Undergraduates' e-shopping inhibitors in a developing market context: stimulus-organism-response approach

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Abstract: Originally, shopping in most developing economies takes place in designated marketplaces and physical neighbourhood stores. Few decades ago, e-shops, are attractive alternate shopping channels that emerged in the retail ecosystem. E-channel among university undergraduates is quietly becoming fashionable as technology-enabled transactions become ubiquitous in many developing economies. Despite observed fast-expanding Generation Z consumers (born between 1995–2012) that are largely internet-savvy, under-utilisation of e-shops for shopping appears apparent among most university undergraduates. Therefore, this study seeks to unmask those factors that restrain e-shopping behaviour of undergraduates. Self-administered questionnaire was used to collect data from 320 undergraduates who have made online purchase at least once. Judgemental sampling technique was utilised in respondents' recruitment. Partial least square-structural equation modelling was used in analysis. Findings indicate that explored independent variables – perceived product quality, delivery time, delivery cost, customer relationship/communication, product price, and misinterpretation of customers' order/s emerged as significant inhibitory factors of online shopping; e-shopping intention also predicts e-shops' patronage. Underpinned by the stimulus-organism-response (SOR) theory, this study expands frontiers of e-shopping literature by examining unexplored inhibitory factors culminating in e-shop patronage inhibitory model. Practice and theoretical implications of the findings were discussed.

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1   Introduction

The presence of internet has increasingly changed retailing landscape from solely brick-and-mortar retailing (which requires physical presence and visits) to include online retailing. It has revolutionised the business landscape as the number of global internet users is exponentially growing. Since the invention of the internet and the remarkable growth of internet users, the first thing many people do when looking for a product, a service or a company to buy from, is to search for information online (Umar and Ibrahim, 2020). A great web presence is thus crucial for any company that wants to survive in today's digital world (Halligan and Shah, 2014; Leinbach-Reyhle, 2015). Hence, e-shops and e-shopping are increasingly becoming a way of life. Online retail competition is observable among e-retail outlets such as Konga, Jumia, Dealdey, Yudala, and others, which are increasingly targeting the middle class and the youth market in developing countries including Nigeria as well as emerging markets in Africa.

Online retailing involves sales and purchases of products and services over the internet (Keeney, 1999). It allows consumers to skip some processes involved in purchase decisions, such as cost of transportation, looking for physical stores that possess the desired product or service, distance to the store, and more. Also, young consumers (who are intellectually and technology-sound) can purchase goods from the comfort of their homes, offices, hostels and others, thereby smartly conserving time and energy (Deneen and Yu, 2015). The use of diverse modes of payment such as debit cards, cash transfers, cash-on-delivery, gift cards, credit cards, mobile money increase the attractiveness of e-shopping particularly among undergraduate who are often time-pressured (Johnson, 2015). Also, online retailing has enabled consumers to have access to a wide variety of products for purchasing, selling and reviewing. In addition, it allows a consumer regardless of economic class to participate in international marketing as purchases can be made on e-shops where the seller dwells in a foreign region. There are various categories of online consumers but this research focuses on undergraduate students. Observably, university undergraduates, who are online-savvy-youths, are somewhat moving away from physical shopping to e-shopping. Factors such as good purchasing power since some of them are from rich homes, convenience, peer pressure, the lower price of products sold online, internet experience, and ease in purchasing may also influence their decisions to shop using the internet (Chang et al., 2005; Limayem et al., 2000). Hence, it makes business-sense to tap into the rising undergraduates' market that is increasingly using and patronising e-shops. Online shopping has helped undergraduate students with 'convenience buying' as they can purchase needed textbooks, stationery, body care products, clothes, gadgets and even food from the comfort of their dormitories/hostels. They also enjoy certain benefits like discounted prices allocated to only students.

E-shoppers can be classified into utilitarian and hedonic e-shoppers (Wolfinbarger and Grilly, 2001; Idoko et al., 2019). Utilitarian e-shoppers are online shoppers that have goal-oriented shopping behaviours (Delafrooz et al., 2010; Pentz et al., 2020). They shop online only on the bases of rational necessity for the achievement of a specific goal (Kim and Shim, 2002). They also give greater importance to the transaction-related features of a website rather than the entertainment features. Hedonic e-shoppers, on the other hand, are online shoppers that have experiential shopping behaviours (Delafrooz et al., 2010; Pentz et al., 2020). Hedonic value is applied in the entertainment-oriented use of online shopping, such as the shopping experience (Babin et al., 1994). A hedonic shopper would lay little emphasis on actual purchase unlike the utilitarian shopper. Experiential shoppers prefer to be occupied with the experience rather than achieving their purchasing goals by shopping online (Wolfinbarger and Grilly, 2001; Antwi et al., 2020; Ogbuji and Udom, 2018).

Various past researches have shown a number of gaps that lend legitimacy to the present study. Most of the past research were based on e-shopping behavioural intention and were conducted in Malaysia, China and India, but very few were done in Africa or even Nigeria. This research oversight has created a void and provides basis for this study in order to fill the gap(s). Also, most previous studies (Jin and Osman, 2014; Dan and Xu, 2011; Ling et al., 2010; Ofori and Nimo-Appia, 2019; Mudondo, 2014) focused more on drivers of undergraduates' online shopping behaviour. However, in the context where technology-enabled shopping or online adoption process is embryonic, it is appropriate to explore factors that inhibit such behaviour. However, the first attempt to explore such study was by Ibrahim et al. (2015), who merely posited a conceptual framework of factors affecting e-shopping among students; however, he did not do any empirical

validation. Empirically unravelling such factors will inform marketing strategy development for intending e-marketers and e-shops. This somewhat explains why a number of few empirical studies (Shahar, 2016; Narges et al., 2010), albeit Western and Asian studies, have sought to unravel and report these inhibiting factors with non-student cohorts. The view of the researchers of online inhibitors seems to be driven by the thinking that identifying online bottlenecks that impinge on online customer flow towards e-shops is a first step to the removal of such bottlenecks (Ibrahim et al., 2015).

According to empirical review, several contradictions exist in findings on what constitutes inhibitors of online undergraduate shopping behaviour from context-to-context. Some of these inhibiting factors may not be legitimate inhibiting factors for students in the Nigerian context, where the online shopping behaviour is slowly and steadily gaining momentum. Investigating already reported inhibiting factors may not add value to undergraduate online shopping literature as inhibitors may be context-specific.

Unfortunately, it is also observed that, though many undergraduate students use the internet for varied reasons, their e-shopping behaviour/engagement is still relatively low (Monsuwe et al., 2004) which presupposes that certain factor may be inhibiting them from adopting or deeply engaging in online shopping behaviour. What could possibly explain limited involvement in e-shopping by undergraduates?

