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Will shoppers adopt online group buying? Understanding Predictors of consumers' intention to adopt online group buying in a typical sub-Saharan African context

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Abstract
Globally, online group buying (OGB) enjoys wide acceptance within the ecosystem of electronic commerce. Despite its popularity, it is still nascent in Nigeria and most sub-Saharan African (SSA) economies. With increased internet and online shopping penetration in SSA, the low-price advantage of OGB, and price sensitivity exhibited by most SSA shoppers, we argue that the adoption of OGB is expected to be high among SSA shoppers. SSA countries have a diverse institutional and marketing environment, which makes it unlikely to explain consumer behaviour with the same factors used in another context. Therefore, understanding the potential predictors of OGB adoption would have far-reaching theory and practice implications. Accordingly, this study seeks to understand the predictors of shoppers' intention to adopt OGB in Nigeria, a typical SSA context. The theory of planned behaviour, social cognitive theory and empirical validations from the extant literature provide a theoretical framework for the study. Three hundred and twenty (320) members of the social media community were surveyed. Responses were analysed with regression analysis to test for the hypothesised relationships. The result underscores the importance of specific self-efficacy and previous experience as important predictors of group buying website adoption intention.

Keywords: online group buying, electronic commerce, sub-Saharan Africa, theory of planned behaviour, social cognitive theory

1. INTRODUCTION

The global COVID-19 pandemic and the economic crisis that followed have drastically affected consumption habits. As a result, consumers participate in collaborative consumption and make purchases in a group context (Li, Li, Shen, & Tang, 2022). Arguably, this is helping in product accessibility with a concomitant improvement in quality of life. And the ubiquitous culture of the social media is helping to advance this and is already having a wide spread impact (Zhou, Zhang, Yang & Wang, 2017). Online group buying (OGB) has emerged as a cost-saving strategy consumer resort to, while entrepreneurs are harnessing its potential as a business model and cashing-in on social media traffic (Hsu, Qing, Wang, & Hsieh, 2018) to build market advantage. Also, an increasing number of leading global online shops are adopting group buying as their core business model (Kauffman, Lai, & Ho, 2010), while others such as Yahoo, Facebook, Taobao, and Alibaba are re-investing their existing business model to include group buying (Li et al., 2022).

OGB refers to a type of business model that leverages on the aggregation of buyers to gain scale and lower prices (Sun, Zhao, & Wang, 2021). The OGB model has become relatively popular, especially in Asia, Europe, and America, and more profitable than other shopping models (Erdoğmus & Çiçek, 2011). For instance, consumers spent more money on group-buying platforms than on online auctions, and online group-buying is among the top three online shopping models (Chen, Yu, & Li, 2016). Undoubtedly, online group buying is on its growth trajectory with a global e-commerce sales estimate of 6.5 trillion U.S. Dollars by 2023 (Winkler, 2020). In 2020, the global revenue for Groupon – a leading group buying website - was around USD 1.4 billion and Pinduoduo (China) reported a total revenue of 27.23 billion yuan ($4.29 billion) and a Gross merchandise value (GMV) of 2.4 billion yuan as of March 2021 (Chevalier, 2022; Staff, 2022).

Following this development, researchers are intensifying their effort to understand OGB dynamics and trends globally. Kauffman & Company pioneered research in the OGB domain and explored consumer behaviour in online group-buying through analysis of transactional data from Mobshop and other real-world online group-buying web sites (Kauffman & Wang, 2001; 2002; Kauffman et al., 2010). Most of these studies are in Asia and Europe (Cao & Li, 2020; Che et al., 2015; Garcia et al., 2020; Han & Kim, 2019, Li et al., 2022; Lim, 2020; Sharma & Klein, 2020; Sun et al., 2021; Suki & Suki, 2017; Xia & Chae, 2021). Li et al. (2022) showed the positive effect of perceived risk on positive eWoM communication and repurchase intention. Sun et al. (2021) report that the system quality, information quality, service quality and interaction quality of GBW encourage consumers to have positive economic and social satisfaction with the website. Also, Cao and Li (2020) showed that consumers' group buying behaviour is affected by price, network externality, referral cost, social network structure and group buying threshold. Xia and Chae (2021) found that satisfaction and relationship commitment predict continuous intention and positive eWOM.

Despite these studies, the OGB debate is still inconclusive. An important gap in the literature is study involving product-norm experience, and especially from the SSA context. The socio-economies and cultural nuances of consumers from SSA warrants understanding their acceptance of the group buying model. Developing countries, especially in SSA, operate in a different institutional and marketing environment. Therefore, it is likely that the factors that explain OGB in another context may differ here. For instance, the low internet penetration and internet self-efficacy in Africa compared to other areas provides important perspectives for online group buying in this context. Arguably, OGB promises to become the next frontier of growth in SSA, but at present the e-commerce landscape is fairly recent. For instance, Nigeria, which represents the largest market in Africa and accounts for about 40 per cent and over 20 percent of the West African and SSA population respectively, launched its first OGB platform (*Pricepally*) in November 2019, almost two decades after Mobshop. The current study represents one of the earliest in SSA and may also the first of its kind in Nigeria. Given these nuances, understanding the predictors of OGB adoption in an SSA context represents a crucial knowledge-gap that needs to be bridged.

Accordingly, this study aims to investigate the factors that predict group buying website adoption intention in a typical SSA context, Nigeria. Specifically, the study investigates the effects of convenience, internet and online shopping self-efficacy, online shopping experience, privacy concerns, and internet access on GBW adoption intention. The paper adds to the literature by investigating context specific factors such as product norm experience (i.e., online shopping experience), internet and online shopping self-efficacy, and internet access to model OGB website adoption intention. Following this brief introduction, the rest of this paper is structured as follows: review of the literature and hypothesis development, methods, results, discussion and conclusion.

2. REVIEW OF LITERATURE AND HYPOTHESIS DEVELOPMENT

2.1. Conceptual Clarifications - Online Group Buying

Online group buying is a model of e-commerce that aggregates the demands of consumers with the same needs to obtain volume discounts or buy at wholesale prices. Online group buying (OGB) is defined as when two or more people with common needs and increasing their bargaining power band together to get a lower transaction price (Xia & Chae, 2021). In online group-buying, consumers who share the same needs connect via the Internet to aggregate their demand and buy goods at wholesale prices or negotiate with sellers who are willing to sell at a special discount (Cheng & Huang, 2013). Thus, OGB as an online platform facilitates exchange between sellers and buyers and is premised on the readiness of vendors to provide deep discounts as long as consumers will buy in volume through the OGB and buyers achieve monetary savings by leveraging on group cohesion and their collective bargaining power (J. Wang, Zhao, & Li, 2013; Shiau & Meiling, 2012), making it a win-win strategy in online retailing. In OGB, value is created for consumers, sellers, and website operators. While consumers obtain huge discounts, delivery services, and collaborate and share shopping experiences with members of their community (Kim et al., 2014), sellers benefit from increased revenue and low customer acquisition cost (Cao & Li, 2020). Also, website operators receive a commission or a service charge from successful transactions (Lim, 2020).

Online group-buying has two principal classifications, namely, traditional dynamic-price group buying and fixed-price group buying. In the dynamic price group-buying, a buyer negotiates with sellers for volume discounts on the group's behalf, and as more buyers participate, the prices drop (Chou, 2019; Kauffman & Wang, 2001). In other words, price changes dynamically according to the numbers of placed orders" (Zhou, Xu, & Liao 2013, p. 79). Sharma and Klein (2016) observed that most of the pioneer OGB such as Mercata.com and Moboshop were of the dynamic pricing model. They failed due to the sale of products at their maturity stage and the limited assortment, uncertainties about the deal conclusion and final price. Anand and Aron (2003) add that in the dynamic pricing model, consumers usually hesitate to join a group before others until it reaches the final price, which inherently causes delay and uncertainty. However, the dynamic pricing model can be better for sellers if they face demand heterogeneity, encourage cooperation and information sharing among group-buying participants, and are willing to become risk-takers.

Conversely, in fixed-price group-buying, an intermediary retail website operator negotiates with sellers, who create deals for potential group buyers. Sellers quote a fixed product price, usually with a substantial discount off the regular price based on a minimum number of buyers on the platform (Lim, 2020). Consumers can then browse the website for attractive deals, join a group or create one, and invite other interested buyers via social messaging apps, e-mail, or social media. This activity, in turn, creates a sense of shopping excitement and urgency to purchase the offer among online consumers (Lim, 2020).

