# SOCIAL COMMERCE AND ONLINE IMPULSIVE BUYING BEHAVIOUR AMONG STUDENTS IN NIGERIAN TERTIARY INSTITUTIONS

# ELEAZAR CHIBUZOR GBANDI

Faculty of Management Sciences, University of Benin, Benin City, Nigeria eleazar.gbandi@uniben.edu

# KINGSLEY CHIBUIKE UGBECHIE

Faculty of Management Sciences, University of Benin, Benin City, Nigeria chibuike.ugbechie@mgtsci.uniben.edu

### Abstract

This study empirically examined the role of social commerce on impulsive buying behavior among undergraduate students of the Delta State Polytechnic Ogwashi-Uku. The outlined three main objectives of the study include; evaluating the effect of social-interaction on impulsive buying behavior, determine the effect of hedonic motivation on impulsive buying behavior and examining the role of visual-appeal on impulsive buying behavior. A survey research design was adopted, and structured questionnaires were administered to 336 sample respondents. The obtained data were analyzed using both descriptive and inferential statistical tools. The descriptive statistics comprise of percentages, mean and standard deviation while multiple regression was the inferential statistics used to test the hypotheses. The findings from study indicated that social interaction (online-review), hedonic motivation and visual appeal were all positively and statistically significant towards impulsive buying. The study, thereafter, recommended that Social-commerce websites should engage knowledgeable or on-brand experts to conduct online reviews, discussions and product recommendations, as this will certainly instill confidence based on perceived reviewer credibility and usefulness towards product purchase.

Keywords: Social interaction, Hedonic motivation, Visual-appeal, Impulse buying behavior

JEL Classification: O30. M30, M31, M37, M39.

# 1. INTRODUCTION

There has been an unprecedented and steady rise in impulse buying behavior among consumers in the past couple of years (Khokha, Qureshi, & Murtaza, 2019; Goel, Parayitam, Sharma, Rana, & Dwivedi, 2022; Quicanaga, & Ogbere, 2022), this has created a scenario where the significance of impulse buying has become evident, giving the apparent fact that several consumers' purchases are unintended,

hasty and initiated spontaneously, with a sense of excitement and pleasurable desire (Abdelsalam, Salim, Alias, & Husain, 2020).

Due to the rise in impulse purchases, the idea of impulse buying has become one of the most widely studied subjects worldwide (Ugbomhe, Akhator & Audu, 2018). Therefore, the idea has sparked widespread interest, especially from service providers, with the aim of understanding the psychological factors that lead to impulse purchases and consumer behavior (Aragoncillo & Orus, 2018), especially when there is a discrepancy between what people intend to buy and what they actually receive (Ugbomhe et al., 2018). However, growing evidence has indicated that such (impulse buying) antecedents are likely and more noticeable on social commerce due to increasing social interactions with apt referent to the prompt development of social networking platforms and sites, which has created a veritable avenue for consumers and organizations alike to give greater attention to social commerce (Xiang, Zhenga, Lee, & Zhaoa, 2016).

Given the noticeable economic status of social commerce and the growing trend in its usage globally, there had been a steady in research aimed at understanding customers' online impulse purchases increase (Kumar & Kaur 2018; Zou 2018, Abdelsalam, et al, 2020). However, in our economic climate, where there is a rising and increasing tendency in the use of social commerce, particularly by young adults, which may have precipitated impulsive buying trends within the aforementioned demographic cohorts, there are only a limited number of empirical studies on social commerce and online impulsive buying behavior on these set of people, particularly with regard to the students of DSPO. This is quite surprising, as the students' who falls within the category are often seen and classified as the internet generation and are certainly the most patronized group of social-commerce as influenced by social interaction, hedonic motivation and web visual-appeal affects online impulsive buying behavior among the students of Delta State Polytechnic, Ogwashi-Uku (DSPO), Nigeria.

Despite various studies on social commerce and online impulsive buying behavior, no study has been identified to have been carried among the students of Delta State Polytechnic Ogwashi-Uku (DSPO), Delta State, Nigeria or among Nigerian students in general. In addition, most of the studies on impulse buying behavior in Nigeria are on the conventional retail shopping (Udegbe & Aliu, 2021; Ugbomhe, Akhator & Audu, 2018; Qammar, & Ali, 2018) while little to no research has been done on online and impulse buying behaviour. This investigation will close these identified knowledge gap. Hence the following objectives and research questions were formulated to guide the study:

### **Objectives of the Study**

The broad objective of this study is to evaluate the impact of social commerce on impulsive buying behaviour among the students of Delta State Polytechnic, Ogwashi-Uku. While the specific objectives include:

- i. Evaluate the impact of social interactions (online-review) on impulsive buying behaviour among the students of the Delta State Polytechnic, Ogwashi-Uku
- ii. Determine the effect of hedonic motivation on impulsive buying among the students of the Delta State Polytechnic, Ogwashi-Uku
- iii. Examine the role of visual-appeal on impulsive buying behaviour of the students of the Delta State Polytechnic, Ogwashi-Uku

# Research Question

The following research question were raised to guide the study:

- i. To what extent does social interaction (online review) affects the impulsive buying behaviour of the students of the Delta State Polytechnic, Ogwashi-Uku?
- ii. To what extent does hedonic motivation affect impulsive buying behaviour of the students of the Delta State Polytechnic, Ogwashi-Uku?
- iii. To what extent does visual-appeal impacts of impulsive buying behaviour of the students of the Delta State Polytechnic, Ogwashi-Uku?

# 2. LITERATURE REVIEW

# **2.1 SOCIAL INFLUENCE THEORY**

Our study is anchored on the social influence theory which framework was introduced by Kelman (1958). The process espoused how customers precisely adopt an online service based on referent from other users, who often have positive intentions towards such products (Aronson, Timothy, & Akert, 2010; Naqvi, Jiang, Miao, & Naqvi, 2020).

Kelman (1958) suggests three broad dimensions of social influence procedures to include: identification-which explains how individual behaviour is influenced by the social community (Kelman, 1958, 2017; Naqvi *et al.*, 2020); Internalization-which involves the state of adopting behaviour similar with one's family norms (Cheung *et al.*, 2011, 2010; Kelman, 1958, 2017); Compliance-which is the individuals' reflection towards a certain action, for example, an individual giving favorable response towards the requests by others (Aronson *et al.*, 2010). These three processes are considered as the most pertinent constructs of social influence processes relevant to the various service sector (Naqvi *et al.*, 2020).

