



EFFECTS OF DIGITAL PSYCHOLOGY ON CONSUMER ONLINE BUYING BEHAVIOUR: A STUDY OF JUMIA

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Abstract

*This study investigates the effects of digital psychology on consumer online buying behavior, focusing on web design/user experience and social proof. Using a descriptive survey research design, data was collected from 380 respondents in Ilaro, specifically Jumia e-commerce users. Regression analysis with Structural Equation Modeling revealed that web design/user interface positively and significantly influenced online consumer buying behavior ($\beta=0.461$, C.R.=5.266, ***), as did social proof ($\beta=0.437$, C.R.=4.008, ***). The squared multiple correlation of 0.545 indicates that 54.5% of the variance in online consumer buying behavior can be explained by the two variables. The findings underscore the importance of a well-designed website with a positive user experience and the use of social proof in shaping consumer behavior. To thrive in the competitive online marketplace, businesses should prioritize these elements and conduct regular A/B testing (comparing two versions of a web page or app to see which one performs better) for continuous improvement. This research offers valuable insights for online retailers seeking to optimize user experience and enhance consumer engagement.*

Introduction

In recent years, the rapid development of digital technologies has revolutionized the way businesses operate and interact with their customers. The rise of e-commerce is not an exception in the development of digital technology which has provided consumers with a convenient and accessible way to purchase products and services online (Kim & Park, 2019). As a result, understanding consumer behavior in the digital environment has become increasingly important for businesses to succeed in the highly competitive online marketplace. This trend has led to the rise of e-commerce platforms such as Jumia and Konga, which have become major players in the Nigerian retail industry.

Over the past few years, e-commerce has witnessed significant growth, and it is now an essential part of the global retail industry. According to a projection by Statista (2021), it is expected that e-commerce sales worldwide will reach \$6.38 trillion by 2025. With the continuous growth of online shopping, businesses are increasingly prioritizing the development of visually attractive and user-friendly websites and apps that are optimized for conversion (Verhagen, van der Heijden, Keeling & Wetzels, 2019). The focus on digital psychology, which applies psychological principles and techniques to digital media, will continue to play an important role in influencing consumer behavior and driving sales. The use of persuasive language and emotional triggers, as well as effective web design, will be crucial in creating an engaging and profitable e-commerce experience for consumers (Hassanein & Head, 2017).

Digital psychology is the application of psychological principles and techniques to digital media, and it is now becoming increasingly important in e-commerce. Businesses can use web design to create a visually appealing and user-friendly website that encourages visitors to stay longer and make a purchase. They can also use persuasive language and emotional triggers to influence consumer decision-making (Chitturi, Raghunathan, & Mahajan, 2008).

Web design plays a crucial role in the field of digital psychology within the realm of e-commerce (Wang & Wang, 2020). As consumers interact with e-commerce websites, the design of the website can have a significant impact on their behavior. Studies have shown that a well-designed website can increase consumer engagement, satisfaction, and sales, while a poorly designed website can have the opposite effect, resulting in consumer frustration and decreased sales. One important aspect of web design is ensuring that the website is easy to navigate. A study by Nielsen Norman Group (2019) found that 76% of consumers indicated that they value a website's ease of use over the visual



design. This highlights the importance of usability and accessibility in web design, as it can impact a consumer's likelihood to make a purchase.

Another effective method that e-commerce platforms can use to influence consumer behavior is through the use of social proof, social proof is a powerful tool that can be used to influence consumer behavior in e-commerce (Kim & Park, 2019). It operates on the principle that people tend to follow the actions of others, particularly those who they view as similar to themselves or as authorities (Cialdini, 2001). In the context of e-commerce, social proof can take many forms, such as customer reviews, ratings, and testimonials. These forms of social proof can help to establish trust between consumers and the e-commerce platform, as they provide evidence of the quality and reliability of the products or services being offered.