Furthermore, Cao and Li (2020) delineated between the traditional OGB and social e-commerce group buying. They posit that in traditional group buying, such as Groupon, website operators negotiate with sellers to obtain lower prices and substantial discounts as in the fixed pricing model, but that consumer can buy individually or in a group and still enjoy the discount. Also, sellers can only place a ceiling on orders but not a floor for the number of units for buyers. In contrast, for the social e-commerce group-buying site in the likes of Pinduoduo, consumers have to use their social networks to refer others and buy in a group to qualify for volume discounts, otherwise the consumers would buy at the regular price.

2.2. Previous Studies

Online group buying has gained global acceptance and has attracted the interest of scholars. Some authors have attempted to explain online group buying behaviour from diverse theoretical perspectives in Europe, America and Asia (Lin, Tseng, & Shiraz. 2022; Sun et al., 2021; Xia and Chae, 2021; Sharma & Klein 2020; Lim, 2020; Li & Yuan, 2018; Chiu, Chen, Du, and Hsu, 2018; Suki & Suki, 2017; Wang et al, 2016; Cheng & Huang, 2013). In recent research, Lin et al. (2022) showed how buyers' perceived value and the perceived risks of online group buying affect positive eWoM communication and repurchase intention. Sun et al. (2021) examined how social commerce websites' dimensions predict consumers' economic and social satisfaction. Xia and Chae (2021) explored how hedonic value and the utilitarian value of OGB influence eWOM continuous intention. Garcia et al. (2020) showed that service quality, popularity and online brand image affect general satisfaction and repurchase intention; Sharma and Klein (2020) explained how perceived value, trust, and susceptibility to interpersonal influence predict consumer intention to participate in online group buying. Lim (2020)

explored how the perceived benefits and perceived quality affect online group buying intentions through perceived purchase equity in OGB.

Similarly, earlier studies by Li and Yuan (2018) elucidated on how customer experience moderates the relationship between intermediary-related factors and vendor-related factors and perceived risks. Chiu, Chen, Du, and Hsu (2018) found that OGB scheme value, hedonic value and social value influence customer loyalty through affective commitment. Suki and Suki (2017) examined how website trustworthiness, structural assurance and perceived reputation affect consumers' attitude towards OGB. Wang et al (2016) investigated the stickiness intention of group buying websites; and Lim and Ting (2014) showed that perceived usefulness, perceived ease of use and perceived risk affect intention to use online group buying sites through attitudes. Cheng and Huang (2013) expanded on the intention to participate in group buying from the potential and current customer perspectives. Notwithstanding these studies' contribution to the online group buying literature, the discussion is still ongoing and studies on the effect of product norm experience (ie., online shopping experience) on the focal subject (OGB) are scarce. Accordingly, recent research has called for more research investigating customer experience from emerging country contexts (Lin et al., 2022).

2.3. Theoretical Background and Hypothesis Development

Given the peculiarity of the sub-Saharan Africa e-commerce ecosystem, this study draws from the theory of planned behaviour (TPB; Ajzen, 2001), social cognitive theory (Bandura, 1982) and the literature on the concept of online shopping convenience, experience, and privacy concerns to test the antecedents of OGB intention in a typical sub-Saharan African context. These theories are well suited for understanding consumer behaviour and as such we adapted some of their constructs to explain online group buying. The theory of planned behaviour postulates that intentions precede behaviour, and subjective norm and perceived behavioural control determine intention. Subjective norm refers to the influence of significant others on one's behaviour; perceived behavioural control concerns an individual's perception of the presence or absence of resources to perform a behaviour (Ajzen & Madden, 1986). According to Cheng and Huang (2013), ability, resources, and opportunity determine behaviour, and an individual perceiving the presence of these three factors will increase their perception of control and this heightens their behavioural intention. In this study, internet access represents a perception of resources and opportunity that can increase the perception of control and behavioural intention. Thus, internet access and OGB intention were extracted from the TPB.

Self-efficacy is derived from the social cognitive theory and used as an appraisal of one's ability and influences the decision and effort needed to undertake certain behaviours (Pappas, Pateli, Giannakos, & Chrissikopoulos, 2014). Due to the level of computer literacy among consumers in this context, self-efficacy sheds light on how consumers perceive their ability to use the internet and to shop online. Furthermore, following the increased time-scarcity and the related consumers' quest for convenience, especially in this context where the transportation network is inadequate, we also investigate the convenience construct. Convenience is well established in the literature as an important antecedent of online shopping (Duarte et al., 2018; Kollmann et al., 2012). Also, we extracted privacy concerns from the e-commerce literature. Privacy concerns hinge on the social exchange theory, power-responsibility equilibrium, and Behavioural decision theory (Martin & Murphy, 2016). The growing incidence of cyber and identity theft, hacking, and phishing suggests that privacy concerns are an important antecedent of OGB intentions. The literature on internet technology and online shopping documents privacy concerns as a factor affecting information system use (Akhter, 2014; Lutz & Tamo-Larrieux, 2020). Online shopping experience has been explored as a moderating or mediating variable in the unified theory of technology acceptance and use of technology (UTUAT; Pappas et al. 2014; Venkatesh, Morris, Davis, & Davis, 2003) or TAM (McKechnie et al., 2006). We explored online shopping experience as an antecedent of OGB intention following the increased confidence in online shopping. The online shopping experience is based on the experience-based norm construct (Cadotte, Woodruff, & Jenkins, 1987). The product-norm experience posits that consumers' experience in a product category may cause consumers to form norms or expectations that establish what a focal brand should be able to achieve (Cadotte et al., 1987). Importantly, there is strong evidence in the literature to suggest that past experience using the internet for purposes other than the focal subject is a major precursor for its use for a focal subject (Citrin et al., 2000; McKechnie et al., 2006).

The TPB and SCT are relevant theoretical lenses for this study because TPB provides the basis for understanding future behaviour such as online group buying behaviour, and the SCT helps explain the relevant factors that can motivate such behaviour. This study proposes that convenience, online shopping experience, self-efficacy, privacy concerns, and internet access will determine OGB intention.

2.3.1. Convenience

As consumers get increasingly busy and time-starved, saving time and effort while shopping becomes an essential criterion for decision making with regards to how and where to shop. Usually, consumers expend time and effort in searching for products and brands, evaluating alternatives, comparing prices and quality, and buying, and even making payments. This shopping engagement constitutes the search and transaction costs capable of leading to customer defection or decision postponement (Shih & Fang, 2005; Colgate et al., 1996). Therefore, consumers would favour consumption processes that are convenient for their shopping needs. Convenience is the ability to reduce consumers' non-monetary costs (i.e., time, energy, and effort) when purchasing or using goods and services (Srivastava & Kaul, 2014). Convenience is also a consumer's desire to reduce the stress associated with purchase decision making. The advent of the Internet, more specifically online shopping, provided the options for time, energy, and effort saving, and the opportunity to choose retail formats with the least demand and expenditure of time (Duarte et al., 2018). Kollmann et al. (2012) suggest that a higher convenience orientation will lead to a higher propensity to seek information through the online channel and will also increase the propensity to purchase online. The literature documents convenience as an essential driver for online shopping (Izogo & Jayawardhena 2018; Lee et al. 2016; Shih & Fang, 2005).

The convenience construct is a multidimensional construct consisting of access, search, evaluation, transaction, and possession, and post-possession convenience (Duarte et al., 2018; Trung et al., 2018). It could also be a uni-dimensional construct with three items measuring time and effort saving (Srivastava & Kaul, 2014). We adopt the uni-dimensional construct and argue that consumers would participate in group buying to save time and effort when buying goods and services. The group decision making that precedes such purchases provides consumers with the opportunity to save time searching, evaluating, and selecting goods and services to buy. First, is that a group member may hold an expert opinion on the product category, thereby saving other members time and effort. Second, when consumers collectively participate in the buying process, they enjoy the convenience of group choice. In previous studies, convenience has been an essential motive for online group participation (Xiao, 2015), and a significant influence on satisfaction (Srivastava & Kaul, 2014), repurchase and eWOM intention (Duarte et al., 2018). Accordingly, we hypothesise as follows:

H1: Convenience has a positive effect on consumers' willingness to adopt OGB.

