Application of the SOBC model to study customers' online purchase intentions in an emerging economy during COVID-19: does gender matter?

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Abstract

Purpose – Online shopping around the world is growing exponentially, especially during the COVID-19 pandemic. This study aims to examine how an online customer's purchasing experience influences his/her buying intention and willingness to believe in fraud news, as well as the ripple impact of satisfaction and trust, with gender as a moderator in an emerging economy during COVID-19.

Design/methodology/approach – Based on the underpinning of the stimulus-organism-behavior-consequence (SOBC) theory, the research model was developed, and collected data from 259 respondents using convenience samples technique. Next, the data were analyzed using partial least squares-based structural equation modeling (PLS-SEM), SPSS (Statistical Package for the Social Sciences) and Hayes Process Macro.

Findings – The study results confirmed that the online shopping experience (OSE) has positive impact on customers' satisfaction (CS), purchase intention (PI) and customer trust (CT); CS has positive effects on trust

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toward online shopping and their future product PI; future product PI significantly affects customers' propensity to believe and act on fraud news (PBAFN). The finding also states that gender moderates the relationships of CS to PI, OSE to PI and PI to PBAFN, but doesn't moderate the CT to PI relationship.

Originality/value – The study findings will assist policymakers and online vendors to win customers' hearts and minds' through confirming satisfaction, trust and a negative attitude toward fake news, which will lead to customer loyalty and the sustainable development of the industry. Finally, the limitations and future research directions are discussed.

Keywords Online shopping, Satisfaction, Trust, Emerging economy, Purchase intention, Fake news, COVID-19

Paper type Research paper

1. Introduction

The online shopping experience (OSE) of customers is well-thought-out as the cornerstone for e-commerce vendors to understand how to ensure CS and repurchase intention with quantum gauge where payment, product and website experiences are affected significantly (Joshi *et al.*, 2021). During COVID-19, people are switching at a faster rate from traditional physical shopping to online shopping, where their experiences really matter to their satisfaction. Looking at the COVID-19 pandemic, traditional grocery trips are being replaced with online grocery shopping in which results from their previous satisfaction (Bezirgani and Lachapelle, 2021). Consumers' online shopping is getting more acceptance than traditional shopping as people can easily buy products or services online without going outside, ensuring their safety and health. With the passage of time, the dependence on online shopping is increasing exponentially. The global COVID-19 pandemic has played a fundamental role in making the customer reliant on online shopping as it has badly exaggerated societies, economies and businesses around the world and has hit a mixture of sectors of the world in diverse ways (Mejía-Trejo, 2021; Easa and Kaakour, 2021).

The e-commerce industry has been rising progressively at a speed of 25.6% prior to the outburst of the pandemic, but it currently has an expansion speed of more than 75% per year (Huq, 2021). Like other communication systems (such as radio, magazines and television), the internet has a vital contribution to people's everyday lives and has been acknowledged as an efficient way of transmitting ideas and sharing information (Katawetawaraks and Wang, 2011). Some of the most popular social websites, such as Twitter, Instagram, WhatsApp, Youtube and Facebook, among others, allow customers to share information and suggestions about dissimilar products and services (Lin *et al.*, 2011). The Internet users around the world have been dramatically increasing and the total number of global Internet users has been reached to 4.1 billion who are closely attached to E-commerce (Choong *et al.*, 2021). According to the Bangladesh Telecommunication Regulatory Commission (BTRC), the total number of Internet users in Bangladesh was 120.95 million in June 2021. So it's very clear that Bangladesh has an immense target shopper for online dealing (Imam, 2021). Although the traditional market still exists, customers are evaluating online as a gigantic platform and are increasing their preferences with the passage of time (Lubis, 2018). Online shopping has been shown to offer additional contentment to current clients in search of expediency and swiftness (Yu and Wu, 2007). Here, the main focused problem for online vendors and policymakers is to ensure customer loyalty resulting from positive experiences, satisfaction and trust in online shopping that boosts the re-purchase intention of online customers (Zaman and Tasnim, 2021; Hossin *et al.*, 2018). Another critical emerging problem of online business is fraud news regarding online shopping makes customers instigate to go back to traditional shopping systems (Al-Zaman *et al.*, 2020; Lahby *et al.*, 2022; Kumar *et al.*, 2021). A number of studies conducted earlier on exploring the relationship between OSE and satisfaction, satisfaction and purchase intention (PI), OSE and PI, shopping experience and trust, trust and PI, and PI and customers' propensity to believe and act on fraud news (PBAFN) individually

(Pappas *et al.*, 2014; Giannakos *et al.*, 2011; Hsu *et al.*, 2011; Bai *et al.*, 2008; Chu and Li, 2008; Ling *et al.*, 2010; Mohseni *et al.*, 2016; Stouthuysen *et al.*, 2018; Samuel *et al.*, 2015). There is no study to test the chain effect of the OSE on CS, trust, future PI and finally the customers' PBAFN by considering gender as the moderating variable, especially in an emerging economy during COVID-19 pandemic. The result of moderation impact of gender among the direct paths of the model will acquaint the online vendors and policy makers whether they should more concern about male or female regarding major strategic decisions to ensure customers' positive purchase experience, trust and satisfaction toward future repurchase intention and propensity to believe an act on fraud news concerning to online shopping. Therefore, by considering the above problems and research gaps, this study focuses on a number of objectives.

(1) To stimulate consumers' experience in online shopping by measuring satisfaction and level of trust during the COVID-19 pandemic.

