Online Service Environment and Customer Engagement among Shoppers of Local Online Shops in a Typical Emerging Economy

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Abstract: *This study centers on the nexus between online service environment and customer engagement among shoppers in local online shops in a typical emerging economy. Despite the abundance of extant literature on online service environment and; customer engagement behaviour, empirical studies that investigates the nexus between online service environment and customer engagement in local online shops is scarcely-reported and under-researched especially in a typical emerging economy like Nigeria. In order to fill this research gap, this study examines the effect of online service environment on customer engagement. Quantitative research design was employed and the study population comprised active online shoppers on JUMIA platform. A total of 520 shoppers were statistically drawn from the population of 12.8 million online shoppers. The research instrument was structured questionnaire and hypotheses formulated were tested using multiple regressions. It was found that layout and functionality, security, aesthetic appeal and order delivery system have positive and significant effect on customer engagement in local online shops in Nigeria. It was concluded that this study provides empirical support that online service environment has positive and significant effect on customer engagement among shoppers in local online shops in Nigeria. It was recommended that online shops/service providers should evaluate and ensure their order delivery system is designed toward customer orientation and satisfaction by ensuring charges on order delivery are low, free for some products, and discounted for customers who eventually paid for the orders; online shops should evaluate and ensure the online service environment has a very good layout, and the layout is functioning by ensuring that navigational aids on their website are   clear, readily available, easy to read, logical links, and user-friendly amongst others.*
Keywords: online service environment, customer engagement, Nigeria, emerging economy

INTRODUCTION

The volumes of online services (online shops) and online service users (online shoppers) in Nigeria have witnessed explosive growth in the last few years. Online shopping has increased by over 50% yearly from 2017 to 2020, and it is projected the fastest-growing segment of the retail industry in Nigeria and the global arena (Statista, 2021). The increase in online shopping in Nigeria like in every other country has been fueled by technological breakthroughs (internet speed), lower cost of accessing the internet (low searching cost), and speed associated with comparing prices of offerings when compared with physical service environment.

Moreover, the exponential growth of online shops in Nigeria has been driven by the speed, flexibility, and ease it offers firms to attract, reach, and engage large segments of consumers irrespective of their countries of residence at a lower cost when compared to the traditional service environment. This is especially true in the era of the pandemic brought by COVID-19 and its consequences on the keeping of social distance, working from home (virtual work), lockdown of the economy, and movement restriction, which also renewed a greater interest in the adoption of online stores. Statistics revealed that frequent download and usage of online shops' self-service technology applications on phones by Nigerians during the pandemic to facilitate shopping without physical contact with retailers' representatives made the values of online shopping transactions in the second quarter of 2021 increase to 30.3 trillion Naira from 18 trillion Naira in the second quarter of 2020 (Statista, 2021). The monetary value of online shopping transactions is projected to skyrocket to 50 trillion in 2022 as more internet users engage in online shopping (Statista, 2021).

Unfortunately, evidence emerged that Nigerian online shoppers feel at ease shopping in giant international online stores (Alibaba and Amazon) than local online stores (Jumia) (United Nations Conference on Trade and Development [UNCTAD], 2021). It further observed that the percentage of Nigerians shopping in local online shops declined from 30% in 2019 to 24% in 2020 while the percentage of Nigerians shopping in foreign online shops increased from 70% in 2019 to 76% in 2020 (UNCTAD, 2021) despite the sporadic increase in the total number of online shoppers in the country in the same period.

The lower patronage of local online stores compared to foreign online stores has been mirrored. Izogo and Jayawardhena (2018) contented that the high-quality offerings emanating from foreign-originated online retailers have made Nigerian consumers have a greater preference for shopping from foreign online shops like Alibaba and Amazon than local online shops like Jumia. In addition, most local online shops/service environments in Nigeria are not only poorly designed but are also vulnerable to glitches in product delivery, delivery of a wrong product, delivery of a low-quality product, and delivery of lesser value products to customers, which has made most consumers in Nigeria distrust local online offerings (Izogo & Jayawardhena, 2018). Reports from the studies of

Oloveze, Ogbonna, Ahaiwe, and Ugwu (2022) and Ifemade, 2021 further show that product quality of online shops and perceived insecurity with payment data may be possible causes of consumers' distrust that has resulted in the low rate of online shopping patronage in Nigeria, which account for only 5% of total shopping in the country despite the 90% growth in internet usage from 2000 to 2016. This trust challenge facing local online shops has made some local online stores in Nigeria to have shift to pay-on-delivery options, flexible order delivery time (express, standard, global, and Nigeria postal service), and seven days return of dissatisfied orders in recent times. But how the improvement in the quality of order delivery systems of local online shops in Nigeria influences customers' behavioural intention appears not to have been researched in Nigeria.

Beyond the evaluation of the online delivery system is how a customer perceives and evaluates the overall excellence of the online service environment cues. The online shopping environment is engaging to command a higher sales volume when users of online shops perceive the image, navigation aids, and information about technical details of product offerings of the online shops to be clear, attractive, and alluring. The appearance, usage (functionality), layout (design), and perceived security surrounding online environments create and influence interaction and value co-creation (Tankovic & Benazic, 2018). These online environment cues do not trigger the development of an overall impression and trust of onlineofferings (Rita, Oliveira, & Farisa, 2019) but also remain the cogent reasons to engage with the offering of the online focal brands emotionally and behaviorly.

Customers are said to be engaged emotionally with the offering of online brands when they have direct pleasurable positive feelings towards the offering of the online shops (Bilro & Loureiro, 2020). They engage behaviourally when they invest time in endorsing, recommending, and frequently revisiting online shops and repurchasing the offering of focal brands (Bilro & Loureiro, 2020). Furthermore, customer mostly repurchases a product from online shops because they are emotionally connected (Vo, Chovancová & Tri, 2020), suggesting a connection between emotional and behavioural customer engagement. This contention augments the position of Sharma and Singh (2023) that emotionally engaged customer buys 90% more frequently and spend 300% more than other customers who are not emotionally connected to a brand. However, how the emotional and behavioral connection to a brand, which customer engagement addresses, is influenced by online service environment cues seems not to have been adequately empirically addressed. This is especially true in emerging markets like Nigeria probably because of the newest concept of customer engagement in online offerings.