2.3.2. Internet self- efficacy

According to Bandura's (1982) social cognitive theory, the perceived ability to organise and execute a task is a function of an individuals' judgment of their skills rather than the task's actual skill set. In other words, the perceived skill to use the Internet to perform a shopping task is driven by one's ability to use a computer generally, and not so much his/her ability to perform an online transaction. Self-efficacy enables people to determine what they can do and also helps them draw from hindsight when performing a new task (Akhter, 2009; Jeng & Tseng, 2018). People with high self-efficacy would feel confident using a novel and less sophisticated technology, and demonstrate higher positivity in their usage (Jeng & Tseng, 2018). General internet self-efficacy refers to "an individual's judgment of efficacy across multiple internet application domains'' (Hsu & Chiu, 2004). However, scholars have argued for measures that are specific and distinct to particular domains (Peterson & Arnn, 2005; Thakur, 2018). Accordingly, online shopping self-efficacy in this regard is defined as a consumer's self-assessment of his/her capabilities to shop online (Trung et al., 2018). Online shopping self-efficacy is concerned with one's ability to locate online stores, browse for products and brands, compare prices, ascertain product and service quality, make payments online, initiate delivery returns, and invoke a warranty.

Although the ability to use the Internet is a significant precursor of internet services adoption (Hsu & Chiu, 2004; McKechnie et al., 2006; Thakur, 2018), consumers may experience task difficulty when processing an online shopping transaction. Often, consumers high in internet self-efficacy may be able to browse and shop for products online, but abandon their cart when they encounter a difficulty, in, for instance, making an online payment. In this case, the consumer requires online shopping self-efficacy to be able to navigate around such a difficulty. Thus, while people with high internet self-efficacy can use the Internet, for instance, for social networking, researching, and sending e-mails, et cetera, they require a different skill set to shop online. Therefore, consumers with high online shopping self-efficacy may be favourably disposed to adopting an OGB. In particular, consumers' ability to initiate and execute an online shopping task may affect their willingness to adopt OGB. Previous studies show a mixed result between internet self-efficacy and online shopping behaviour (Hsu & Chiu, 2004; Keisidou, Sarigiannidis, & Maditinos, 2011; Jeng & Tseng, 2018; Thakur, 2018). Therefore, we hypothesise the following:

H2a: Internet self-efficacy has a positive effect on consumers' willingness to adopt OGB

H2b: Online shopping self-efficacy has a positive effect on consumers' willingness to adopt OGB

2.3.3. Online Shopping Experience

The online shopping experience refers to a whole set of complex and subjective interactions between consumers and an online shopping environment (Trevinal & Stenger, 2014). It is consumers' direct or indirect experience with the process and outcome of buying goods and services through the Internet. Direct experience is the customers' internal and subjective reaction to the online environment in the course of a purchase, use, and post-purchase evaluation of the entire shopping process and its outcome (Klaus, 2014). It is when a consumer has personally shopped online in the past. On the other hand, indirect experience involves unplanned encounters with representatives of a company's products, service, or brands. It takes the form of word-of-mouth recommendations or criticisms, advertising, news reports and reviews, among others (Bhattacharya & Srivastava, 2018). The indirect experience could also occur when customers benefit from the direct experiences of significant others or as a result of consumers' outcome experience with online shopping. In other words, consumers may have a friend or an agent process an online shopping transaction on their behalf, but take delivery of the goods or services. Both direct and indirect shopping experiences can reduce consumers' perceived risk and increase consumers' confidence in online shopping. However, if the experiences are negative, this will affect consumers' accumulated knowledge, thus affecting their future decisions (Cheow, Yeo, Goh, & Rezaei, 2017).

Online shopping experience takes two forms: experience with the focal service and product-norm experience. The focal service experience refers to consumers' consumption experience with the service under investigation (in this case, OGB); and the product-norm experience concerns customers' previous experience with a range of services in the category such as online shopping (Wang, Harris & Patterson, 2012). Given that online group-buying is a different e-commerce model from the conventional online shopping model (Shi & Liao, 2017), consumers' direct or indirect experience with online shopping would influence their willingness to adopt OGB. Prior studies have shown that past product-norm experience influences consumers' intention to adopt a focal service or an extended service in a similar category. For example, Ojiaku and Aihie (2018) show that consumers' prior experience with mobile voice services positively influenced consumers' choice of a mobile data services provider. Citrin et al. (2000) also show that higher levels of prior internet usage for purposes other than shopping (e.g., for communication, education, and entertainment) resulted in increased levels of the use of the Internet for shopping. Accordingly, we hypothesise that consumers' online shopping experience will positively and significantly influence their willingness to adopt an online group-buying platform.

H3: Online shopping experience has a positive effect on consumers' willingness to adopt OGB.

2.3.4. Privacy Concerns

Privacy concerns are security issues relating to consumers' divulgence of personal and financial information to online service providers. In this regard, it consists of information privacy and social privacy. Information privacy refers to one's ability to control the collection and use of one's personally identifiable information (Inman & Nikolova, 2017). On the one hand, social privacy concerns relate to privacy threats that are caused by other users rather than service providers or third-party institutions such as familiar users, hackers, and criminals (Lutz & Tamò-larrieux, 2020). In particular, consumers provide their online identity such as e-mail addresses and their more personal financial details such as debit card information (Martin & Murphy, 2016) when transacting online. More so, e-commerce firms now use web technologies such as cookies, WebCrawlers, and subscription requests to collect consumers' data. Businesses usually collect 'big data' about users' privacy and security information to build their databases and tailor marketing programmes to end-users (Akhter, 2009). Hence, this gamut of personal information disclosure heightens consumers' concerns about the violations of their privacy. These concerns include vulnerability to fraud, identity theft, unwanted and obtrusive marketing communications, opportunistic, or inappropriate use of personal data and institutional surveillance (Martin & Murphy, 2016).

Despite these concerns, consumers' information disclosure provides the benefit of personalised product offerings and recommendations, price discounts, free services, and more relevant marketing communications and media content to consumers (Martin & Murphy, 2016). In which case, consumers weigh the perceived cost of disclosing personal information to marketers against the benefits of personalised offerings (Inman & Nikolova, 2017). When they anticipate a net benefit, consumers show a willingness to disclose personal data (Inman & Nikolova, 2017). White (2004) refers to this private information disclosure decision as the *privacy calculus* (White, 2004). Research shows a mismatch

between consumers' reported privacy concerns and actual privacy disclosure behaviour. This situation, referred to as the privacy paradox, suggests that though consumers report being very concerned about their privacy, they still freely disclose their data (Aguirre et al. 2015). Issues relating to personal data threats have been reported in previous studies to negatively relate to shopping intentions (Liao et al., 2012; Ahkter, 2014), acceptance of technology (Hsu & Chiu, 2004), and technology use intention (Lutz & Tamò-larrieux, 2020). Accordingly, we hypothesise as follows:

H4: Privacy concerns have a negative effect on consumers' willingness to adopt OGB

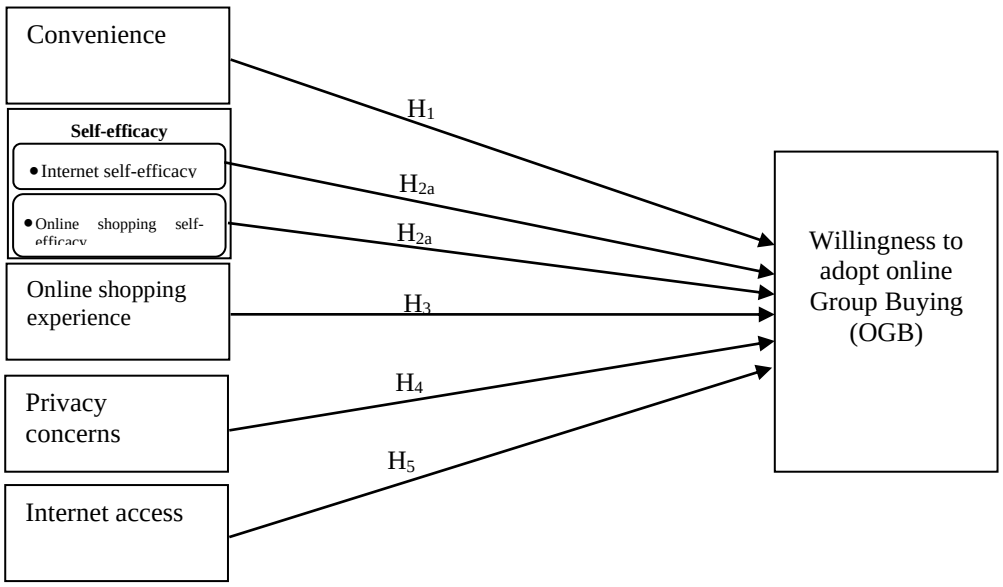
2.3.5. Internet Access

For the e-commerce sector to develop successfully, internet infrastructure has to be widely deployed and readily accessible to users both at home and in their offices. The availability of adequate internet infrastructure, such as broadband, would make the Internet accessible and affordable. Consumers' access to the Internet enhances their experience with technology and improves their self-efficacy. The availability of the Internet from home improves its ease of use, and consumers with regular internet access would appreciate its usefulness for shopping transactions (Mckechnie et al., 2006). In Nigeria, only about 42% of the population has access to the Internet at home, and more than 128 million people access the Internet via mobile GSM (National Communication Commission; NCC, 2020). Thus, the mobile is the main port of internet connection for most people in sub-Saharan Africa. However, Correa, Pavez, and Contreras (2018) argue that internet access via a smartphone is a form of 'under-connectedness' because it limits the activity and frequency of internet use. Moreover, the problem of sparse mobile networks, fluctuating electricity supply, and poverty affects internet access (Wyche & Olson, 2018).

