

## **ANALYZING CONSUMERS' BUYING BEHAVIOR REGARDING ONLINE PURCHASING IN THAILAND**

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### **ABSTRACT**

Thailand has become one of the most important countries in ASEAN e-commerce according to the Electronic Transactions Development Agency. Meanwhile, competition among e-retailers has also become increasingly fierce. This study aims to investigate the 'what' and 'how' of factors influencing the Thai customers' buying behavior through pre-purchase, purchase, and post-purchase phases. An expanded research model based upon the theory of planned behavior was employed. A survey of 535 online consumers was conducted to test the hypotheses and a structural equation modeling was used to analyze the data. The results show that the basis of the theory of planned behavior (i.e., attitude, subjective norms, and perceived behavior control) positively impact the consumers' online purchasing behaviors. Marketing channels and marketing strategies directly affect the consumers' purchase intentions; and the compatibility of payment method, delivery, and aftersales services plays an important role during the purchasing and post-purchasing processes. It is hoped that this study results will serve as a useful reference for e-retailers seeking to gain a better understanding of online customers' buying behavior through multiple-stage perspectives.

**Keywords:** Theory of planned behavior, Purchase intention, Attitude, E-commerce,  
Online shopping

### **Introduction**

Electronic commerce (E-commerce) has achieved remarkable growth in various industries worldwide and become an unstoppable trend from a micro-perspective, driven by the fast development of technology and the rapid increase in Internet penetration. Enabled by the strong support such as networking support, structural support or communication support, online shopping has become increasingly valuable for shoppers in terms of

convenience, variety, ease of access to data, and increased product range (Zhou, Dai, & Zhang, 2007). Consumers have therefore changed their buying behaviors by browsing online for products and learning to cope with the ever-growing digital market and the spread of technologies (Cummins, Peltier, Schibrowsky, & Nill, 2014). Online shopping has provided many benefits to both buyers and sellers compared to traditional shopping styles. From the consumer side, online

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purchasing reduces typical buying discomfort such as long queues to pay and finding a parking space. Instead of going out, consumers can conveniently finish their commercial transactions at home. On the other hand, from the seller's perspective, companies can communicate with a larger number of consumers directly.

Facing such a bright new marketing environment, more E-retailers have entered this market. E-retail companies such as Amazon and Alibaba have turned their emphasis to creating E-services, new platforms, and innovative devices, and they have studied how to establish long-term partnerships with their consumers (Vakulenko, Shams, Hellström, & Hjort, 2019). Getting to know customers' buying behaviors and how to improve customers' shopping experience have therefore become sources of competitive advantage for E-retailers.

According to the literature review, extensive research has addressed the factors driving online consumers' behavior and the factors that affect their decision-making before making online purchases. Only a few studies, however, have also focused on and reviewed the end stage of the online shopping process. Notably, the pre-purchase, purchase, and post-purchase phases could all affect consumer decision-making during online shopping. The evident gap lays in the lack of focus of E-retail or E-business throughout the purchase journey, continuing until the end of the online consumer shopping experience.

To address this gap, this study therefore adopted a broader view by investigating customers' behaviors in each phase of the E-shopping experience by employing a new model introduced by Lemon and Verhoef (2016). This model demonstrated use of a complete shopping journal over a continuous cycle of previous, current, and future customer

experiences, which elucidated and enhanced the customer experience in various industries. It is hoped that this study will help E-retailers to make better decisions about which aspects of the customer journey they should invest in, how to attract more customers, and how to eventually (re)gain a competitive advantage.

### **Objectives of the Study**

1. To identify the key factors that influence customers' purchasing intentions (pre-purchase phase).
2. To identify the key factors that influence customers' purchasing decisions (purchase phase).
3. To identify the key factors that influence customers' after-purchasing behaviors (post-purchase phase).