(2) To understand the consumer behavior towards product purchases and their response to further purchases or shifting to another brand when scams or any fraudulent activities occur during the COVID-19 pandemic.

(3) To expose the consequences of depending on online shopping and to find the target customer, whether it is a male or female, who really believes and acts on scam news in an emerging economy.

In order to discover these research objectives, this study builds stimulus-organism-behavior-consequences (SOBC) framework, which was previously used to support another conceptual framework to know the direct effect of customer PI on their PBAFN (Kumar *et al.*, 2021). Furthermore, the rationality for using this model is that the conceptual framework of this study intervenes the stimulus, organism, behavior and consequence based pre and post–purchase attitude of online customer.

2. Background study and theoretical foundation

2.1 SOBC model

The SOBC paradigm is used to suggest a research model in this work as shown in Figure 1. Davis and Luthans' (1980) proposed SOBC model, which is based on social learning theory (SLT; Bandura, 1977), asserts that different components of the environmental situation (S) impact people's or organisms' internal states (O), which then, in turn, determine their behavioral reactions (B) and the resulting contingent consequences (C) (Whelan *et al.*, 2020). The concept was also considered as a modified and expanded version of the stimulus–organism–response (SOR; Mehrabianand and Russell, 1974) and antecedent–behavior–consequence (ABC; Surratt *et al.*, 1969) paradigms. The effect proceeds from S to O to B, and then to C in the SOBC structure (Dhir *et al.*, 2021). As a result, we propose to treat online shopping experiences as stimuli (S) that organisms' trust and satisfaction, which are considered as stimuli's impact on customers' internal states (O), which persuade customers' PI as a behavioral reaction variable (B), which then drives the propensity to believe and act on scam/fraud news, representing the consequence (C). The COVID-19 epidemic and, additionally, problems posed by scams and fraud news regarding online shopping make the SOBC model an ideal choice for this investigation of contemporary online buying patterns. In the current research, the SOBC framework was adopted to span stimulus to consequence, which may explain the customer's online purchasing experience, PI and propensity to believe and act on scam/fraud news in a developing nation environment during the COVID-19 epidemic. The SOBC model, like some preceding literature, offers us a good theoretical ground for constructing and evaluating our study model (Whelan *et al.*, 2020;

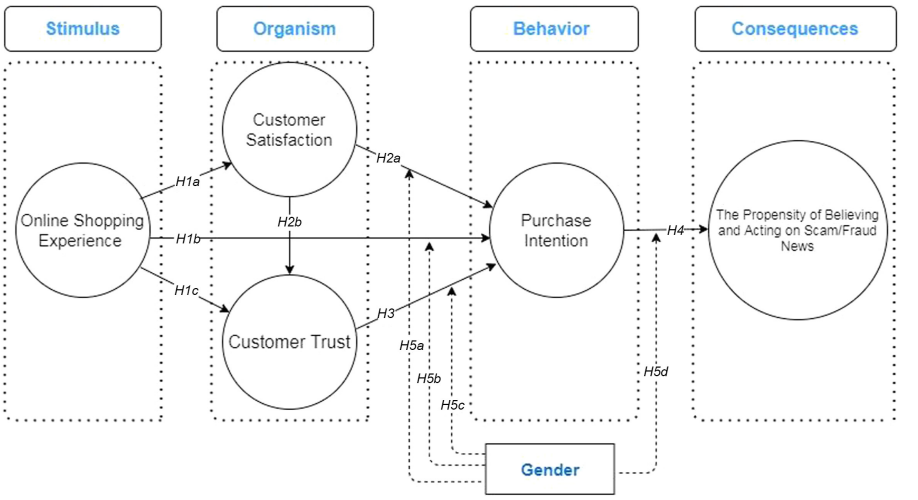


Figure 1.
Hypothetical research model based on S-O-B-C framework

Dhir *et al.*, 2021; Talwar *et al.*, 2021; Kumar *et al.*, 2021). Furthermore, since gender has seldom been studied in the SOBC framework, the study investigates the moderating influence of gender on the relationships between the explored components.

2.2 Online shopping experience

The act of purchasing a product or service from an e-store using a website or app is known as online shopping (Rao *et al.*, 2021). Online shopping has significant effects in today's business world, and its popularity and transactions have increased tremendously during the COVID-19 epidemic. Since the outbreak of the epidemic, Southeast Asia has gained 70 million Internet buyers (Jacob, 2021). The epidemic has hastened the transition to a more digital environment and prompted changes in online buying habits that are likely to have long-term consequences (UNCTAD, 2020). In the COVID-19 pandemic, consumer awareness and experience have become more important and that people who shop online have gained greater experience, which has changed their purchasing habits (Gu *et al.*, 2021).

Consumer experience is an important part of a business's performance in the online world (Varshneya *et al.*, 2017), and if a firm fails to meet customer expectations, the customer is likely to migrate to another online purchasing platform (Singh and Crisafulli, 2016). Additionally, it was found that the online purchasing experience had a beneficial effect on consumer trust (Binti Tasin, 2017). In business-to-customer (B2C) e-commerce, trust has been scientifically demonstrated as one of the most important traits (Dash and Saji, 2008), and customer trust (CT) has become a much more influential component for e-services during the COVID-19 pandemic, as per Gunawardana and Fernando (2021), where e-service aspects affect consumer satisfaction and trust, and trust has a favorable effect on CS of e-groceries. CT and buying intentions are positively influenced by the OSE (Armilawati, 2020) and CS and retention are boosted by customers' favorable experiences (Tzeng *et al.*, 2021). According to Rose *et al.* (2011), the two most often reported outcomes of online consumer experience are satisfaction and repurchase intention. The following hypotheses were presented based on the aforementioned discussions:

H1a. Customers' OSEs have an influence on their level of satisfaction during the COVID-19 epidemic.