The increasing use of digital psychology techniques in the online space has caused apprehension regarding their potential influence on consumer behavior. Although these techniques present new opportunities for businesses to expand their reach and boost sales, they also prompt concerns about consumer protection and the ethical implications of using psychological tactics to sway buying decisions. Consequently, there is a pressing need for research to explore the potential advantages and drawbacks of digital psychology in e-commerce and establish approaches that encourage the ethical and accountable application of these methods.

The rise of e-commerce platforms such as Jumia and Konga has led to a significant increase in the number of online consumers in Nigeria. While this has created new opportunities for businesses to reach a wider audience and increase sales, it has also raised concerns about the factors that influence consumer behavior in the digital environment.

Recent studies have shown that digital psychology techniques can significantly impact consumer behavior in the online environment. For example, research has shown that web design elements such as layout, color, and typography can influence consumers' perception of a website's credibility and trustworthiness (Fogg, Soohoo & Stanford, 2003; Lee & Koo, 2015). Similarly, studies have found that the use of persuasive language techniques such as social proof, scarcity, and authority can increase consumers' willingness to buy products online (Cialdini, 2001; Fogg *et al.*, 2003).

Businesses continue to have serious concerns about how web design and user experience affect consumer attitudes towards online commerce. Previous research (Chen & Li, 2018; Hong, Thong & Tam, 2020) have emphasized the significance of a visually appealing and user-friendly website design in influencing consumer perceptions. There is, however, a dearth of study specifically examining the connection between attitudes and site design/user experience in the context of online purchasing. For businesses to build efficient online platforms that positively influence consumers' views, they must have a thorough understanding of how website aspects like layout, navigation, aesthetics, and functionality affect consumer attitudes. Businesses can obtain insights on optimising web design tactics that improve consumer attitudes, resulting in improved engagement and conversion rates, by looking into this relationship.

The impact of social proof on consumer feelings has grown in importance with the emergence of social media and online reviews. According to other studies (Xu, Zhang, Zhang & Zhang, 2018; Zhang & Chen, 2021) social proof, which includes customer reviews, ratings, and endorsements, can elicit a range of feelings in consumers, including trust, enthusiasm, or fear. There is, however, little knowledge of the precise emotions elicited by various forms of social proof and their influence on consumer feelings. Investigating the link between social proof and customer emotions can offer insightful information on the emotional responses sparked by social proof, enabling firms to modify their marketing plans and communications to elicit favourable emotional responses. Businesses can more effectively use social proof to sway consumer perceptions and produce more emotionally compelling experiences by looking into this relationship.

Objectives of the Study

The main objective of this study is to examine the effect of digital psychology on consumer online buying behavior. The specific objectives are to;

- i. Evaluate the effect of web design/user experience on consumer online buying behavior of Jumia pick-up station, Ilaro.
- ii. Investigate the effect of social proof on consumer online buying behavior of Jumia pick-up station, Ilaro.



Hence, the effect of digital psychology on consumer online buying behavior is of great significance for various reasons. The study provides valuable insights into the behavior of online consumers in the Nigerian market. As the e-commerce industry continues to grow in Nigeria, understanding the factors that influence consumer online behavior is crucial for businesses to remain competitive.

In addition, the study contributes to the existing literature on digital psychology and consumer behavior, particularly in the Nigerian context. This is important for researchers and scholars who are interested in the field and can build upon the findings of this study.

Literature review

Concept of Digital Psychology

Cyberpsychology, another name for digital psychology, is a discipline that studies how psychology and technology connect in the digital sphere (Kim & Park, 2019). Designing digital interfaces, goods, and services that engage users, modify their behaviours, and affect their emotions and ideas requires the application of psychological principles and methodologies (Wang & Wang, 2020). Although digital psychology has many exciting potential, it also brings up important issues that must be addressed.

The ethical ramifications of using psychological procedures in the digital sphere are one area of concern (Nguyen *et al.*, 2021). Personalization, gamification, and behavioural nudges are examples of persuasive strategies that have the potential to take advantage of user weaknesses and influence behaviour (De Vries *et al.*, 2022). According to Barrera, Garcia-Murillo, and Sanz-Blas (2020), customised advertising based on personal data may cause privacy problems and violate consumers' liberty. To protect consumers' privacy and well-being, it is critical to create a balance between the advantages of digital psychology and the ethical constraints (Ajzen, 2021).