Studies have evaluated the influence of online service environment cues (aesthetic appeal, layout and functionality, and security) but only related them to trust and purchase intention (Harris & Goode, 2010; Kühn, Spies, & Petzer, 2015; Tran, 2016; Wu, Quyen, & Rivas, 2017). The extant studies seem to neglect the influence of online service environment cues on customer engagement in an online context. Moreover, the previous studies failed to incorporate the order delivery system

(speed of order delivery, charges on order delivery, and quality of product/order delivered) into online service environment cues even when customer evaluation of the quality of the order delivery system remains fundamental in customer evaluation of the overall impression of online service environment features. These knowledge gaps in addition to the response to the call for more research on how to solve the problem of local online shops in Nigeria and design an online service environment that is strategically appealing, competitive, and attractive to shop in Nigeria, therefore, motivated this paper to incorporate order delivery system into online service environment cues (aesthetic appeal, layout and functionality, and security) and investigate their influence on customer engagement with local online stores in Nigeria. The specific objective of the paper is to investigate the influence of order delivery system, aesthetic appeal, layout and functionality, and security of online service environment on customer engagement with local online stores in Nigeria.

The paper is organized as follows: Section 2 of this paper covers conceptual reviews of customer engagement and its dimensions. Section 3 reviews extant literature focusing on online environment services and their cues. Section 4 contains the theoretical framework of the paper and hypotheses developments. Section 5 highlights the methodology adopted. Section 6 presents the results and discussions. Section 7 contains the discussion of findings, while section 8 covers the conclusions and policy implications of the findings of the paper.

LITERATURE REVIEW

Customer Engagement: Customer engagement has no unified conceptualization. Not only because it is a multidimensional concept but also because it involves interacting acts that a customer directed towards a focal object. The interactive efforts can take in form of referring, influencing, repurchasing, giving feedback, and expressing emotion (like) on a focal brand (Bilro & Loureiro, 2020). This suggests that customer engagement involves intrinsic motivation felt by customers to cooperate and interact with a focal brand. It is the attitude and behavior of customers that go beyond repurchase behaviours to active involvement in brand value co-creation through the expression of the positive wide word of mouth about the focal brand, endorsement of the focal brand, and recommendation of the focal brands of the firms. Customer engagement has also been defined as a motivational psychological state occurring through interaction and co-creation experiences with a focal brand (Sharma and Singh, 2023). Extending this definition, customer engagement is an individual customer's motivational, brand-related, and context-dependent state of mind characterized by specific levels of cognitive, emotional, and behavioural activity in brand interactions (Hollebeek, 2011). It is a consumer's positively-valenced cognitive, emotional, and behavioral brand-related activity during, or related to, specific consumer/brand interactions.

Forms of Customer Engagement: Customer engagement can take in form of active and passive forms (Yadav, Singh, Mishra and Bag, 2024). Active engagement is creating, contributing, and

constructing behaviours of a consumer toward a brand. It involves sharing, co-developing, and advocating while passive engagement is consuming, dormancy, and detachment behaviour toward a brand page. Izogo and Mpinganjira, 2022) observed that passive and active customer behavioral engagement is influenced by customer involvement. The involvement of customers also moderates the influence of passive engagement on active engagement as well as influences customer loyalty through active engagement (Izogo and Mpinganjira, 2022). The extension of these two forms of engagement is the cognitive, emotional, and behavioural dispositions of consumers during focal brand interaction (Hinson, Boateng, Renner & Kosiba, 2019). The cognitive and emotional components incorporate consumers' experiences and feelings while the behavioural and social elements include consumers' participation in the brand or product (Sharma and Singh, 2023). The consumers' cognitive engagement is defined specifically as the degree to which a consumer is mentally engrossed in interacting with a focal brand display on the website of a firm (Algharabat, Rana, Alalwan, Baabdullah, & Gupta, 2020). Mentally engrossed customers involve a deep level of attention and absorption (Yadav et al. 2024). Attention is the amount and number of time devoted or spent by consumers thinking, viewing, and checking the offerings of online shops (Vohra & Bhardwaj, 2019) while absorption is the level of concentration and immersion by consumers toward online shop offerings (Matute, Palau-Saumell, & Occhiocupo, 2019).

The effective engagement of customers is the psychological state that occurs through interaction with a specific brand (Yadav etal. 2024). It is the extent to which consumers are enthused and derive enjoyment in interacting with the offering or brand-related content of online shops (Hollebeek, Glynn, & Brodie, 2014). The enthusiasm form of affective engagement is an intrinsic level of interest and excitement experience derived from interacting and viewing the offering or brand-related content of online service while the enjoyment form of affective engagement is pleasurable feeling and happiness derived from interacting with the focal brand in the online community (Dessart, Veloutsou & Morgan-Thomas, 2015). Thus, affective engagement can be viewed from customer satisfaction with the offering of online shops.

Behavioural engagement of customers focuses on activation, which manifests in the investment of money to buy the focal brand as well as the investment of effort and energy in endorsing the brand through the act of spreading the wide word of mouth, posting, retweeting, recommending, and referring the brand to another person (Brandão, Pinho, & Rodrigues, 2019). It involves voluntary favorable comments about a brand, purchasing the brand as well as actively recommending the focal brand to other members to buy, and spreading positive word-of-mouth about the brand (Dessart et al, 2015). This suggests that customer behavioural engagement equates to customer loyalty, advocacy, and favourable word of mouth. It is augmenting behaviours, co-developing behaviours, referral behaviours, influencer behaviours, and mobilizing behaviours, which are non-paying consumer's motivationally driven and positively-valenced behavioural manifestations towards a product, brand, or firm (Harrigan, Evers, Miles, & Daly, 2018). Such behaviours assist

in the development processes of products, brands, and brand meaning (Gummerus, Liljander, Weman, & Pihlström, 2012).