H1b. Customers' OSEs during the COVID-19 epidemic have a significant positive impact on their future product PIS via online.

H1c. Customers' OSEs during the COVID-19 epidemic have a significant positive impact on their trust.

2.3 Customer satisfaction and trust

Many previous studies have explored the causes of CS in the online shopping environment, like Izogo and Jayawardhena (2018) and Singh and Söderlund (2020), which showed that customers' online buying experiences have revealed satisfaction and retention as outcomes of the results. Lee and Lin (2005) found that CS and service quality had a substantial impact on consumer PIs. On the other hand, Cao *et al.* (2018) also found a link between CS and future online shopping. Online shopping platforms' customer service improves CS, and CS improves customer loyalty, implying that customers would buy from online purchasing platforms in the future during the COVID-19 pandemic (Mitchev and Nuangjamnong, 2021). The following hypotheses were presented based on the aforementioned discussions:

H2a. CS during the COVID-19 epidemic has a significant positive impact on their future product PI.

H2b. During the COVID-19 epidemic, CS has a significant positive impact on their trust in online shopping.

Trust is seen as crucial in the context of online purchasing, and it deals with the customer's conviction that the online merchant does not behave opportunistically by exploiting the situation (HaoSuan Samuel *et al.*, 2015). Khan *et al.*, (2015, p. 2) defined trust as "a binding force in the online shopping between buyer and seller transaction". The ability of an online merchant to uphold their commitments is known as trust (Izogo and Jayawardhena, 2018). According to Qalati *et al.* (2021), consumer trust positively affects PI for shopping online items. Some other research has also shown that trust impacts online repurchase intent in the perspective of online shopping (Trivedi and Yadav, 2018; Bao *et al.*, 2016). Mahbub and Kabir (2021) researched online customers' behavior during the COVID-19 epidemic and exposed a favorable association between CT and online PI. The following hypothesis was presented based on the aforementioned discussions:

H3. During the COVID-19 epidemic, customers' trust has a significant positive impact on their future online PIs.

2.4 Purchase intentions and the propensity to believe and act on scam/fraud news during the COVID-19 pandemic

COVID-19 is an example of a crisis in which infrastructure is mostly intact and functioning, but everyday life and behavior are severely hampered over an extended period of time (Zulauf and Wagner, 2022). According to Martins *et al.* (2019), the willingness of a consumer to buy a specific product or service is referred to as "purchase intention." Kumar *et al.* (2021) reported that higher PIs towards natural personal care products indicate that consumers perceive natural personal care products to be authentic. But, if they come across any news about problems with the ingredients or contents of these products, they would show a propensity to believe in that news, despite there being a possibility of its being fake. People will interpret information about a brand based on their previous views about the brand when they get fake news about it (Purnawirawan *et al.*, 2015). According to Oude Nijhuis (2018), respondents are unable to tell the difference between fake news and "real" news articles. And consumers may indicate a reduction in their affection for the brand and their purchasing

behavior if they are exposed to unfavorable news, whether false or "real" (Oude Nijhuis, 2018). Customers with high buy intentions are more likely to trust and respond favorably on false news if they avoid connecting with the brands that are linked with it (Kumar *et al.*, 2021). The following hypothesis was presented based on the aforementioned discussions:

H4. Customers' intentions to buy online products and services have a large and favorable influence on their propensity to believe and act on scam news.

2.5 Gender as moderators

In every part of the globe, males have a greater Internet penetration rate than women (Broadband Commission for Sustainable Development (Geneva), 2017). And when individuals adopt and utilize digital technology to become more aware, interconnected and successful, this contributes to the closing of the gender gap (Accenture, 2016). In the world of marketing, the impact of gender on decision-making and buying behavior has been a contentious issue (Hernández *et al.*, 2011), and in the COVID-19 epidemic, gender has become a more hot issue to study. According to some recent studies, Internet shoppers' responses to the COVID-19 epidemic differ depending on gender (Hesham *et al.*, 2021; Untaru and Han, 2021). A customer's actions are influenced by their degree of worry about the pandemic's impact. The study by Hesham *et al.* (2021) indicated that customers made fewer trips to stores, restaurants and marketplaces and that the link with COVID-19 fear and gender moderated the relationship between purchase intent and decision. Untaru and Han (2021) also noted that the metric invariance test revealed that gender influenced all analyzed components' interactions with the customer's behavioral intentions considerably. Additionally, Fang *et al.* (2016) reveals that gender may influence online repurchase intention by moderating the associations. Gender seems to have a moderating effect on the correlations between the researched components, based on the findings of the preceding investigations. Thus the following hypotheses were presented:

H5a. Customers' gender moderates the relationship between their level of satisfaction and their future online PI.

H5b. Customers' gender moderates the relationship between their OSE and their future online PI.

H5c. Customers' gender moderates the relationship between their trust and their future online PI.

H5d. Customers' gender moderates the relationship between their future online PI and their propensity of believing and acting on fraud news relationship.

We designed a complete study model, illustrated in Figure 1, based on the aforementioned theoretical basis (e.g. the S-O-B-C framework) and hypothetical linkages.

3. Methodology

3.1 Sampling frame and survey instrument

This study has used convenience sampling to choose respondents and has deployed a structured online survey questionnaire (Bhattacharya and Srivastava, 2018; Martin *et al.*, 2015) to examine the proposed hypothetical framework developed with SOBC theoretical underpinning.