Furthermore, it is not always certain that digital psychology techniques will be successful in reaching their desired objectives (Ajzen & Fishbein, 2019). While studies have demonstrated that some persuasion techniques can positively affect customer behaviour, their effects may change depending on the situation and the user group (Fogg, 2021). Users' reactions to digital psychological interventions can be influenced by elements including cultural variations, personal traits, and the nature of the good or service (Tussyadiah & Fesenmaier, 2018). Therefore, to ensure the effectiveness and moral use of digital psychological techniques, a detailed understanding of user diversity and context-specific issues is crucial (Chandon, Wansink & Laurent, 2000).

Web Design/User Interface

User experience (UX) and web design are essential factors in determining the success of websites and digital platforms. Web design is the visual appeal, structure, and functionality of a website, while UX is the overall experience that users have with a website. Both are important, but UX is more important for ensuring that users can successfully complete their tasks and have a smooth and enjoyable experience (Tussyadiah & Fesenmaier, 2018).

Effective web design and UX include clear and consistent branding, easy navigation, well-structured content, quick load times, and mobile responsiveness. Designers and developers need to strike a balance between inventiveness, usability and adapt to the constantly changing nature of technology and consumer expectations. Accessibility is also a crucial component of online design and user experience (Hassenzahl, 2018).

Social Proof

Social proof is a psychological concept that describes people's tendency to follow the actions of others. It can be a powerful tool for marketers, but it is important to be aware of its potential limitations. For example, social proof can be manipulated or skewed, and it may not always be applicable in all situations. Additionally, social proof can lead to conformity and stifle personal choice (Helsper & Reisdorf, 2019).

Despite these limitations, social proof can be an effective way to influence consumer behavior. Marketers should use social proof carefully and ethically, and they should be aware of the factors that affect its effectiveness. By understanding the concept of social proof, marketers can use it to their advantage and help consumers make better decisions.