Online Service Environment: The service environment was first conceptualized by Bitner (1992) to represent both tangible (buildings and furniture) and intangible (temperature, colour, scent, and music) elements that can be controlled and manipulated to facilitate the provision of service offerings to customers. Several other studies have drawn on Bitner's (1992) definition of offline or physical service environment to explain and define online service environment. They defined it as animate and inanimate stimuli in a digital environment that facilitate the performance of service delivery (Harris and Goode, 2010); a virtual market where the exchange is performed, delivered, and consummated, thus commonly used interchangeably with e-stores, e-shops, e-service environment, e-service environment, online services cape, and cyberspace in marketing literature. Online Service Environment Cues/Stimuli: Harris and Goode (2010) and Lee and Park (2013) built on the model of Bitner (1992) to identify aesthetic appeal, layout and functionality, and security as key online environment service cues. Each of them, in addition to the order delivery system of online environment service, is defined and their relationship with customer engagement is robustly discussed in the subsequent section after the theoretical framework of the study.

Theoretical Framework

The Stimulus-Organism-Response (SOR) theory, proposed by Mehrabian and Russell (1974), offers a framework to understand how environmental stimuli influence emotional reactions, which subsequently drive consumer behavioral responses. In the context of online retail shops, the theory can be applied to provide insight into how stimuli within the online retail settings (online service environment) can trigger emotional reactions and subsequently impact customers' behavioural engagement. It posits that the online service environment constitutes various stimuli that customers encounter while interacting with an online shop. These stimuli can include aesthetic appeal/ambience conditions, spatial layout and functionality, and signs, symbols, and artifacts). The stimuli are a complex combination of the image of the products, price of the products, colours, graphics of the website, navigation aids, terms of the order, and other relevant information that aid the performance of the exchange (Harris & Goode, 2010). The various stimuli can elicit customers' positive emotional reactions (pleasure, arousal, dominance). The customers act as the organism in this framework by receiving these stimuli and reacting based on their perceptions, emotions, and cognitive processes triggered by the online service environment stimuli. The positive emotional experiences elicited by the various online environmental stimuli, can either result in approach (customer engagement) or avoidance (customer disengagement) behavioural responses (Kim & Siong, 2015).

The approach (customer engagement) or avoidance behaviours(customer disengagement) according to Mehrabian and Russell (1974) usually considered to have four aspects: first, a desire

to physically stay in (approach) or get out of (avoid) the environment; second, a desire or willingness to look around and explore the environment (approach) versus a tendency to avoid moving through or interacting with the environment (avoidance); third, a desire to communicate with others in the environment (approach) as opposed to a tendency to avoid interacting with others (avoidance); and fourth, the degree of improvement (approach) or interruption of performance (avoidance) and satisfaction with task performance. Consequently, this paper expects the aesthetic appeal, layout and functionality, security measures, and order delivery systems as stimuli within the online retail settings (online service environment) to predict customers' behavioural engagement or disengagement within the context of online shops in Nigeria.

Hypotheses Development

Online Service Environment (Aesthetic Appeal) and Customer Engagement
Online service-environment aesthetic appeal refers to the extent to which consumers interpret the service environment as attractive or alluring. It is directly derived from the ambience conditions dimension of the offline service environment developed by Bitner (1992). It is composed of three sub-dimensions: entertainment value, originality of design, and visual appeal (Harris & Goode, 2010). Visual appeal is the extent to which users evaluate the graphics, fonts, and photographs in a website or online service environment to be enticing and fascinating (Tran, 2016). The entertainment value is the degree to which users perceive the photos, animations, or graphics in a website to be entertaining and catchy (Kühn et al, 2015). The originality of design reflects how users perceive the website to be fresh, unique, innovative, creative, and conservative (Harris & Goode, 2010).

Several studies including Wu et al. (2017), Kühn et al (2015), and Harris and Goode (2010) have demonstrated that customers' evaluation of the aesthetic appeal of the e-service environment (website) significantly influences trust in the website, which in turn influences the intention to repurchase. Similarly, Hakima and Deswindi (2015) observed empirically that the aesthetic appeal of an e-service environment has a significant impact on consumer attitudes and trust toward a website. These findings correspond with the study of Tran (2016) that the attractiveness of an e-service environment is gauged by visual appeal, entertainment value, originality of design, and customization positively impacting trust, which in turn positively influences e-word of mouth and customer loyalty. They collaborate with the study of Adeola, Edeh., Evans, and Abbatty (2022) that the use of creative, informative, and emotional appeals as critical antecedents to positive user responses in the context of social media advertisements in the Nigerian context. Moreover, Amer (2021) showed that the aesthetic appeal of the online

service environment leads to the development of trust and perceived value of a website, which in turn influences the intention to engage in online booking.

The existing studies (Wu et al. 2017; Kühn et al. 2015; Harris & Goode 2010; Hakima & Deswindi 2015; Tran 2016; Amer 2021, Adeola et al. 2022) collectively suggest a positive correlation between the aesthetic appeal of online service environments and various outcomes such as trust, repurchase intention, consumer attitudes, e-word of mouth, perceived value, and the intention to engage in online booking, however, lack specificity to Nigeria's online retail landscape. This is despite fact that the Nigerian consumers might have distinct preferences and cultural perceptions regarding aesthetics, which could alter the impact of e-service environment aesthetics on trust, purchasing behaviours, and engagement. Furthermore, the direct impact of aesthetic appeal on customer engagement in the online retail setting has received limited or inadequate exploration as existing studies focus on intermediary variables like trust and repurchase intention but fail to directly link aesthetic appeal to customer engagement. Therefore, conducting empirical studies within the Nigerian online retail landscape to validate the applicability of findings of existing studies on how the aesthetic appeal of the e-service environment directly influences customer engagement, which has attracted little research, requires further consideration. This paper, therefore, aims to address this issue by providing more accurate insights into the direct influence of aesthetics (visual appeal, entertainment value, originality of design, customization) appeal of the online service environment on customer engagement within the Nigerian online retail setting. It hypothesized a positive significant relationship between the aesthetic appeal of the online service environment and customer engagement within the context of online shops in Nigeria.

