

# **THE MODERATING ROLE OF ANXIETY IN THE RELATIONSHIP BETWEEN THE PERCEIVED BENEFITS, ONLINE TRUST, AND PERSONAL INFORMATION DISCLOSURE IN ONLINE SHOPPING**

**Bui Thanh Khoa\***

*Faculty of Commerce and Tourism, Industrial University of Ho Chi Minh City, Vietnam*

**Minh Ha Nguyen**

*Finance, Economic and Management Research Group (FEMRG), Ho Chi Minh City Open University, Vietnam*

## **ABSTRACT**

The e-commerce market in Vietnam has shifted in a positive direction in recent years, typically due to the continuous increase in buyers, sellers, and online transactions. This study aims to understand the moderating effect of anxiety on the relationship between perceived mental benefits, online trust, and personal information disclosure when dealing with e-commerce sites. The phenomenological research with eight e-commerce experts and a survey of 917 respondents were made to achieve research objectives. The result showed a positive relationship between perceived mental benefits, online trust, and personal information disclosure. Moreover, there were differences between the study's components under anxiety level (low, medium, high). Some implications are also proposed based on research results.

**Keywords:** perceived mental benefits, online trust, personal information disclosure, anxiety, online shopping

---

*Received: 2 September 2019*

*Accepted: 18 March 2021*

<https://doi.org/10.33736/ijbs.4624.2022>

## **1. INTRODUCTION**

Vietnam e-commerce includes online retail, travel, car/motorbike booking services, and fast food delivery. Many other fields are gradually entering the e-commerce market, such as education and health care service. The growth rate of e-commerce in 2018 was over 30%, and the transaction value of the e-commerce market in Vietnam in 2018 reached 7.8 billion USD (VECOM, 2020). Online retail sales increased by 35 percent, while transportation service revenue increased from 62 percent to 200 percent. Last year, Vietnam National Payment Corporation reported that online transactions using domestic cards increased nearly 50% in volume and 75% in value year-on-year (Vietnam eCommerce and Digital Economy Agency, 2018). The development in terms of both quantity and quality of sellers leads to fierce competition among online businesses. Today's

---

\* Corresponding author: Industrial University of Ho Chi Minh City, 12 Nguyễn Văn Bảo Street, Ward 4, Go Vap District, Ho Chi Minh City, 700000, Vietnam; Tel: +84908091402; Email: buithanhkhoa@iuh.edu.vn; khoadcn@gmail.com

success depends on understanding customers' insights (Kotler et al., 2019), and an online store is no exception.

The number of visitors and the number of views per customer are the key factors in making the website (Tarafdar & Zhang, 2008). Relationship marketing cannot happen without information to build customer personas for the best service. Kelley (2013) mentions that information exchange is the primary character of relationships because this process shows the customer's trust toward an e-commerce website and the sellers' personalization for their customers. Owning customers' information is essential to reaching out and maintaining customer relationships. Modern marketers have used cookies to understand customer behaviors on the website (Turban et al., 2018) or get customers to provide information such as preferences and personalization (Campbell, 2019). In marketing 4.0, marketing strategy moves from mass marketing to one-to-one marketing; hence, customer information becomes essential for online business, especially private information (Kartajaya et al., 2019). However, the customers are reluctant to provide confidential information when dealing in a hazardous environment such as an online environment except for personal information regarding completing a transaction such as their name and shipping address, email, and phone number (Smith et al., 2011). Anxiety in online shopping prevents an individual from using email, instant messages, or online databases (Smith et al., 2011). Understanding customers' concerns will create more opportunities for businesses to reap the benefits of online commerce (Thatcher et al., 2007). Pappas (2018) proposes developing the emotion-centric theory to explain consumer behavior better. Studies related to self-determination theory (Deci & Ryan, 2011), hedonic consumption (Hirschman & Holbrook, 1982), and flow theory (Csikszentmihalyi, 1990) are receiving the attention of many researchers. In particular, customer-related mental benefits (non-functional benefits) are explored in the context of online commerce (Sheth, 1981). Therefore, the benefits provided through consumption are shopping enjoyment (Forsythe et al., 2006), social interaction (Hennig-Thurau et al., 2016), discreet in shopping (Bhatia et al., 2016), or perceived control (Huang, 2003). Turner and Gellman (2013) argue that perceived benefits related to positive outcomes are due to a specific action. Perceived benefits in e-commerce indicate what customers achieve from online shopping (Forsythe et al., 2006).

Moreover, in an online environment with many uncertainties, consumers' behavior depends on their trust in the website. Palmatier et al. (2006) have shown that trust will mediate between the customer's antecedents and output factors in the transaction. Also, trust, after realizing the benefits of social networking sites, will make it easier for users to expose their information (Loiacono, 2015). Therefore, a study on the mental benefits concerning online trust and personal information disclosure, particularly this relationship with the moderation of anxiety levels.

After realizing the objective of the study, the rest of this study includes the following (1) literature review for building models and research hypotheses, (2) methodology, (3) research result, (4) discussion and implications for research.