The proposed framework of this study is characterized by Five-Point Likert-type scale with 25 items adopted from previous studies in this domain. The OSE scale was measured by 6 items adopted from HaoSuan Samuel *et al.* (2015) and Flacandji and Krey (2020), the CS scale was

measured by 5 items previously reported by Rose *et al.* (2012) and Pei *et al.* (2020), CT was measured by 5 items taken from HaoSuan Samuel *et al.* (2015) and Hong and Cha (2013), product PI was adopted from Liu *et al.* (2004), Pappas (2016), Thamizhvanan and Xavier (2013) and Wu *et al.* (2013), and finally, the propensity of believing and acting on scam/fraud news scale was withdrawn from Kumar *et al.* (2021). Before the final initiative of data collection, a pilot test of the designed questionnaire was conducted with 15 university teachers and 25 targeted respondents to generate some valuable suggestions to uplift the overall quality of the questionnaire. It is noted that a few scale items were modified and customized a bit to fit the online survey and proposed framework of this study as well as for smooth data collection based on the recommendations and suggestions made at the pilot testing stage (Bhattacharya and Srivastava, 2018; Kanchanapibul *et al.*, 2014; Awal *et al.*, 2020).

The email and social networking sites were used to distribute the link to the virtual structured questionnaire to the respondents. The circulation of the questionnaire spanned from November 10, 2021, to December 10, 2021. A total of 265 online shoppers responded to the distributed questionnaire. Based on inspection for outliers, unengaged and partial responses, six responses were dropped with 259 responses were used finally to test the hypotheses.

All the items in this study were weighed with the support of a five-point Likert-type scale ranked from strongly disagree (1) to strongly agree (5).

3.2 Common method bias test

This study applied Harman's single factor test for common method bias (CMB) since it used self-administered questionnaire to collect data regarding dependent and independent variables from the same respondents (Chang *et al.*, 2010; Podsakoff and Organ, 1986; Zhang *et al.*, 2014).

Here, the finding is clearly spelled out that the variance of extraction sum of square loading is 34.07% (threshold value is less than 50%) which indicates that only 34.07% variance may exist in each dimension of data set and the data set of 259 convenience samples are perfectly fit for the next level descriptive and inferential analysis (Fuller *et al.*, 2016; Lim *et al.*, 2017).

3.3 Respondents' profile

The statistical package for social science (v22) is used to generate the results of the participants' profiles in this study.

Table 1 shows that out of a total of 259 collected responses, 142 (54.8%) are male and 117 (45.2%) are female respondents. According to the marital status construct, 196 respondents are unmarried, making up 75.7% of total responses, while only 63 respondents are married, making up 24.3% of total responses. As per the educational level, most of the respondents have their honor's degree (47.5%). Respondents with master's degrees make up 35.9% of total

Constructs	Characteristics	Frequency	Percent	Valid percent
Gender	Male	142	54.8	54.8
	Female	117	45.2	45.2
Marital Status of Participants	Unmarried	196	75.7	75.7
	Married	63	24.3	24.3
Educational Level	Higher Secondary	41	15.8	15.8
	Honor's	123	47.5	47.5
	Masters	93	35.9	35.9
	Mphil/PhD	2	0.8	0.8
Age	18–30 Years	244	94.2	94.2
	31–40 Years	15	5.8	5.8

Source(s): Authors own work

Table 1. Online shoppers' Profile

responses. A total of 15.8% of respondents have completed their higher secondary level, where only 0.8% of total respondents are MPhil/Ph.D. degree holders. In consideration of respondents' age, data processing output creates two levels where 94.2% (244) respondents fall in the age cluster between 18–30 years, whereas 5.8% (15) respondents are in the age group 31–40 years. In the context of Bangladesh, 91% of online buyers are aged under 44, and the rest are only 9% (Islam, 2015).

4. Analysis

This study used structural equation modeling (SEM) to test the measurement model and the structural model. SmartPLS (Partial Least Square) version 3.3 is applied to assess these two models. In the meantime, Hayes process macro (version 3.5) is used to test the moderation effect of gender.

4.1 Analysis of measurement model, ensuring reliability and validity

4.1.1 Goodness of fit measurement. Table 2 displays the result of the PLS-SEM model fitness. The outcome of PLS-SEM confirmed that the measurement model (Figure 2) is completely fit to the goodness of fit index and has statistical significance. In this study, the standardized

	Saturated model	Estimated model
SRMR	0.075	0.088
d_ULS	1.535	2.157
d_G	0.444	0.459
Chi-Square	674.524	693.493
NFI	0.762	0.755