Online service environment (layout and functionality) and customer engagement
Online service-environment layout refers to the arrangement, organization, structure, and adaptability of websites, while service-environment functionality refers to the extent to which the layout facilitates customers' service goals (Koo & Ju, 2010). The layout and functionality of online services are employed in evaluating the usability of a website, which is the ability of websites to effectively facilitate the performance of transactions (Kim & Siong, 2015). They capture the relevance of information, customization/personalization, usability, and interactivity of a website (Harris & Goode, 2010; Kim & Siong, 2015; Tran, 2016). Studies (Harris & Goode 2010; Kühn et al. 2015; Tran 2016; Wu et al. 2017) demonstrate the positive influence of website layout and functionality on trust, subsequently impacting repurchase intention. Vo et al. (2020) and Dang and Pham (2018) indicate that website content/functionality and atmospheric/experiential quality not only affect customer satisfaction but also influence behavioral engagement and loyalty. Amer (2021) and Tankovic and Benazic (2018) suggest that e-service scape layout and functionality influence website trust and perceived value, affecting attitudinal loyalty and intention to engage. Consistent with studies in Nigeria (John, Adiele, & Nkoro 2013), ambiance conditions, spatial layout, symbols, and artifacts positively influence customer retention and patronage. Izogo and Jayawardhena (2018) also highlight that post-purchase intention links to website functionality and shopping enjoyment derived from information quality and virtual interactivity design. Islam and Rahman (2017) identify that the evaluation of layout and functionality significantly influences customer engagement and mediates its impact on brand loyalty.

Extant studies (Harris & Goode, 2010; Kühn et al., 2015; Tran, 2016; Wu et al. 2017) have established the influence of layout and functionality on trust, purchase intention, and engagement of customers. Shahid, Ahmad, Hussain, Elbayoumi, Rafi, and Ghaderi (2024) have also found that service environment and customer-brand experience have positive effects on customer brand engagement towards hospitality service brands. Similarly, Fan, Shao, and Dong (2022) discovered that e-service quality (system design, intelligent fulfillment, security assurance, and interactive service) positively affects customer engagement behavior, and customer trust and perceived risk mediate the relationship. However, these findings are unclear in the Nigerian online retail context as only limited studies have explored how layout and functionality directly impact customer engagement within the online retail context. This paper addresses this gap by elucidating the relationship between online service-environment layout/functionality and customer engagement, specifically within the Nigerian online retail setting. This paper, therefore, hypothesized that online service environment (layout and functionality) positively and significantly influences customer engagement in the context of online shops in Nigeria.

Online service environment (security) and customer engagement
Online service environment security includes users' perceptions of the website's security and safety measures and the actual payment processes (Kuhn et al., 2015). It refers to the extent to which consumers perceive the payment processes and general policies of a website as safe and secure (Xu & Liu, 2010). It is the degree to which customers perceive online services to be secure in performing financial services (Huang, Jia, & Song, 2015). According to Harris and Goode (2010), "security of a website has two sub-dimensions: perceived security and ease of payment". Moreover, Huang (2012) and Xu and Liu (2010) added payment procedures, methods, or options to components of the security of the online environment. Raoa, Griffis, and Goldsby (2011) suggested that the ease with which payments are made and processed in addition to order delivery payment methods form a key dimension used by consumers to evaluate websites. Also, Huang (2012) indicated that the security of the website can be gauged based on how customers evaluate online service providers' payment procedures and systems. This is especially true in Nigeria where the fear over the security of online payments has made most local online stores shift to cash-on-delivery options. The payment of orders after delivery, which has diffused the fear of exposing financial details online, has strengthened the financial security of online shops in Nigeria (George, Olufemi, Lasisi Jubril, & Lucas, 2015).

Financial security is necessary for the online exchange process given the unabated risk of fraud which has deterred many consumers from using the Internet (Matic & Vojvodic, 2014). Lee and Park (2013) observed that the perceived ability of firms to protect personal information from unauthorized systems is a strong factor in satisfactory experience with online businesses. They stressed that online users are often skeptical to engage in online transactions given that online service providers might expose them to non-authorized persons that may have caused them harm. Similarly, Ki-Han et al. (2015) found that the perceived security occasioned by the design of user-

friendly websites with efficient payment procedures, and the presence of efficient security systems of websites is most powerful, more favorable, and more central to online trust exchange. Yadav, Singh, Mishra, and Bag (2024) also identified cyber frauds, cyberbullying, and anonymity of the participants as security challenges in online communities' interaction and engagement as these issues when unaddressed affect both e-satisfaction and e- usage.

Studies (Harris & Goode, 2010; Kühn et al., 2015; Wu et al. 2017) have demonstrated that customers' assessment of financial security significantly impacts trust in an online service environment, subsequently influencing repurchase intention. Dang and Pham (2018), Ha and Stoel (2012), and Rita et al. (2019) have also discovered the influence of website security/privacy on the evaluation of e-service quality, leading to significant impacts on customer behaviors, including purchase intention. Hakima and Deswindi (2015) and Tran (2016) reinforce that financial security positively impacts trust, subsequently affecting e-word of mouth and customer loyalty. Contrarily, Amer (2021) finds that while financial security influences perceived value, it does not affect the intention to engage in online booking. Moreover, Ifemade (2021) found that the perceived lack of online payment security does not influence the usage/patronage rate of online shops in Nigeria. This finding was, however, countered by the study of Akpan and Etuk (2024) in the same Nigeria context that e-service quality, measured with perceived website's fulfillment, responsiveness and security, significantly influence customer loyalty.

These previous studies evaluating the influence of online service environment security only related it to trust, purchase intention, and online booking intention thereby neglecting customer engagement in an online context. Also, the extant studies neglected the influence of online service environment security on customer engagement within the Nigerian online retail context. Moreover, mixed evidence emerged among the previous studies on how security/privacy influences customer behaviors beyond trust and repurchase intention. Conducting further research to clarify the relationship between online service-environment security and customer engagement, particularly in the context of the Nigerian online retail landscape, calls for scholarly attention (Izogo & Jayawardhena, 2018). This paper, therefore, addresses this gap and hypothesizes a positive and significant relationship between online service environment (security) and customer engagement within the context of online shops in Nigeria.

Online service environment (order delivery system) and customer engagement.
Online service-environment order delivery systems, also referred to as an order delivery system in online shopping, involve a sequence of related events occurring at different points in time to ensure that a product ordered by customers is fulfilled or delivered to them at the right place (Gupta, Sachan, & Kumar, 2020). It is a set of processes or procedures customers undergo to get their orders, which include the length of time for the order to be received (order fulfillment) as well as payment of the charges (low, high, or free order delivery) on order delivery (Gupta et al., 2020). The specific procedures or series of activities performed to fulfill order delivery among online

stores include selecting delivery and payment methods, filling in payment details, receiving order confirmation when checking out, delivery of the right product ordered to the customer at the agreed place, and after-sales service (Pham & Ahammad, 2017). Wu, Quyen, and Rivas (2017) discovered that online order delivery has four-stage process/procedures, i.e., information search, agreement, fulfillment, and after-sales service. Customers evaluate and perceive quality order delivery methods when servicing providers consistently fulfill the delivery of orders as promised (speed of order fulfillment) through current channels and the charges on the orders are fair and satisfying (cost of delivering orders) (Lantz & Hjort, 2013).