Furthermore, Kelman (2017) posited that individual's select specific kinds of technology based on their inclination, opinions and the references from other users (Naqvi *et al.*, 2020), which is hinged on the three influencing processes. Generally, the process of social influence arises when the action and attitude of shoppers are being impacted upon by communally (Aronson *et al.*, 2010; Chiu *et al.*, 2013; Kelman, 2017). This study looked at how social commerce online review influenced the impulse buying behaviour of the consumer.

### 2.2 IMPULSE BUYING BEHAVIOUR

The consumer buying process is typically viewed as being characterized with thoughtful or logical consideration (Akram, Hui, Khan, Yan, & Akram, 2018), given the fact that customers recognize and monitor products or services, then compare and evaluate them before deciding on the best available option (Häubl, & Trifts, cited in Akram *et al.*, 2018). Yet, the rapid growth of online platforms or channels driven by information and communication technology heartened impulsive behaviour among consumers' who freely gain access to goods and services with ease (Chen, Su, & Widjaja, 2016).

The impulsive buying concept is driving by (external and internal) stimulus, which creates a sudden and impromptu acquisition or seeks for services (Khokha, et al, 2019). Sudha and Bharathi (2018) posited that impulsive behaviour arose from an abrupt and relentless desire to make instantaneous purchases without prior reflection. They further stated that an individual's impulsive act may be persistent or a one-off behaviour during future shopping. This is quite apparent, as 90% of consumers engage in impulse buying decisions; while, between 30%-50% of purchasers may perhaps be considered as impulse buyers (Zou, 2016). This is ostensible, as impulse or urge is usually caused by specific stimuli during the shopping process (Floh, & Madlberger, 2013), as the un-precedent behavioral tendency or action in impulse buying is the reaction to an exposed stimulus (Vonkeman, Verhagen, & Van-Dolen, 2017). Such are the characteristics of most users' purchase behaviour on social commerce sites, thus, a greater proportion of Social commerce (Wu, Chen, & Chiu, 2016).

Nonetheless, impulse buying behaviour is mediated among others, by socialinteraction and visual-appeal in the social commerce domain given the situation of image-sharing in social-commerce platforms. Xiang *et al.* (2016) noted that image sharing highly impacts consumers' intelligence, which makes them easily enthused by the visual-appeal leading to impulse purchases. Similarly, consumers have a habit of buying impulsively when driven by hedonic motivation that is compelled by emotional, fantasy, pleasure, self and social satisfaction (Wahab, Shihab, Hanafi, & Febria, 2018).

# 2.3 CONCEPT OF SOCIAL COMMERCE

Going by the rapid expansion of social media/networking channels, such as Facebook, Twitter, and Pinterest, there has been an increasing devotion towards social commerce by consumers and organizations alike (Xiang *et al.*, 2016). The concept of social commerce revolves around the merger between e-commerce and social media which enables commercial activities to take place by exploiting online social capital in social media (Lam, Yeung, Lo, & Cheng, 2019; Liang, Xian, *et al.*, 2016). The thriving nature of such a nascent platform is hinged on consumers benefit

from social engagement regarding online interactions using Web 2.0 social-media innovations (Han, Xu, & Chen, 2018).

Yahia, Al-Neama, and Kerbache (2018) noted that the advent of social networking sites allowed entrepreneurs to carry out business activities in an innovative manner via social commerce platforms hence, altering the business environment and the customers' mind-set. Equally, the growth of social commerce is hinged on the fact that social influence affects social purchases (Kim & Kim, 2018). Similar to how new media used hedonic characteristics to create an interactive shopping experience, the social commerce platform's 2005 launch of image sharing sought to appeal to consumers' visual senses as well (Xiang et al., 2016).

However, irrational behaviour influenced by impulse buying emotion has been denoted as part of the key features of social commerce (Akram, Hui, Khan, Saduzai, Akram, & Bhati 2018). As a result, Akram et al. (2018) went on to claim that, rather than being a planned shopping trip, impulsive buying is a bad habit. Despite criticism of impulsive purchases, Ifined (2016) opined that social commerce is thriving because people's motivations are influenced by social demands, which have an impact on how they use social networks as consumers. Xiang et al. (2016), further asserted that image diffusion on social-commerce platforms has been very successful and has had a significant impact on consumers' buying habits in relation to their social requirements.

### 2.4 SOCIAL INTERACTION (ONLINE-REVIEW) AND IMPULSIVE BUYING BEHAVIOUR

Sudha, and Bharathi (2018) while examining the concept of social interaction noted that social communications are vital to understanding consumer behaviour. Therefore, the consumers' social interaction using social networks platforms now forms an integral part of social commerce (Hajli, 2014). Social interaction as a dimension of Social-commerce has brought about unique consumer experiences in contrast to conventional e-commerce thereby, fostering parallel impulsive buying behaviour (Xiang, *et al.*, 2016; Chen et al., 2016).

Isa, Salleh, and Aziz (2016), indicated that social interactions via online medium could be separated into 'opinion-based' or 'online reviews', and 'behavioral-based social-interaction. The 'online review (which this study is concerned with) encompasses any known user opinion or comment either negative or positive concerning the brand or its promoter (Zhang, Hu, &; Zhao, 2014).

The concept of online reviews has in recent time, been significantly acknowledged in the marketing and social interaction literature (Zhang *et al.*, 2014; Zhang, Xu, Zhao, & Yu, 2018), given that within the context of an online environment, most consumers seek for opinions or rely on recommendations about product quality, for inferential and uncertainty reduction (Isa *et al.*, 2016). Furthermore, it has been established that online reviews affect consumers'

perception of the credibility and usefulness of a particular product, thereby influences their online-review acceptance behaviour (Gvili & Levy, 2016).

Previous studies such as; Mudambi and Schuff (2010); Zhang, Zhao, Cheung, and Lee (2014) have all revealed that online reviews could be an essential tool in determining consumers' shopping behaviour thereby, reducing uncertainty. These scholars' position and widely acceptance online review are hinged on its perceived benefit in comparison to the uncertainty surrounding the practice (Zhang *et al.*, 2018). Nonetheless, the concept of online review has not been fully explored, as quite a limited number of empirical evidence abound on whether/how online reviews could influence users to embark on online impulse buying behaviour (Zhang *et al.*, 2018). Based on extant literature, we expect social interaction to have an impact on impulse buying behaviour, hence, we hypothesized:

**Ho**<sub>1</sub>: Social interaction (online review) has impact on impulsive buying behaviour among the students of the Delta State Polytechnic, Ogwashi-Uku, Nigeria.