Table 2.
Goodness of fit index

Source(s): Authors own work

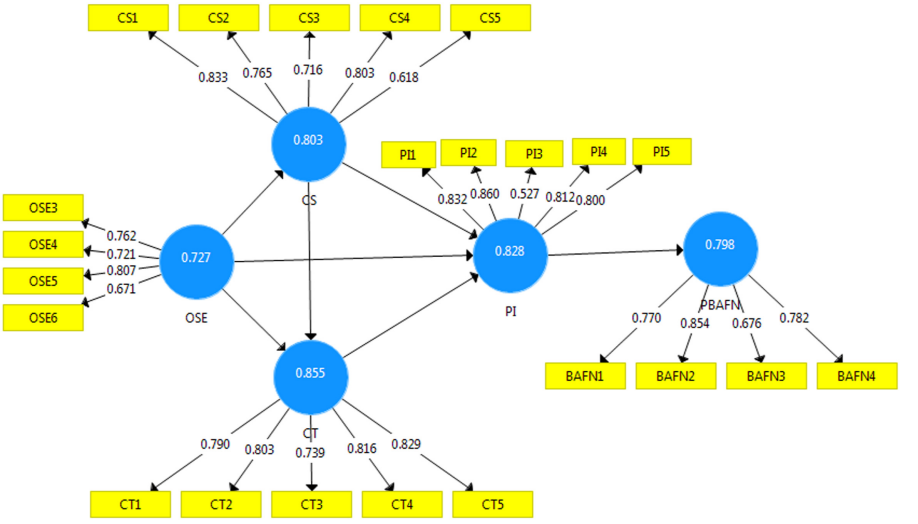


Figure 2.
Measurement model

Note(s): OSE-Online Shopping Experience; **CS**-Customer Satisfaction; **CT**-Customer Trust; **PI**-Purchase Intention; **PBAFN**-The propensity of Believing and Action on Fraud News

Source(s): Authors own work

root mean square residual (SRMR) of the estimated model was 0.089, which is supported by the literature, SRMR<0.10 or 0.08, and it has been started to consider the SRMR as one of the criteria for ensuring PLS-SEM goodness of fit measure since 2014 (Henseler *et al.*, 2014; Hu and Bentler, 1999). At the same time, the normed fit index (NFI = 0.755) indicates that the measurement model in this study has a good fit to run SEM with the PLS method. Lohmöller (1989) stated that good model fitness is ensured with the value of the NFI being closer to 1.

4.1.2 Convergent validity, internal consistency and multicollinearity. Table 3 displays the outcome of convergent validity and composite reliability of the measurement model. According to Bagozzi and Yi (1988), the cut-off point for extracting factors to confirm a data set's reliability existed between 0.60 and 0.94. The minimum outer loading in the measurement model is 0.618 and the maximum loading is 0.860, which is supported by a number of significant previous studies (Kacmar and Carlson, 1997; Khan *et al.*, 2019).

Cronbach's alpha and composite reliability value of all the latent variables ensured the internal consistency of the measurement model's items by generating a higher value than the standard value of 0.70, respectively (Nunnally, 1978; Hair *et al.*, 2013). Cronbach's alpha and composite reliability (CR) for all the constructs are respectively here. OSE: = α = 0.727, CR = 0.830; customer satisfaction (CS): α = 0.803, CR = 0.865; CT: α = 0.855, CR = 0.896; purchase intention(PI): α = 0.828, CR = 0.880; The PBAFN: α = 0.798, CR = 0.855.

On the other hand, this study also proved that it has convergent validity. From Table 3, it can easily be replicated that the average variance extracted (AVE) for all study variables (OSE= 0.550; customer satisfaction = 0.865; CT = 0.634; purchase intention = 0.602; and the PBAFN = 0.598) is up to the standard that was supported by the literature (Hair *et al.*, 2013). They suggested that the discriminant validity of the measurement model is being confirmed when the AVE shows a result of between 0.55 and 0.65.

4.1.3 Discriminant validity. Table 4 explores the results of discriminant validity. This study used Fornell and Larcker (1981)'s criterion to assess the discriminant validity of the measurement model. The generated result showed that the square roots of AVE for all the latent variables are greater than the correlation of each latent variable with all others. As per the result of PLS, square roots of AVE (CS = 0.751; CT= 0.796; OSE = 0.742; the propensity of believing and acting on fake news = 0.773; PI = 0.776), which were higher than the r value between CS and CT; CS and OSE; CS and PBAFN; CS and PI. So the displayed result in Table 4 confirmed the discriminant validity of the conceptual model, which is supported by Fornell and Larcker (1981).

4.1.4 Multicollinearity statistics. Variance inflation factor (VIF) and tolerance, well-accepted assumptions of multicollinearity, are checked out for this study. The findings show that respectively VIF and tolerance for OSE are =(1.81, 0.552), CS=(2.53, 0.395), CT=(2.49, 0.401), PI=(1.87, 0.535) where the cutoff value for VIF is less than 10 and for tolerance is greater than 0.10 (Hamed and El-Deeb, 2020; Pallant, 2010). So, the SPSS result is transparently denoted that there is no high inter-association among the independent variables of the conceptual model (Miocevic and Zdravkovic, 2020).

4.2 Hypotheses testing through analyzing structural model

With the assistance of PLS-SEM, SmartPLS 3.3 is used to analyze the structural model. With the assistance of PLS-SEM, this study uses bootstrapping calculation interacted with the bias-corrected accelerated (BCa) Bootstrap confidence interval method, two-tailed test type and 5% significance level. The 500 subsamples are used to test the bootstrap-based hypotheses. Figure 1 shows the structural model of this study, which publishes co-efficient beta together with the level of significance of each path, and the outer model reveals the loading of variable items as well as various constructs of this model that display the AVE.

Table 5 shows the result of PLS-SEM bootstrapping to test the predetermined hypotheses.