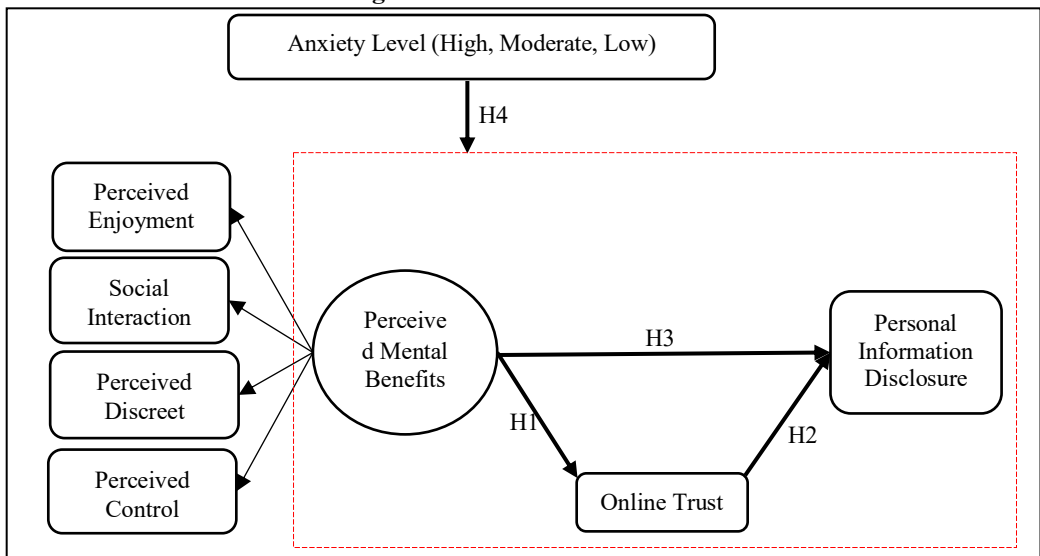
## **2. LITERATURE REVIEW**

### ***2.1. Theoretical background***

Palmatier et al. (2006) pointed out that 18 suitable structures appear in the relationship marketing model. In essence, the relationship is two-way, and both parties often share the benefits of a

relationship. In this Relational Mediator Meta-Analytic Framework, prerequisite elements to create a connection in transactions originating from buyers, sellers, and two-way relationships (Dyadic). In particular, the role of mediator as trust increases long-term relationships. Verma et al. (2015), based on research by Palmatier et al. (2006), expand the relationship marketing framework to online retail to identify strategies to build relationships with online customers. The online relationship marketing model consists of 13 structures. The antecedents of the association are categorized into three sources, including customer-oriented (relationship benefits, Dependence on Seller), seller-oriented (Relationship Investment, Expertise), and Dyadic (Communication, Similarity). As in the original model, the authors also identified trust as an intermediary in the relationship in the online retail context. Loyalty is the psychological attachment of consumers and the support of attitude toward online sellers, along with consumers' willingness to maintain a long-term relationship (Liang et al., 2008).

**Figure 1:** The theoretical model



In loyalty programs, the customer's role is an important aspect. There is the possibility of increasing concerns about personal information risks as unauthorized use (Langenderfer & Cook, 2004). Meanwhile, the collection and usage of information can positively impact customer relationships' life and profitability, which often depends on consumers who voluntarily participate in these programs. The perceived mental benefits can predict as an antecedence of whether the customer provides more private information for the online transaction process, and the online trust that continues to propose is to mediate in the relationship between benefits and information provision. Moreover, Bagozzi et al. (2016) also suggested further research on expected emotions to help shape the theoretical and empirical appropriateness. Online shopping creates customer anxiety due to its inherent risks and dangers, such as non-directness in product purchase, privacy violations, or credit card fraud (Celik, 2016). Anxiety becomes a particularly relevant aspect of online shopping research. The researchers propose the theoretical model, like Figure 1.

## **2.2. Perceived mental benefits (PMB)**

Turner and Gellman (2013) pointed out that the positive result when trading online is the perceived benefits. On the other hand, perceived benefit is the customers' evaluation of the potential gain from shopping behavior (Brown, 2005). In e-commerce, customers can get many benefits like convenience and ease of shopping (Turban et al., 2018). Forsythe et al. (2006) indicate that what customers get when they shop online is the perceived benefit of e-commerce. Besides the physical benefits, the customer hopes that online transactions will bring them psychological benefits. This research proposes the "mental" term related to customers' thinking and emotion (Oxford, 2010). When shopping online, the customer can enjoy social interaction, discreet shopping, and perceived control. The psychological and emotional values mentioned above are the dimensions of perceived mental benefits in this research.

Firstly, the customer will have perceived enjoyment, pleasure, and comfort when buying from a website (Venkatesh & Davis, 2000). The new shopping experience online is one of the enjoyments (Forsythe et al., 2006). Pleasure in shopping is considered a non-functional motivation (Sheth, 1983). Enjoyable shopping can be an essential construct of the online consumer behavior domain. In particular, shopping enjoyment significantly affects customer attitudes and behaviors on the web and increases customer intentions to return.

Web 2.0 technology actively changed online customer behavior. The customer can establish a new relationship by exchanging information on the website or the shopping communities (Butler et al., 2002). Many customers participate in the virtual community to seek information or buy the product/service, meet other people, or create friendships (Zhang & Hiltz, 2003). On the other hand, social interaction focuses on non-market interaction, according to Scheinkman (2008), emphasizing that the price mechanism does not regulate these interactions. The virtual world becomes an excellent medium for individuals to develop their learning and relationship with others.

The other aspect of online shopping's benefit is perceived as discreet shopping. The customer does not feel comfortable buying from offline shops, especially when purchasing sensitive products such as sexual products, underwear, or birth control pills. That is why the perceived discreet in shopping becomes the mental benefit of Vietnamese customers (Gupta et al., 2013). They need the private to shop and want no one to know what they bought (Wood, 2017). Anonymity is considered the big difference between offline and online shopping.