# **2.5 HEDONIC MOTIVATION**

People engage in online buying due to certain motivating factors. Motivation is seen as the willingness and strive to attain emotional needs (Kazi, Khokha, Qureshi, & Murtaza, 2019; Widagdo & Roz, 2021) Shopping motivation is precisely divided into utilitarian and hedonic motivation (Ha, 2020). Hedonic purchase motivation is the yearning to accomplish psychological desires such as emotions, prestige, satisfaction, and other subjective concerns (Widagdo & Roz, 2021).

An individual with hedonic shopping intent often spends considerable time online surfing around several retail stores, leading to unintended purchase. Thus, the concept of hedonic motivation has been described as the most significant predictor of online purchase and impulse buying behaviour (Kazi *et al*, 2019). The incorporation of a hedonic atmosphere as a stimulator by popular online retailers often ignited instantaneous shopping (Kazi et al, 2019). This is pertinent, as online consumers might due to hedonic motives search for products online for fun or gratification.

According to Bakirtas, Bakirtas, and Çetin (2015) who researched consumers' shopping intents, hedonism was seen as a vital factor connected to buying a specific product. This is quite ostensible, as Zou (2016) posited that online search for new products has continually become an adventure for some consumers. This is the case, as the online buying behaviour is viewed as esteem behaviour by consumers' to purchase distinctively unlike shopping for leisure or perceived enjoyment (Kazi *et al.*, 2019), thus, passion is reflected as the foremost motive for the behaviour of hedonic consumers. Akram *et al.* (2018) noted that making purchases goes beyond the acquisition of goods and task accomplishment for hedonic shoppers' consequently, such attitudes to an extent, is reflective on their

impulsive buying behaviour. As a result, hedonic shopping practices appear to unnecessarily satisfy these (hedonic) consumers' aesthetic, social, and lifestyle requirements, thereby observing their emotional response, sensory pleasure, and dreams (Widagdo, & Roz, 2021). In view of extant literature, we hypothesized:

**Ho**<sub>2</sub>: Hedonic motivation has impact on impulsive buying behaviour among the students of the university

### 2.6 VISUAL-APPEAL AND IMPULSIVE BUYING BEHAVIOUR

Visual-appeal refers to product packaging and appearance (inclusive of labelling and other brand notations) which collectively create an overall effect to optimally deliver quality visual appeal (Wirya, cited in Amanah, & Harahap, 2020). Amanah, and Harahap (2020); D'Angelo and Little cited in Amanah, and Harahap (2020) acknowledged that the visual characteristics of the website significantly impacts consumers evaluation of social networking site, they opined that online or social-entrepreneurs must focus on the aesthetic value of the website, given its communicative and informative exchange role.

Lee and Jeong (2012) noted that aesthetic appeal creates a positive impression for informative and transaction seekers while navigating on social-website. Hence indications have shown that visual appeal has an affirmative outcome on consumers' impulse buying behaviour (Hussain, 2018). Therefore, once a customer connects with a visually appealing website, it increases interest in subsequent purchase encounters, providing a satisfying experience from online impulse buying (Parboteeah, Valacich, & Wells, 2009). Furthermore, it is expected that a consumer could perhaps have confidence about an impulse purchase when such purchase takes place in a visually attractive web store in contrast to purchases made in an inadequately organized web store (Hussain, 2018; Verhagen & Dolen, 2011). Hussain (2018); Verhagen and Dolen (2011) further asserted that shopping in a visually appealing web store creates an additional desire to make extra purchases and positively evaluate the unplanned purchases. We expect that visual appeal will have impact on impulsive buying, hence, we hypothesized:

**Ho3:** Visual appeal has impact on impulsive buying behaviour among the students of the Delta State Polytechnic, Ogwashi-Uku, Nigeria

### **2.7. EMPIRICAL REVIEW**

This section examined previous empirical works related to the variables being understudied in this study and are presented as follows:

Kumar and Kaur (2018) examined the concept of online impulsive buying behaviour of students towards understanding the driving force behind such temptation. The result was an outcome of a survey using 152 final respondents which were analyzed using a structural equation model. Their findings revealed that social

interaction which they tagged suggestive factors, greatly impacts Indian students impulsive buying behaviour.

Sudha and Bharathi (2018) researched in India using 194 college students to determine how social media exert a greater influence on customers' impulsive buying behaviour. The outcome of the survey which was analyzed using a structural equation model indicated that social interaction amongst other (media entertainment and word-of-mouth) variables studied were positively and significantly impacting on impulsive buying behaviour of the college students.

Chen, Lu, Wang, and Pan (2019) used 280 Chinese consumers to examine how social interaction (online-review) affects the urge to buy impulsively on WeChat social-commerce platform. The data collected were analyzed using a structural equation model. The outcome of the analysis indicated that social commerce has created an increasing opportunity for consumers to access product recommendations. Their findings also revealed that social interaction mediated by trust in the recommender is positively and significantly impacting impulsive buying behaviour.

Bansal and Kumar (2018), researched in India using 112 respondents. The data which was analyzed using regression analysis revealed that hedonic motivation among other (trust, web quality, situational variable, and variety seeking) variables were positively and significantly impacting impulsive buying behaviour.

Kazi, Khokha, Qureshi, and Murtaza, (2019) researched in Hyderabad, Pakistan using the variables of social networking marketing, electronic word of mouth, hedonic motivation and trust. The study was conducted with a sample size of 196 respondents. The outcome which was analyzed using multiple regression analyses found that hedonic motivation among other variables was positively and significantly impacting on impulse buying behaviour.

Widagdo and Roz, (2021) researched in Indonesia using 177 university students as respondents. Their study examined among other variables, hedonic motivation and online impulsive buying behaviour, the outcome which was analyzed using partial least square indicated that hedonic motivation is positively and significantly impacting impulsive buying behaviour among Indonesian university students.

Amanah and Harahap (2020) conducted an empirical study in Indonesia using 100 consumer respondents to examining the visual appeal model on online impulse patronage among Indonesians. The findings from their investigation which was analyzed using a structural equation model indicated that though the visual appeal was significantly related to consumers' perceived enjoyment towards a website, the regression weight, however, does not support online impulse buying either.

Chen, Li, and Zhao, (2020) in an empirical study carried out in China using 201 social-commerce consumers to determine the role of product recommendation and impulse buying under social commerce. The structural equation model was used to test the hypothesis.