### **Literature Review and Hypotheses**

Current e-retail studies concentrate primarily on consumer experience in pre-buying and sales where the purchase intentions are affected by attitudes, subjective norms, and perceived behavioral control. The Theory of Planned Behavior (TPB) was developed to understand this consumer behavior and has been used to forecast product-buying desires and human behavior in various research fields (Sniehotta, 2009). However, there has been no significant study interest in post-purchase studies, as argued by Vakulenko et al. (2019). Customer experience will not be completed until the customer has the right goods in his or her hands. In addition, the relationship between the customer and particular e-retailer would also be affected by post-purchase experience, such as the outcome of the delivery and return services (Fisher, Gallino, & Xu, 2019). Therefore, to investigate customers' behaviors throughout their E-shopping journey, this study adopted the extended theoretical framework developed from The TPB model to include the purchasing

and post-purchase phases. This section further investigated the empirical literature that studied factors that can influence the customers' behaviors under each phase of customer experiences.

## **Factors Influencing Pre-purchase Stage**

### **Marketing channels**

Marketing Channels are the routes and signals to promote products and services that are acquired by customers or by companies' purchasers. Previous research established that all marketing functions are conducted across three distinct types of marketing channels; communication channels, transaction channels, and distribution channels (Peterson, Balasubramanian, & Bronnenberg, 1997). For consumers, communication channels are the means of meeting their product information needs for decision-making. Consumers do not go to traditional stores, rather they decide by using communication channels to access their information. With the development of the Internet as a new medium for communication, consumers can now be influenced by the features of Internet adverts such as digital texts, images, and voices (Burns & Lutz, 2008). Consumers are able to obtain information of the quality, details or current price of products online before purchase. The information quality and entertainment of adverts through communication channels then in turn influence consumers' attitudes towards online purchase intention. Moreover, due to the distribution channels through the Internet, the online business develops a competitive advantage by reducing the initial cost or using distribution channels to specific target groups. Previous research has demonstrated that using online distribution channels in the inventories of packages goods/ services in supermarkets can reduce costs by US\$30 billion by providing

greater information exchange and coordination (Inman & McAlister, 1994). Additionally, to reach an online shopping portal, users only require a computer or a mobile device with an Internet connection and a browser while they require a car and time to drive to a physical store with traditional shopping. Therefore, marketing channels can meet consumer attitudes in the way of easily accessible Internet advertising through communication channels or distribution channels. Specifically, consumers have been found to have positive attitudes in marketing channels. The analysis then suggests that the customer should find the marketing channel to be an important factor and an influence on their attitude to their behaviors before decision-making.

**H1:** Marketing channels are positively related to consumers' attitudes towards consumer intention of online purchasing.

On the other hand, the subjective norms were also related to marketing channels, in terms of personal benefit. Hasbullah et al. (2016) suggested that the relationship of marketing channels and consumer's subjective norms could be explained when the internet advertising influences on a subjective norm. The consumer does not believe in online product but consumer believes in the attitude of the other people who have experience before. So, the marketing channel such as the internet advertising was motivated by personal benefits such as coupon usage. When they make a benefit to one consumer, the other consumers will be attracted because they see from the experienced users.

**H2:** Marketing channels are positively related to subjective norms towards consumer intention of online purchasing.

### **Marketing strategy**

Marketing strategy is a synthesis of a cohesive and comprehensive plan of every advertising objective and priority of an organization.

There are two dimensions of marketing strategy: online reviews or electronic word of mouth (eWOM), and the number of users and expert ratings, which will significantly influence the consumer's intention to shop online (Li & Li, 2019). Online businesses and sellers can generate trustworthiness or credibility of products and services through online information by Internet advertising or online communication channels. Consumers themselves can also create product information when the online businesses allow them to review products and post their comments. These online reviews are important factors that motivate social or individual consumer intention to purchase because positive online reviews convey the useful information and increase the credibility of products to other consumers (Wilson & Sherrell, 1993). Many previous studies have shown the impact of online reviews towards consumer behavior. Dellarocas, Zhang, and Awad (2007) showed that an average user rating is a key indicator of film revenues or helps create a positive impact on a new product purchase. Zhu and Zhang (2010) investigated the effect of reviews on online product engagement and the moderating influence of the 'usefulness' process on how it drives the consumer towards the subjective norm. Athiyaman (2002) also argued that a positive social environment, and online retailers' knowledge are predictors of consumer norms regarding their intentions. Hence, these studies suggest that the influence of online reviews is one significant moderator in marketing strategy that can impact the subjective norms. Thus:

**H3:** Marketing Strategy positively influences subjective norms towards consumer intention of online purchasing.

Moreover, marketing strategy such as an online product review not only affects consumers' subjective norms but also influences perceived

behavior control of the consumer. The reviews can make the consumers favored or unfavored by affecting individual consumers' perceptions. According to Ajzen (2002), perceived behavior control can account for a considerable variance in behavioral intentions and actions. So, when the consumer perceives the information of the online product through the online product reviews or any marketing strategies, they can make purchase decisions before taking online purchase actions. Based on discussion above, it is hypothesized that **H4:** Marketing strategy positively influences to perceived behavior control towards consumer intention of online purchasing.

#### **Attitude**

Attitude is a significant variable that motivates consumers' buying behavior and is widely used to predict consumers' purchase intentions. Previous studies examining consumers' attitudes concluded that they had significant consequences on the decision to buy online in terms of convenience and safety (Karahanna & Limayem, 2009). Differences in consumers' lifestyle, technological factors or economics also relate to consumer purchase intention because all of these external factors can affect consumer attitudes. In online purchasing intention, consumers were mostly influenced by Internet advertising and communication channels that impact on consumer attitudes towards purchase intention (Sabir, Aziz, Mannan, Bahadur, & Farooq, 2014). So, if the attitude is one significant factor to influence consumer behaviors, then the attitude of a consumer can be used to predict online consumer purchase intentions. Thus, the hypothesis was proposed as follows:

**H5:** Consumers' attitudes are positively related to online purchase intention.

#### **Subjective norms**

Online consumer purchasing is mostly influenced by social, personal, psychological, or cultural

characteristics. The initial sellers cannot control such a major factor, but they can take them as a competitive advantage (Kotler & Armstrong, 2018). One important factor that impacts subjective norms is social influence, such as online product reviews. Social influence creates a positive effect on consumer purchase intention because online consumer behavior heavily depends on social media or the Internet. In previous studies, the consumers have identified themselves connected strongly with the reference group and influenced by social perception standards (Terry, Hogg, & White, 1999). Mostly, an individual consumer is motivated by surrounding social environment, or another social influencer such as YouTubers or online reviewers (Choi & Geistfeld, 2004). These suggest that subjective norms have a positive relationship with consumers' intention. Thus, the hypothesis was proposed as follows:

**H6:** Subjective norms are positively related to online purchase intention.

#### **Perceived behavioral control**

Perceived behavioral control is defined as the individual understanding of consumer or consumer perception. Ajzen and Madden (1986) added a new 'perceived behavioral control' construct to both intention and behavior in the theory to develop the TPB model. George (2004) also argued both internal behavior (self-effectiveness) and external behavior, such as resource availability directly affect consumers' purchase intention towards online shopping. Thus, the hypothesis was proposed as follows:

**H7:** Perceived behavioral control is positively related to online purchase intention.

### **Factors Influencing Purchase Stage**

#### **Payment method**

Online retailers typically offer various payment options, including credit cards and cash

payment. Online shoppers also expect the website to protect personal data, secure payment and preserve contact information privacy, in addition to the ease of payment (Franzak, Pitta, & Fritsche, 2001). Lin and Sun (2009) argued that consumers should focus their assessment on certain parameters of ease and usefulness because consumers have already invested a long time in understanding products or services. Therefore, it is essential that online retailers maintain and increase customer satisfaction by facilitating the payment process. Thus, the hypothesis was proposed as follows:

**H8:** Payment method is positively related to consumers' purchasing behavior.

### **Factors Influencing Post-purchase Stage**

#### **Delivery services**

Delivery services are defined as the time required for shipment from the delivery center to the customer's door (Guo, Ling, & Liu, 2012). The efficiency of logistics and customer services can therefore influence the post-purchase evaluation because the problem of delivery services in the online shopping world is a very common phenomenon. The sale of products inherently separate from production in the e-commerce world, which makes it necessary for goods to be shipped before sales. In reality, the delivery of goods is also often delayed. Delayed delivery is also an important issue that results in customers' dissatisfaction (Liu, He, Gao, & Xie, 2008). For instance, 25 per cent of Chinese consumers were not happy due to late deliveries or failures of product deliveries according to a China shopping online report by CNNIC (2011). Thus, the final hypothesis was proposed as follows:

**H9:** Delivery services are positively related to consumers' post-purchase behavior.

To summarize, the research model containing nine hypotheses is depicted in Figure 1, and the operational definitions of key factors are shown in Table 1.

