the trust level of the Jiji e-commerce store ($\overline{x}$=3.81). Subsequently in the analysis, it can be deduced that most of the respondents agreed that the security concerns associated with online transactions make them reluctant to patronize Jiji. This aligns with similar studies which also affirmed that consumers' perceived privacy, security and worthiness play a vital role in positively contributing to his/her trust in the usage of e-commerce. Findings further revealed that the previous shopping experience of the respondents in Jiji has largely influenced their recommendation of the e-commerce platform.

However, it was further revealed that Jiji is actively putting processes in place to ensure consumers' protection, and this is evident in the e-commerce store's standard data protection practice and guidelines listed on their website to ensure consumers' protection. To enforce their terms of use and to prevent and combat fraud, it was stated that the website uses personal data to enforce its agreements and contractual commitments to detect, prevent, and combat fraud. As a result of such processing, the website may share sellers' information with law enforcement agencies if a dispute arises. This is a step in the right direction that reinforces the findings of Hanna (2019). The researcher illustrated that consumers' product knowledge has a positive impact on their trust process and decision-making by studying consumers' perceived trust in e-commerce. The study revealed that trust has a moderating effect between product knowledge and purchase intention, that is, when consumers have a higher sense of trust in a product or service, it ultimately strengthens the relationship between product knowledge and purchase intention of e-commerce stores.

Conclusion

This study established that we have an increasing rate of cybercrime in Nigeria, and this is affecting the perception of the Nigerian e-commerce industry. Most of the e-commerce platforms have a porous webpage to counter cybercrime attacks such as phishing under their web accounts. Most of the e-commerce platforms in the country have encountered one form of cyber-attack in one way or the other. However, despite having in place measures that can be aptly described as baseline security controls which do not comprehensively deal with the menace of cyber-attacks, there is a need for more to be done to ensure the security and privacy of the users, which will, in turn, boost the confidence in the e-commerce industry.

It is practically impossible to identify all threats that could occur, but the possibility of coming up with a set of base controls that detect major cyber security threats minimizes their occurrence and effects. It was however recommended that there is a need for comprehensive cyber laws that would be enforced by the government to checkmate the rising trends of cybercrime in Nigeria. Anti-cybercrime agencies can be established to ensure that these laws are effectively implemented. Also, to foster the growth of Jiji, an e-commerce store, there is a need to put more measures in place like physical outlets to verify sellers' authenticity and ensure the upload of a government-issued ID document, and proof of address such as bank, credit card statement or utility bill as these will significantly put sellers in check and ensure the safety of buyers.

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