The outcome showed that the tendency to impulsively make purchases is positively and significantly affected by visual appeal as moderated by perceived usefulness and perceived enjoyment. Similarly, the outcome noted that trust in the reviewer (recommender) specialty of the information and familiarity with such reviewer because of social interaction.

Leng, Zhang, and Liu (2020) researched in China using 350 sample respondents to investigate mobile impulse purchase intention during the COVID-19 outbreak. The outcome of the consumer survey which was analyzed using the structural equation model found that visual appeal evokes a positive relationship with impulsive purchase intent by compelling perceived arousal.

Based on the literature reviewed above, we hypothesized;

**Ho**<sub>1</sub>: Social interaction (online review) has impact on impulsive buying behaviour among the students of the Delta State Polytechnic, Ogwashi-Uku, Nigeria

**Ho**<sub>2</sub>: Hedonic motivation has impact on impulsive buying behaviour among the students of the Delta State Polytechnic, Ogwashi-Uku, Nigeria

**Ho**<sub>3</sub>: Visual appeal has impact on impulsive buying behaviour among the students of the Delta State Polytechnic, Ogwashi-Uku, Nigeria.

# 3. METHODOLOGY

# **3.1. RESEARCH FRAMEWORK**

The research framework of this study is surveying the impact of social commerce on impulse buying behaviour of students in Nigerian tertiary institution using the students of Ogwash-uku polytechnic. Based on the prior literature, the three research hypotheses guiding this study are; (i) the impact of social interaction (online review) on impulsive buying behaviour among the students of the Delta State Polytechnic, Ogwashi-Uku, Nigeria (ii) the impact of hedonic motivation on impulsive buying behaviour among the students of the Delta State Polytechnic, Ogwashi-Uku, Nigeria and (iii) the impact of visual appeal on impulsive buying behaviour among the students view on how social interaction (online review), hedonic motivation and visual appeal influence the impulse purchase. The framework of the study is shown in figure 1 below:

### Social Commerce

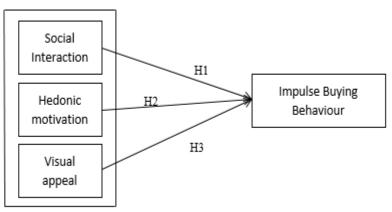


Figure 1. The Research Framework

# **3.2. SAMPLE AND SAMPLING TECHNIQUES**

In determining the sample size, the study resulted to computing the minimum sample size requisite for accurately estimating proportion (Mensah, 2014), in addition, the Cochran (1977) sample size formula was adopted owing to its suitability at estimating a population proportion, The Cochran formula enables the researchers to determine the optimum sample size based on the desired level of precision, desired level of confidence, and the expected fraction of the attribute present in the population especially where the population is large.

Applying the Conchran formula as follows:

$$No = \frac{z^2 p q}{e^2}$$

applying the formula:

$$No = \frac{1.96^2(0.5) * (0.5)}{0.05^2} = 384.16 = 384 \text{ (in approximation)}.$$

Where:

No = required sample size,

z = the selected critical value of desired confidence level,

p = the estimated proportion of an attribute that is present in the population q = 1 - p

e = the desired level of precision (0.05) thus, p = 0.5 therefore q = 1-0.5 = 0.5z = 1.96.

Thereafter, the derived sample size of 384 were proportionally sampled across the four major schools of the institution as at January 2021. Base on a sample

size of 384 which was obtained using Cochran formula at 5% level of significant, a total of 384 questionnaires were distributed, of which, 347 representing 90% of the distributed questionnaire were successfully retrieved while, 336 representing 88% of the distributed questionnaire were found suitable for analysis.

# **3.3. METHOD OF DATA COLLECTION**

The study adopted a cross-sectional research design and elicited information with a well-structured questionnaire from the students of Ogwashi-Uku polyethnic Delta State, Nigeria. The researchers constructed a 5-item variable which were scored on a 5-point Likert-type scale ranging from Strongly Disagree (SD), Disagree (D), Undecided (U), Agree to (A) Strongly Agree (SA), thus these items help in generating statistical measurements of issues at stake. The questionnaire was administered in person by the researchers to the respondents. A total of 384 questionnaires were distributed, of which, 347 representing 90% of the distributed questionnaire were successfully retrieved while, 336 representing 88% of the distributed questionnaire were found suitable for analysis.

# 3.4 VALIDITY AND RELIABILITY OF INSTRUMENT

The face and content validity of the instrument was subjected to critical evaluation and assessed by the senior academics who offered suggestions that were incorporated in the final instrument, thus, enriching the quality of the final questionnaire.

For the reliability assessment, a pre-test was carried out in which fifty instruments were administered to the students of the polytechnics and all were successfully retrieved and analyzed using the Cronbach's Alpha ( $\alpha$ ) coefficient score to measure internal consistency to determine reliability. The sample size of fifty respondents was deemed adequate for a pilot survey in line with Connelly's (2008) recommendation. The result of the test is shown below:

Factor	Factor loading	Cronbach Alpha (α)	AVE
Social interaction			
Q1	.84		
Q2 Q3 Q4	.86	.84	.86
Q3	.88		
Q4	.86		
Hedonic motivation			
Q5	.80		
Q5 Q6	.82	.79	.81
Q7	.83		
Q8	.79		
Visual-appeal			
Q9	.77		

Table 1: Pre-test reliability values for the study constructs

Q10 Q11	.79 .76	.76	.78
Q12	.80		
Online impulse purchase			
Q13 Q14 Q15 Q16	.83 .84		
Q14		.82	.84
Q15	.82 .87		
Q16	.87		

Source: Researchers fieldwork (2021)

The reliability analyses show that the overall Cronbach coefficient alpha ( $\alpha$ ) for the items related to the construct are ; Social-Interaction 0.84, Hedonic motivation 0.79. Visual-Appeal and Online Impulse Purchase .82. as shown in table. The resultant  $\alpha$  scores (Table 1) adequately ensured the consistency of the instruments according to Hair, Black, Babin, and Anderson (2010) who opined that coefficient alpha scores above 0.7 are adequately enough for a research study. The high values of Cronbach's alpha test indicated that the reliability, dependability, and predictability of measurement were high enough for the study.

### 4. RESULT

The instrument was collected and analyzed using both descriptive (frequency distribution, percentages, mean and standard deviation) and inferential (multiple regression analyses) statistical tools with the use Statistical Package for Social Sciences 23.0 (SPSS).