Lemon and Verhoef (2016) discovered that customers' perceived quality of the order delivery system, starting from payment of orders, and delivery methods, to the actual delivery of the order, has an impact on the attitude of customers towards the service providers and directly influences intention to use the services of the focal online shops in the future. The order delivery process failure and poor process design were also observed as major contributing factors leading to dissatisfied customers in technology-based service delivery (Gupta et al., 2020). Griffis, Raoa, Goldsby, Voorhees, and Iyengar (2012) further argued that delay in order fulfillment can be the greatest factor that may affect repurchase intention through the effect of trust in the e-vendor. Qureshi, Fang, Ramsey, McCole, Ibbotson, and Compeau (2009) also discovered trust fully mediates the relationships between order fulfillment and repurchase intention.

Several studies have also theorized how order delivery glitches (failure to fulfill orders as promised) predict customer behavioral intentions (Qureshi et al., 2015; Piercy & Archer- Brown, 2014). Zhang, Onal, Das, Helminskey, and Das (2019), De-Leeuw and Dullaert (2016), Gupta et al. (2020), and Rita et al. (2019) further discovered that customer evaluation of the fulfillment of delivery date of orders (e-service delivery system fulfillment) directly impacts the customer behavioral intention. Moreover, Griffis et al. (2012), Rao; Griffis and Goldsby, 2021; and DeMagalhaes (2021) observed that delay in order fulfillment is the greatest factor that affects repurchase intention while Izogo and Jayawardhena (2018) found that service failure emerging from order delivery speed, product quality, and customer service quality, and retail prices influence trust, advisory e-WOM, and regrets, which are the dominance of negative frame reviews. Izogo and Jayawardena (2018) also discovered that delivery of the low-quality products followed by handling complaints remains the greatest cause of fear and low trust to engage in online shopping in Nigeria, which in turn leads to negative word of mouth as an external response to service failure. Lantz and Hjort (2013) further discovered that order delivery methods such as evaluation of the cost of delivering orders, free handling charges, and free returns influence order frequency and quantity (size) of orders influence customer behavioral response to the online product. They further inferred that customers make inferences by comparing the observed/perceived cost of delivering orders with internal reference prices/expected charges. The higher the price perceptions, the lower the value perceptions of products delivered, with a subsequent low intention to re-patronize the online service environment (Griffis et al., 2012; Nguyen, deLeeuw, Dullaert & Foubert, 2021).

Adding to this, Chang and Chen (2008) opined that the perceived risks in purchasing online offerings increase with increased perceived high charges on delivery of orders. This perceived risk is further compounded when consumers are not certain about the performance of products ordered and the online service environment policy for returned products (Nguyen, De Leeuw, & Dullaert, 2018; Wang et al., 2019), suggesting that customer trust in online service providers tends to decrease when perceiving high charges for orders they have no opportunity to physically examine and test. Rao et al. (2011) concluded thatsatisfaction with shipping and handling fees and online presentation of fees before purchase is positively related to consumer purchase satisfaction and consumer retention while Dang and Pham (2018) discovered that high-quality order delivery does not only lead to trust but also engagement in positive e-WOM.

Most extant studies that have made efforts addressing order delivery fulfillment and its influence on customers' behavioral intention were not only done outside the Nigerian context but also failed to relate it to customer engagement within online retail settings. Moreover, the extant studies appear to have focused on the influence of on-time delivery fulfillment (Zhang, Onal, Das, Helminskey & Das, 2019), order delivery delay (Rao; Griffis and Goldsby, 2021; DeMagalhaes, 2021), order delivery fees/cost (Nguyen, deLeeuw, Dullaert & Foubert, 2021), order delivery process (Gupta et al., 2020), order return process (Wang et al., 2019), and review/rating (Zhu, Liu & Dong, 2021) on behavioral intentions. They, however, neglected the influence of the quality of order (products) delivery fulfillment despite the influence of fear of getting low-quality orders/products on consumers' distrust in the offering of online shops. Against this backdrop, this paper incorporated the quality of order delivery fulfillment into the order delivery fulfillment process and how order delivery fulfillment influences customer engagement within online stores in Nigeria. We therefore hypothesized that there is a positive and significant relationship between online service environment (order delivery systems) and customer engagement within the context of online shops in Nigeria.

METHODOLOGY

Research design, population, and sample
The quantitative research design was adopted in this paper as it relies on data collected from a large sample of respondents through a questionnaire to accurately predict and identify the online service environmental cues (layout/functionality, aesthetic appeal, security of payments, and order delivery system) explaining customer engagement with local online stores in Nigeria.

The sample for this study was drawn from a target population of 12.8 million local online shoppers who have made purchases on Jumia's online marketplace. Using a random sampling technique, Jumia's platform was chosen as the sampling frame due to its dominance, accounting for 70% of the local e-commerce market in Nigeria (UNCTAD, 2021).

A structured questionnaire served as the survey instrument. In total, 1,025 copies of questionnaire were distributed randomly to Jumia customers across twelve states, covering five of the six geopolitical zones of Nigeria. The Southeast region was excluded due to high levels of insecurity, which prevented research assistants from accessing Jumia customers there. Thevalid response rate from the administered questionnaire was 520, exceeding the systematically determined sample size of 400.

The procedure adopted for collecting data from the sampled respondents involves the administration of offline (physical) and online (electronic) questionnaires to the sample respondents across the 12 States of the Federation. For offline distribution, twelve research assistants were trained to reach out to Jumia customers at various Jumia outlets and university campuses in the selected states. Online distribution involved sending digital copies of the questionnaire to individuals on Facebook, Twitter, and LinkedIn. The online and offline questionnaire distribution valid response rates were 122 and 398 respectively. The valid response rate to the online and offline administration of questionnaires across the twelve states is presented in Table 1 below.