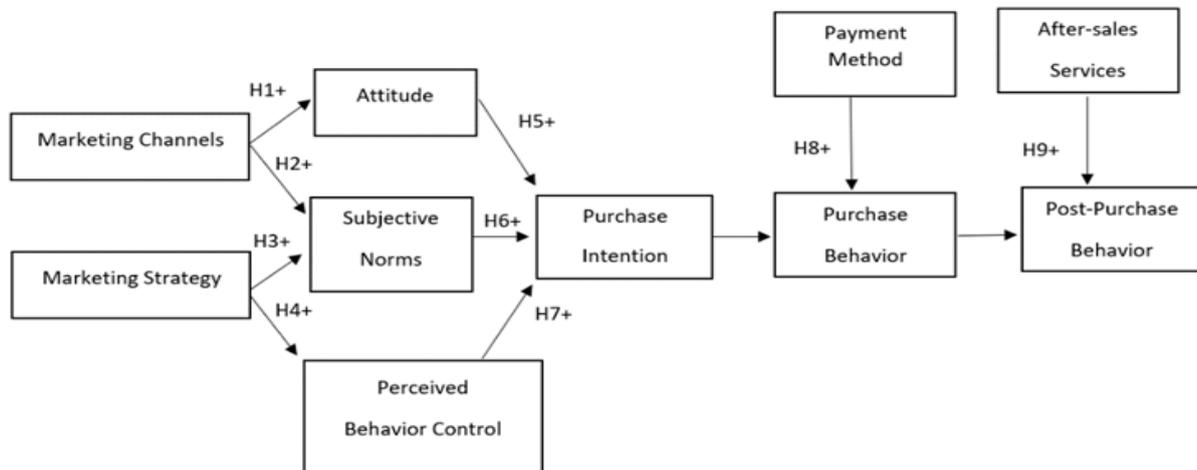


Figure 1 Research model

Table 1 Operational construct definitions

Factor	Definition	Measurement items
Marketing Channel (MC)	Marketing channel refers to the online website or online commerce used by internet advertising. Marketing channels are vital for the success of a business, as they help to get products out to end-users, or a platform where transfer the product to the customers. <b>Source:</b> Watson IV, Worm, Palmatier, and Ganesan (2015)	Internet advertising helps the customer make a decision about the quality, details or current price of products before purchasing. Advertising through digital texts, direct mail, or web pages impact customers' online purchasing. Shopping via online websites helps customers purchase products or services easier than traditional stores.
Marketing Strategy (MS)	A marketing strategy refers to a business's overall plan for reaching prospective consumers. The strategy may conduct an online product review from a user experience or rating point from the user that positively influenced the customer. <b>Source:</b> Morris (2009)	Online reviews impact customers before making a decision to purchase products. Online reviews increase the credibility of products, which will influence consumers purchase intention. The average user rating or rating score is a key indicator of consumer purchase intention.

Table 1 (Continued)