The model specification for the study is stated as:

IBB = f(SI, HM, VA).  $IBB = a_0 + a_1SI + a_2HM + a_3VA + \varepsilon_i.$ 2

Where:

IBB = Impulse Buying Behaviour SI = Social Interaction VA = Visual Appeal  $\varepsilon_i =$  error term

# 4.1. DESCRIPTIVE STATISTICS

Table 2: Demographic	Profile	of Respondents
----------------------	---------	----------------

Gender of Respondent	Frequency	Percentage	Cumulative Frequency
Male	153	46	100
Age as at Last	Frequency	Percentage	Cumulative Frequency
Birthday			
below 20	120	36	36

20-22	128	38	74
above 22	88	26	100
Level of	Frequency	Percentage	Cumulative Frequency
Academic Pursuit			
ND 1	63	17	17
ND 2	73	22	39
HND 1	90	28	67
HND 2	111	33	100
School of	Frequency	Percentage	Cumulative Frequency
Academic Pursuit		-	
School of Arts	41	12	12
and Design			
School of Applied	103	31	43
Science			
School of	140	42	85
Business			
School of	52	15	100
Engineering			

JOURNAL OF ACADEMIC RESEARCH IN ECONOMICS

Source: researcher's fieldwork, 2021

Table 2 above revealed that the majority were females which accounts for 54% of the total respondents. The female respondents account for 46%. This could be due to the low level of male-educational enrolment in schools. On the age distribution, the frequency indicated that 36% were below 20 years of age, 38% were between 20-22, while 26% were 'above 22' accounted for 26%. The level of student's academic pursuit revealed that 17% were in National Diploma 1, 22% were in National Diploma 2, whereas, 28% were in Higher National Diploma 1, and 23% others were in Higher National Diploma 2.

On school of Academic Pursuit, the demographic profile revealed that 12% were domiciled in the school of arts and design, 31% were domiciled in the school of applied sciences, 42% were in the school of business studies whereas, 15% others are in the school of engineering. The high obliging rate of the student from the of business studies could be attributed to the fact that the study is business oriented thus the student understood the concepts so well, hence, find it expedient to participate.

Table 3 indicates that most of the respondents (over 84%) agree/strongly agree with the statements measuring the respondents' perception towards social. The overall mean score of social interaction is 4.39. It can therefore be concluded that the perception of social interaction at influencing impulse buying is quite high among the undergraduate students.

Table 3: Respondents' response on social-interaction

S/N	Statement	<b>SD</b> (1)	D (2)	U (3)	A (4)	SA (5)	X	STD
1	I use online	21	-	3	155	157		
	forums and online						4.27	.984
	communities for	(6.3%)		(.9%)	(46.1%)	(46.7%)		
	acquiring							

	information about a product.							
2	I usually use people rating and reviews about products on the internet	-	20 (6%)	13 (3.8%)	126 (37.5%)	177 (46.7%)	4.37	.818
3	I usually use people's recommendations to buy a product on the internet	-	19 (5.7%)	8 (2.4%)	115 (34.2%)	194 (57.7%)	4.44	.797
4	I rely on online- reviewers credibility	3 (.9%)	19 (5.7%)	-	98 (29.2%)	216 (64.3%)	4.50	.836
	Average						4.39	

Source: analyses of fieldwork, 2021

Table 4: Respondents response Hedonic Motivation

S/N	Statement	SD (1)	D (2)	U (3)	A (4)	SA (5)	X	STD
5	It seems that I explore a new world when I go shopping online.	10 (2.9%)	9 (2.7%)	14 (4.2%	144 (42.9%)	159 (47.3%)	4.28	.987
6	Finding unique things online makes me excited.	3 (.9%)	36 (10.7%)	14 (4.2%)	113 (33.6%)	170 (50.6%)	4.22	.956
7	Compared to others, spending time on online shopping is so enjoyable.	2 (0.59%)	25 (7.7%)	27 (.8%)	132 (39.3%)	150 (44.6%)	4.20	.917
8	Online shopping is a way to relieve pressure from myself.	-	16 (4.8%)	7 (2.1%)	92 (22.4%)	221 (65.8%)	4.50.	.760
	Average						4.30	

Source: analyses of fieldwork, 2021

Table 4 displays that most of the respondents (over 83%) agree/strongly agree with the statements measuring the respondents' perception towards hedonic motivation. The overall mean score of hedonic is 4.30. It can be resolved, therefore, that the perception of hedonic motivation at influencing impulse buying behaviour is quite high among undergraduate students.

S/N	Statement	SD (1)	D (2)	U (3)	A (4)	SA (5)	X	STD
9	Online shopping websites are visually pleasing.	24 (7.1%)	6 (1.8%)	-	137 (40.8%)	169 (50.3%)	4.25	1.076
10	Online shopping websites display visually pleasing designs.	2 (0.6%)	48 (14.3%)	18 (5.4%)	121 (36%)	147 (43.8%)	4.09	1.055
11	The layouts of online shopping websites are attractive.	6 (1.8%)	37 (11%)	11 (3.3%)	140 (41.7%)	142 (42.3%)	4.11	1.023
12	Online websites create feelings of originality	3 (0.9%)	23 (6.8%)	-	101 (30.1%)	209 (62.2%)	4.46	.877
	Average					· · · · · ·	4.28	

Table 5: Respondents' response to Visual-Appeal

Source: analyses of fieldwork, 2021

Table 5 show that most of the respondents (over 78%) agree/strongly agree with the statements measuring the respondents' perception towards visual appeal. The overall mean score of visual appeal is 4.28, which is an indication that the perception of visual appeal at influencing impulse buying behaviour among undergraduate students is quite high.

Table 6: Respondents' response on impulsive buying behaviour

S/N	Statement	<b>SD</b> (1)	<b>D</b> (2)	U (3)	A (4)	SA (5)	X	STD
13	My purchase was	22	5	6	145	158	4.23	1.044
	spontaneous	(6.5%)	(1.5%)	(1.8%)	(43.2%)	(47%)		
14	My purchase was	-	28	14	137	157	4.26	.918
	unplanned		(8.3%)	(4.2%)	(40.8%)	(46.7%)		
15	Before visiting the	-	30	11	147	148	4.23	.883
	site, I did not have		(8.9%)	(3.3%)	(43.8%)	(44%)		
	the intention to do							
	this purchase.							
16	I could not resist	-	24	13	106	193	4.39	.864
	doing this purchase		(7.1%)	(3.9%)	(31.5%)	(57.4%)		
	at the site							
	Average						4.27	
	0							

Source: analyses of fieldwork, 2021

Table 6 indicates that the majority of the respondents (over 86%) agree/strongly agree with the statements measuring the respondents' perception towards impulsive buying behaviour in the following orders: The overall mean score of impulsive buying behaviour is 4.27 which is an indication that the perception of impulse buying behaviour among undergraduates is quite high.