Last but not least, perceived control is growing up as one of the benefits of e-commerce. The theory of planned behavior has pointed out the perceived behavior control as the primary motivation to affect the behavior (Ajzen, 1991). However, the perceived control is conceived as self-efficacy (Bandura, 1997). In the Big Data Era, personal information is a valuable business asset to personalize marketing activities. Moreover, information technology development allows buyers to customize the product based on their needs (Godek & Yates, 2005). These changes make the psychological benefit in customers about control ability. Perceived control is an integral part of creating mental benefits and life achievement (Ly et al., 2019).

### **2.3. Online Trust (OT)**

Trust is a critical factor in research and practice, especially in an uncertain environment as an online market. Online trust believes in the online seller's integrity, benevolence, and ability (Khoa, 2021). The customer needs the seller to keep the promise of what they write on the website or advertisement. Moreover, when shopping from the site, the buyer usually hopes the seller has the skills and capabilities to make and provide an excellent product. One of the risks is not to change the product if the product is broken. Therefore, benevolence is part of online trust (Ang et al., 2001).

Briggs et al. (2004) stated that online trust was formed from online enterprises' personalization capability. When the customer is confident in controlling their information or behavior, they will trust the website in online shopping (Beldad et al., 2010). Further, the perceived benefits in mobile payment will positively impact the customer's confidence (Park et al., 2019). Thus, the research proposes:

*H1: The PMB has a positive impact on online trust in online shopping*

### **2.4. Personal information disclosure (PID)**

In the Information Age, personal information is a valuable asset. Except for the information required to complete the transaction, such as phone number, address, email, the customer is afraid to provide additional information such as date of birth, hobbies, transaction habits, location (Gracia & Juliadi, 2019). The customer often has adverse reactions such as stopping the website or even stopping the purchase if the business requires them to provide information that is inappropriate for shopping or too private. (Palmatier & Martin, 2019).

Trust status is defined as the willingness to depend on the seller in any case and may even accept the risk of actual trading (Mayer et al., 1995). Trade-offs are a must for creating long-term gains in online transactions. Moreover, the trade-off premise in the purchasing process is the customer's trust in the supplier. Many studies have shown that trust is a positive cause of PID (Campbell, 2019; Dinev & Hart, 2006; Xu et al., 2011). Consequently, the hypothesis H2 is proposed:

*H2: Online trust has a positive impact on the PID in online shopping*

According to Hann et al. (2002), information is considered a commodity in the transaction between customer and business, which means that customers are willing to trade their data to benefit from the industry. In the information trade-offs model, the customer will intend to sell and exchange information to receive promotions if the perceived benefits outweigh the perceived risks (Dinev & Hart, 2006). As location-based services evolve like Grab, location-based marketing, and making friends through mobile apps, customers must always use GPS to receive them (Sun et al., 2015; Xu et al., 2011). It is easy to conclude that the benefits will positively impact consumers' information provisions.

*H3: The PMB has a positive impact on PID in online shopping*

## **2.5. Anxiety**

According to social cognitive theory (social cognitive theory), anxiety is a negative emotion or the reaction of an individual's determination to perform a specific action. Anxiety causes the subject to limit judgment about selling product performance through emotional stimulation and lower expectations of expected performance results (Compeau et al., 1999). Anxiety is a series of negative thoughts about similar or other topics that may negatively affect the future (Borkovec et al., 1983).

Consumers feel anxious because there is no interpersonal interaction, lack of tangible, asymmetric information, ambiguity, and specificity in sales contracts and security risks in online shopping (Perea y Monsuwé et al., 2004). Although anxiety has received significant attention in the literature (Hackbarth et al., 2003; Wu & Liu, 2007), but has not been well studied in online shopping. Some research foresees the use of the Internet to create uncertainty and awareness of additional risks due to its intangible nature, which adds to the anxiety of online shopping (Kim & Forsythe, 2008).

Online customers are often reluctant to buy products online because they see privacy risks (meaning they are not safe about online credit card transactions and are worried that e-commerce sites may abuse The personal information they provide). They give up their online shopping cart because they feel e-commerce sites are unreliable and have complex payment processes. Similarly, college students tend to hesitate to click on the payment button because they are concerned about security breaches and online privacy (Cho et al., 2006). Ding et al. (2017) investigated the effect of information overload on purchasing decisions resulting in physical fatigue and mental fatigue. Mental fatigue can be defined as a negative perception, including frustration, loss of interest, or reduction in demand and motivation associated with the use of e-commerce sites and interactions.

Meanwhile, the intrinsic characteristics of e-commerce sites, the risk of e-commerce sites, leakage of customer privacy, and time delays of e-commerce sites make for the mental state of angry, upset, and anxious customers. Therefore, we propose that:

*H4: The level of anxiety has a different effect on the relationship between the mental benefits, online trust, and personal information disclosure in online shopping*

## **3. METHODOLOGY**

Combining qualitative and quantitative research methods will help ensure that the results are more convincing (Creswell & Creswell, 2017). The research factors are confirmed by phenomenological research via group discussion (Silverman, 2016). Perceived enjoyment, social interaction, discreet shopping, and perceived control benefit from psychology; the customer will disclose their personal information if it brings advantages and creates trust. All participants agreed that anxiety might impact the relationship between the benefits, trust, and communication declared in an online environment. A questionnaire was distributed to young participants and

regularly purchased online to test the research hypotheses (Department of E-Commerce and Information Technology, 2017). The study sample is 917 (Hair et al., 2019; Tabachnick & Fidell, 2007). The sampling technique in this study selected a non-probability, purposive sampling technique (Neuman, 2002). The data set is collected from 973 customers. After several respondents were eliminated because of the lack of information, selecting the answer that violates the reverse question, a total of 917 responses were used for further analysis by the SmartPLS software.