This research expands the fields of marketing especially e-marketing segment. Companies seeking internet presence for their products can use the results from this study in a number of ways. For instance, if undergraduate students are their target market, this study reveals key inhibitors of undergraduates' e-shopping and also show how they can navigate or overcome any challenges they face. A case where an e-retail store is just entering the undergraduate market, this research reveals potential difficulties and how to avoid or resolve them. It is also beneficial to consumers who patronise online retail outlets, such as undergraduates, to help them have a deeper understanding as to why certain e-shops are lacking in efficiency. Moreover, this study will enable the consumers to make better analytical decisions on which e-stores to patronise. Future researchers with a similar interest and investors in e-business may benefits from this study as it aids in analysing the operations of current online store; decision on which to invest is based on their efficiency and how they can overcome identified inhibitors. The rest of this paper discusses the following themes: review of relevant literature, hypotheses development, methodology, results, discussion, managerial and policy implications, conclusions and recommendations, and limitations and directions for further studies.

2   Review of relevant literature

2.1   Theoretical foundation

The stimulus-organism-response (SOR) theory is the underlying theory of this study. SOR strongly tends to bolster understanding of the nature of underpinning assumptions that fuse the constructs in this study. A number of previous attitude-behaviour studies have used SOR theory to guide conceptualisation of research framework in different industry and context (Goi et al., 2014; Peng and Kim, 2014; Jeong et al., 2020). The SOR model consists of three dimensions – the stimulus as an independent variable, organism as mediator, and response as dependents variable (Anubha and Jain, 2022; Goi et al.,

2014). In Kim et al. (2020), the SOR theory comprise inputs (stimulus), processes (organism) and outputs (response). The SOR model, which was originally proposed by Mehrabian and Russell (as cited in Anubha and Jain, 2022) posits that "different characteristics of the environment act as stimuli (S) which influence the internal psychological state of individuals and work as organisms (O) and drive them to respond (R) behaviourally" [Anubha and Jain, (2022), p.2]. Providing further insight to the S-O-R framework, Dhiman et al. (2022) postulate that the stimulus component makes the impact that evokes the person (e.g., consumers) and the cognitive and affective interim state of the consumers is the organism component. The response component depicts the consumer reaction (or outcome) resulting from the interaction of the stimuli and the organism. Hence, the S-O-R framework, Chen and Girish (2022) noted that it is final outcome of consumer behaviour, which is manifested in some form of action (Dhiman et al., 2022; Peng and Kim, 2014).

2.2   Conceptual review

E-shopping outlets: these are websites where goods and services are offered to consumers for sale at a fixed or flexible prices. The *Business Dictionary* defines retail outlet as a store that offers smaller quantities of products or services for sale to the general public. A business that operates as a retail outlet will typically buy goods directly from manufacturers or wholesale suppliers at a volume discount and will then mark them up in price for sale to end-consumers (Oduorb and Jonyoa, 2018; Pentz et al., 2020). An online retail outlet is simply a retail outlet that performs all its activities on the internet. There are various types of online retail outlets based on their operations but only the online marketplace will be revealed in this study. The online marketplace is an e-commerce site where product or service information is made available by third parties (e-tailers), whereas the transaction processes are performed by the marketplace operator. A number of online retail sites (such as http://www.konga.com) enable users to register and offer goods for sale for a fee called post-selling. The site also offers services to the registered e-tailers such as delivery, auctioning, ordering among others (Ogbuji and Udom, 2018; Mudondo, 2014). Bricks-and-clicks are a term gotten from a business model in which a company combines both offline and online presence. Also, these companies will offer telephone ordering, mobile apps and sales support (Bogaisky, 2018).

2.3   Empirical review

This study explores empirical studies in the areas of online shopping behaviours and intentions in relation to undergraduate students. The internet is a new tool evolving into an essential part of everyday life all over the world, especially among university students who demonstrate huge-indulgence with the internet (Vidyachathoth et al., 2014). The internet is so embedded in the lives of undergraduate students currently. For instance, when an undergraduate student is in need of products, communicating with others, obtaining a book and others, all that is required is to access the web and purchase the product, make use of a communicating platform online, read the book online, etc.

In a study by Dan and Xu (2011) in China, involving 70 undergraduate respondents, the researchers identified ten factors influencing undergraduates' online shopping behaviour. The factors include: transaction security, comment on online shopping convenience, clearing security, advantage of interactions with supplies, internet currency

clearing knowledge of undergraduates, transformation of online shopping conception, price advantage, computer knowledge, and advantage of obtaining product's information. In Malaysian, a study by Ling et al. (2010) involving 242 Malaysian undergraduates which focused on identifying the determinants of customer online purchase intention and evaluation of effects of online trust, prior online purchase experience and shopping orientations on customers' purchase intention show that experience had a positive effect on the customers' online purchase intention. In another Malaysian study, Delafrooz et al. (2010) with 370 Malaysian students as respondents, the study sought to unravel factors affecting undergraduate buyers' attitude. This is in order for e-marketers to develop proper marketing strategies in transforming potential customers into active customers. The identified factors affecting online shopping in the study were personalities (utilitarian and hedonic personality) and online shopping perceived benefits such as convenience, homepage, wider selection, price, customer service and fun. Results of the multiple regression analysis revealed that utilitarian orientation, a wider selection, convenience, and price influenced consumers' attitudes towards online shopping. Research conducted in China by Diao (2015), helped to reveal and understand the online shopping behaviour of 862 Chinese university students, the motivations and barriers for online shopping and how it affects the shopping habits of consumers. The factors considered were products, websites, device and payment; and all factors, except device, had significant relationships with online shopping behaviour in China.

The study by Osman et al. (2010) involving 100 Chinese undergraduate students, intended to examine the attitude Universiti Putra Malaysia (UPM) students had towards online purchasing behaviour. The results indicate that a high percentage of the respondents had a moderate level of purchase perception, attitude and website quality towards online purchasing. The finding shows that website quality and purchase perception had significant relationships with attitude towards online purchasing behaviour, also it shows that age had no significant relationship with attitude towards online purchasing behaviour, unlike gender and education background which both had significant relationships. Shahar (2016) carried out research on 350 Malaysian undergraduates in University Utara Malaysia (UUM) which was proposed to analyse and understand factors that affect students' behaviour towards online shopping. The study found support for the following independent variables: ease of use, perceived usefulness, brand orientation and website design as having significant relationships to online shopping behaviour. The study by Jin and Osman (2014) sought to unravel the key drivers of online shopping intention among undergraduates in Malaysia. Several factors were identified in the research such as perceived riskiness, perceived convenience, initial trust and website attractiveness. A questionnaire survey was distributed to 200 university students. Descriptive analysis, reliability analysis and regression analysis were applied in this study. The results showed that perceived riskiness, perceived convenience and website attractiveness are significantly influencing online shopping intention, but it also showed that initial trust has no significant influence on online shopping intention.