Factor	Definition	Measurement items
Attitude (AT)	Personal assessment of feeling of favorableness or favorableness that an individual has towards a product. <b>Source:</b> Ajzen (2008)	Customers' lifestyle also affects their purchase decisions. Customers believe that online shopping meets their needs. Online shopping helps customers compare various brands at a very minimum time.
Subjective Norm (SN)	The understanding of the individual's social pressure by others who are important to them. <b>Source:</b> Ajzen and Fishbein (1980), Fishbein and Ajzen (1975)	The environmental culture around consumers, people's recommendations on social media, friends/ family's recommendations affect customers' purchasing intentions.
Perceived Behavior Control (PBC)	People's expectations of their ability to perform a certain activity. <b>Source:</b> Ajzen (1991)	Customers feel saving time and money; and they feel more confident when purchasing online.
Payment Method (PM)	The way in which an amount of money is paid. The method such as credit card, cash on delivery (COD), or internet banking. <b>Source:</b> Abu-Shanab, Abu-Shamaa, and Khasawneh (2016)	A variety of payment options, including credit cards, cash payments, is important for customers to make decisions. The privacy of online payment is important for customers to make decisions.
Delivery Services (DS) And After Sale Services (AS)	The activities of transport a product or service by suppliers to customers. <b>Source:</b> Durugbo (2019), Ghajargar, Zenezini, and Montanaro (2016)	Quality of delivery services, the speed of delivery services, after-sale services, guarantee product affect consumers online shopping experiences.

## Methodology

### Instrument

All the construct items in this study were adopted from existing literature. The questionnaire was used to collect data based on a five-point Likert Scale (1 = strongly disagree to 5 = strongly agree). To ensure reliability and validity, the English questionnaire

was translated into Thai to allow Thai respondents to understand it easily, and then it was translated back to English. Both English versions were compared to ensure that there was no significant difference (Harkness, Pennell, & Schoua-Glusberg, 2004). The structural equation modeling (SEM) method was used to analyze the

relationship between and among the factors. A pilot study with 30 online consumers were run to double-check the structure, clarity, and wording of the survey questions. The Cronbach's alpha is .978, and all items' alpha values were greater than the suggested threshold of .70 (Nunnally & Bernstein, 1994), which indicates high internal reliability. The details are shown in Table 2.

### Data collection

Based on the e-shopping users in Thailand (ETDA, 2018), the total number of users in 2018 was 32,800,000 million users and average per month was 2,733,333. This study used an average users per month as the total population size (N); therefore, the sample size (n) needed to reach at least 400, with a 95 per cent confidence level. A Google form of the questionnaire was initially posted on a Thai

web server for protentional consumers to fill in. The respondents were asked to share the questionnaire with their other friends. By employing such a snowball sampling strategy, there collected 567 responses from March 2020 to April 2020, in which, 535 were complete and used for data analysis via a multi variance analysis. This size is within the appropriate and effective range (200-500) when employing SEM, according to Schumacker and Lomax (1996).

Twenty-one questions in the questionnaire were used to measure the influencing factors that affect online consumers' purchasing behavior. Indicators and abbreviations were used to represent the questions. SPSS was used for data analysis, and BM® SPSS® Amos™ version 24 was used for hypotheses testing with path analysis.

Table 2 Results of reliability statistics in pilot study

	Scale mean if item deleted	Scale variance if item deleted	Cronbach's alpha if item deleted
MC1	84.323	138.892	.976
MC2	84.581	141.785	.977
MC3	84.355	142.503	.977
MS1	84.355	138.837	.976
MS2	84.323	138.359	.976
MS3	84.419	140.518	.977
AT1	84.548	143.323	.977
AT2	84.387	141.512	.977
AT3	84.484	140.191	.977
SN1	84.484	139.458	.976
SN2	84.484	141.058	.977
SN3	84.484	140.591	.976
PBC1	84.387	141.712	.976
PBC2	84.452	143.256	.977
PBC3	84.581	141.185	.977
PM1	84.387	143.778	.977
PM2	84.387	139.045	.976
DS1	84.355	139.437	.976

Table 2 (Continued)

	Scale mean if item deleted	Scale variance if item deleted	Cronbach's alpha if item deleted
DS2	84.323	139.692	.976
AS1	84.452	138.923	.977
AS2	84.355	137.237	.976

**Note** MC = Marketing Channel; MS = Marketing Strategy; AT = Attitude;  
 SN = Subjective Norms; PBC = perceived Behavior Control; PM = Payment Method;  
 DS = Delivery Services; AS = After-sale services