**Table 1:** The scale measurement

Construct	Source	Item
Perceived Enjoyment	Nguyen and Khoa (2019)	• Nguyen and Khoa (2019)I live in my world in online shopping- PEB1
		• In a depressed mood, online shopping helps me feel better - PEB2
		• Online shopping helps me to satisfy myself -PEB3
		• Shopping online is an adventure-PEB4
		• For me, shopping online is one way to reduce stress - PEB5
		• Compared to other things I can do, online shopping is enjoyable. - PEB6
Social Interaction	Nguyen and Khoa (2019)	• I feel connected with others when shopping online - PSB1
		• I feel there is an exchange of information about products/services when I share my shopping experience with other consumers - PSB2
		• Online shopping is a great way to develop a friendship - PSB3
		• I like to watch and interact with the reviews of other customers - PSB4
Perceived Discreet	Nguyen and Khoa (2019)	• Online shopping ensures the privacy of the purchase process - PDB1
		• I do not feel shy if I do not buy anything after requesting - PDB2
		• I do not feel embarrassed if I buy sensitive goods/services - PDB3
		• I feel free when searching for information that no one can know - PDB4
		• I do not feel embarrassed when buying discounted products - PDB5
Perceived Control	Nguyen and Khoa (2019)	• E-commerce site allows me to control the online shopping process - PCB1
		• I have the option to participate, express myself, and leave my mark when shopping online - PCB2
		• In addition to shopping, I also participate in the entire consumer experience by collaborating posting ideas - PCB3
		• E-commerce pages design everything, give ideas, connect and choose different shopping options according to my wishes - PCB4
Online Trust	Liu và Tang (2018)	• This e-seller is honest - OT1
		• This e-seller is very interested in meeting my needs and desires - OT2
		• This e-sellers keep their promises and commitments - OT3
		• This e-sellers is reliable - OT4
		• These e-sellers are capable of fulfilling my needs and desires - OT5
Personal information disclosure	Campbell (2019)	• I disclose my personal information when asked by e-supplier – PID1
		• I disclose even my location to e-supplier – PID2
		• I am truthful in revealing my personal information to e-supplier – PID3





Item	OT	PCB	PDB	PEB	PID	PSB	CA	CR	AVE
OT3	0.833								
OT4	0.841								
OT5	0.773								
PCB1		0.835							
PCB2		0.846					0.869	0.910	0.717
PCB3		0.859							
PCB4		0.847							
PDB1			0.923						
PDB2			0.901						
PDB3			0.899				0.937	0.952	0.800
PDB4			0.892						
PDB5			0.855						
PEB1				0.798					
PEB2				0.786					
PEB3				0.785			0.869	0.902	0.605
PEB4				0.793					
PEB5				0.747					
PEB6				0.757					
PID1					0.804				
PID2					0.804		0.737	0.851	0.655
PID3					0.820				
PSB1						0.826			
PSB2						0.793	0.871	0.912	0.723
PSB3						0.916			
PSB4						0.861			

Notes: CA: Cronbach's Alpha; CR: Composite Reliability; AVE: Average Variance Extracted

For this model, the research needs to estimate the relationship between the resulting potential and its observed variables, checked through the outer loadings. According to the results of Table 2, all outer loading of PEB, PSB, PDB, PCB, OT, and PID concepts are higher than the allowable value of 0.708. Hair et al. (2017). The PEB5 item had the lowest external load coefficient of 0.747, and the observed variable PDB1 had the highest outer loading coefficient of 0.910. Thus, the four potential variables are related to their observed variables.

**Table 3:** HTMT value for discriminant validity.

Construct	OT	PCB	PDB	PEB	PID	PSB
<b>OT</b>						
<b>PCB</b>	0.480					
<b>PDB</b>	0.527	0.500				
<b>PEB</b>	0.722	0.493	0.443			
<b>PID</b>	0.581	0.440	0.376	0.472		
<b>PSB</b>	0.697	0.392	0.417	0.583	0.506	

The study of Hair Jr et al. (2016) showed that Heterotrait-Monotrait Ratio (HTMT) should be applied to detect discriminant validity reliably. Table 3 shows the value of HTMT for all pairs of variables in the study. It can be seen that all HTMT values are smaller than the 0.85 thresholds (Hair et al., 2017). Therefore, all constructs in this research have discriminate validity.

#### 4.2. Assessment of PLS-SEM result

The result of the assessment structural model for collinearity is presented in Table 5. We assess the following sets of (predictor) constructs for collinearity: (1) PMB and OT as predictors of PID, (2) PMB as predictors of OT. Based on the result in Table 4, all VIF values are smaller than the threshold of 5. Hence, the collinearity between predicted structures is not an essential issue in the structural model.

**Table 4:** The result of the assessment structural model for collinearity

	OT	PCB	PDB	PEB	PID	PSB
OT					2.054	
PMB	1.000	1.000	1.000	1.000	2.054	1.000

First, we examine the R<sup>2</sup> values of the endogenous latent variables; following our thumb rules, the R<sup>2</sup> values of OT (0.513) can be considered moderate, whereas the R<sup>2</sup> value of PID (0.262) is relatively weak. f<sup>2</sup> values for all combinations of endogenous constructs and corresponding exogenous constructs. In this research, PMB has a good effect size of 1.054 on OT; PMB and OT have a weak effect size of 0.056 and 0.045 on PID. In addition to assessing the magnitude of R<sup>2</sup> values as a criterion of predictive accuracy, Geisser (1974); Stone (1974) suggested checking the Q<sup>2</sup> value, an indicator of predictive power beyond the model's model or the level of predictability. In Table 5, the Q<sup>2</sup> values of all two endogenous constructs are considerably above zero; precisely, OT and PID had the medium Q<sup>2</sup> values (0.315 and 0.160).