Table 1: Response Rates/Place Purchased

S/N	States/Cities	Sampled Customers of Jumia Online Shops	Valid Respondents
1	Rivers (Port Harcourt)	85	55
2	Edo (Benin City)	85	50
3	Delta (Warri and Asaba)	100	52
4	Kaduna	85	40
5	Kano	85	38
6	Bauchi	80	35
7	Gombe	80	34
8	Kwara (Ilorin)	80	37
9	Abuja	100	48
10	Plateau (Jos)	85	42
11	Oyo (Ibadan)	80	45
12	Ogun (Abeokuta	80	44
	Total	**1,025**	**520**

Source: Author's Computation (2022).

Research Instrument

The instrument adopted for collecting data from respondents was a structured questionnaire. The items on the questionnaire were measured using a five-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree." Customer engagement, the dependent variable, was measured with 10 items adapted from the study by Harris and Goode (2010). Sample items include: "I endorse, recommend, speak/comment favourably, and continually use Jumia for online shopping."

The independent variables—layout/functionality, aesthetic appeal, security of payments, and order delivery system—were measured using a total of 63 items, adapted from studies by Harris and Goode (2010) and Wu et al. (2017). Layout/functionality was measured with 28 items and is operationally defined as the arrangement/organization, structure, and adaptability of websites, and their facilitation of service goals. Sample items include: "Jumia website is user- friendly," "Jumia website has useful navigational aids," "Jumia website has a good keyword search facility," "Jumia website suggests solutions when experiencing problems," "Jumia website helps me compare products and prices," "Jumia website enables me to view merchandise in different ways," and "Jumia website has all relevant information easily accessible."

Aesthetic appeal, measured with 12 items, is defined as the extent to which consumers perceive the service environment as attractive, innovative, or alluring. Sample items include: "Jumia website uses visually appealing graphics," "Jumia website displays its products attractively," "Jumia website is fresh and original," "Jumia website is innovative and creative," and "Jumia website is very entertaining and catchy." Security of payments, measured with 13 items, is defined as the extent to which consumers perceive the payment processes and policies of a website as secure or safe. Sample items include: "Jumia website seems very secure," "I feel safe using the Jumia website for transactions," "I am impressed with the options for paying for goods on the Jumia website," "Paying for goods on the Jumia website is straightforward," and "The payment facilities of the Jumia website are easy to use." The order delivery system, measured with 10 items, is defined as customers' belief that online service providers fulfill delivery promises and that the charges and quality of orders are fair and satisfying. Sample items include: "Jumia charges a fair amount for order delivery," "Jumia delivers orders within the expected time," and "Jumia delivers the exact quality products as claimed on its website." The reliability of the items was assessed using Cronbach's Alpha. The values ranged between 0.776 and 0.943, indicating very good internal consistency and reliability, as these values are all above the recommended threshold of 0.7.

A primary limitation of this study's methodology is the focus on data collected solely from Jumia customers rather than from all customers of local online shops in Nigeria. This limitation is mitigated by Jumia's significant market share, accounting for 70% of the local online service market in Nigeria, thus providing a representative sample frame for the study.

Model Specification
The model specified in this study is an adaption and modification of Harris and Goode's (2010) model. The model is specified as: $CUSTENGAGE = \beta0 + \beta1LAYFUC + \beta2SECU +$

$\beta3AESAPEC + \beta4ORDS+\varepsilon i$. CUSTENGAGE represents customers' engagement, LAYFUC represents the online service environment layout and functionality, SECU represents online service environment security, AESAPEC represents online service environment aesthetic appeal, and ORDS represents the online service environment order delivery system.

Estimation Technique
The estimation technique employed for testing the model specification is Ordinary Least Squares (OLS) regression. It was chosen as the analytical method due to its robustness and simplicity in estimating relationships between variables; superiority to other methods in capacity to simultaneously estimate the impact of various independent variables on one dependent variable while systematically controlling and mitigating the effects of confounding variables; providing the best linear unbiased estimates (BLUE) when the following assumptions are met: linearity, where the relationship between the dependent and independent variables is assumed to be linear; independence, where the observations are assumed to be independent of each other; homoscedasticity, where the variance of errors is assumed to be constant across all levels of the independent variables; and normality, where the residuals (errors) of the model are assumed to be normally distributed. These assumptions were carefully considered to ensure the reliability and validation of OLS in testing, predicting, or estimating the research model in providing insight into the magnitude and direction of the relationships between the dependent variable (customer engagement) and the independent variables (layout/functionality, aesthetic appeal, security of payments, and order delivery system). It was particularly valuable to this study due to the need to capture the proportion of variance in the dependent variable explained by the independent variables, aiding in the assessment of model fit and predictive power as well as the coefficients (betas) that quantify the direction and strength of relationships between independent and dependent variables, which allows for the identification, comparison, and prioritization of variables based on their relative influence on the dependent variable. The regression analysis was conducted using the Statistical Package for the Social Sciences (SPSS) at a significance level of 5%.

EMPIRICAL ANALYSES AND RESULTS

Table 2: Estimated results of the hierarchical regression model

Hypotheses	Standardized Estimate	t-Statistics	p-value	Decision
H1a: online service environment layout and functionality (LAYFUC) and customers' engagement	.504	16.885	.000	Supported
H1b: online service environment security (SECU) and customers engagement	.137	4.694	.000	*Supported*
H1c: online service environment aesthetic appeal (AESAPEC) and customers' engagement	.215	7.677	.000	*Supported*
H1d: online service environment order delivery system (ORDS) and customers' engagement	.210	6.726	.000	*Supported*
Adjusted R Square	*R Square*	*D.W*	*F*	*Sig.*
0.885	*0.887*	*1.738*	*619.479*	*0.000*

Table 2 shows that the layout and functionality, security, aesthetic appeal, and order delivery system of the online service environment had t-statistics of 16.885, 4.694, 7.677, and 6.726 respectively. Each of the online service environment cues also had a p-value (Sig) of 0.000 which is less than 5% critical value (level of significance). This suggests that layout and functionality, security, aesthetic appeal, and order delivery system of online service environment at the individual level positively and significantly influence the customers' engagement with local online stores in Nigeria. The paper, therefore, accepts each of the hypotheses stated in the alternative(H1) form that there is a significant relationship between online service environment cues (layout and functionality, security, aesthetic appeal, order delivery system) and customers' engagement with online stores in Nigeria.