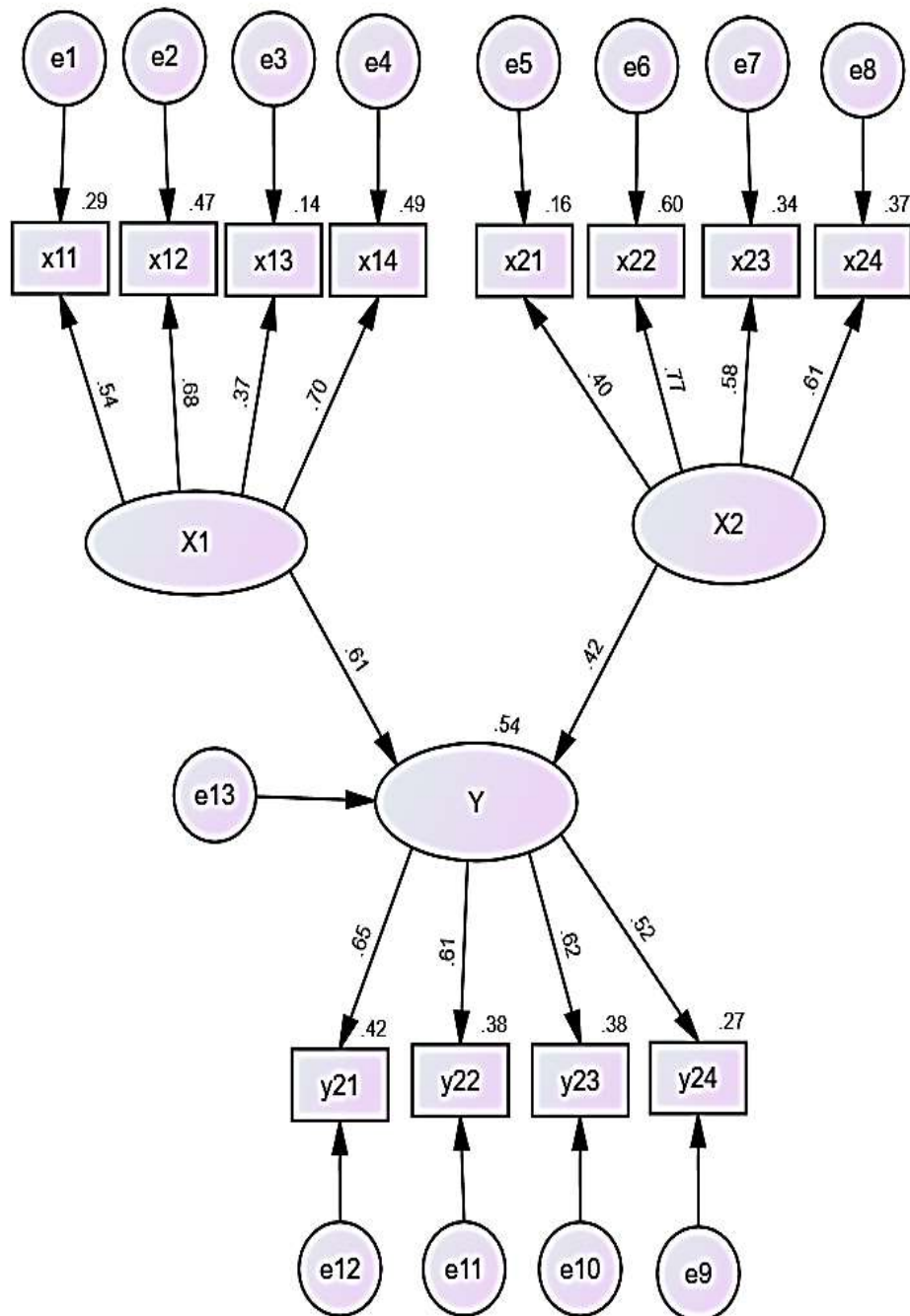
Methodology



The research design adopted for this study is the descriptive survey research design. The study area for this research focuses on Jumia users in FPI, specifically considering the presence of a Jumia office that handles the flow of purchased goods within the area. The researcher's assumption is made achievable by the challenge of estimating the overall number of e-commerce users in the study area. With regard to the targeted population, the study focus on Jumia e-commerce service provider. The actual figure of the users of Jumia in Yewa South Local Government could not be determined at the time of carrying out this research. Hence, the population is tagged as infinite. The method of sample size determination adopted is Cochran which estimated 380 respondents. The method of data collection is achieved through the use of a questionnaire. The method of data analysis adopted is regression analysis using Structural Equation Modeling (SEM) in Analysis of Moment Structures (AMOS) Version 26.

Results and discussion

The results of this study are based on the results of the analysis obtained from the structural equation modeling.



X1: Web Design/User Interface, X2: Social Proof, Y: Online Consumer Buying Behaviour

Figure 1: Structural Equation Model of Regression Analysis (Digital Psychology on Consumer Buying Behaviour).



Figure 1 shows the parameter of the regression model in the structural equation model, the parameters estimated includes co-variances, variances, means, regression weights, and intercepts.

Table 1: Model Summary

Variables	β	S.E.	C.R.	P
Online Consumer Buying Behaviour \leftarrow Web Design/User Interface	.461	.088	5.266	***
Online Consumer Buying Behaviour \leftarrow Social Proof	.437	.109	4.008	***

Source: Extrated from AMOS Version 26, 2023.

Table 1 presents the results of a regression analysis using Structural Equation Modeling (SEM) to examine the effect of digital psychology on consumer buying behavior, specifically focusing on the influence of web design/user experience and social proof. The table provides information about the standardized regression coefficients (β), standard errors (S.E.), critical ratios (C.R.), and significance levels (P) for each relationship.

Web Design/User Experience \rightarrow Consumer Online Buying Behaviour:

The standardized regression coefficient (β) for the relationship between web design/user experience and consumer online buying behavior is 0.461. This indicates a positive effect, suggesting that a better web design and user interface tend to positively influence online consumer buying behavior. The coefficient is statistically significant, as indicated by the critical ratio (C.R.) of 5.266, which exceeds the critical value. The significance level (P) is denoted as "***," indicating a highly significant relationship.