Latent variable and sources	Items	Factor loading	Composite reliability	Average variance extracted	Cronbach alpha (α)
Online Shopping Experience HaoSuan Samuel *et al.* (2015), Flacandji and Krey (2020)	OSE3. The online retailer's website creates a shopping experience that is appealing and enjoyable	0.735	0.819	0.533	0.706
	OSE4. This shopping experience made me feel important for a few moments	0.709			
	OSE5. During this shopping experience, my feelings were positive	0.814			
	OSE6. I am experienced in purchasing environment friendly product	0.652			
Customer satisfaction Rose *et al.* (2012), Pei *et al.* (2020)	CS1. I am satisfied with my overall experiences with online shopping	0.833	0.865	0.564	0.803
	CS2. I am satisfied with the pre-purchase experience of online shopping websites (e.g. consumer education, product search, quality of information about products, product comparison)	0.765			
	CS3. I am satisfied with the post–purchase experience of online shopping websites (e.g. customer support and after-sales support, handling of returns/refunds, delivery care)	0.716			
	CS4. I am very satisfied with the products during shopping	0.803			
	CS5. I am very satisfied with the speed of delivery after shopping	0.618			
Customer trust HaoSuan Samuel *et al.* (2015), Hong and Cha (2013)	CT1. I trust the online shopping retailer to do what they promise	0.790	0.896	0.634	0.855
	CT2. I trust the online shopping retailer to have my best interests at heart	0.803			
	CT3. Online shopping retailers are generally reliable and dependable	0.739			
	CT4. Overall, I feel I can trust online shopping retailers for making purchases	0.816			
	CT5. I believe that the online store is trustworthy	0.829			

Table 3.
Convergent validity and composite reliability

(*continued*)

Latent variable and sources	Items	Factor loading	Composite reliability	Average variance extracted	Cronbach alpha (α)
Purchase Intention Liu *et al.* (2004), Pappas (2016), Thamizhvanan and Xavier (2013), Wu *et al.* (2013)	PI1. I intend to purchase online again if I need any product	0.832	0.880	0.602	0.828
	PI2. I like to purchase online in the near future	0.860			
	PI4. I like online shopping	0.812			
	PI5. If I need the product, I am very likely to purchase through Internet in the near future	0.800			
The propensity of believing and acting on fake news Kumar *et al.* (2021)	PBAFN1. Scam/fraud news about online shopping platforms/companies made me withdraw from these online platforms in the past	0.770	0.855	0.598	0.798
	PBAFN2. Scam/fraud news about online shopping platforms/companies made me switch from one online platform to another in the past	0.854			
	PBAFN3. Scam/fraud news about online shopping platforms/companies has reduced my trust in the connected online shopping platforms in the past	0.676			
	PBAFN4. Scam/fraud news about online shopping platforms/companies motivated me to inform my friends and family and discourage the use of this platform/company in the past	0.782			

Note(s): OSE-Online Shopping Experience; CS-Customer Satisfaction; CT-Customer Trust; PI-Purchase Intention; PBAFN-The Propensity of Believing and Acting on Fraud/Fake News
Source(s): Authors own work

Table 3.

	CS	CT	OSE	PBAFN	PI
CS	*0.755*				
CT	0.753	*0.796*			
OSE	0.488	0.493	*0.742*		
PBAFN	−0.017	−0.083	0.076	*0.773*	
PI	0.581	0.582	0.562	0.210	*0.776*

Note(s): CS-Customer Satisfaction; CT-Customer Trust; OSE-Online Shopping Experience; PBAFN-The Propensity of Believing and Acting on Fraud/Fake News; PI-Purchase Intention
Source(s): Authors own work

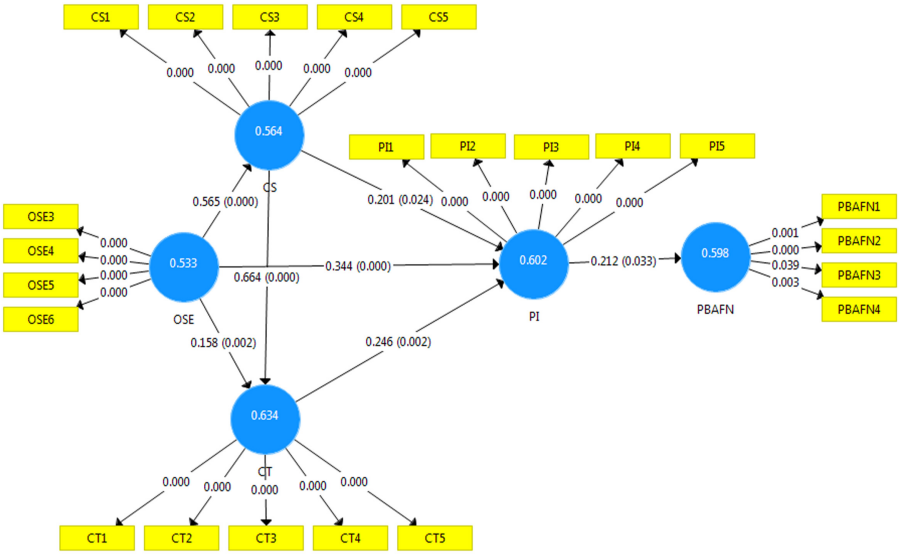
Table 4.
Discriminant validity

Table 5 displays the summary result of hypotheses testing for the structural model (Figure 3). It is revealed that the OSE of customers has a significant positive impact on CS (β: 0.565; t: 13.888; $p > 0.05$), PI (β: 0.344; t: 4.283; $p > 0.05$) and CT (β:0.158; t: 3.186; $p > 0.05$), which respectively satisfy the H1a, H1b and H1c. At the same time, from the below table, it is found that CS from online shopping has a significant affirmative impact on their PI (β:0.201; t: 2.266; $p > 0.05$), CT (β:0.664; t: 15.070; $p > 0.05$), and this result supports the hypotheses H2a and H2b. On the other hand, PLS-SEM bootstrapping supports the hypotheses 3 and 4 where customers' trust has a statistically significant impact on their future online product PIs (β: 0.246; t: 3.123; $p > 0.05$) and finally, customers' PIs create a statistically positive impact on their PBAFN regarding online shopping in Bangladesh (β: 0.212; t: 2.143; $p > 0.05$).