A number of European studies have also explored undergraduates' e-shopping behaviour. For instance, a study executed in Lithuania by Davidaviciene et al. (2019) report a number of factors that drive e-shopping. These include: low product price (PP), maintaining relations, comfortable search, large variety of choice, and recommendation from peers. In a similar European study by Petra (2016) involving a cohort of 380 undergraduates drawn from Slovakia and Czech Republic, report discount offers and

quality of the brand as key e-shopping drivers for the two cohorts. A number of African studies (Pentz et al., 2020; Umar and Ibrahim, 2020; Antwi et al., 2020; Oduorb and Jonyoa, 2018; Ogbuji and Udom; 2018; Mudondo, 2014) have also explored drivers of online shopping among undergraduates with only one known study (Ibrahim et al., 2015) attempted exploring the factors affecting e-shopping among undergraduates; it only offered a conceptual framework. The study by Ibrahim et al. (2015) did not offer any empirical validation. Evidently, gap in the empirical review is the dearth or absence of studies that purposefully sought to unearth the inhibiting factors that undermine undergraduates towards e-shopping and e-shop selection. A plethora of studies focused on the drivers and determinants of e-shopping behaviour as little is known about the inhibitors, being the flipside.

2.4   Hypotheses development

2.4.1   Perceived product quality and e-shopping intention

Many scholars (Handoko, 2016; Ziaullah, 2014) in their studies report that perceived product quality (PPQ), which represents customers' judgement about a product overall superiority and performance is the most powerful determiner of satisfaction, trust, and loyalty in online shopping. This evidence suggests that offering quality products is the best fundamental and maximising factors of satisfaction that retain customers' loyalty and trust in e-commerce over a particular product. Customers tend to buy products of good quality that are reliable and safe for maximum satisfaction. Thus, customers are loyal and are satisfied with products that meet their desired expectation (Ziaullah, 2014).

Subsequently, Xiao et al. (2019), in their assessment using cue utilisation theory, opine that perceived quality judgement of a product is determined by the predictive and confidence value of the product cue (intrinsic and extrinsic cue). Consumers exhibit more familiarity with extrinsic cues than intrinsic cues; they rely more on external cues when evaluating products than with intrinsic cues (Idoko et al., 2013). The changes in the physical quality of a product are less likely to be perceived by consumers than price changes. Hence, consumers are more likely to judge product qualities based on the external cues of products.

However, poor experiences of customers over poor-quality products that do not meet their expected satisfaction have contributed to affect customers future purchase decision negatively (Katawetawaraks and Wang, 2011). Many university undergraduates are embracing shopping online; however, there is noticeable complaints and slowing interest in e-shopping among students even in the private universities that are perceived to house affluent students. It is not clear if the waning interest in shopping online relates to difference between perceived products' quality versus products' received quality mis-match. Shopping online is a new paradigm for undergraduates in Nigeria, hence, there is no basis to judge if a product is of desired quality except via online product information, cues, product reviews and word-of-mouth referrals. Accordingly, this study hypothesis that:

H_1 PPQ is a significant inhibiting factor of undergraduates' e-shopping intention (EI).

2.4.2 Delivery time and EI

According to Handoko (2016), timely delivery of online order drives customer satisfaction' because it directly deals with online customers' critical expectation. Customers who shop online require safe, reliable and quick delivery of the product at their door-step. Hence, in online shopping, timeliness and reliability of a company in meeting customers expectation promptly creates a good customer satisfaction, but poor timely delivery drives the customer to switch for other alternatives. Cihan et al. (2017), also indicate that timeliness and reliability of online product delivery play an important role in terms of customer satisfaction because a good delivery experience by a customer at the promised time boosts his or her level of satisfaction to a greater height.

Earlier studies, which largely collected data from general customers, largely found strong positive relationship between delivery time (DT) and customer satisfaction (Cihan et al., 2017; Handoko, 2016; Xiao et al., 2019). Customer satisfaction presupposes actual purchase as satisfaction is expressed after product experience. As 'new comers' in the online customer shopping space, it is not clear if undergraduates' customers in developing country context place higher value in DT when expressing their online shopping habits. Accordingly, it is not fully known if DT will undermine their intention to shop online. Therefore, this research hypothesis that:

H$_2$ DT is a significant inhibiting factor of undergraduates' EI.

2.4.3 Perceived delivery cost and EI

Naturally, shopping online presupposes that delivery or shipment cost be borne by the e-shopper while delivery risk is borne by the online shop. Delivered costs for a product or service refer to the total unit cost of a product or commodity delivered to a certain market, city or customer. It normally comprises all associated transport costs and the unit cost of production for that product (Ofori and Nimo-Appia, 2019; Xu et al., 2008). In the main, delivery or shipment cost refers strictly to the cost of moving the product or service from shop to the address of the shopper. Generally, online shoppers assess the cost before making an online purchase. One of the main costs is delivery or shipment cost. This is a critical purchase determinant as delivery cost (DC) for an online item differs from one online retailer to the other as the choice of an e-tailer, most time, is determined by the cost-savings from the DC differential. Accordingly, Aragoncillo and Orus (2018) submit that most online shoppers perceive cost factors such as DC prior to buying. This situation is not different from students who shop online. Students generally are not strictly considered income earners but rather depend on 'pocket money' from parents and/or guardians. As dependents, it is possible they will be cost-conscious while expending their 'upkeep allowance'. Although this may not be true for all undergraduates; however, DC is likely to be a key consideration during purchase decision. In a study in Ghana of undergraduate students, Ofori and Nimo-Appia (2019) found that perceived cost (which includes DC) is the most significant factor affecting actual use of online shopping among students in Ghana. In an earlier study by Dan and Xu (2011), DC was not found to be significant factor influencing undergraduates' online shopping behaviour in China. Similarly, the study by Ling et al. (2010) did not find support for DC as determinant of online purchase intention of Malaysian students. It can be deduced from the previous empirical studies that DC seems to be an issue for online shoppers in Africa (e.g., Ghana) but this may not be so for other advanced economies. Therefore, it seems that DC as an

inhibitor is inconclusive as it is somewhat context-specific. Therefore, the following hypothesis is postulated:

H$_3$ Perceived delivery cost (PDC) is a significant inhibiting factor of undergraduates' EI.