### Validity and Reliability

The Cronbach's alpha coefficient was used to examine the reliability or consistency of each measure. The SPSS program was used to conduct reliability and validity analysis (see Table 3). All  $\alpha$  values were between 0.700 to 0.785 above the minimum acceptable level of 0.70, according to Nunnally and Bernstein (1994). The calculated composite reliability

(pc) or construct reliability value for each factor is greater than 0.6, which is regarded as reliable based on a 0.6 desirable level (Bagozzi & Yi, 1988; Diamantopoulos & Siguaw, 2000). Brown (2006) suggested that correlations below the  $r = 0.85$  cutoff indicate adequate discriminant validity. As shown in Tables 3, 4 and 5, all correlations are less than 0.85, indicating sufficient discriminant validity.

Table 3 Descriptive statistics of factors and constructs

Constructs and items included	$\lambda$	$\alpha$	pc	pv
<b>Marketing Channels (MC)</b>		0.700	0.653	0.511
Influence of internet advertising	0.631			
Advertisement on digital marketing	0.625			
Easier than traditional store	0.606			
<b>Marketing Strategy (MS)</b>		0.740	0.641	0.500
Influence of online reviews	0.600			
Credibility of products	0.651			
Average user rating	0.625			
<b>Attitude (AT)</b>		0.774	0.727	0.515
Customers' lifestyle	0.683			
Online shopping meets their needs	0.663			
Compare various brands	0.711			
<b>Subjective Norms (SN)</b>		0.785	0.728	0.522
Environmental culture around consumers	0.698			
Recommendations on social media	0.703			
Friends/ family's recommendations	0.658			

Table 3 (Continued)

<b>Constructs and items included</b>	<b><math>\lambda</math></b>	<b><math>\alpha</math></b>	<b>pc</b>	<b>pv</b>
<b>Perceived Behavior Control (PBC)</b>		0.769	0.666	0.512
Saving time	0.600			
Saving money	0.618			
Private	0.679			
<b>Payment Method (PM)</b>		0.700	0.653	0.511
Payment option	0.630			
Security of payment	0.654			
<b>Delivery Services (DS)</b>		0.735	0.626	0.505
Quality of delivery	0.617			
Speed of delivery	0.605			
<b>Aftersales-service (AS)</b>		0.704	0.650	0.533
Customer services	0.649			
Guarantee product	0.600			

Table 4 Construct correlation matrix

<b>Factor</b>	<b>Number of Items</b>	<b>SMC</b>	<b>SMS</b>	<b>SAT</b>	<b>SSN</b>	<b>SPBC</b>	<b>SPM</b>	<b>SDS</b>	<b>SAS</b>
SMC	3	1							
SMS	3	0.53	1						
SAT	3	0.63	0.55	1					
SSN	3	0.62	0.59	0.66	1				
SPBC	3	0.60	0.43	0.61	0.56	1			
SPM	2	0.53	0.46	0.54	0.49	0.56	1		
SDS	2	0.43	0.47	0.47	0.46	0.39	0.56	1	
SAS	2	0.46	0.53	0.44	0.49	0.40	0.55	0.63	1