Table 5.
Hypotheses testing: bootstrapping direct effect result

Hypotheses	Relationship	Std. Beta	Standard deviation (stdev)	T Statistics (|o/stdev|)	*P* Values	Decision
H1a	OSE → CS	0.565	0.041	13.888	0.000	Supported
H1b	OSE → PI	0.344	0.080	4.283	0.000	Supported
H1c	OSE → CT	0.158	0.050	3.186	0.002	Supported
H2a	CS → PI	0.201	0.089	2.266	0.024	Supported
H2b	CS → CT	0.664	0.044	15.070	0.000	Supported
H3	CT → PI	0.246	0.079	3.123	0.002	Supported
H4	PI → PBAFN	0.212	0.099	2.143	0.033	Supported

Note(s): H-Hypothesis; **OSE**-Online Shopping Experience; **CS**-Customer Satisfaction; **CT**-Customer Trust; **PI**-Purchase Intention; **PBAFN**-The propensity of Believing and Action on Fraud News
Source(s): Authors own work



Note(s): OSE-Online Shopping Experience; **CS**-Customer Satisfaction; **CT**-Customer Trust; **PI**-Purchase Intention; **PBAFN**-The propensity of Believing and Action on Fraud News
Source(s): Authors own work

Figure 3.
Structural model

Meanwhile, the t-statistics for all inner model relationships extrapolate to a higher value than the threshold (1.96).

4.2.1 Testing the moderation effect. Table 6 shows the results regarding the moderation effect of gender on the relationships between CS and PI; OSE and PI; CT and PI; and finally, PI and PBAFN relationship. The moderated model is examined by PROCESS macro-3.5 (Hayes, 2013).

From the below table, first an interaction effect is identified in the relationship between CS and PI ($\beta = 0.1924$) with gender as a moderating variable, and the effect is statistically significant ($p = 0.034 > 0.05$). In this regard, it can be stated that gender has a moderating effect on the relationship between CS and PI. Specifically, satisfaction for female customers ($\beta = 0.5990$; $p = 0.00$) has an uplifting positive impact on their future product PI than that of male customers ($\beta = 0.4065$; $p = 0.000$). In this regard, satisfied female customers have greater PI via an online platform than satisfied male customers, and this result satisfies hypothesis-5a.

Second, the findings show that there is a significant interaction of gender on the direct relationship between customers' OSE and their willingness to purchase products ($\beta = 0.3538$; $p = 0.0013$). According to the conditional effect of the focal predictor, females ($\beta = 0.8408$; $p = 0.0000$) have a greater effect on PI than males ($\beta = 0.4825$; $p = 0.0000$). So, hypothesis 5b is accepted on the basis of the above finding.

Third, the PROCESS macro results show that the interaction effect of gender on trust and PI relationships is statistically insignificant ($\beta = 0.1345$; $p = 0.1461 > 0.05$) and that the focal predictor has no conditional effect. So, the result doesn't satisfy hypothesis 5c.

Finally, Table 6 displays the result regarding hypothesis-5d, which is about the moderation effect of gender on the relationship between online shoppers' future product PIs and their PBAFN. According to the table below, there was a significant interaction effect between PI and PBAFN with gender as a moderator ($\beta = 0.3281$; p 0.05). This finding also supports and accepts hypothesis 5d. To explain very clearly, male customers' PIs have a negative impact on their propensity to believe and act on fake news ($\beta = -0.0110$; $p = 0.9082$), while female customers' product PIs have a positive effect on their PBAFN ($\beta = 0.3172$; $p = 0.0001$). In this sense, gender makes the relationship between PI and PBAFN stronger for females but weaker for males.

5. Discussion and implication

In comparison to the pre-COVID pandemic, customers' switching rates from traditional shopping to online technology-based shopping have dramatically increased in Bangladesh during the COVID pandemic. By keeping this in mind, one of the three objectives of this study

Hypotheses	Direct relationship		Coefficient beta	*P* Value	ULCU	LLCI	Decision
H5a	CS → PI	Interaction_1	0.1924	0.0343	0.0143	0.3705	Accepted
		Male	0.4065	0.0000	0.2812	0.5318	
		Female	0.5990	0.0000	0.4724	0.7255	
H5b	OSE → PI	Interaction_1	0.3583	0.0013	0.1407	0.5759	Accepted
		Male	0.4825	0.0000	0.3193	0.6456	
		Female	0.8408	0.0000	0.6968	0.9848	
H5c	CT → PI	Interaction_1	0.1345	0.1461	−0.0472	0.3161	Rejected
H5d	PI→ PBAFN	Interaction_1	0.3281	0.0082	0.0858	0.5705	Accepted
		Male	−0.0110	0.9082	−0.1986	0.1766	
		Female	0.3172	0.0001	0.1636	0.4707	

Note(s): **H**-Hypothesis; **OSE**-Online Shopping Experience; **CS**-Customer Satisfaction; **CT**-Customer Trust; **PI**-Purchase Intention; **PBAFN**-The Propensity of Believing and Action on Fraud/Fake News; **LLCI**: Lower Level Confidence Interval; **ULCI**: Upper Level Confidence Interval
Source(s): Authors own work

Table 6. Moderation effect of gender on the relationship of purchase intention with online shopping experience, customer trust, customer satisfaction and customers' propensity of believing and acting on fraud news

was to check out the impact of customer OSEs, satisfaction and trust in online shopping platforms on future product PIs , as well as the second objective was to examine the effect of customer product PIs on their propensity to believe and act on fake information regarding online shopping. The final objective was to test the moderating effect of gender on online shoppers' relationships between CS and PI, OSE and PI, and CT and PI. SOBC theory was underpinned to develop and support the conceptual model as well as hypotheses testing.