# 4.2 INFERENTIAL STATISTICS

# **Testing of Hypotheses**

The statistical models for the inferential statistical tools are specified thus:

$$IBB = (b_o + b_1SI + b_2HM + b_3VA + \varepsilon_i)$$

Where IBB = is the outcome;  $b_1$  is the coefficient of the first predictor (SI);  $b_2$  is the coefficient of the second predictor (HM);  $b_3$  is the coefficient of the third predictor (VA), and  $\varepsilon_1$  is the difference between the predictor and the observed value of IBB for the participant. Thus,

Impulsive buying behaviour<sub>1</sub> =  $b_o + b_1 social interaction_1 + b_2 hedonic motivation_2 + b_3 visual appeal_3 + \varepsilon_1$ 

Table 7: The Model Summary

	-		J	Std. Error of the	Durbin-
Model	R	R Square	Square	Estimate	Watson
1	.866ª	.750	.748	1.436	1.645

a. Predictors: (Constant), Value Appeal, Hedonic Motivation, Social Interaction b. Dependent Variable: Impulsive Buying

Source: Analysis of field survey, 2021.

The model Summary in table 7 revealed the value for the adjusted R Square and the Durbin-Watson Test which check for the correlation among errors, the Durbin-Watson value of between 0 and 2 values indicated that the residuals are uncorrelated (Field, 2009) furthermore, the adjusted R Square (.748) value revealed that the independent variables i.e., visual appeal, hedonic motivation and social interaction) all jointly explained about 74.8% of the dependent (impulsive buying behaviour) variable. The others (25.2%) are accounted for by unexplained variables not captured in this study.

Table 8: Analysis of variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2053.198	3	684.399	331.956	.000 <sup>b</sup>
	Residual	684.489	332	2.062		
	Total	2737.687	335			

a. Dependent Variable: Impulsive Buying

b. Predictors: (Constant), Value Appeal, Hedonic Motivation, Social Interaction Source: analysis of field survey, 2021

The analysis of the variance test in table 8 shows whether the overall regression model is a good fit for the data. However, the outcome revealed that the independent variables statistically and significantly F (3, 332) = 331.956, p < .001 predicted the dependent thus, the model is a good fit.

	Unstandardized Coefficients		Standardized Coefficients			Collinear Statistic	2
Model	В	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	.915	.531		1.723	.086		
Social Interaction	.423	.047	.421	9.044	.000	.347	2.882
Hedonic Motivation	.149	.047	.143	3.183	.002	.373	2.680
Value Appeal	.362	.045	.375	8.083	.000	.349	2.865

 Table 9: The relationship between social commerce and impulsive buying behaviour

a. Dependent Variable: Impulsive Buying

### Source: analysis of field survey, 2021

The preliminary investigation into the data set on the coefficient values in table 9 revealed that the VIF values are all well below 10 and the tolerance statistics all well above 0.2. Therefore, the findings concluded that there is no collinearity within the data set (Fields, 2009).

Going further, the outcome shows the result for the B-value ( $\beta$ ) and significant (sig) tests. If the B-value, which tells us about the relationship between a dependent variable and each predictor (Fields, 2009) is positive we can tell that there is a positive relationship between the predictor and the outcome, whereas a negative coefficient represents a negative relationship. Similarly, a sig P-value less than 0.05 indicate a statistically significant relationship.

**Hypothesis One:** Social interaction (online- review) has impact on impulsive buying behaviour among undergraduates in Delta state. The findings from table 9 above show that there is a positive ( $\beta = 0.423$ ; p = 0,000) and significant relationship between social interaction and online impulsive buying behaviour. Accordingly, we accept the aforementioned hypothesis. Furthermore, the B-value indicates that a unit change in social interaction leads to a 0.423 unit increase in impulsive buying behaviour while holding other independent variables constant.

**Hypothesis Two:** Hedonic motivation has impact on impulsive buying behaviour among undergraduates in Delta state. The findings from table 9 above show that there is a positive ( $\beta = 0.149$ ; p = 0,002) and significant relationship between hedonic motivation and online impulsive buying behaviour. Thus, we accept the aforementioned hypothesis. Furthermore, the B-value indicates that a unit change in hedonic motivation will lead to a 0.149 unit increase in impulsive buying behaviour while holding other independent variables constant.

**Hypothesis Three:** Visual appeal has impact on impulsive buying behaviour among undergraduates in Delta state.

The findings from Table 9 above reveal that there is a positive ( $\beta = 0.362$ ; p = 0,000) and significant relationship between visual appeal and online impulsive buying behaviour. Consequently, the aforementioned hypothesis is accepted.

Furthermore, the B-value indicates that a unit change in the visual appeal will lead to a 0.362 unit increase in impulsive buying behaviour while holding other independent variables constant.

# **5. DISCUSSION OF FINDINGS**

Following the analysis of inferential statistics in the test of hypotheses, the study found that there is a positive and statistically ( $\beta = 0.423$ ; p = 0,000) significant relationship between social interaction and impulsive buying behaviour among undergraduate students of the Delta state polytechnic Ogwashi-Uku, Nigeria.

The outcome is in line with Chen et al. (2019) who found that social interaction (opinion review/recommendation) significantly impact impulse buying behaviour among Chinese consumers. Similarly, the findings are also in tandem with Kumar and Kaur (2018) findings which pinpointed that social interaction (online review/recommendations) which they tag 'suggestive factors' significantly affect online impulsive buying behaviour. Also, the outcome corroborated the findings by Sudha and Bharakat (2018) on the role of social interaction on impulsive buying behaviour. The outcome is unexpected, given the fact that social influence has been noted to influence social purchases (Kim & Kim, 2018).

The inferential statistics analysis for hedonic motivation and impulsive buying behaviour show that both variables exhibit a positive ( $\beta = 0.149$ ; p = 0,002) and significant relation. The outcome is in tandem with. The outcome supports the findings from Bansal and Kumar (2018); Kazi, Khokha, Qureshi, and Murtaza, (2019); and Widagdo and Roz, (2021) research which indicated that hedonic motivation is positively and significantly affecting impulsive buying behaviour.