Social Proof \rightarrow Consumer Online Buying Behaviour:

The standardized regression coefficient (β) for the relationship between social proof and consumer online buying behavior is 0.437. This also indicates a positive effect, implying that social proof has a positive influence on the perception of online consumers and their buying behavior. The coefficient is statistically significant, as evidenced by the critical ratio (C.R.) of 4.008, which exceeds the critical value. The significance level (P) is also denoted as "***," indicating a highly significant relationship.

Therefore, the regression analysis using SEM suggests that both web design/user interface and social proof have significant positive effects on online consumer buying behavior among Jumia pick-up station users in Ilaro. These findings align with the objectives of the study, which aimed to evaluate the effect of web design/user experience and social proof on consumer online buying behavior in the digital psychology context.

Table 2: Squared Multiple Correlations

Variables	Estimate
Consumer Online Buying Behaviour \leftarrow Digital Psychology	.545

Source: Extrated from AMOS Version 26, 2023

Table 2 presents the squared multiple correlations for the relationship between consumer buying online behavior and digital psychology. The squared multiple correlation is a measure of the proportion of variance in the dependent variable (consumer online buying behavior) that can be explained by the independent variable (digital psychology).

The table shows the squared multiple correlations for the two independent variables, web design/user interface and social proof. The squared multiple correlation for digital psychology is 0.545, which means that 54.5% of the variance in online consumer buying behavior can be explained by the two independent variables.

This is a relatively high value, which suggests that the two independent variables are good predictors of consumer online buying behavior. In other words, a well-designed website with a good user experience, and social proof, can both have a significant effect on whether or not a consumer makes a purchase.

The squared multiple correlation is a measure of the overall fit of the regression model. A higher value of the squared multiple correlation indicates that the model fits the data better. In this case, the squared multiple correlation of 0.545 indicates that the model fits the data well.

Conclusion

In this study, it was explored that the crucial factors influencing online consumer behavior, with a focus on web design/user interface and social proof. The findings of this research underline the significant effect of these factors on consumer online purchasing decisions in the digital world.



The investigation has highlighted the pivotal role of web design and user experience (UX) in determining the success of websites and digital platforms. Web design encompasses how a website looks, its structure, and how it functions. A well-designed website with clear branding, easy navigation, organized content, fast loading times, and mobile responsiveness has a positive influence on users. When customers have a smooth and enjoyable experience on a website, they are more likely to complete their tasks and make a purchase.

Research in this field has consistently shown that the user experience is a critical aspect of online success. Scholars Tussyadiah and Fesenmayer (2018) have previously emphasized the importance of providing users with a seamless and enjoyable journey to enhance online engagement and conversions.

Furthermore, our study has addressed the psychological concept of social proof, which refers to people's tendency to follow the actions of others. While social proof can be a powerful tool for marketers, it has its limitations. It is essential to be cautious about the reliability of social proof, as it can be manipulated or may not be applicable in all situations. Helsper and Reisdorf (2019) have also discussed these potential drawbacks of social proof in their research.

To sum up, the findings confirm that a well-designed website and a positive user experience are crucial for influencing consumer online buying behavior. By paying attention to web design and user experience, businesses can better cater to their customers' needs and increase the likelihood of successful transactions. However, it is also important for businesses to use social proof responsibly and consider its potential drawbacks.

Recommendations

Based on the results of the study, the following recommendations can be made:

Web designers and UX designers should focus on creating websites that are easy to use and navigate. This includes using clear and concise language, providing helpful instructions, and making sure that the website is responsive to different devices.

Online retailers should use social proof to their advantage. This includes displaying customer reviews, testimonials, and social media posts that show other people enjoying their products or services.

Online retailers should conduct regular A/B testing (split testing) to see what changes have the biggest impact on their conversion rates. This will help them to identify the best practices for their website and optimize their user experience.

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