2.4.4   Customer relationship/communication and EI

To build and maintain relationships, e-shops, like every other business, must continue to engage its customers in meaningful dialogue (Rita et al., 2019). The internet has redefined relationships through the advent of visual communication (Chang and Chen, 2020). Communication and customer relationship (CR) building are intricately intertwined as both are germane when wooing customers (Rese et al., 2020). Thus, communication is necessary for building long-term relationships with online shoppers/customers. Schultz et al. (1995) (as cited in Poovalingam and Veerasamy, 2007) posit that it is sustained relationship building through rapport, empathy, dialogue, and communication that the marketers establish with the online shoppers that make the difference. Realising the role of communication and relationship building in attracting online shoppers, e-shops are increasingly leveraging on electronic customer relationship management (e-CRM), which is a managerial approach that enables online shops to identify, attract, and ensure the retention of e-shoppers (Bugaje, 2015; Kumar and Kumar, 2014); it is a critical tool in e-retailing mix (Dennis et al., 2005). It refers to marketing activities, tools and techniques delivered through the internet, using technologies such as e-mail, the World Wide Web, chat rooms, forums, social media, and others with the goal of locating, building, and improving long-term CRs (Kampani and Jhamb, 2020). Only few accessed empirical studies have explored the relationship between CR or e-CRM and e-shopping behaviour using student sample. Thus, the e-CRM construct is under-explored against e-shopping especially among extant studies (Dan and Xu, 2011; Ling et al., 2010; Jin and Osman, 2014; Shahar, 2016; Delafrooz et al., 2010). In a Chinese study, Osman et al. (2010) found that relationship building through communication will influence e-shopping purchase intention among Chinese undergraduates. Similarly, earlier study by Poovalingam and Veerasamy (2007) established that e-communications tools used for promoting relationship marketing can influence e-shopping behaviour. Given the scantiness of studies that explored e-CRM construct as predictor or inhibitor of EI, this study hypothesis that:

H$_4$ CR is a significant inhibiting factor of undergraduates' EI.

2.4.5   Perceived PP and EI

Price can affect purchase behaviour both in online and offline retail situations (Dertwinkel-Kalt et al., 2020; Lichtenstein et al., 1993). Strategic online or offline pricing policies demand the understanding of how price is viewed and understood by customers (Cravens and Piercy, 2006). Hence, online customers might view price differently from how offline customers may view PP, which influence shopping behaviour. In most developing country context, especially in many West African countries, where internet access is nascent, the prices of online products are somewhat perceived to be higher (Khare et al., 2014). This may not hold true for advanced context where e-shopping is perceived to be convenient regardless of whether price is high or low (Zhuang et al.,

2018). The prevalence of price dispersion or price competition among online retailers seems to suggest that price is a critical consideration in online purchase decision among e-shoppers. Accordingly, Chang (2009) note that price seems to be an integral element that appears more than once in the entire decision-making process. A number of studies (Chang, 2009; Osman et al., 2010) have explored how price differences impacts upon the online consumer decision-making. Customers judge the actual price of a product to be high, low or fair in comparison with these internal standards (Monroe, 1990). This suggests that it is the perceived PP rather than actual price that affects consumers' product evaluation and choices (Jacoby and Olson, 1977; Zeithaml, 1988).

There is an abundance of evidence indicating that consumers are likely to buy at lower prices on websites, but there is also conflicting evidence suggesting that consumers may not actually pay lower prices when buying online. Brynjolfsson and Smith (2000) examined prices of books and CDs sold through the internet and conventional channels in 1998 and 1999 in the USA. They found that online prices were 9%–16% lower than those in conventional stores. However, Clay et al. (1999) compared prices of books sold by thirteen online and two high street bookstores. They found that prices in online and traditional stores were the same after controlling the homogeneity of book characteristics. Furthermore, Bailey's (1998) study on book CDS and software sold in both online and offline settings revealed that on average, customers tend to pay more for products when shopping online. Although inconclusive, the findings do seem to indicate that internet influences prices paid by consumers. Moreover, there is wide price dispersion in the electronic marketplace. For example, Clements et al. (1999) investigated online markets for airline tickets and found differences in prices across online travel agents as large as 20%, even after controlling for observable product heterogeneity in the USA. Price influences purchase decision largely due to price dispersion between online. Based on this narration, this research postulates that:

H_5 Perceived PP is a significant inhibiting factor of undergraduates' EI.

2.4.6 *Misinterpretation of customer's order and EI*

Often, customers place order/s in e-retail shops based on information available in the retailers' website. Consequently, customers' direct or physical touch with the products which, potentially influences user's evaluation/assessment and subsequently decision is lacking (Zheng and Bensebaa, 2022). Online order fulfilment (e-fulfilment), which refers to physical delivery of products to customers (Agatz et al., 2008) is a pivotal component of e-shops sales success factor (De Koster, 2003; Lummus and Vokurka, 2002). An order fulfilment hiccups expressed in terms of mis-interpretation (e.g., sizes, colour, quality, model) of customers' order trigger consumers' order anxiousness and reduces EI (Nguyen, 2018). Mis-interpretation of customer's order refers to intentional and/or unintentional reconfiguration of customers' order along the order fulfilment channel/s culminating in delivery of inappropriate product/s to a customer. In campus hostels/lodges, complaints sometime trail products delivered to students by e-shops as products ordered are slightly or completely different from the product delivered resulting in resentment, distrust and intention to discontinue engaging in e-shopping activities. This observation implies that consumers are not only interested in order fulfilment in terms of product quality, quantity and timeliness of delivery; they are also concerned about delivery of product/s that conforms to the order specification/s and/or expectations

as detailed in retailers' website (Cao et al., 2003; Nguyen et al., 2018). Misinterpretation of order in terms of size, colour, quality, design and others arouse customer animosity towards e-shops and intention to re-use e-shops may be endangered. In Nigerian context particularly among university undergraduates, how misinterpretation of customer order (MCO) influences intention to engage in online shopping has remained unexplored. Accordingly, the following postulation is developed:

H$_6$ MCO is a significant inhibiting factor of undergraduates' EI.

2.4.7   *Intention and e-shop patronage*

Morwitz et al. (as cited in Pena-Garcia et al., 2020) describe purchase intention as a veritable construct in testing implementation of a new distribution channel (e.g., online shops) in order to assist managers, determine whether the concept deserves further modification, geographical market and consumer segment to target using the channel. Consistent with Esper et al. (2003) and Pavlou (2003), this research understands online purchase intention as the degree to which a consumer is willing to buy a product through an online store. Intention as a strong determiner of actual behaviour has been proven in extant research (Montano and Kasprzyk, 2015; Pena-Garcia et al., 2020). Furthermore, in studies conducted among Indian consumers of luxury fashion products (Arora and Kishor, 2019) and counterfeit luxury goods consumers in Malaysia (Ting et al., 2016), purchase intention was found to positively influence actual behaviour. In online setting, does lack of intention translates into actual e-shop avoidance among university undergraduate? Research (He et al., 2008) recognises absence of intention to shop online as basic setback in the development of e-shops. Interestingly, Lim et al. (2016) observe that online purchase intention and behaviour appear inextricably interwind; therefore, more research that explore/s the relationship in diverse context is/are needed to deepen understanding of the constructs. Following this narration, this study speculates that:

H$_7$ Undergraduates' EI has a significant and positive inhibiting effect on patronage of e-shops.