On visual appeal, the findings from the inferential statistics for the test of hypothesis indicated a positive and statistically ( $\beta = 0.362$ ; p = 0,000) significant relationship between visual appeal and impulsive buying behaviour. The outcome was in agreement with Chen, Li, and Zhao (2020); and Leng et al. (2020); findings which indicated that there is a significant relationship between website visual appeal and online impulse buying. The findings are unexpected, given that, aesthetic appeal creates a positive impression for informative and transaction seekers while navigating on social-website (Lee & Jeong 2012). Thus, espousing visual appeals direct effect on an individual's impulse buying behaviour (Chen et al., 2020; Hussain, 2018). However, Amanah, and Harahap (2020) in their empirical study, found that visual appeal was significant to online impulse buying behaviour.

# MANAGERIAL IMPLICATION

This study provides interesting findings regarding social commerce and impulse behaviour amongst students in Nigeria tertiary institution. Since marketers are always looking out for ways to improve sales, profitability and market share.

This study has confirmed that social commerce can be a veritable tool in actualizing these objectives. Marketers should adopt social commerce online review as a means of getting feedback from their customers, this will invariably assist the marketers in product innovation and new product development. In addition, Marketers should be involved in online social interaction with its actual and potential customers since it will generate a unique consumer experiences in contrast to conventional e-commerce and bring about impulsive buying behaviour. Furthermore, marketers should incorporation a hedonic atmosphere such as funs and games and other attractive features that will appeal to the youths in their sites to serve as a stimulator that will ignite instantaneous responses from young adults. Finally, marketers must focus on the aesthetic value and appeal in packaging their products online that will create a positive impression for informative and transaction seekers while navigating on their social-website as they lead to impulse buying and subsequently consumer loyalty.

### 6. CONCLUSION

This study was set out to empirically examine the role of social commerce using social-interaction (online-review) and visual-appeal on impulsive buying behaviour among undergraduate students of Delta State Polytechnic Ogwashi-Uku. Going by the presentation and analysis of findings from the descriptive statistics and the test of hypotheses, it was aptly concluded thus: That social interaction (onlinereview), hedonic motivation and visual-appeal of websites are positively and significantly impacting on the impulsive buying behaviour among the students of the Delta State Polytechnic Ogwashi-Uku. The study recommended that Socialcommerce websites should engage knowledgeable or on-brand experts to conduct online reviews, discussions and product recommendations, as this will certainly instill confidence based on perceived reviewer credibility and usefulness towards product purchase. The study also suggest that visual appeal should greatly be enhanced while designing social commerce websites which portends that socialcommerce operators should endeavor to pay utmost attention to the aesthetic values of their websites creating an atmosphere of ease-of-use for communicative and informative exchange roles for site visitors. Such a visual alluring content/site will significantly assist in positively evaluating unplanned impulse purchases. Finally, the study in addition, recommends that social interaction should be sustained and intensified on social commerce websites. In view of this, Social-commerce websites should engage knowledgeable or on-brand experts to conduct online reviews, discussions and product recommendations. These will certainly instill confidence based on perceived review credibility and usefulness to a product purchase.

# REFERENCES

Abbas Naqvi, M. H., Jiang, Y., Miao, M., & Naqvi, M. H. (2020). The Effect of Social Influence, Trust, and Entertainment Value on Social Media Use:

Evidence from Pakistan. Cogent Business & Management, 7(1), doi:10.1080/23311975.2020.1723825.

- Abdelsalam, S., Salim, N., Alias, R. A., & Husain, O. (2020). Understanding Online Impulse Buying Behavior in Social Commerce: A Systematic Literature Review. *IEEE Access*, 89041–89058. https://doi.org/ 10.1109/ACCESS.2020.2993671
- Akram, U., Hui, P., Khan, M., Yan, C., & Akram, Z. (2018). Factors Affecting Online Impulse Buying: Evidence from Chinese Social Commerce Environment. *Sustainability*, 10(2), 352. https://doi.org/10.3390/ su10020352
- Amanah, D., & Harahap, D. A. (2020). Visual Appeal Model for Consumer Online Impulsive Purchases in Indonesia. *International Journal of Scientific & Technology Research*, 9(6), 388–396.
- Aragoncillo, L., & Orus, C. (2018). Impulse Buying Behaviour: An Online-Offline Comparative and the Impact of Social Media. *Spanish Journal of Marketing -ESIC*, 22(1), 42–62. https://doi.org/10.1108/SJME-03-2018-007
- Aronson, E., Wilson, T. D., & Akert, R. M. (2010). *Social Psychology, 7th Edition* (7th Edition). Upper Saddle River, NJ : Prentice Hall.
- Bakırtaş, İ., Cetin, M. A., & Bakırtaş, H. (2015). Effects of Utilitarian and Hedonic Shopping Value and Consumer Satisfaction on Consumer Behavioral Intentions. EGE Academic Review, 15(1), 91–98. https://doi.org/DOI:10.21121/eab.2015118002
- Chen, J. V., Su, B., & Widjaja, A. E. (2016). Facebook C2C Social Commerce: A Study of Online Impulse Buying. *Decision Support Systems*, 83, 57–69. https://doi.org/10.1016/j.dss.2015.12.008
- Chen, Y., Li, D., & Zhao, Z. (2020). Research on Product Recommendation and Consumer Impulsive Purchase under Social Commerce Platform—Based on S-0-R Model. *Proceedings of the 5th International Conference on Social Sciences* and Economic Development (ICSSED 2020). 5th International Conference on Social Sciences and Economic Development (ICSSED 2020), Xi'an, China. https://doi.org/10.2991/assehr.k.200331.048
- Chen, Y., Lu, Y., Wang, B., & Pan, Z. (2019). How Do Product Recommendations Affect Impulse Buying? An Empirical Study on WeChat Social Commerce. *Information & Management*, 56(2), 236–248. https://doi.org/10.1016/j.im.2018.09.002
- Connelly, L.M. (2008) Pilot Studies. MEDSURG Nursing, 17, 411-412.
- Field, A. (2009). *Discovering Statistics Using SPSS* (illustrated, reprint ed.). SAGE Publications.
- Goel, P., Parayitam, S., Sharma, A., Rana, N. P., & Dwivedi, Y. K. (2022). A Moderated Mediation Model for E-Impulse Buying Tendency, Customer Satisfaction and Intention to Continue E-Shopping. *Journal of Business Research*, 142, 1–16.