Due to high bandwidth costs and poor internet access in Nigeria, as in a number of the SSA countries, consumers rely on paid mobile Internet to access information and entertainment. Internet access costs about 2% equivalent of monthly minimum wage (Stears Business, 2019), averaging $2.78 for 1GB per month (Gilbert, 2020). This cost profile is relatively expensive for the middle and working class, and definitely beyond the reach of the poor and rural dwellers (Wyche & Olson, 2018). The high cost of mobile data services may act as a disincentive for internet access and consequently inhibit online shopping. In other words, when internet access is available and affordable, consumers are more likely to shop online. Sohail (2014) reports that the lack of access to the Internet negatively affects consumers' intention to shop online among consumers in Saudi Arabia. Also, McKechnie et al. (2006) find a significant effect for internet access on perceived ease-of-use, and perceived usefulness of online financial services. Accordingly, we hypothesise as follows:

H5: Internet access has a positive effect on consumers' willingness to adopt OGB

Figure 1. Conceptual framework



Source: Author's conceptualisation

3. METHODOLOGY

3.1. Sample and Data Collection

Nigeria serves as a typical SSA context due to the country's dominant role in the region. For instance, about one out of every two West Africans is a Nigerian; also, about one out of every five of the SSA population is a Nigerian. Given that OGB in Nigeria is still at his early stage, we represented adoption intention by using consumers social media participation and familiarity with online transactions. This is consistent with the methodological appropriateness vs. methodological orthodoxy argument. In line with this supposition, Cook and Reichardt (1979) advocate for flexibility and adaptability in the choice of the application of methods. Patton (1990) alluded to this in arguing for a "paradigm of choices (where the argument was made to) reject methodological orthodoxy in favour of methodological appropriateness as the primary criterion for judging methodological quality" (p. 38). Accordingly, data were generated from social media members in Nigeria. The research instrument was administered to the consumers via their WhatsApp accounts and to different WhatsApp groups. We used WhatsApp contact lists of the researchers and that of two researcher assistants for the following reasons: First, using social networking sites makes it easier to find respondents who qualify for the study. Second, collecting data from real social media members increases the reliability and validity of our research results. Third, WhatsApp is the most popular instant messaging app in Nigeria, used by more than 45% of internet users (McCrocklin, 2018). Finally, using WhatsApp to collect data during the coronavirus pandemic makes huge sense due to the lockdown and social distancing regimes that limit physical contacts. 258 respondents completed the survey in two weeks. Table 1 summarizes the demographic profile of the respondents. From table 1, 53% of the respondents are female, while 57% are male; 60 % are married, and mostly between 20 and 50 years of age (92%). The respondents have a good education, with 47% and 50% having a Bachelors or a postgraduate degree respectively. Most of the respondents live in households consisting of 3 to 5 persons (46%), with a monthly household income of less than 150, 000 (US$386; 67%) naira, and between N150,001 (US$386) to N500,000 (US$1,286; 29%). The demographic data suggest that the sample is a good representative of internet users in Nigeria (McCrocklin, 2018).

Table 1. Respondents' profile

		Frequency	*Per cent*
Gender	Male	122	47.3
	Female	136	52.7
Marital Status	Single	100	39.1
	Married	154	60.2
	Widowed	2	.8
Age (in years)	20 and 34 years	116	45.0
	35 and 50 years	122	47.3
	> 50 years	20	7.8
Educational qualification	SSCE	6	2.3
	OND/NCE	2	.8
	BSc/HND	122	47.3
	PG Degree	128	49.6
Household Income (in Naira per month)	< 150,000	170	66.9
	150,001 and 500,000	74	29.1
	500,001 and 750,000	4	1.6
	> 1 million	6	2.4
Household Size (in persons)	< 3 persons	60	23.3
	3 to 5 persons	118	45.7
	6 to 10 persons	78	30.2
	> 10 persons	2	.8
	Total	258	100.0

3.2. Survey Instrument

The survey instrument contains two sections. Section A contains questions relating to the main variables of the study. Section B contains the demographic information about the respondents. Accordingly, Section A of the instrument elicited respondents' opinions on the independent variable items relating to internet self-efficacy - 4 items, online shopping self-efficacy - 3 items, online shopping experience - 4 items, convenience - 3 items, internet access - 3 items, and privacy concerns - 3 items. The dependent variable consists of 3-items measuring intention to adopt OGB. All items use a 5-point Likert-scale ranging from 5 = strongly agree to 1 = strongly disagree. The measures were sourced from the literature and adapted to fit the group-buying context. Self-efficacy was adapted form Thakur (2018) and Akhter (2009), Online shopping experience adapted the framework from Ojiaku and Aihie (2018); the privacy concerns scale uses the scale from Akhter (2009); convenience scales are from Cheow et al. (2017), Internet access from GSM association (2018), and adoption intention from (Kauffman et al., 2010). The items were face validated by senior academics in the Management and Behavioural science discipline, while the Cronbach alpha checks the reliability of the instrument.

4. RESULTS

Principal component analysis with varimax rotation and reliability analysis was used as the validity and reliability check for the measures. Factor loadings below 0.4 serve as the benchmark and Cronbach alpha > 0.7. All 23 - items converge on 7-factors. Factor 1 consists of 3-items measuring online shopping self-efficacy. Factor 2 consists of items measuring online shopping experience. Items measuring adoption intention converged on factor 3. Factor 4 consists of items measuring privacy concerns, while factor 5 consists of items measuring convenience. Also, 3-items measuring internet self-efficacy converged on factor 6 and labelled accordingly. Finally, factor 7 consists of items measuring internet access. The cumulative explained variance is 69.58%. Cronbach's alpha for the dimensions was reliable and above the 0.7 benchmark (Nunnally & Bainstein, 1994). Table 2 shows the summary of the factor loading, Cronbach alpha and explained variance.

Table 2. Factor Loading, Reliability test, and Explained variance

	Component						
	1	2	3	4	5	6	7
I find it very easy to get acquainted with several online purchasing platforms	.829						
I can confidently solve most problems that arise during online purchases	.817						
I am skilled in searching for products and services on the Internet.	.494						
I have a rich online shopping experience.		.704					
I have personally shopped online in the past.		.700					
I have shopped online through someone in the past.		.623					
I am familiar with how to shop online.		.621					
How likely are you to shop on a group buying website in the future?			.934				
How willing are you to shop on a group buying website in the future?			.934				
I'm interested in shopping from a group buying website in the future.			.822				
I am concerned about the security of financial transactions on the Internet.				.847			
I am uncomfortable giving my financial information on the Internet.				.798			
I'm concerned over the security of personal information on the web				.785			
It should be easy to find products on a group buying website (OGB)					.725		

I will be able to shop on a OGB anytime.					.607		
I will be able to complete transactions without difficulty on a OGB.					.575		
I am confident that I can solve any problems using the Internet.						.745	
I have the necessary ability to fully use the Internet to perform any internet-based task.						.735	
I feel comfortable using the Internet for performing any web-based task.						.577	
I can afford the cost of using the Internet (e.g. data top-up, app charges, monthly bills, travel to internet cafés)							.758
I have access to a device that can use the Internet.							.745
I mostly access the Internet at home.							-.590
Cronbach alpha	.76	.85	.93	.75	.78	.75	.75
Explained variance	29.0	9.71	9.22	5.99	5.84	5.27	4.55
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.							
a. Rotation converged in 9 iterations.							