Table 5 Item correlation matrix

Inter-Item Correlation Matrix																						
	MC1	MC2	MC3	MS1	MS2	MS3	AT1	AT2	AT3	SN1	SN2	SN3	PBC1	PBC2	PBC3	PM1	PM2	DS1	DS2	AS1	AS2	
MC1	1.000																					
MC2	0.505	1.000																				
MC3	0.392	0.324	1.000																			
MS1	0.304	0.288	0.337	1.000																		
MS2	0.366	0.348	0.371	0.545	1.000																	
MS3	0.340	0.344	0.334	0.407	0.516	1.000																
AT1	0.414	0.365	0.486	0.313	0.394	0.421	1.000															
AT2	0.368	0.369	0.454	0.258	0.348	0.359	0.596	1.000														
AT3	0.418	0.401	0.417	0.381	0.471	0.360	0.479	0.525	1.000													
SN1	0.413	0.381	0.362	0.356	0.411	0.504	0.493	0.474	0.509	1.000												
SN2	0.500	0.449	0.360	0.377	0.449	0.424	0.488	0.464	0.471	0.559	1.000											
SN3	0.440	0.366	0.337	0.305	0.386	0.417	0.404	0.398	0.430	0.549	0.540	1.000										
PBC1	0.333	0.284	0.425	0.286	0.339	0.320	0.383	0.370	0.394	0.336	0.342	0.345	1.000									
PBC2	0.378	0.461	0.300	0.170	0.296	0.331	0.349	0.379	0.401	0.385	0.383	0.357	0.477	1.000								
PBC3	0.417	0.529	0.353	0.204	0.307	0.385	0.484	0.516	0.494	0.441	0.446	0.436	0.411	0.683	1.000							
PM1	0.277	0.379	0.352	0.311	0.339	0.343	0.385	0.385	0.390	0.375	0.303	0.362	0.375	0.425	0.425	1.000						
PM2	0.346	0.395	0.402	0.315	0.329	0.316	0.378	0.379	0.396	0.370	0.377	0.338	0.383	0.412	0.401	0.489	1.000					
DS1	0.316	0.298	0.281	0.341	0.333	0.281	0.331	0.335	0.411	0.366	0.350	0.356	0.303	0.301	0.282	0.430	0.494	1.000				
DS2	0.293	0.293	0.297	0.348	0.387	0.342	0.339	0.281	0.397	0.328	0.340	0.318	0.341	0.253	0.280	0.379	0.426	0.582	1.000			
AS1	0.368	0.371	0.302	0.367	0.414	0.351	0.318	0.322	0.413	0.401	0.404	0.367	0.309	0.343	0.336	0.416	0.414	0.505	0.495	1.000		
AS2	0.301	0.239	0.302	0.377	0.446	0.312	0.294	0.260	0.333	0.281	0.343	0.344	0.352	0.213	0.225	0.370	0.453	0.466	0.493	0.543	1.000	

\*\* Correlation is significant at the 0.01 level (two-tailed)

## Results

### Demographic findings

As shown in Table 6, almost two-thirds of participants were females, and the majority of the respondents (94.2%) were well educated with at least a bachelor’s degree. Nearly half were employees and state officers. Eighty-three percent of them were between the ages of 18-39 years old with monthly income between 10,000-30,000 Thai Baht (approximately

US\$ 309-927 at a 1:32.4 exchange rate). Nearly half of them spend money with online purchases worth less than 1,000 Baht between 1-3 times per week with a maximum daily use of the internet exceeding four hours. About 88% of them explained their familiarity with internet in terms of ‘intermediate’ and ‘advance.’ Only 6% of the respondents did not have any experience with online purchases.

Table 6 Demographic attributes of the respondents

	Frequency	Percent	Cumulative
<b>Gender</b>			
Male	206	38.50%	38.50
Female	329	61.50%	100
<b>Online purchase experience</b>			
Yes	500	93.46%	93.46
No	35	6.54%	100
<b>Age</b>			
18-28 years old	271	54.20%	54.20
29-39 years old	144	28.80%	83.00
40-50 years old	51	10.20%	93.20
More than 50 years old	34	6.80%	100
<b>Education level</b>			
High School	29	5.80%	5.80
Bachelor	373	74.60%	80.40
Master	77	15.40%	95.80
P.H. D	21	4.20%	100

Table 6 (Continued)

	Frequency	Percent	Cumulative
<b>Occupation</b>			
Student	121	24.20%	24.20
State Officer	129	25.80%	50.00
Employee	189	37.80%	87.80
Own Business	37	7.40%	95.20
Others	17	3.40%	98.60
Unemployed	7	1.40%	100
<b>Income (THB)</b>			
Less than 10,000 Baht	108	21.60%	21.60
10,001-20,000 Baht	103	20.60%	42.20
20,001-30,000 Baht	119	23.80%	66.00
30,001-40,000 Baht	103	20.60%	86.66
More than 40,000 Baht	67	13.40%	100
<b>Frequency purchase/Week</b>			
1 time/week	266	53.20%	53.20
2-3 time/week	188	37.60%	90.80
3-4 time/week	43	8.60%	99.40
Everyday	3	0.60%	100
<b>Amount of purchase (THB)</b>			
Less than 1,000 Baht	276	55.20%	55.20
1,000-2,000 Baht	163	32.60%	87.80
2,001-3,000 Baht	51	10.20%	98.00
More than 4,000 Baht	10	2.00%	100
<b>Internet use/day</b>			
Less than one hour	17	3.40%	3.40
1-2 hours	84	16.80%	20.20
3-4 hours	93	18.60%	38.80
More than 4 hours	306	61.20%	100
<b>Familiar with internet</b>			
Novice	13	2.60%	2.60
Intermediate	292	58.40%	61.00
Advance	151	30.20%	91.20
Fluency	44	8.80%	100