- Gvili, Y., & Levy, S. (2016). Antecedents of Attitudes toward eWOM Communication: Differences across Channels. *Internet Research*, 26(5), 1030–1051. https://doi.org/10.1108/IntR-08-2014-0201
- HA, Y. (2020). The effects of shoppers' motivation on self-service technology use intention: Moderating effects of the presence of employee. *The Journal of Asian Finance, Economics and Business,* 7(9), 489–497. https://doi.org/10.13106/JAFEB.2020.VOL7.NO9.489
- Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. (2010) Multivariate data analysis. 7th Edition, Pearson, New York.
- Hajli, M. N. (2014). The role of social support on relationship quality and social commerce. *Technological Forecasting and Social Change*, 87, 17–27. https://doi.org/10.1016/j.techfore.2014.05.012
- Hussain, A. (2018). Effect of store environment and website characteristics on impulse buying behaviour of university students [A PhD dissertation submitted to the University of Bedfordshire.]. URI http://hdl.handle.net/10547/623246.
- Isa, N. F., Salleh, N. A. M., & Aziz, A. A. (2016). Determinants and impact of online social interaction on online buying behaviour. *Procedia - Social and Behavioral Sciences*, 219, 352–358. https://doi.org/10.1016/j.sbspro.2016.04.045
- Kelman, H. C. (1958). *Journal of Conflict Resolution*, 2(1), 51–60. https://doi.org/10.1177%2F002200275800200106
- Kelman, H. C. (2017). Further thoughts on the processes of compliance, identification, and internalization. In J. T. Tedeschi, *Social Power and Political Influence* (1st ed., pp. 125–171). Routledge. https://doi.org/10.4324/9781315129693-6
- Khokhar, A. A., Qureshi, Baker, P. A., Murtaza, F., & Kazi, A. G. (2019). The impact of social media on impulse buying behaviour in Hyderabad Sindh Pakistan. *International Journal of Entrepreneurial Research*, 2(2), 8–12. https://doi.org/10.31580/ijer.v2i2.907
- Kim, N., & Kim, W. (2018). Do your social media lead you to make social deal purchases? Consumer-generated social referrals for sales via social commerce. *International Journal of Information Management*, 39, 38–48. https://doi.org/10.1016/j.ijinfomgt.2017.10.006
- Kumar, S., & Kaur, A. (2018). Understanding online impulsive buying behaviour of students. *International Journal of Management Studies*, 5(3(1)), 61. https://doi.org/10.18843/ijms/v5i3(1)/09
- Lee, S. (Ally), & Jeong, M. (2012). Effects of e-services cape on consumers' flow experiences. *Journal of Hospitality and Tourism Technology*, *3*(1), 47–59. https://doi.org/10.1108/17579881211206534
- Liang, T.-P., & Turban, E. (2011). Introduction to the special issue social commerce: A research framework for social commerce. *International Journal of Electronic Commerce*, *16*(2), 5–14. https://doi.org/10.2753/ JEC1086-4415160201

- Mensah, I. (2014. July 29). How can we determine the sample size from a population?. Retrieved from https://researchgate.net/post/How-can-we-determine-the-sample-size-from-an-unknown-population. Accessed 3rd May, 2021
- Mudambi & Schuff. (2010). Research Note: What makes a helpful online review? A study of customer reviews on Amazon.com. *MIS Quarterly*, *34*(1), 185. https://doi.org/10.2307/20721420
- Parboteeah, D. V., Valacich, J. S., & Wells, J. D. (2009). The influence of website characteristics on a consumer's urge to buy impulsively. *Information Systems Research*, 20(1), 60–78.
- Qammar, M., & Ali, M (2008). Effect of visual appearance of product on impulse buying/purchase in grocery items. *Arabian Journal of Business and Management Review*, 5(2), 15–19.
- Quicanaga, A., & Ogbere, L.(2022). Impulse purchase: Factors antecedents and post-purchase satisfaction. A qualitative study of Generation X and Generation Y. Master's Thesis in Business Administration I, 15 Credits, Spring 2022. UMEA School of Business Economics and Statistics.
- Sudha, S., & Karuppiah, B. (2018). Role of social media influence on customers impulsive buying behaviour towards Apparel. *International Journal of Supply Chain Management*, 7(5), 903–908.
- Udegbe, S. E., & Aliu, A. A. (2021). Social medial promotional activities influence on purchase choice decision and price of perishable food items during COVID-19 in Lagos, Nigeria. *European Journal of Business and Management Research*, 6(4), 245–251. https://doi.org/10.24018/ ejbmr.2021.6.4.981
- Ugbomhe, U. O., Akhator, A. P., & Dangana, A., E. (2018). Effects of demographic factors on impulse buying behaviour of consumers in Auchi, Edo State, Nigeria. *Nigerian Journal of Management Sciences*, 6(2), 126–138.
- Verhagen, T., & van Dolen, W. (2011). The influence of online store beliefs on consumer online impulse buying: A model and empirical application. *Information & Management*, 48(8), 320–327. https://doi.org/10.1016/ j.im.2011.08.001
- Widagdo, B., & Roz, K. (2021). Hedonic shopping motivation and impulse buying: The effect of website quality on customer satisfaction. *The Journal of Asian Finance, Economics and Business, 8*(1), 395–405. https://doi.org/10.13106/JAFEB.2021.VOL8.NO1.395
- Xiang, L., Zheng, X., Lee, M. K. O., & Zhao, D. (2016). Exploring consumers' impulse buying behavior on social commerce platform: The role of parasocial interaction. *International Journal of Information Management*, 36(3), 333–347. https://doi.org/10.1016/j.ijinfomgt. 2015.11.002
- Yahia, I. B., Al-Neama, N., & Kerbache, L. (2018). Investigating the drivers for social commerce in social media platforms: Importance of trust, social support

and the platform perceived usage. *Journal of Retailing and Consumer Services*, 41, 11–19. https://doi.org/10.1016/j.jretconser. 2017.10.021

- Zhang, K. Z. K., Xu, H., Zhao, S., & Yu, Y. (2018). Online reviews and impulse buying behavior: The role of browsing and impulsiveness. *Internet Research*, 28(3), 522–543. https://doi.org/10.1108/IntR-12-2016-0377
- Zhang, W., Leng, X., & Liu, S. (2020). Research on mobile impulse purchase intention in the perspective of system users during COVID-19. *Personal and Ubiquitous Computing*. https://doi.org/10.1007/s00779-020-01460-w
- Zou, T. (2018). Online impulse buying behavior amongst undergraduate students in Tianjin, The People's Republic of China. *ABAC Journal. Bangkok*, *38*(2), 94–113.