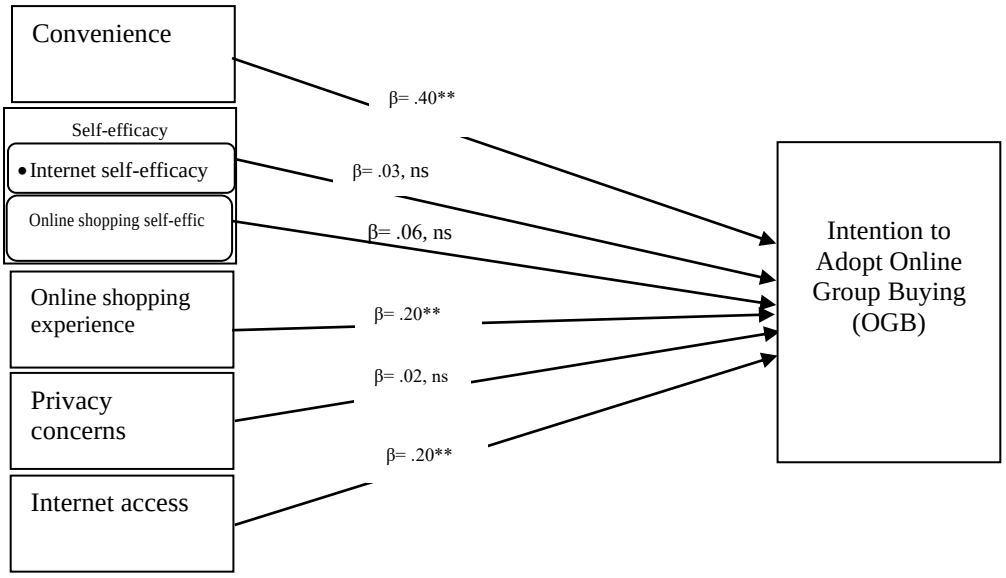
4.1. Hypothesis Testing

Multiple regression analysis was run on SPSS version 16 to test the hypothesised relationships. Overall, the model is a good fit ($F_{6, 257} = 18.7$, $p < 0.01$), and explained 31% of the variation in the dependent variables. The variance inflation factors were all above 1, suggesting that the model is free from the multicollinearity problem. The regression results show a significant effect for convenience on OGB adoption intention ($\beta = .40$, $p < .01$) therefore supporting H1. Similarly, online shopping experience ($\beta = .20$, $p < .05$) and internet access ($\beta = .20$, $p < .05$) were found to significantly predict OGB adoption intention, supporting H4 and H5 respectively. However, contrary to our expectation, we did not find support for H2a and H2b as the regression result shows a non-significant effect for internet self-efficacy ($\beta = -.03$, $p = .60$) and online shopping self-efficacy ($\beta = -.06$, $p = .44$) on OGB adoption intention. Finally, we also find a non-significant effect for privacy concern on OGB adoption intention ($\beta = .02$, $p = .78$). The regression weight shows that convenience and internet access have the strongest predictive power on adoption intention, respectively. Table 3 contains a summary of the results.

Table 3. Regression Results

Model		**t**	**Sig.**	**Collinearity Statistics**	
	β			**Tolerance**	**VIF**
Internet self-efficacy	-.031	-.531	.596	.789	1.268
Online shopping experience	.195	2.843	.005**	.584	1.713
Convenience	.397	6.038	.000**	.637	1.571
Online shopping self-efficacy	-.057	-.774	.439	.511	1.955
Internet access	.199	3.608	.000**	.905	1.105
Privacy concerns	.015	.282	.778	.981	1.019

Figure 2. Research model



Source: Author's conceptualization

*** p < .05*

ns = not significant

5. DISCUSSION

Given the increased confidence in online retailing and the emergence of OGB in Nigeria, this study sought to understand consumers' intentions to adopt OGB. We tested the effects of convenience, Internet and online shopping self-efficacy, online shopping experience, privacy concerns, and internet access on OGB adoption intention. The findings suggest that shopping experience is an essential predictor of OGB adoption intention. Since online group-buying is still in its early stages and unpopular in the context of this study, consumers with prior experience shopping with traditional online stores demonstrated a willingness to adopt OGB. This finding confirms the importance of experience regarding customers' expectations from retailers and corroborates the findings of He (2018) and Pappas et al. (2014). This finding further confirms that consumers' product-norm experience predicts focal service use intention.

Furthermore, as with previous studies (see for example: Citrin et al. 2000; Mckechnie et al. 2000; Ojiaku & Aihie, 2018), consumers with experience of using the internet technology for other purposes rather than group buying will strongly determine its use for the group buying. In other words, the use of the Internet for online shopping will strongly determine its use for OGB. Although the group-buying mechanism is quite different from the traditional online retailing, the model is still an online transaction, and consumers who have shopped online directly or indirectly from a conventional online retailer in the past would be willing to adopt OGB. When consumers have positive online shopping experiences, especially when it matches their expectations, it reduces their anxiety, risk perception, and uncertainty, and increases their confidence in online shopping.

The findings also show that convenience influences OGB adoption intention. The significant effect of convenience corroborates previous findings by Duarte et al. (2018), Cheow et al. (2017), and Srivastava and Kaul (2014), who found a significant influence of convenience on behavioural outcomes and customer experience, and this also confirms its importance for group buying participation (Xiao, 2015; Lee et al. 2016). The ease of shopping from anywhere at any time and without difficulty is an essential driver for OGB adoption. Moreover, it is the most dominant predictor of behavioural intention, confirming Izogo and Jayawardhena (2018), who report convenience as an essential driver of the online shopping experience. Furthermore, the time and effort savings that online transactions provide is an essential attraction for consumers, mainly as consumers are more time-starved and busy than before. Consumers can enjoy the convenience of group choice by participating in group buying when they join a group buying activity usually by a group leader who is more knowledgeable and experienced with a product or when they collaboratively evaluate and select a product to buy. In both cases, there is an opportunity to save time and effort when shopping on a group buying website. The

possibility of receiving goods at home or other convenient locations, making payment through the Internet or third-party payment reinforce consumers' convenience, which influences their intention to adopt OGB.

However, while consumers' online shopping experience and convenience predict adoption intention, their Internet and online shopping self-efficacy are not significant predictors of OGB adoption intention. We had expected the Internet and online shopping self-efficacy to influence adoption intention, but our findings showed otherwise. The non-significant effects of the Internet and online shopping self-efficacy corroborate Keisidou et al. (2011) Jeng and Tseng (2018) but contradict Hsu and Chiu (2004). A plausible explanation for the non-significant effect of self-efficacy may include any of these: first, since self-efficacy attempts to measure one's belief, perceptions, or feelings of efficacy in using the Internet or shopping online, our sample consists of social media users who by extension are internet users and may also be online shoppers. In other words, our sample consists of consumers that can execute Internet or online shopping related tasks, rather than those with the 'perception of ability' (Jeng & Tseng, 2018) to do so. For instance, about 70% of our respondents agree that they have competencies in shopping online or using the Internet to search for products, browsing several online shopping platforms, and solving or performing any web-related task. Second, it is plausible that self-efficacy may indirectly influence online group-buying intention as evidenced in the study of Jeng and Tseng (2018), which reports that self-efficacy indirectly influences group-buying intention through perceived ease of use.

Furthermore, we expected privacy concerns, which relate to consumers' safety and security concerns with online transactions, to affect OGB adoption intention negatively, especially in this context where the incidence of cyber-fraud, such as identity and financial fraud, is usually in the public domain. Surprisingly, we did not find a significant effect for privacy concerns on the intention to adopt OGB, and more surprising is the positive co-efficient effect. Our finding is consistent with Fagih (2016), who found both online privacy and security concerns for non-adopters' use intention to be non-significant. However, our findings run counter to other previous findings such as Akter (2008), which found privacy concerns on the frequency of online transactions to be negative, and Lutz and Tamò-larrieux, (2020*)* who report a moderate privacy concern about social robots among respondents. The non-significant effect for privacy concerns could be attributable to consumers' increased confidence in online shopping and the perception of the increased security features of e-commerce. With stringent privacy laws in place, consumers believe that online stores have to make the effort to improve the security features on their website to safeguard customers' data online. Also, e-commerce businesses communicate and signal the extra security features introduced on their websites as well. Another plausible rationale is that since consumers evaluate their privacy concerns based on the net benefit from the perception of loss from disclosing personal and financial details and the gain from the personalised offering, it is plausible that, over time, consumers have benefitted from such disclosure. This corroborates Martin and Murphy (2016) and Inman and Nikolova's (2017) assertions that when consumers disclose privacy-related information, they often subscribe for additional benefits such as more tailored offerings and recommendations, discounts and more relevant marketing communications and media content. This net gain might explain the positive co-efficient of privacy concerns.