2.5   *Research schema: the nexus with theory*

The foregoing hypotheses informed the development of the research schema of Figure 1. Basically, the schema is a graphic snapshot of this study. The schema has three key dimensions. The first dimension depicts the six independent variables that are construed as inhibiting factors. The second dimension, the intervening variable, is the EI. The last dimension is dependent variable, which is online patronage. Connecting schema with the SOR theory, the six independent variables (product quality, DT, DC, CR, PP and misconception of customers' order) constitute the stimuli, that is, the factors in the environment that impinge the consumers' propensity to engage in e-shopping (Peng and Kim, 2014). The second element, the organism, is the internal process intervening between the stimuli and the final response. As depicted in Figure 1, the organism is represented by EI. It is the cognitive and affective interim state of e-shopper. Thus, the schema argues that stimuli (i.e., the six inhibitors being external input from exposed environment as perceived by an individual) can trigger a response (i.e., resulting behaviour that manifest in form of online patronage) via the organism's internal evaluation process depicted as EI (Chen et al., 2022; Chen and Girish, 2022).

Figure 1   Research schema
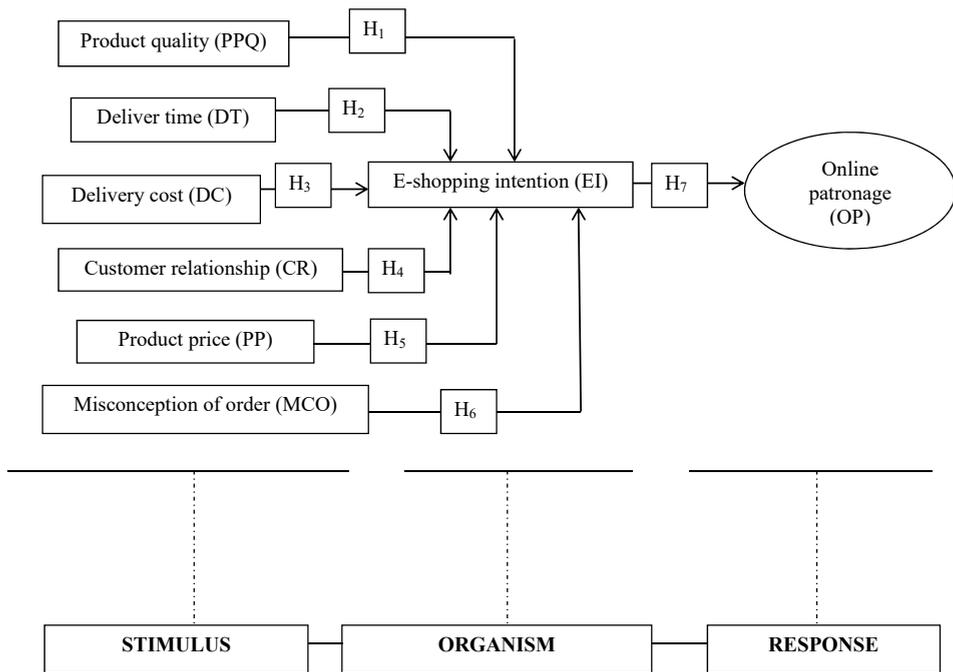
3   Methodology

3.1   Target population and sample size

The population of this study covers Covenant University undergraduate students that shop from online retail outlets. Population of 1,949 undergraduate students was used. A statistically determined sample size of 332 undergraduate students were selected and drawn from the sample frame (undergraduates of the College of Business and Social Sciences – CBSS) using the Taro Yamane statistical formula.

3.2   Questionnaire design and measures

The questionnaire is structured in Likert scale descriptors where 1 denotes strongly disagree and 5 means strongly agree. The questionnaire is blind in terms of respondents' personal particulars such as name or phone number/s. Exclusion clauses were embedded in the questionnaire to ensure that all potential respondents for this study have once made an online purchase and have taken delivery on campus among others. The measurement items for the constructs (product quality, DT, DC, CR, PP, MCO, intention and patronage) were adapted from previous cognate studies (Pena-Garcia et al., 2020; Xu et al., 2008; Ibrahim et al., 2015; Blut, 2016; Gawor and Hoberg, 2018; Holloway and Beatty, 2008). Each construct was measured with four measurement items which fits with recommendation in extant literature (Hair et al., 2010).

3.3   Pilot test

The questionnaire was slightly altered in terms of simplification of wordings to suit study context. Consequently, it was re-subjected to face-validity (Hair et al., 2010) using two research experts in two top universities in Nigeria. The comments/suggestions put forward by research reviewers were included in the final draft as appropriate. Additionally, the instrument was subjected to reliability and validity test using the Cronbach's alpha. The range of the coefficient value is from 0 to 1. An instrument with high reliability will possess a coefficient relatively close to 1 as possible whereas a score that is relatively close to 0 is a sign that the instrument has a relatively low or no reliability. Nunnally (1998) recommends a minimum level of 0.7 for basic research. The resulted Cronbach's alpha value for this study was 0.771, indicating that the set of items show good internal consistency.

3.4   Sampling procedure

Simple random and judgemental sampling procedures were utilised in respondents' recruitment in order to ensure that only potential respondents that pass exclusion criteria comprising: purchase online and receipt of goods/services bought from e-shops, the student is in CBSS, the potential respondent is not a minor (aged at least 18 years), and he/she volunteered to participate in the study. Also, simple random sampling approach helped to achieve representativeness of participants in the study. In other words, judgemental sampling procedure used helped to disallow unqualified potential respondents from taking part in this study; simple random sampling ensures fair representation of respondents.

3.5   Questionnaire administration

Copies of the questionnaire were administered by the research team together with the assistance of research assistants recruited for this study. The research assistants were trained concerning the study before they were deployed to administer copies of the questionnaire. Copies of questionnaire were allocated proportionally to streams (e.g., year2, year3, etc.) based on the population of each stream in order to ensure fair representativeness of all the streams that make-up CBSS. Participation in the survey was voluntary. Simple random sampling was applied to select willing respondents in each stream. Respondents were given copies of the questionnaire to fill in their respective lecture rooms after lectures. After editing returned copies of questionnaire, 320 copies were found useful for analysis. The remaining 12 copies were discarded.

4   Results

4.1   Measurement model and model fit summary

In analysing the data collected, the use of:

1   measurement model

2   structural model as recommended by Anderson and Gerbing (1988) were adopted.