The squared multiple correlations, otherwise known as R-squared for the model, is 0.887. This implies that the predictor variables jointly explain 89% of variations in customers' engagement with online stores. The overall goodness of fit of the model, which was evaluated using the Durbin Watson-statistic value, had 1.738, which indicates no presence of serial correlation in the model.

It suggests that the model has a large measure of goodness-of-fit and that results in the model are authentic, valid, and reliable for effective policymaking for addressing, sustaining, and improving the level of customers' engagement with online stores in Nigeria.

The coefficients of layout and functionality, security, aesthetic appeal, and order delivery system of the online service environment in Table 2 and Figure 1 are 0.504, 0.137, 0.215, and 0.210 respectively. This suggests that layout and functionality had the greatest influence on customers' engagement with online stores in Nigeria, followed by aesthetic appeal, security, and the order delivery system.

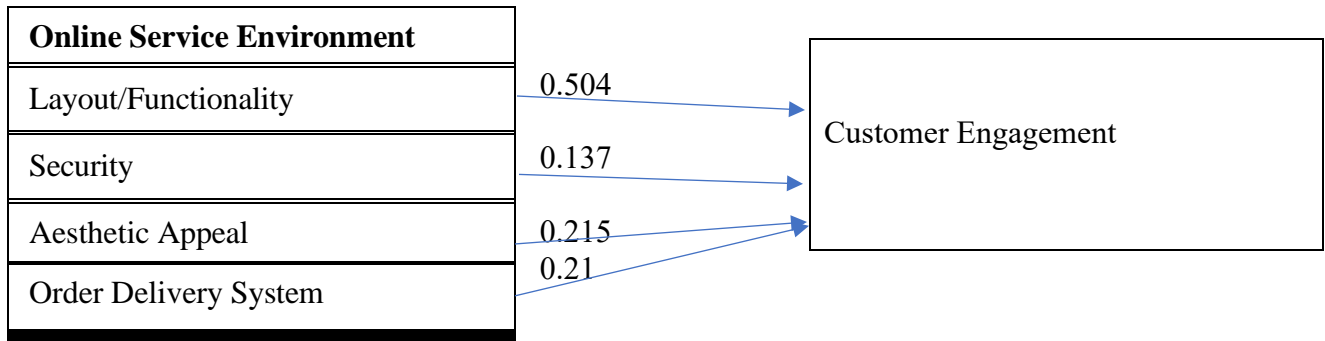| Online Service Environment		
Layout/Functionality	0.504	
Security	0.137	Customer Engagement
Aesthetic Appeal	0.215	
Order Delivery System	0.21	

Figure 1: Model of Online Service environment and Customer engagement

The finding of this paper summarizes that the online service environmental cues (layout and functionality, security, aesthetic appeal, and order delivery method) both at individual and group levels, significantly and positively influence customer engagement with online stores in Nigeria.

DISCUSSION OF FINDINGS

This paper advanced and tested the applicability of the model of an online service environment by incorporating the order delivery system (speed of order delivery, charges on order delivery, and quality of product/order delivered) into online service environment cues (layout and functionality, security, aesthetic appeal) and testing their influence on customer engagement with online stores in Nigeria. The results of the tested hypotheses, developed in line with the research objectives, support the empirical position of most previous related studies and the theoretical framework of this paper that the evaluation of online service environment cues (aesthetic appeal, layout, functionality, security measures, and order delivery systems) consciously and unconsciously elicits customer engagement (desire to physically stay in (approach)) or disengagement (get out of (avoid)) the online service environment.

The findings indicate that the online service environment cues (aesthetic appeal, layout, functionality, security measures, and order delivery systems) considered in this paper positively and significantly influence customer engagement with online stores in Nigeria both at individual and group levels. The paper discovers that online service-environment cues are pivotal to customer investment of money, time, and effort (physical and mental inputs) into online offerings. This discovery strongly supports the contentions of e-tailing researchers in diverse contexts that the online environment's aesthetic visual appeal, security measures,

layout, and functionality (ease of navigation, user-friendliness) are not only important factors in the dynamics of online exchange but also strongly and directly drive online shoppers' purchase intentions, loyalty, and trust (Harris & Goode, 2010; Kühn et al., 2015; Wu et al., 2017; Tran, 2016). Similarly, the finding that the order delivery system incorporated into the online service environment positively and significantly influences customer engagement with online stores in Nigeria provides strong support to the empirical positions of Griffis et al. (2012), Lantz and Hjort (2013), Nguyen et al. (2018), Gupta et al. (2020), and Rita et al. (2019) that customer evaluation of the cost of delivering orders and the fulfillment of delivery dates (e-service delivery system fulfillment) directly impacts customer behavioral responses.

In Nigeria context, the findings of this paper confirm the studies of Izogo and Jayawardhena (2018) and Oloveze, Ogbonna, Ahaiwe and Ugwu (2022) that poor design of online shops, poor orders delivery, and perceived low quality product offering made most consumers in Nigeria distrust local online offerings and developed a greater preference for shopping from foreign online shops. The finding, however, countered the empirical position of Ifemade (2021) that perceive lack of online payment security does not influence the usage/patronage rate of online shops in Nigeria but supported the recent study of Akpan and Etuk (2024) that each of the three dimensions of e-service quality (fulfillment, responsiveness, and security) significantly influence customer loyalty. It also confirmed the position of Adeola, Edeh., Evans, and Abbatty (2022) and Izogo and Mpinganjira (2022) on social media customer engagement in the Sub-sahara African context that social media marketing cues and customer involvement influencing customers' passive and active engagement in driving buying behaviour, building loyalty, and enhancing brand reputation.

The theoretical implications of the findings of this study can, therefore, be framed within the Stimulus-Organism-Response (SOR) theory proposed by Mehrabian and Russell (1974), which highlighted that environmental stimuli influence emotional reactions, which subsequently drive consumer behavioral responses. The paper reinforced the SOR's theory in the domain of the online retail shopping environment, confirming that aesthetic appeal, layout, functionality, security, and order delivery systems are stimuli within online retail settings (online service environment), which trigger emotional reactions and subsequently impact customers' behavioral engagement. The paper also endorsed that the integration of the order delivery system into the SOR framework provides a more comprehensive understanding of how various elements of the online service environment

collectively drive customers to either approach or avoid the online shops/service environment. The findings derived from the tested model of this paper should, however, have been interpreted with caution as the paper focuses only on Jumia local online service operators, thereby neglecting other online shops and online service environments in the country.