Given the prospects of internet penetration in the context of this study, the availability and access to the Internet is the gateway for online transactions. As expected, we find a significant effect of internet access on the intention to adopt OGB, thus corroborating Mckechnie et al. (2016), which finds a significant effect for internet access on perceived enjoyment and perceived ease of use of online financial service. The availability and access to the Internet is a facilitating condition for the intention to adopt OGB. When consumers have a device to connect to the Internet, and can afford to pay for an internet subscription, it becomes practical and easy to conduct online transactions. Access to the Internet increases the time consumers spend online and improves their efficacy to use the Internet to perform a web-based task. Also, with the recent upsurge and availability of affordable smartphones, many consumers can now access the Internet, and consequently, e-commerce businesses are strategically designing mobile compatible websites to improve customer experience. The findings from this study, therefore, suggest that convenience, shopping experience, and internet access will predict customers' intention to adopt OGB.

6. CONCLUSION

The As more consumers seek better ways to shop and save money, especially in the face of bleak economic realities, the group buying model promises to become the 'Holy Grail' for consumers to survive difficult times. While businesses in other climes have been quick to respond to these new realities, the OGB model is still in its infancy in Nigeria as in most SSA contexts. Therefore, this present study represents an empirical contribution from the under-reported sub-Saharan African context

to the emerging literature on OGB. Specifically, this study attempts to understand the intention to adopt OGB among a cross-section of social media users from an emerging economy in the sub-Saharan African context. Based on the findings from this study, we conclude that convenience, prior shopping experience, and access to the Internet predict the intention to adopt OGB. Also, neither consumers' concerns about privacy and security issues nor their perceived ability to use the Internet or shop online may affect OGB adoption intention. Customers' perceived convenience and online shopping experience are the strongest predictors of OGB adoption intention.

The study has its own limitations. First, the study uses a social media community to proxy OGB; while this makes huge methodological sense, it is recommended that future studies use actual online group buyers to test for potential differences between intention and actual behaviour. Second, we used a regression analysis to test for direct relationships. Further studies should extend this by examining systems of relationships using structural equation modelling or path analysis and test indirect relationships in the model. Also, testing for potential mediating effects could deepen the robustness of future methodology.

7. IMPLICATIONS

7.1 Practical Implications

The findings hold some implications for theory and practice. First, convenience shows a relatively more substantial influence on OGB adoption intention than other constructs in the research model, implying that OGB marketers should emphasise the convenience of OGB transactions in their marketing communications to customers. Marketers will have to communicate the ease of finding products, offerings and deals, and the ability to shop on a group buying website without difficulty from anywhere and at any time. Second, the finding on the positive effect of online shopping experience implies that OGB marketers can leverage on it to gain traction. Marketers can and micro-targeting prior online shoppers with offerings and deals following their expressed intentions to adopt OGB. Consumers that are familiar with online shopping and that have shopped online directly or indirectly in the past should be the focus of marketing programs and campaigns for OGB marketers.

Finally, it is important that firms target consumers with adequate internet access both at home and in their offices, or devise strategies to reach those without internet access. While internet access is an obvious requirement for e-commerce businesses and online shoppers alike, it would be inimical for businesses to assume widespread availability and access to the Internet. Therefore, OGB may focus on customer segments in geo-locations with internet access and who use the Internet frequently at home. However, since a group buying transaction is a coordinated arrangement between a group lead buyer and other co-buyers, OGB may provide incentives and recruit lead-buyers as ‘sales agents’ to mediate for and provide internet access for customers without internet access. The group leaders may register and manage sub-accounts for these groups of customers while marketers establish and communicate with these groups via SMS using the communication platform as a service (CpaaS) plug-in on their website.

7.2 Theoretical Implications

The present study makes several contributions to theory. First, technologies advance by incrementally adding to how consumers deploy them to solve problems. For instance, we know that instant messaging technology advanced from technology that supports short message services. Likewise, online group buying extends from online retailing and social media. This underscores the importance of specific self-efficacy and product-norm experience as important predictors of online shopping adoption. The theoretical implication of our model is that it provides an empirical understanding of how this domain specific construct explains the use of technology and extends existing models. Also, our model shows the criticality of convenience in technology adoption. Convenience is scarcely reported in the technology adoption literature due to its limited relevance in the context. However, in online group buying, consumers regard convenience as a strong predictor of behaviour. Our model therefore shows the importance of accounting for convenience in explaining the use of internet-enabled consumer technologies.

Finally, the present study integrates concepts from different adoption theories to model online group buying. Extant literature predicted OGB using equity theory, the technology acceptance model, and transaction cost model. We use existential constructs that are specific to our domain to predict OGB among consumers in SSA. The implication of this theory is that factors from diverse models can be integrated to explain behaviour. For instance, we used internet access, which, more specifically, addresses a facilitating condition that is critical to online shopping but is rarely reported as a facilitating condition in UTAUT.

REFERENCES

Abbakin (2019). The Nigerian online e-commerce market size and trends. (www.abbakin.com/nigeria-online-e-commerce-market-size. Accessed 3/5/2020).

Aguirre, E., Mahr, D., Grewel, D., Ruyter, K. D., & Wetzels, M. (2015). Unravelling the personalisation paradox: The effect of information collection and trust-building strategies on online advertisement effectiveness. *Journal of Retailing*, 91, 34-59.

Akhter, S. H. (2009). Privacy concern and online transactions: The impact of internet self-efficacy and internet involvement. *Journal of Consumer Marketing*, *3*(1/2), 118-125.

Anand, K.S., & Aron, R. (2003). Group buying on the web: A comparison of price-discovery mechanisms. *Management Science*, 49(11), 1546-1562.

Ajzen, I. (1991). The theory of planned behavior. O*rganizational Behavior and Human Decision Processes,* 50, 179-211.

Ajzen, I. & Madden, T.J. (1986). Predication of goal-directed behavior: attitude, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*, 22, 453-74.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122.

Bhattacharya, A., & Srivastava, M. (2018). Antecedents of online shopping experience: An Empirical Study. *NMIMS Management Review*, *XXXV* (4), 12-30.

Cadotte, E.R., Woodruff, R.B. & Jenkins, R.L. (1987). Expectations and norms in models of consumer satisfaction. *Journal of Marketing Research*, 19(4), 491-504

Cao, E., & Li, H. (2020). Group buying and consumer referral on a social network. *Electronic Commerce Research*, *20*, 21-52. https://doi.org/10.1007/s10660-019-09357-4.

Che, T., Peng, Z., Hin, K., &Hua, Z. (2015). Antecedents of consumers' intention to revisit an online group-buying website: A transaction cost perspective. *Information and Management*, *52*(5), 588-598. https://doi.org/10.1016/j.im.2015.04.004.

Chen, C., Yu, P.-H., & Li, Y.-J. (2016). Understanding group-buying websites continuous use behavior: A use and gratifications theory perspective. *Journal of Economics and Management*, *12*(2), 177-204.

Cheng, H., & Huang, S. (2013). Exploring antecedents and consequence of online group-buying intention: An extended perspective on theory of planned behavior. *International Journal of Information Management*, *33*(1), 185-198. https://doi.org/10.1016/j.ijinfomgt.2012.09.003.

Cheow, V., Yeo, S., Goh, S., & Rezaei, S. (2017). Consumer experiences, attitude and behavioral intention toward online food delivery (OFD) services. *Journal of Retailing and Consumer Services*, *35*(December), 150-162. https://doi.org/10.1016/j.jretconser.2016.12.013.

Chevalier, S. (2022). Number of Groupon active customers 2009-2021. (Jan). (Retrieved from: https://www.statista.com/statistics/273245/cumulative-active-customers-of-groupon/)

Chou, H. (2019). Units of time do matter: How countdown time units affect consumers' intentions to participate in group-buying offers. *Electronic Commerce Research and Applications*, *35*(March), 100839.