The measurement and structural models have constructs and measurement items that satisfy construct validity (i.e., convergent validity). The structural model was developed to represent the constructs in the measurement model and to show regression weights of the constructs. Note that constructs were abbreviated as follows: PPQ = perceive product quality, DT = delivery time, DC = delivery cost, CR = customer relationship, PP = product price, MCO = misinterpretation of customer order, EI = e-shopping intention and OP = online patronage.

Table 1   Result of convergent validity using CFA

Variables	Items	Loading	Compose reliability	Ave. variance estimated	Square root of AVE
	Threshold	> 0.6	> 0.8	> 0.5	
Inhibitors of e-shopping intention	Perceived product quality	0.672	0.810	0.552	0.743
	Delivery time (DT)	0.620	0.804	0.512	0.716
	Delivery cost (DC)	0.631	0.807	0.522	0.722
	Customer relationship (CR)	0.674	0.814	0.558	0.747
	Product price (PP)	0.701	0.823	0.590	0.768
	Misinterpretation Of customer order (MCO)	0.700	0.820	0.586	0.766
Online patronage (OP)		0.723	0.855	0.611	0.782

4.2   Convergent validity using confirmatory factor analysis

Details of the convergent validity using the confirmatory factor analysis (CFA) are presented in Table 1. To demonstrate convergent validity of measurement model, we used CFA to assess construct factor loading, composite reliability, and the average variance extracted (AVE). The three conditions were used to assess convergent validity. The three conditions are, first, the CFA loadings indicate that all scale and measurement items are significant and exceed the minimum value criterion of 0.60. Second, each construct composite reliability exceeds 0.80. Third, each construct's AVE estimate exceeds 0.50. The results of CFA suggest that the factor loadings for all variables range between 0.631 and 0.723. Thus, our study indicates that most of the conditions for convergent validity as recommended by Fornell and Larcker (1981) and Bagozzi and Yi (1988) were satisfied, thus convergent validity is confirmed.

4.3   Discriminant validity

This study uses the criterion recommended by Fornell and Larcker (1981) to assess discriminant validity. Fornell and Larcker (1981) argue that for discriminant validity to be met, the square root of AVE for each construct should surpass the correlation of that construct and any other constructs. Table 2 shows that the highest correlation between a particular construct and any other construct is 0.553 thus, this value is lower compared to the lowest square root of AVE of all the constructs, which rests at 0.716 (Table 1). Therefore, discriminant validity is confirmed.

Table 2   Inter-construct correlations matrix

S/N	Items	1	2	3	4	5	6	7	8
1	Perceived product quality	1	0.232**	0.206**	0.253**	0.239**	0.217**	0.220**	0.333**
2	Delivery time (DT)		1	0.251**	0.162**	0.220**	0.248**	0.209**	0.287**
3	Delivery cost (DC)			1	0.245**	0.237**	0.195**	0.215**	0.162**
4	Customer relationship (CR)				1	0.224**	0.165**	0.218**	0.441**
5	Product price (PP)					1	0.225**	0.338**	0.210**
6	Misinterpretation of customer order (MCO)						1	0.239**	0.231**
7	E-shopping intention							1	0.553**
8	Online patronage (OP)								1

Note: **Correlation is significant at the 0.01 level (2-tailed).

Guided by the number of the scale descriptors on the research instrument, the threshold or cut-off point for the mean statistics is 3.00, given that the constructs are measured using a five-point Likert scale weighted from 1 to 5. Since all mean values are above the 3.0 benchmark, it means all the independent variables are predictors of shopping intention and intention explains e-shop patronage.

4.4   Model goodness of fit

Besides the measurement model, of particular interest is the path significance indicated by the standardised regression estimate (β) that assesses the effects of the studied variables. A model fit was evaluated by examining several fit indices which include the following: chi-square (χ^2), chi-square / degree of freedom (χ^2 / df), goodness-of-fit index (GFI), Tucker-Lewis's index, comparative fit index (CFI), standardised root mean residual, and root mean square error of approximation (RMSEA) as presented in Table 4. As shown in Table 4, the model yielded a moderate fit given the sample data of χ^2 / df = 2.628, GFI = 0.925, normed fit index (NFI) = 0.926, incremental fit index (IFI) = 0.955, CFI = 0.977 and RMSEA = 0.062. Thus, our study indicates that all the conditions for indexes of overall model fit, as suggested and recommended by Hoyle and Panter (1995), are met.

Table 3   Construct descriptive statistics – mean and standard deviation (SD)

Construct	Mean	SD	Items
PPQ	3.8039	0.6033	4
DT	3.8117	0.5615	4
DC	3.7961	0.6544	4
CR	3.7648	0.6368	4
PP	3.7789	0.6476	4
MCO	3.7094	0.6873	4
OP	3.9594	0.6770	2
EI	3.8473	0.6521	4

Table 4   Model fit summary showing goodness of fit

Goodness fit	SEM value	Recommended threshold	Remark
Chi-square / degree of freedom (CMIN/DF)	2.628	≤ 3.00	Acceptable fit
Normed fit index (NFI)	0.926	≥ 0.90	Acceptable fit
Comparative fit index (CFI)	0.978	≥ 0.90	Very good fit
Incremental fit index (IFI)	0.955	≥ 0.90	Good fit
Root mean squared error of approximation (RMSEA)	0.062	≤ 0.08	Good fit
Goodness of fit (GFI)	0.925	≥ 0.90	Good fit
R square	0.306	0.000	Moderate variance
R square adjusted	0.293	0.000	Weak variance

The conditions for structural model indicate that: first, that all scale and measurement items such as NFI, CFI, GFI and IFI are significant when it exceeds the minimum value criterion of 0.90; second, the RMSEA becomes significant when it is less or equals 0.08 and third, the CMIN/DF is also significant when it is less or equals 3.00 (Bentler and Bonnet, 1980; Bagozzi and Yi, 1998). As shown in Table 4, all the thresholds are met as evidenced from the SEM values. The results of measurement and structural model indicate that conditions of factor loadings and SEM indices were also met. The result of the SEM is shown in Table 4.

As shown in Table 5, all the independent variables are supported. This means that all explored factors predict EIs. If ranked by the path estimates, DT is most critical inhibiting factor. This is followed by MCO, and the third is PPQ at 0.352 path estimate.

Table 5   Results of structural equation model analysis

Relationships		Estimate (ranking)	SE	CR	T-statistics	P	Rejected/supported
PPQ	EI	0.352	0.052	6.715	1.012	0.001	Supported
DT	EI	0.367	0.048	7.044	1.107	0.023	Supported
MCO	EI	0.366	0.059	7.022	0.806	0.000	Supported
PP	EI	0.214	0.058	3.920	1.568	0.002	Supported
CR	EI	0.247	0.057	4.544	1.361	0.010	Supported
DC	EI	0.241	0.058	4.425	1.001	0.004	Supported
EI	PE	0.105	0.055	8.747	1.090	0.002	Supported

Note: Decision rule: significant if p-value is less than 0.05 (i.e., 5% level of significance or >1.96).