**Table 5:** Result of R<sup>2</sup>, f<sup>2</sup>, Q<sup>2</sup>

	R <sup>2</sup>	f <sup>2</sup>	Q <sup>2</sup>
OT	0.513	1.054	0.315
PID	0.262	0.045/0.056 (OT/PMB)	0.160

**Table 6:** The result of the structural model

Relationship	O	M	STDEV	T Statistics	P Values
OT -> PID	0.260	0.261	0.060	4.366	<b>0.000</b>
PMB -> OT	0.716	0.715	0.030	23.653	<b>0.000</b>
PMB -> PID	0.293	0.290	0.055	5.272	<b>0.000</b>
PMB -> PCB	0.705	0.704	0.033	21.458	<b>0.000</b>
PMB -> PDB	0.768	0.767	0.020	38.174	<b>0.000</b>
PMB -> PEB	0.802	0.801	0.021	39.076	<b>0.000</b>
PMB -> PSB	0.722	0.721	0.026	28.021	<b>0.000</b>

*Note:* Original Sample (O); Sample Mean (M); Standard Deviation (STDEV)

Regarding the significance and relevance of the structural model relationships, the research uses the Bootstrap procedure with 5000 random subsamples have been created (Hair et al., 2017).

Table 6 shows that all the relationships in the structural model are significant, with a p-value is less than 0.001.

#### 4.4. Assessment of the mediating effect of Online Trust and the moderating effect of anxiety

The result of testing mediating variable pointed that (1) PMB has a significant effect on OT; (2) OT has a significant effect on PID; (3) PMB has a significant effect on PID; (4) The impact of PMB on PID has reduced when calculating the impact of OT (Table 7). Therefore, Online trust is a mediator in the relationship between perceived mental benefits and personal information disclosure.

**Table 7:** The result of testing the mediating variable

Relationship	Criteria 1		Criteria 2		Criteria 3		Criteria 4	
	beta	p-value	beta	p-value	beta	p-value	beta	p-value
PMB -> OT	0.716	<b>0.000</b>						
OT -> PID			0.26	<b>0.001</b>				
PMB ->PID					0.293	<b>0.000</b>		
PMB -> OT ->PID							0.186	<b>0.000</b>

Based on Table 8, the impact of online trust on personal information disclosure is not significant with the customer with a moderate level of anxiety. Besides, with the customers who are high anxiety, the mental benefits will not make them disclose their personal information when they shop on e-commerce websites. So, hypothesis H4 is accepted. The anxiety level affects the relationship between the mental benefits, online trust, and personal information disclosure in e-commerce.

**Table 8:** The result of testing the moderating role of anxiety

Relationship	p-value (Low-Mod)		p-value (Mod-High)		p-value (Low-High)	
	Low	Mod	Mod	High	Low	High
	OT -> PID	0.046	<b>0.798</b>	<b>0.803</b>	0.000	0.045
PMB -> OT	0.000	0.000	0.000	0.000	0.000	0.000
PMB -> PCB	0.000	0.000	0.000	0.000	0.000	0.000
PMB -> PDB	0.000	0.000	0.000	0.000	0.000	0.000
PMB -> PEB	0.000	0.000	0.000	0.000	0.000	0.000
PMB -> PID	0.000	0.000	0.000	<b>0.471</b>	0.000	<b>0.476</b>
PMB -> PSB	0.000	0.000	0.000	0.000	0.000	0.000

## 5. DISCUSSION AND IMPLICATION

### 5.1. Discussion

This study's findings complement the knowledge of the relationship between perceived mental benefits, online trust, personal information disclosure, and customers' anxiety. First, this research finds that in the Vietnam e-commerce context, the mental benefit structure is regarded as four dimensions as perceived enjoyment, social interaction, discreet shopping, and perceived control. This finding is suitable with the psychological theories as hedonic consumption (Hirschman & Holbrook, 1982), flow theory (Csikszentmihalyi, 1990; Hoffman & Novak, 1996), and self-

determination theory (Deci & Ryan, 1985; Sheth, 1981). Second, there are positive impacts of the perceived mental benefits and online trust on personal information disclosure, and the perceived mental benefits have a positive effect on online trust. The hypothesis H1 is accepted is that the perceived mental benefits positively affect online trust when purchasing in e-commerce ( $\beta = 0.716$ ;  $p < 0.001$ ). The statistical result also supports hypothesis H2, which is online trust positively affects customers' information disclosure ( $\beta = 0.260$ ;  $p < 0.001$ ). The study results also confirmed hypothesis H3; the perceived mental benefits positively impacted the personal information disclosure ( $\beta = 0.293$ ;  $p < 0.001$ ). Third, the online trust is the partial mediator in the relationship of the perceived mental benefits and the disclosure of personal information as the research on relationship marketing framework not only in the traditional environment (Palmatier et al., 2006) but also in the online environment (Verma et al., 2015). Finally, the anxiety level makes a difference in the relationship between the e-seller and the customer. Online trust is not significantly affected by the personal information disclosure of moderate anxiety level customers. The perceived mental benefits do not substantially impact the personal information disclosure of high anxiety level customers. The result states that (1) the low anxiety customer will disclose their personal information for an e-tailer if they recognize that the website brings them the mental benefit or they believe the website, (2) the moderate anxiety customer will only send their data to the website when they receive the benefits from the e-seller, and (3) the online trust is a full mediator in the relationship between the mental benefits and the personal information disclosure of the high anxiety customer.