This study finds that during the COVID-19 pandemic, the OSE of customers has a positive and statistically significant influence on their satisfaction level toward online shopping and that customers' satisfaction with online shopping has a positive effect on their trust and online PI. These findings are also supported by literature (Pappas *et al.*, 2014; Giannakos *et al.*, 2011; Hsu *et al.*, 2011; Bai *et al.*, 2008) where the authors reported that customers' affirmative shopping history enhances their degree of satisfaction, trust and online PI. The factor loading result identifies that CS is ensured by the online retailer's website quality, product quality, pre and post–purchase experience, and speed of delivery. Meanwhile, this findings support that CS and their level of trust create a positive chain effect on their future product PI that is strongly desired by the online vendors especially during COVID-19 pandemic where physical shopping is surprisingly converted into online based shopping where buying and selling completely depend on trust and loyalty.

The findings of this study also indicate that the customers' previous purchase experiences via online platforms have a noteworthy and affirmative impact on their future online shopping intentions and their trust in online shopping. Previous studies by Chu and Li (2008), Ling *et al.* (2010), Mohseni *et al.* (2016), Stouthuysen *et al.* (2018) and Samuel *et al.* (2015) concluded that customers with positive shopping experiences have trust in online vendors and they have a tendency to shop via online platforms in a repetitive manner. From this finding, it can easily be replicated that customers' trust is formed through cumulative conditions of their previous shopping experience that stimulates customers to buy online and helps the online vendors to keep proper track on their sales volume during COVID-19 pandemic. The result of moderating impact of gender explored that the satisfaction from online shopping and OSE of female customers have significant positive impact on their future buying intention than those of male customers. Meanwhile, the male customers with online PI have fewer tendencies to believe and act on fraud news regarding online shopping than that of female customers. So, gender of online customers must get priority to the online vendors when they will go for formulating and implementing customers' centric online business policy.

In this sense, policymakers and online vendors, especially new heads, need to incorporate this issue to ensure a high level of CS and trust in online shopping through confirming an affirmative buying experience that drives shoppers to re-purchase from new and established online vendors in Bangladesh. It can be easily signified that implementation of effective policy and strategy in the online shopping field will surely confirm the success, overall growth and stability of this field in Bangladesh.

At the same time, study findings indicate that customer PI via an online platform positively affects their propensity to believe and act on fake/fraud news. A few studies support this finding in this domain (e.g. Kumar *et al.*, 2021; Pundir *et al.*, 2021; Visentin *et al.*, 2019). The abovementioned studies stipulated that customers' future product PIs resulting from their positive experience, high level of satisfaction and trust in online shopping let them believe in fraud news regarding online vendors as well as switch to another brand. So here, policymakers and online merchants in the field of online shopping must ensure their partial control on the dark claws of fraud news to save their online business and to uplift the customers' re-purchase intention through confirming positive experience, satisfaction and trust in online shopping.

Cultural diversity creates a ripple effect on online customers' buying experience to some significant extents with their individual cultural dimensions. An empirical study based on Hofstede's theory on cultural dimension stated that customers' trust and positive experience toward online shopping varied by 23% in response to the national cultural variances which are mediated by individual cultural dimensions (Hallikainen and Laukkanen, 2018).

5.1 Theoretical implications

The study result also shows that the gender of online customers moderates the direct relationship between CS and their future PI, OSE and PI, as well as the relationship between customers' PI and their PBAFN about online platforms. But this moderating variable doesn't affect the relationship between customers' trust in online shopping and their future PI. Specifically, gender makes the impact of CS and shopping experience on PI stronger for females than for males. On the other hand, this controlling variable makes the relationship between PI and their belief in fake news stronger for females but weaker for males.

5.2 Managerial implications

In the era of the fourth industrial revolution (4IR), the business world is silently getting merged with modern technology such as robotics, the Internet of things (IoT) and automation. In response to these contemporary scenarios and to survive in the global competition, like other developing countries, entrepreneurs and policy makers concerned with online shopping must give priority to customers' loyalty and repurchase decisions toward their products, as well as shift customers from traditional shopping toward online shopping. It is strongly stated that the findings of this exploratory study assist policymakers, online vendors and entrepreneurs in the abovementioned area. The study results assist in formulating policies aligned with the business strategy of an organization that protects online vendors from the threats of online customers' propensity to believe fake news, shop online or shift to a competitor's brand. Switching to a competitor's brand reduces a firm's market share as well as profit margin. As a result, it is concluded that this study contributes significantly to the existing literature and has practical implications for ensuring the overall growth and success of online businesses in Bangladesh and the emerging economic context as well.

6. Opportunity for future researchers

This study only focused on online shoppers to collect data with the help of cross sectional research design only in Bangladesh and used a structured questionnaire. But future researchers may think about using interviews as a data collection tool along with a questionnaire to collect responses from online customers and online vendors around the world with the support of multiple research designs. Moreover, future researchers may consider word-of-mouth (WoM) as a dependent variable to create a connection with PI and other independent variables for preparing a better conceptual model that can contribute to the literature on a large scale.

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