4.5   Coefficient of determination (R^2) and P-values

Further to the above statistics, Figure 2 depicts the structural model with path coefficients of each hypothesised relationship as well as the overall R square of the model. Thus, Figure 2 corroborates the above model fit estimates (i.e., NFI, CFI, GFI and IFI) in Table 4 by reporting the R^2 and the path coefficients.

As evidenced in Figure 2, the coefficient of determination (R^2), is 0.336 for the EI endogenous latent variable. This means that the six exogenous latent variables (PP, DT, PPQ, DC, CR and MCD) positively and moderately explain 33.6% [and meeting the minimum benchmark of 0% suggested by Hair et al. (2014)] of the variance in EI endogenous latent variable. Hence, other factors not included in the model may explain 66.4% (i.e., 100% – 33.6%) of the variance in EI, all things being equal. To this end, as shown by the path coefficient of each exogenous variable to EI, it means PPQ alone explains 17.8% (0.178) in the variance in EI, PP explains 10.3% (0.103), DT explains 17.2% (0.172), DC explains 22.4% (0.224), CR explains 10.2 (0.102), and MCD explains 15.5 (0.155).

Taken together, the overall R^2 for OP endogenous variable as explained by a single endogenous variable EI is 0.306. This indicates that the research model explains about 30.6% of the variance in the overall endogenous variable and since this is more than 0% benchmark it means all the latent exogenous variable (i.e., EI) explains/predicts the dependent variable (OP). Similarly, all the endogenous variables also meet the 0%

benchmark, suggesting all exogenous variables are appropriate constructs for the model. Further, several of the variate values (or eigenvalues) of each indicator for all the variables are above the 0.70 benchmark suggested by Hair et al. (2014). The import being that the items/statements are appropriate measures for the respective constructs.

Figure 2 Output of structural model with path coefficients and R square value (see online version for colours)
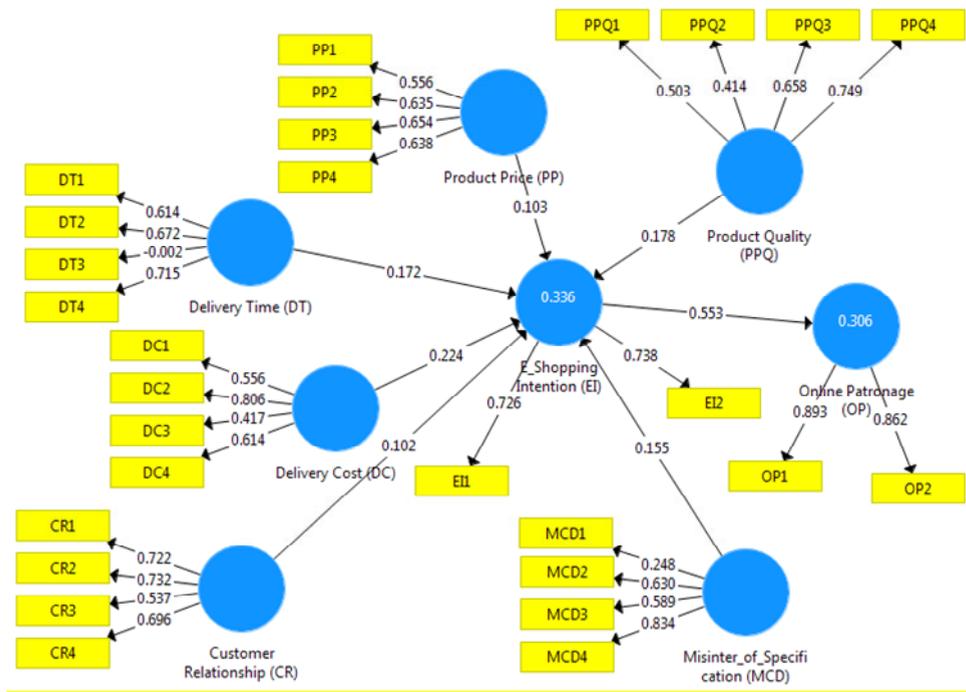
Further, the decision regarding the hypothesised relationships is established using the t-statistics and P-values generated after bootstrapping as shown in Figure 2 and Table 5. All the hypothesised relationships are accepted using the threshold of 5% level of significance; wherein p-value is less than 0.05 or T-statistics is > 1.96.

5 Discussion and implications

This study unearths theoretical and managerial or marketing implications that deepen understanding about online retail businesses from developing countries as they compete in e-tailing space. Theoretically, this study reinforced the utility of S-O-R theory for explaining the underpinnings of patronage behaviour. The S-O-R have been widely used in traditional consumer behaviour research (Peng and Kim, 2014; Chen et al., 2022; Chen and Girish, 2022); however, its utility in online consumer behaviour research is yet to be fully established especially for explaining undergraduate cohort online consumer behaviour. Hence, this study extends the utility of the S-O-R theory as it not only guided the development of the study's conceptual framework; but also provide insights and

better understanding into the psychographic dynamics of online choice behaviour of the fast-expanding GenZ segment in Africa.

From the unravelled inhibitory factors, a number of managerial or marketing implications can be deduced. As evidenced in the result, support was found for all the independent variables that were explored as inhibiting factors on EI. It was also discovered that EI is a strong inhibiting factor of online patronage. The key objective of this study is to identify the critical inhibiting factors which led to the ranking of all the factors that are actually found significant. The SEM path estimates (Table 5) were used to rank each construct. Three factors emerged as most critical. The first is DT. The second is MCO. The third is PPQ.

DT as a crucial restraining factor of online shopping intention among university undergraduates supports prior research findings (Xiao et al., 2019; Cihan et al., 2017; Pentz et al., 2020). A student who orders a book online may be waiting anxiously to use the book for semester work; failure to deliver timely frustrates such laudable knowledge-enhancement plan and future intention. Therefore, online retailers should ensure that purchased items are delivered within the promised-time frame; use of courier services that have a reputation for prompt delivering may be helpful. In extreme case, provision of a discount on purchased items yet to be delivered after the given time frame to the e-shoppers may be a good way of assuaging/cushioning anger that may accompany delayed delivery. Based on the results, PPQ is the strongest factor which inhibits undergraduates' e-shopping behaviours. This finding corroborates cognates studies (Katawetawaraks and Wang, 2011; Xiao et al., 2019; Handoko, 2016). University undergraduates are to some extent role models or future role models for the larger society. Innovation/fashion often diffuses from undergraduates (Antwi et al., 2020; Ogbuji and Udom, 2018). From this perspective, it makes business sense if online retailers should always maintain stock of high-quality products that align with the perceived public image of university undergraduates as role model in order to attract and grow customer traffic to e-retailers, which is consistent with the perspective of Mudondo (2014) and Narges et al. (2010). Consistency in stocking and delivery of high-quality products is non-negotiable. Before shipment, all products should undergo in-house quality inspection; in the event of unintended error in shipment, online retailers should implement a return policy on purchased products in order to grant e-shopper particularly 'cash-constrained' students ease of mind while shopping.