## **5.2. Implication**

Online trust does not affect personal information disclosure with the moderate anxiety customer. Accordingly, the e-seller should focus on increasing the customer's mental benefits. On the other hand, for customers with high anxiety levels, the only way for the customer to provide that information is by creating an online trust for customers.

Online businesses can provide more entertainment or valuable services for their online shopping activities to increase the sense of fun for customers. Companies can consider improving the fundamental relationship between customers through social channels, forums, or directly through the site or "Reviews & comment" section to enhance social interaction on e-commerce sites. Many e-commerce sites do not have a comment section for each product on the e-commerce site. Also, the reward policy through comments is a policy that can be considered. Customers can choose to keep product information confidential during the distribution step. In other words, the packages will be packaged and enclosed with little details but enough to transport. Therefore, customers will not be embarrassed or worried about other people knowing what they buy when receiving the package. Also, online businesses must publish their privacy policy on their e-commerce site to ensure their privacy. Furthermore, electronic retailers should apply customization in business by giving customers more space to participate in their products' designs. Build a system for analyzing customer activities to understand their interests, concerns, or needs, or link to third parties for more information about customer behavior.

Businesses need to have many images and describe the functions and uses of the product. Also, companies should provide additional evidence from reliable sources so that customers can evaluate when choosing or deciding to buy products. E-tailer needs to provide a return policy and a product exchange process on their e-commerce. A specialized department should accept the

processing and return the payment to customers. Repayment to customers must be carried out in a simple process and complete customer support (recall, test, change of new products). Use reputable third parties to ensure peace of mind for customers when trading on the site and providing business information.

### 5.3. Further research

Although many efforts have been made, this study is inevitable, like other studies. First, e-commerce is a relatively wide field with many types, such as mobile commerce, social commerce. Research focusing on a specific area will create more profound and accurate insights. Secondly, the sampling method in the current study uses the non-probability way, which makes the study results less reliable. Future studies may use probability sampling methods to increase research reliability. Finally, disclosing personal information is an appropriate structure for new research directions. However, subsequent studies can expand output factors such as online loyalty, participation.

## REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Ang, L., Dubelaar, C., & Lee, B.-C. (2001). *To trust or not to trust? A model of internet trust from the customer's point of view*. Paper presented at the BLED 2001 Proceedings.
- Bagozzi, R. P., Belanche, D., Casaló, L. V., & Flavián, C. (2016). The role of anticipated emotions in purchase intentions. *Psychology & Marketing*, 33(8), 629-645.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Macmillan. doi: 10.5860/choice.35-1826
- Beldad, A., De Jong, M., & Steehouder, M. (2010). How shall I trust the faceless and the intangible? A literature review on the antecedents of online trust. *Computers in Human Behavior*, 26(5), 857-869. doi: 10.1016/j.chb.2010.03.013
- Bhatia, J., Breaux, T. D., Reidenberg, J. R., & Norton, T. B. (2016). *A theory of vagueness and privacy risk perception*. Paper presented at the 2016 IEEE 24th International Requirements Engineering Conference (RE). doi: 10.1109/re.2016.20
- Borkovec, T. D., Robinson, E., Pruzinsky, T., & DePree, J. A. (1983). Preliminary exploration of worry: Some characteristics and processes. *Behaviour Research and Therapy*, 21(1), 9-16.
- Briggs, P., Simpson, B., & De Angeli, A. (2004). Personalisation and trust: a reciprocal relationship? In *Designing Personalized user experiences in eCommerce* (pp. 39-55): Springer.
- Brown, S. A. (2005). Measuring perceived benefits and perceived barriers for physical activity. *American journal of health behavior*, 29(2), 107-116.
- Butler, B., Sproull, L., Kiesler, S., & Kraut, R. (2002). Community effort in online groups: Who does the work and why. *Leadership at a distance: Research in technologically supported work*, 1, 171-194.
- Campbell, D. (2019). A Relational Build-up Model of Consumer Intention to Self-disclose Personal Information in E-commerce B2C Relationships. *AIS Transactions on Human-Computer Interaction*, 11(1), 33-53. doi: 10.17705/1thci.00112