CONCLUSION

The results of the tested model of this paper strongly support, conclude, and endorse that evaluation and interpretation of the online service environment among online shoppers as financially secure, fresh, innovative, interactive, catchy, and free from order delivery glitches and high cost (overcharges) is a useful benchmark/checklist against which customers' engagement with the online stores can be elicited. Consequently, the paper concludes that online store operators/retailers can mitigate the lower patronage of local online stores compared to foreign online stores (UNCTAD, 2021) through the optimisation of order delivery systems to ensure timely and cost-effective delivery while prioritising the enhancement of the aesthetic appeal, layout, functionality, and security of their websites to foster customer engagement. It concludes that improving performance on each aspect of the each of the online service environment cues considered in this paper is crucial for increasing customer engagement and addressing trust issues in Nigeria's local online stores, which has resulted in only 5% of total shopping occurring online despite a 90% growth in internet usage and accessibility.

Managerial implications
The findings have numerous implications for practitioners, including online service providers. The online service providers can use the findings of this paper to provide a clear framework and useful checklist of the most important characteristics of the online service environment against which they can evaluate the online service provision of their firm. This can be done by undertaking a systematic appraisal of their online service environment across each dimension of order delivery systems, layout and functionality, security, and aesthetic appeal individually to identify the dimension(s) of the online service environment insufficiently considered for improvement.

The online shops/service providers should evaluate and ensure their order delivery system is designed toward customer orientation and satisfaction by ensuring charges on order delivery are low, free for some products, and discounted for customers who eventually paid for the orders. Moreover, they must ensure that the exact quantities, quality, and size of orders are delivered to customers within a timeframe and at the agreed locations and make efforts to reduce the seven days' timeframe taken to deliver orders to customers as commonly practiced within the Nigerian context.

The online shops should evaluate and ensure the online service environment has a very good layout, and the layout is functioning by ensuring that navigational aids on their website are clear,

readily available, easy to read, logical links, and user-friendly. They should also make sure that website pages are clear in their intent and destination, and that the website pages respond and load quickly when launched. Also, they should ensure that search buttons (tools) including keywords search function, are prominently displayed for customers to quickly and easily search and locate desired information, compare products and prices, as well as view the merchandise in different ways. They should also pay attention to technical details, including the price, name, and other features of their product's offering, which should be provided and easy to access. Furthermore, ensure information of first-time customers is collected and utilized to make purchasing recommendations that match individual needs and design the website so customers can customize it to their preferences (e.g., changing colors, layout, fonts).

Online shops should appraise and ensure their online service environment is aesthetically appealing, and this can be achieved by paying attention to and using graphics, logos, images, fonts, and photographs that are attractive, fresh, original, innovative, creative, entertaining, and catchy. The aesthetically appealing online service environment can be further improved upon by ensuring the product's display can be zoomed with a minimal effort by customers and ensuring the picture of the products is not only very clear and alluring but also looks original. Online shops should constantly verify the adequacy of their online service environment security and ensure they put a contact telephone number on every web page. This allows customers to easily and quickly contact the site to discuss any special requirements or ask for additional advice, particularly for higher-priced or high levels of choice. Additionally, it allows them to report any disruptions in the process of online search and payment exchange. In addition, the security and ease of online service environment payment systems can be sustained by maintaining the culture of ensuring that products ordered by customers are paid for after their delivery. The security and ease of payment can further be improved upon by sustaining the provision of online service environment agents across the countries with Post of Sale (POS) to stimulate ease of payment options. Moreover, the security of the online service environment can be stimulated by designing an online service environment such that payment for the cost of order delivery is straightforward and does not require entering a lot of financial details. This will diffuse customer perception that their financial information would be exposed to unauthorized persons or fraudsters.

Limitations and directions for future research
The limitations of this paper provide an impetus for future studies to explore further the dynamics of customer engagement with the online service environment. The contribution of this paper is restricted to customers' interpretations and behavioral engagement responses to only Jumia's local online service operators, thereby neglecting other online shops and online service environments in the country. Consequently, future studies should extend the scope of this paper by focusing on other local online stores within the context of Sub-Saharan Africa. Moreover, the findings and contributions of this paper are not only limited to some selected online service environment stimuli (order delivery systems, layout and functionality, security, aesthetic appeal) but also fail to consider

how the selected online service environment stimuli elicit customers' emotional reactions (pleasure, arousal, dominance) before influencing customer behavioral engagement within the online service environment. This limitation calls for future scholarly attention to incorporate other key online service environment variables such as online service brand personality, which are seldom considered in the study of consumer evaluation of online stores to illuminate and improve the validity of the online service environment model and its applicability. It also draws the attention of future research to consider the moderate role of customers' emotional reactions in the relationship between online service environment stimuli and customer behavioral engagement with the online service environment. There is also the need to consider the direct and moderate influence of demographics and personalities of customers on the relationship between online service environment evaluations and customer engagement within the online service environment.

Contributions and Originality of the Study
The paper is an extension of the applicability of the model of the online service environment developed by extant studies. The paper is unique because it incorporates the order delivery system (speed of order delivery, charges on order delivery, and quality of product/order delivered) into online service environment cues (layout and functionality, security, aesthetic appeal) developed by extant studies. The paper also advances and extends the usefulness of the model of the online service environment to the Sub-Saharan Africa geographical scope, which has been seemingly neglected by extant related studies. It further bridges the inadequate research on the influence of the online service environment cues on customer engagement with online stores, as related studies appear not to capture customer engagement in online offerings, probably because the concept of engagement is relatively new in marketing research. Insight from this paper may therefore be broader than previous related studies for designing an online service environment that would elicit superior customer emotional and behavioral responses.

ABBREVIATIONS
CUSTENGAGE: customers' engagement

LAYFUC: online service environment layout and functionality SECU   online   service environment security
AESAPEC: online service environment aesthetic appeal
ORDS:the online service environment order delivery system
SPSS: Statistical Packages for Social Sciences
OLS: Ordinary Least Square (OLS)
UNCTAD: United Nations Conference on Trade and Development

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