In this investigation, MCO emerged as a top factor that potentially undermines EI. This result is consistent with extant research (Agatz et al., 2008; Nguyen, 2018; Nguyen et al., 2018). Undergraduates to some degrees represent a 'dependent-market-segment'; therefore, they are 'expenditure-sensitive'. Mis-match between order/s and product/s delivery provokes animosity towards e-shops (Ibrahim et al., 2015). Online retailers need to re-check orders before they are shipped, conduct routine checks on information on their sites in order to prevent a website failure which could compromise orders, and create a means of reconfirming customers' orders via e-mails, phone calls before shipment or when there is doubt regarding order/s.

PP also strongly inhibits intention to shop in e-shops. This finding supports Bailey (1998), Ogbuji and Udom (2018) and Mudondo (2014). Most students depend wholly on voluntary contributions from parents, friends of family, relations or guardians for monetary up-keep in universities in Nigeria. Put differently, most university undergraduates in Nigeria have limited source/s of earning personal income while in the university. Consequently, price of a product is always weaved into buy or not decisions.

Managers could consider student segment as a 'special segment' in price decisions in order to continuously sustain and build customer traffic online.

Interestingly, two elements, DC and CR, are reported as not strong inhibitory factors. Nevertheless, they are also found to inhibit e-shopping propensity among the undergraduate cohorts, albeit weak. Contrary to some earlier studies (Dan and Xu, 2011; Ling et al., 2010), these two elements (DC and CR) were found to be strong limiting factors to online shopping. Regardless of contradictions in findings, it is established in literature that DC and CRs could somewhat influence purchase decisions in certain situations (Poovalingam and Veerasamy, 2007; Ling et al., 2010).

DC was also found to be a weak factor that inhibits EI and by extension online patronage. This finding supports study by Ofori and Nimo-Appia (2019) in Ghana. However, the finding differs from studies done by Dan and Xu (2011) in China and Ling et al. (2010) in Malaysia where it was noted to have strong influence in online purchase decision of undergraduates. Many African students, particularly Nigerian university undergraduates, are weak financially; however, students in private universities are considered to hail from richer homes. Besides, online displays do not give potential buyer the opportunity to haggle the fixed online prices. Therefore, cost considerations may not strongly influence decisions on where, what, and what quantity to buy. Nevertheless, managers of e-shop, therefore, should be cautious in choice delivery options in order to attract minimal DC on students regardless of their financial status as rich or not rich students. Unarguably, affordable delivery fee is key (Oduorb and Jonyoa, 2018; Pentz et al., 2020).

This study shows that CR is not strong inhibitory factor in terms of EI; nevertheless, certain managerial implications can be deduced. This finding re-affirms previous research evidence in the extant literature (Osman et al., 2010; Poovalingam and Veerasamy, 2007). From practice angle, managers of e-shops should encourage and leverage on traditional word-of-mouth (t-WOM) and electronic word-of-mouth (e-WOM) that are established communication ecosystem among undergraduates. The usage of t-WOM or e-WOM becomes handy where e-tailers discuss perceived potential impediments related-activities of its online business. Agreeably, once one undergraduate experiences services of an e-shop either positively or negatively, he/she is likely to spread the 'good news' or 'bad news' through t-WOM or e-WOM especially in social interactions with one another. Hence, once inhibitors are removed through persuasive communication, e-tailers could promote this success through t-WOM or e-WOM routes of the undergraduate by designing a comprehensive WOM communication strategy. Similarly, where e-tailer has overtime-maintained non-existence or overcame impediments, such stride could be key selling point (KSP) or key communication point (KCP) using tactical and strategic WOM that further bolsters online image of e-tailers. Also, online retailers should develop an instant response platform for communicating with e-shoppers regarding complaints and possible suggestions.

6   Conclusions and recommendations

In developing and emerging markets, university undergraduates' population and internet penetration are expanding exponentially. Therefore, university undergraduates constitute huge market opportunity. This study empirically establishes the prevalence or potential

prevalence of perceived critical barriers to online shopping, especially among the undergraduates' segment. Although the impediments could be specific to a particular online shop (e.g., Konga, Jumia, Alibaba) and could also vary from an e-shop to e-shop; however, their existence cannot be underplayed as they have concomitant anti-marketing consequences if ignored or countered with inappropriate marketing response. This research also concludes that the prevalence of the impediments could largely be responsible for the growing e-shopping discontinuance behaviour and e-shop switch. It is critical for e-tailers to know that even if an impediment is subtle, it definitely and slowly affects the growth of an e-shop, especially among the undergraduates and Generation Z who, arguably, hold the key in the new global consumption era. Generally speaking, the insights provided regarding relationship that exists between the inhibitory factors and EI would help online retailers to re-strategise in order to reduce the effect of the inhibitory factors on undergraduates' EIs and boost migration to e-shops.

Sequel to the findings, we put forward a number of recommendations to body of knowledge and online retail marketers. It has been shown that the S-O-R is a robust framework for insightfully unravelling basic inhibitors of online shopping behaviour of Gen Z consumer cohort. It is likely that the S-O-R is a ubiquitous framework and it is recommended to researchers who seek to explain basic drivers/inhibitors of online consumption behaviour especially as online consumption is fast becoming a way of life in developing economies (Umar and Ibrahim, 2020; Petra, 2016; Davidaviciene et al., 2019). In addition to a number recommendations tacitly and explicitly provided in the discussion section; we recommend that online retail companies from Africa who seek to compete in the digital marketspace should begin to setup a sub-department to be known as the 'Digital Marketing Division' within the Marketing Department. The potential role holder of such division should be vast and well equipped with cutting-edge knowledge in digital marketing and marketing analytics.

7   Limitations and directions for further studies

Some limitations were encountered during the study which offers opportunity for further research. The scope was limited to only CBSS undergraduates of Covenant University. This makes it difficult to generalise findings. Further research should increase the scope of study to undergraduates in more colleges or more Nigerian or African universities. Though a combination of non-probability and probability sampling approaches were used which may have reduced to some degree biases in selection of respondents, response bias cannot be ruled out since questionnaire administration was conducted via lecture hall in presence of some of the research team. Future research should strictly explore a web survey designed in Google Form and administered via class social platforms to mitigate potential response biases.

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