- Celik, H. (2016). Customer online shopping anxiety within the Unified Theory of Acceptance and Use Technology (UTAUT) framework. *Asia Pacific Journal of Marketing and Logistics*, 28(2), 278-307.
- Chinomona, R., & Surujlal, J. (2012). The influence of student internship work experience on their self-improvement and professionalism in Sport Management: sport management. *African Journal for Physical Health Education, Recreation and Dance*, 18(Issue-4\_2), 885-899.
- Cho, C.-H., Kang, J., & Cheon, H. J. (2006). Online shopping hesitation. *CyberPsychology & Behavior*, 9(3), 261-274.
- Compeau, D., Higgins, C. A., & Huff, S. (1999). Social cognitive theory and individual reactions to computing technology: A longitudinal study. *MIS quarterly*, 23(2), 145-158.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. London: Sage.
- Csikszentmihalyi, M. (1990). Flow: The psychology of optimal experience (book). *Library Journal*, 115(5), 105.
- Deci, E., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*: Springer Science & Business Media. doi: <https://doi.org/10.1007/978-1-4899-2271-7>
- Deci, E. L., & Ryan, R. M. (2011). Self-determination theory. *Handbook of theories of social psychology*, 1(2011), 416-433.
- Department of E-Commerce and Information Technology. (2017). *Vietnam E-Commerce Report 2017*. <http://www.idea.gov.vn/file/335ad166-71c3-48dc-9bf8-flb13323843a>
- Dinev, T., & Hart, P. (2006). An extended privacy calculus model for e-commerce transactions. *Information systems research*, 17(1), 61-80. doi: 10.1287/isre.1060.0080
- Ding, X., Zhang, X., & Wang, G. (2017). Do you Get Tired of Shopping Online? Exploring the Influence of Information Overload on Subjective States towards Purchase Decision.
- Fornell, C., & Larcker, D. F. (2018). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39-50. doi: 10.1177/002224378101800104
- Forsythe, S., Liu, C., Shannon, D., & Gardner, L. C. (2006). Development of a scale to measure the perceived benefits and risks of online shopping. *Journal of interactive marketing*, 20(2), 55-75. doi: 10.1002/dir.20061
- Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika*, 61(1), 101-107.
- Godek, J., & Yates, J. F. (2005). Marketing to individual consumers online: The influence of perceived control. In C. P. Haugtvedt, K. A. Machleit, & R. Yalch (Eds.), *Online consumer psychology: Understanding and influencing consumer behavior in the virtual world* (pp. 225-244). United Kingdom: Psychology Press.
- Gracia, E., & Juliadi, R. (2019). The Threat of Personal Information Trading in the Online Network and Information Technology. *International Journal of Multicultural and Multireligious Understanding*, 6(9), 49-55.
- Gupta, A., Bansal, R., & Bansal, A. (2013). Online shopping: A shining future. *International Journal of Techno-Management Research*, 1(1), 1-10.
- Hackbarth, G., Grover, V., & Mun, Y. Y. (2003). Computer playfulness and anxiety: positive and negative mediators of the system experience effect on perceived ease of use. *Information & management*, 40(3), 221-232. doi: 10.1016/S0378-7206(02)00006-X
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (Vol. 8). Hampshire, United Kingdom: Cengage Learning.

- Hair, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2017). *Advanced Issues in Partial Least Squares Structural Equation Modeling*. London: Sage publications. doi: 10.15358/9783800653614
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Washington DC: Sage publications.
- Hamilton, M. (1959). The assessment of anxiety states by rating. *Br J Med Psychol*, 32(1), 50-55. doi: 10.1111/j.2044-8341.1959.tb00467.x
- Hann, I.-H., Hui, K.-L., Lee, T., & Png, I. (2002). *Online information privacy: Measuring the cost-benefit trade-off*. Paper presented at the International Conference on Information Systems, Barcelona, Spain.
- Hennig-Thurau, T., Gwinner, K. P., & Gremler, D. D. (2016). Understanding Relationship Marketing Outcomes. *Journal of Service Research*, 4(3), 230-247. doi: 10.1177/1094670502004003006
- Hirschman, E. C., & Holbrook, M. B. (1982). Hedonic consumption: emerging concepts, methods and propositions. *The Journal of Marketing*, 92-101. doi: 10.2307/1251707
- Hoffman, D. L., & Novak, T. P. (1996). Marketing in hypermedia computer-mediated environments: Conceptual foundations. *Journal of Marketing*, 60(3), 50-68. doi: 10.1177/002224299606000304
- Huang, M.-H. (2003). Designing website attributes to induce experiential encounters. *Computers in Human Behavior*, 19(4), 425-442. doi: 10.1016/s0747-5632(02)00080-8
- Kartajaya, H., Kotler, P., & Hooi, D. H. (2019). *Marketing 4.0: Moving From Traditional To Digital*. Hoboken, NJ: John Wiley & Sons.
- Kelley, H. H. (2013). *Personal relationships: Their structures and processes*: Psychology Press. doi: 10.4324/9780203781586
- Khoa, B. T. (2021). Trust Based Online Food Review toward Customers' Restaurant Selection Intention in Food and Beverage Service. *Journal of Logistics, Informatics and Service Science*, 8(2), 151-170. doi: 10.33168/liss.2021.0209
- Kim, J., & Forsythe, S. (2008). Adoption of Virtual Try-on technology for online apparel shopping. *Journal of interactive marketing*, 22(2), 45-59. doi: 10.1002/dir.20113
- Kotler, P., Keller, K. L., Goodman, M., Brady, M., & Hansen, T. (2019). *Marketing management* (4th ed.). Harlow, UK: Pearson Education.
- Langenderfer, J., & Cook, D. L. (2004). Oh, what a tangled web we weave: The state of privacy protection in the information economy and recommendations for governance. *Journal of Business Research*, 57(7), 734-747.
- Liang, C.-J., Chen, H.-J., & Wang, W.-H. (2008). Does online relationship marketing enhance customer retention and cross-buying? *The Service Industries Journal*, 28(6), 769-787. doi: 10.1080/02642060801988910
- Loiacono, E. T. (2015). Self-disclosure behavior on social networking web sites. *International Journal of Electronic Commerce*, 19(2), 66-94. doi: 10.2224/sbp.2015.43.1.1
- Ly, V., Wang, K. S., Bhanji, J., & Delgado, M. R. (2019). A reward-based framework of perceived control. *Frontiers in neuroscience*, 13. doi: 10.3389/fnins.2019.00065
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of management review*, 20(3), 709-734. doi: <https://doi.org/10.5465/amr.1995.9508080335>
- Neuman, L. W. (2002). Social research methods: Qualitative and quantitative approaches.