Citrin, A. V., Sprott, D. E., Silverman, S. N. & Stern Jr., D. E. (2000). Adoption of Internet Shopping: the role of consumer innovativeness. *Industrial Management and Data Systems*, 100(7), 294-300.

Colgate, M., Stewart, K., & Kinsella, R. (1996). Customer defection: A study of the student market in Ireland. *International Journal of Bank Marketing*, *14*(3), 23-29.

Cook, T.D. & Reichardt, C.S. (1979) Qualitative and quantitative methods in evaluation research, London: Sage

Correa, T., Pavez, I., & Contreras, J. (2018). Digital inclusion through mobile phones: A comparison between mobile-only and computer users in internet access, skills and use. *Information, Communication and Society*, *4462*, 1-19. https://doi.org/10.1080/1369118X.2018.1555270

Duarte, P., Costa, S., & Bernardo, M. (2018). How convenient is it? Delivering online shopping convenience to enhance customer satisfaction and encourage e-WOM. *Journal of Retailing and Consumer Services*, *44*(May), 161-169. https://doi.org/10.1016/j.jretconser.2018.06.007.

Erdoğmus, E. I., & Çiçek, M. (2011). Online Group Buying: What is there for the Consumers? *Procedia Social and Behavioral Sciences*, *24*, 308–316. https://doi.org/10.1016/j.sbspro.2011.09.138

Fagih, K. (2016). An empirical analysis of factors predicting the behavioral intention to adopt Internet shopping technology among non-shoppers in a developing country context: Does gender matter? *Journal of Retailing and Consumer Services*, (May). https://doi.org/10.1016/j.jretconser.2016.01.016.

Garcia, J. M., Bandeira, O., Freire, D. L., Biagi, E., Santos, A., & Andrade, J. (2020). Factors affecting satisfaction and loyalty to online group buying. *Revista de Gest~ao*. https://doi.org/10.1108/REGE-02-2018-0037

Gilbert, P. (2020). Nigeria's 1GB data price has dropped 75% over five years (retrieved from https://www.connectingafrica.com/author.asp?section_id=761&doc_id=761503. 28/4/2022)

GSMA. (2018). *Delivering a digital future: The role of mobile technology in building Nigeria's digital economy*.

Han, B., & Kim, M. (2019). Hofstede's collectivistic values and sustainable growth of online group buying. *Sustainability*, *11*, 1-15. https://doi.org/10.3390/su11041016

He, L. (2018). *Recommendation, customer satisfaction, online shopping experience, trust, and word-of-mouth affecting consumer online shopping decision in china*. The Graduate School of Bangkok University, Bangkok.

Heo, C. Y. (2016). Exploring group-buying platforms for restaurant revenue management. *International Journal of Hospitality Management*, *52*, 154-159. https://doi.org/10.1016/j.ijhm.2015.07.009

Hsu, M., & Chiu, C. (2004). Internet self-efficacy and electronic service acceptance. *Decision Support System*, *38*, 369-381. https://doi.org/10.1016/j.dss.2003.08.001

Hsu, M., Chang, C., & Chuang, L. (2015). Understanding the determinants of online repeat purchase intention and moderating role of habit: The case of online group-buying in. *International Journal of Information Management*, *35*(1), 45-56. https://doi.org/10.1016/j.ijinfomgt.2014.09.002

Hsu, M., Chang, C., Chu, K., & Lee, Y. (2014). Determinants of repurchase intention in online group-buying: The perspectives of DeLone and McLean IS success model and trust. *Computers in Human Behavior*, *36*, 234-245. https://doi.org/10.1016/j.chb.2014.03.065

Hsu, S., Qing, F., Wang, C., & Hsieh, H. (2018). Evaluation of service quality in facebook-based group-buying. *Electronic Commerce Research and Applications*, *28*, 30-36. https://doi.org/10.1016/j.elerap.2018.01.006

Inman, J. J., & Nikolova, H. (2017). Shopper-Facing Retail Technology: A Retailer Adoption Decision Framework Incorporating Shopper Attitudes and Privacy Concerns. *Journal of Retailing*, *93*(1), 7-28. https://doi.org/10.1016/j.jretai.2016.12.006

Izogo, E. E., & Jayawardhena, C. (2018). Online shopping experience in an emerging e-retailing market. *Journal of Research in Interactive Marketing*, *12*(2), 193-214. https://doi.org/10.1108/JRIM-02-2017-0015.

Jeng, R., & Tseng, S. M. (2018). The Relative Importance of Computer Self-efficacy, Perceived Ease-of-Use and Reducing Search Cost in Determining Consumers' Online Group-buying Intention. *International Journal of Human and Technology Interaction Participate*, *2*(1), 1-12.

Kauffman, R, J.& Wang, B. (2002). Bid together, buy together: on the efficacy of group-buying business models in Internet- based selling," in Handbook of Electronic Commerce in Business and Society, Lowry P. B., Cherrington J. O. and Watson R. R., eds. Boca Raton, FL: CRC Press.

Kauffman, R. J., & Wang, B. (2001). New buyers' arrival under dynamic pricing market microstructure: the case of group-buying discounts on the Internet. *Journal of Management Information Systems*, 18 (2), 157-88.

Kauffman, R. J., Lai, H., & Ho, C. (2010). Incentive mechanisms, fairness and participation in online group-buying auctions. *Electronic Commerce Research and Applications*, *9*(3), 249-262.

Keisidou, E., Sarigiannidis, L., & Maditinos, D. (2011). Consumer characteristics and their effect on accepting online shopping, in the context of different product types. *Int. Journal of Business Science and Applied Management*, *6*(2).

Kim, M.J., Chung, N., Lee, C.K. & Preis, M.W. (2015). Online group-buying of tourism products: effects of value and trust on site attachment, altruism, and loyalty. *Journal of Travel andTourism Marketing*, 32(8), 935-952.

Kim, M.J., Lee, C.K., Chung, N., & Kim, W.G. (2014). Factors affecting online tourism group buying and the moderating role of loyalty. *Journal of Travel Research*, 53(3), 380-394.

Klaus, P. (2014). Towards practical relevance - delivering superior firm performance through digital customer experience strategies. *Journal of Direct, Data and Digital Marketing Practice*, 15 (4), 306-316.

Kollmann, T., Kuckertz, A., & Kayser, I., (2012). Cannibalisation or synergy? Consumers' channel selection in online-offline multichannel systems. *J. Retail. Consum. Serv.*, 19 (2), 186-194.

Lee, Y.K., Kim, S.Y., Chung, N., Ahn, K., & Lee, J.W., (2016). When social media meet commerce: A model of perceived customer value in group-buying. *J. Serv. Mark*. 30 (4), 398-410.

Liao, S., Chu, P., Chen, Y., & Chang, C. (2012). Mining customer knowledge for exploring online group buying behavior. *Expert Systems with Applications*, *39*(3), 3708-3716. https://doi.org/10.1016/j.eswa.2011.09.066.

Li, J., Li, B., Shen, Y., & Tang, K. (2022). Study on the steady state of the propagation model of consumers' perceived service quality in the community group-buying. *Journal of Retailing and Consumer Services*, *65*, 102882. https://doi.org/10.1016/j.jretconser.2021.102882

Li, W., & Yuan, Y. (2018). Purchase experience and involvement for risk perception in online group buying. *Nankai Business Review International*, *9*(4), 587-607. https://doi.org/10.1108/NBRI-11-2017-0064

Lim, W. M. (2020). An equity theory perspective of online group buying. *Journal of Retailing and Consumer Services*, *54*, 101729. https://doi.org/10.1016/j.jretconser.2018.12.013.

Lim, W.M., (2017). Online group buying: some insights from the business-to-business perspective. *Industrial Marketing Management*, 65, 182-193.

Lim, W. M., & Ting, D. H. (2014). Consumer Acceptance and Continuance of Online Group Buying. *Journal of Computer Information Systems ISSN: 54*(3), 87-96. https://doi.org/10.1080/08874417.2014.11645707

Lin, S., Tseng, H.-T., & Shirazi, F. (2022). Consumer decision journey for online group buying: psychological and intentional procedure perspectives. *British Food Journal*, (DOI 10.1108/BFJ-12-2021-1277). https://doi.org/10.1108/BFJ-12-2021-1277

Liu, Y., & Sutanto, J. (2012). Buyers' purchasing time and herd behavior on deal-of-the-day group-buying websites. *Electronic Markets*, 22 (2), 1-11.