- Nguyen, M. H., & Khoa, B. T. (2019). Perceived Mental Benefit in Electronic Commerce: Development and Validation. *Sustainability*, 11(23), 6587-6608. doi: 10.3390/su11236587
- Nunnally, J. C., & Bernstein, I. (1994). The assessment of reliability. *Psychometric theory*, 3(1), 248-292.
- Oxford, O. E. (2010). *Oxford English Dictionary*: Oxford: Oxford University Press. <https://doi.org/10.1093/acref/9780199571123.001.0001>
- Palmatier, R. W., Dant, R. P., Grewal, D., & Evans, K. R. (2006). Factors Influencing the Effectiveness of Relationship Marketing: A Meta-Analysis. *Journal of Marketing*, 70(4), 136-153. doi: 10.1509/jmkg.70.4.136
- Palmatier, R. W., & Martin, K. D. (2019). Understanding and Valuing Customer Data. In R. W. Palmatier & K. D. Martin (Eds.), *The Intelligent Marketer's Guide to Data Privacy* (pp. 133-151). Cham: Palgrave Macmillan.
- Pappas, I. O. (2018). User experience in personalized online shopping: a fuzzy-set analysis. *European Journal of Marketing*, 52(7/8), 1679-1703.
- Park, J., Amendah, E., Lee, Y., & Hyun, H. (2019). M-payment service: Interplay of perceived risk, benefit, and trust in service adoption. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 29(1), 31-43. doi: 10.1002/hfm.20750
- Perea y Monsuwé, T., Dellaert, B. G., & De Ruyter, K. (2004). What drives consumers to shop online? A literature review. *International Journal of Service Industry Management*, 15(1), 102-121.
- Ringle, C., Wende, S., & Will, A. (2005). SmartPLS version 2.0 M2. *Hamburg, Germany: Institute for Operations Management and Organization at the University of Hamburg*.
- Scheinkman, J. A. (Ed.) (2008) *The new palgrave dictionary of economics* (2 ed.). New York: Palgrave Macmillan.
- Sheth, J. N. (1981). *An integrative theory of patronage preference and behavior*: College of Commerce and Business Administration, Bureau of Economic and Business Research, University of Illinois, Urbana-Champaign.
- Sheth, J. N. (1983). Integrative theory of patronage and behavior, in patronage behavior and retail management. *New York, North-Holland, Elsevier Science Publishing Company, Inc.*
- Silverman, D. (2016). *Qualitative research*. London: Sage.
- Smith, Dinev, & Xu. (2011). Information Privacy Research: An Interdisciplinary Review. *MIS quarterly*, 35(4), 989-1016. doi: 10.2307/41409970
- Stone, M. (1974). Cross-validators choice and assessment of statistical predictions. *Journal of the Royal Statistical Society: Series B (Methodological)*, 36(2), 111-133.
- Sun, Y., Wang, N., Shen, X.-L., & Zhang, J. X. (2015). Location information disclosure in location-based social network services: Privacy calculus, benefit structure, and gender differences. *Computers in Human Behavior*, 52, 278-292. doi: 10.1016/j.chb.2015.06.006
- Tabachnick, B., & Fidell, L. (2007). Multivariate analysis of variance and covariance. *Using multivariate statistics*, 3, 402-407.
- Tarafdar, M., & Zhang, J. (2008). Determinants of reach and loyalty—A study of website performance and implications for website design. *Journal of Computer Information Systems*, 48(2), 16-24.



- Thatcher, J. B., Loughry, M. L., Lim, J., & McKnight, D. H. (2007). Internet anxiety: An empirical study of the effects of personality, beliefs, and social support. *Information & management*, 44(4), 353-363. doi: 10.1016/j.im.2006.11.007
- Turban, E., Outland, J., King, D., Lee, J. K., Liang, T.-P., & Turban, D. C. (2018). *Electronic Commerce 2018*. Cham, Switzerland: Springer. doi: 10.1007/978-3-319-58715-8
- Turner, J. R., & Gellman, M. (2013). *Encyclopedia of Behavioral Medicine*. New York, NY: Springer.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186-204. doi: 10.1287/mnsc.46.2.186.11926
- Verma, V., Sharma, D., & Sheth, J. (2015). Does relationship marketing matter in online retailing? A meta-analytic approach. *Journal of the academy of marketing science*, 44(2), 206-217. doi: 10.1007/s11747-015-0429-6
- Vietnam eCommerce and Digital Economy Agency. (2018). *Vietnam E-Commerce White Paper 2018*. <http://www.idea.gov.vn/file/c08520aa-0222-4c61-af72-12e0477151b6>
- Vietnam E-Commerce Association. (VECOM) (2020). *Vietnam E-Business Index 2020 Report*. <http://en.idea.gov.vn/file/b23b5ee6-8928-40ef-9d73-34689ee2666c>
- Wood, R. (2017). *Consumer sexualities: women and sex shopping*. London: Routledge.
- Wu, J., & Liu, D. (2007). The effects of trust and enjoyment on intention to play online games. *Journal of Electronic Commerce Research*, 8(2), 128.
- Xu, H., Luo, X., Carroll, J. M., & Rosson, M. B. (2011). The personalization privacy paradox: An exploratory study of decision making process for location-aware marketing. *Decision support systems*, 51(1), 42-52. doi: 10.1016/j.dss.2010.11.017
- Zhang, Y., & Hiltz, S. R. (2003). Factors that influence online relationship development in a knowledge sharing community. *AMCIS 2003 Proceedings*, 53.