Luo, X., Andrews, M., Song, Y., & Aspara, J. (2014). Group-Buying Deal Popularity. *Journal of Marketing*, *78*(March), 20-33.

Lutz, C., & Tamò-larrieux, A. (2020). The Robot Privacy Paradox: Understanding How Privacy Concerns Shape Intentions to Use Social Robots. *Human-Machine Communication*, *1*, 87-111.

Martin, K. D., & Murphy, P. E. (2016). The role of data privacy in marketing. *Journal of the Academy of Marketing Science*. https://doi.org/10.1007/s11747-016-0495-4.

McCrocklin, S. (2018). The connected Nigerian consumer: Nigeria consumer behaviour, income, and ecommerce. (www.geopoll.com/blog/nigerian-consumer-behaviour-income-ecommerce. Accessed 25/4/2020).

Mckechnie, S., Winklhofer, H., & Ennew, C. (2006). Applying the technology acceptance model to online retailing of financial services. *International Journal of Retail and Distribution Management*, 1-35.

Nigeria Communication Commission (2020). Internet subscribers' data. https://www.ncc.gov.ng/stakeholder/statistics-reports/industry-overview#view-graphs-tables

Nunnally, J. C., & Bernstein, I. (1994). Psychometric theory (3rd ed.). New York, NY: McGraw-Hill.

Nzekwe, H. (2020). Fact checks: Does mobile data really cost too much in Nigeria? (https://weetracker.com/2020/04/05/mobile-data-cost-nigeria/ accessed 14/6/2020)

Ojiaku, O. C. & Aihie, O. (2018). Determinants of customers' brand choice and continuance intentions with mobile data service provider: the role of past experience. *Global Business Review*, 19(6), 1478-1493.

Pappas, I. O., Pateli, A. G., Giannakos, M. N., & Chrissikopoulos, V. (2014). Moderating effects of online shopping experience on customer satisfaction and repurchase intentions. *International Journal of Retail and Distribution Management*, *42*(3), 187-204. https://doi.org/10.1108/IJRDM-03-2012-0034.

Patton, M.Q. (1990) Qualitative Evaluation and Research Methods (2nd. Edition), Newbury Park: Sage

Peterson, T.O.M & Arnn, R.B. (2005). Self-efficacy: the foundation of human performance. *Performance Improvement Quarterly*, 18(2), 5-18.

Pinduoduo Inc. (2020). Pinduoduo announces first quarter 2020 unaudited financial results. https://investor.pinduoduo.com/news-release-details/pinduoduo-announces-first-quarter-2020 unaudited-financial. (Accessed 29/6/2020)

Sharma, V. M., & Klein, A. (2016). Intention-to-participate in online group buying and consumer decision-making styles. *International Journal of Electronic Marketing and Retailing*, *7*(3), 245-270. https://doi.org/10.1504/IJEMR.2016.078953

Sharma, V., & Klein, A. (2020). Consumer perceived value, involvement, trust, susceptibility to interpersonal influence, and intention to participate in online group buying. *Journal of Retailing and Consumer Services*, (January). https://doi.org/10.1016/j.jretconser.2019.101946.

Shi, X., & Liao, Z. (2017). Online consumer review and group-buying participation: The mediating effects of consumer beliefs. *Telematics and Informatics*, *34*(5), 605-617. https://doi.org/10.1016/j.tele.2016.12.001.

Shiau, W., & Meiling, M. (2012). Factors affecting online group buying intention and satisfaction: A social exchange theory perspective. *Computers in Human Behavior*, *28*(6), 2431-2444. https://doi.org/10.1016/j.chb.2012.07.030.

Shih, Y., & Fang, K. (2005). Customer defections analysis: an examination of online bookstores. *The TQM Magazine*, *17*(5), 425-439. https://doi.org/10.1108/09544780510615933

Sohail, M. S. (2014). Factors impeding online shopping: an Arab world perspective. *European Online Journal of Natural and Social Sciences*, 3(4), -972.

Staff, R. (2022). UPDATE 3- China's Pinduoduo misses quarterly revenue estimates (accessed on 28/4/22 from https://www.reuters.com/article/pinduoduo-results-idCNL3N2VO264

Srivastava, M., & Kaul, D. (2014). Social interaction, convenience and customer satisfaction: The mediating effect of customer experience. *Journal of Retailing and Consumer Services*, *21*(6), 1028-1037. https://doi.org/10.1016/j.jretconser.2014.04.007.

Sun, Z., Zhao, H., & Wang, Z. (2021). How does group-buying website quality for social commerce affect repurchase intention? Evidence from Chinese online users. *Asia Pacific Journal of Marketing and Logistics*, (DOI 10.1108/APJML-04-2021-0231). https://doi.org/10.1108/APJML-04-2021-0231

Stears Business (2019). Overpriced: Why Nigerians pay so much for data, https://www.stearsng.com/article/overpriced-why-nigerians-pay-so-much-for-data (April)

Suki, M. N., & Suki, M. N. (2017). Modeling the determinants of consumers' attitudes toward online group buying: Do risks and trusts matters? *Journal of Retailing and Consumer Services*, *36*(December), 180-188. https://doi.org/10.1016/j.jretconser.2017.02.002

Thakur, R. (2018). The role of self-efficacy and customer satisfaction in driving loyalty to the mobile shopping application. *International Journal of Retail and Distribution Management*, *46*(3), 283-303. https://doi.org/10.1108/IJRDM-11-2016-0214.

Trevinal, A. M., & Stenger, T. (2014). Toward a conceptualisation of the online shopping experience. *Journal of Retailing and Consumer Services*, 21(3), 314-326.

Trung, Q. P., Phuc, X. T., Misra, S., Maskeliunas, R., & Damaševi˘cius, R. (2018). Relationship between convenience, perceived value, and repurchase intention in online shopping in Vietnam. *Sustainability*, *10*(156), 1–14. https://doi.org/10.3390/su10010156.

Venkatesh, V., Morris, M.G., Davis, G.B. & Davis, F.D. (2003). User acceptance of information technology: toward a unified view. *MIS Quarterly*, 27 (3), 425-478.

Wang, C., Harris, J., & Patterson, P. G. (2012). Customer choice of self-service technology: The roles of situational influences and past experience. Journal of Service Management, 23(1), 54-78.

Wang, E. S., & Chou, N. P. (2014). Consumer characteristics, social influence, and system factors on online group-buying repurchasing intention. *Journal of Electronic Commerce Research*, *15*(2), 119-132.

Wang, J. J., Zhao, X., & Li, J. J. (2013). Group buying: A strategic form of consumer collective. *Journal of Retailing*, *89*(3), 338-351. https://doi.org/10.1016/j.jretai.2013.03.001

Wang, W., Wang, Y., & Liu, E. (2016). The stickiness intention of group-buying websites: The integration of the commitment - trust theory and e-commerce success model. *Information and Management*, *53*(5), 625-642. https://doi.org/10.1016/j.im.2016.01.006.

White, T. B., (2004). Consumer disclosure and disclosure avoidance: A motivational framework. *Journal of Consumer Psychology*, 14 (1 and 2), 41-51.

Winkler, N. (2020). What is the future of e-commerce? 10 insights on the evolution of an industry. https://www.shopify.com/enterprise/the-future-of-eccommerce (Accessed 29/6/2020).

Wyche, S., & Olson, J. (2018). Kenyan women's rural realities, mobile internet access, and "Africa rising". *Information Technologies and International Development*, *14*(Special section), 33-47.

Xia, Y. X., & Chae, S. W. (2021). Sustainable Development of Online Group-Buying Websites: An Integrated Perspective of ECM and Relationship Marketing. *Sustainability*.

Xiao, L. (2015). *Consumer Motivations in Online Group Buying: A Means-End Chain Approach*. Information Systems, Technology and Management, PhD Dissertation, University of New South Wales Business School.

Zhou, G., Xu, K., & Liao, S. S. Y. (2013). Do starting and ending effects in fixed-price group-buying differ? *Electronic Commerce Research and Applications*, *12*(2), 78-89. https://doi.org/10.1016/j.elerap.2012.11.006

Zhou, L., Zhang, D., Yang, C., & Wang, Y. (2017). Harnessing social media for health information management. Electronic Commerce Research and Applications, 27, 139-151. https://doi.org/10.1016/j.elerap.2017.12.003