## Results of the Hypotheses Testing

### Measurement model

Ten latent variables were included in the default research model. The latent variable of the pre-purchase phase connects with three indicators while the purchase and post-purchase phases connect with two indicators respectively. Each indicator and latent variable have one error to link to. The model path of the latent variables, indicators, and

errors are manifested in Figure 2. The collected data were checked with the confirmatory factor (CFA). The CFA was determined with AMOS. The kurtosis and skewness values are shown in Table 7. As George and Mallery (2010) suggested, the normal distribution of data is deemed acceptable in reference to what are considered generally acceptable values within the range of -2 and +2.

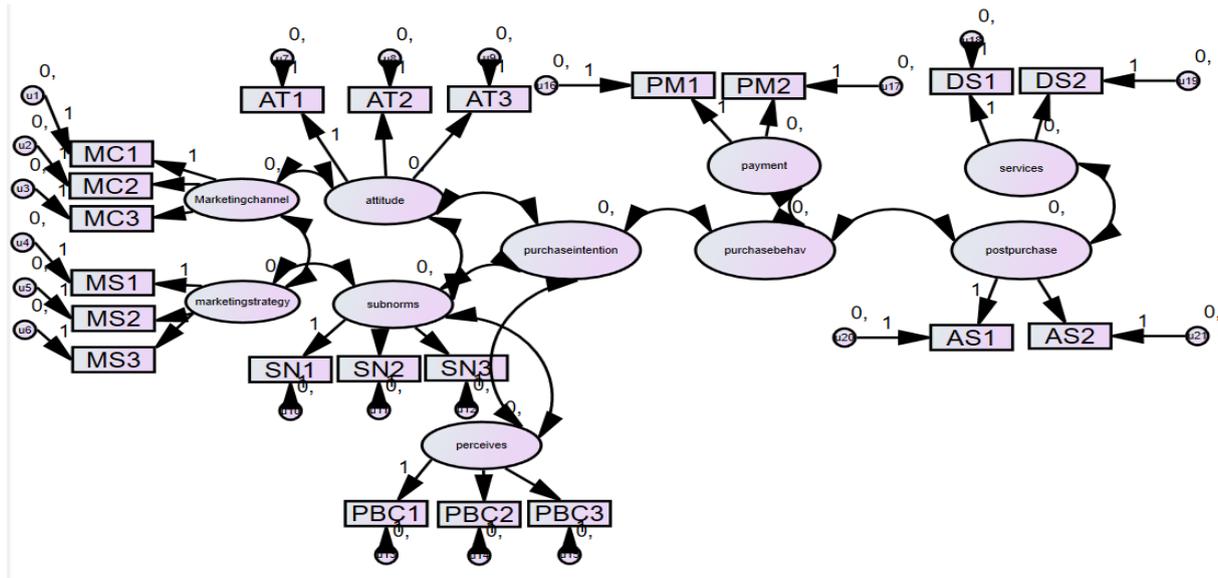


Figure 2 Research model

Table 7 Kurtosis and skewness

Variable	Skewness	Kurtosis
MC1	-0.844	0.992
MC2	-0.808	0.173
MC3	-0.706	0.531
MS1	-1.130	1.423
MS2	-0.778	0.104
MS3	-0.982	1.147
AT1	-0.590	0.316
AT2	-0.705	0.154
AT3	-0.722	0.458
SN1	-0.811	0.757
SN2	-0.778	0.590
SN3	-0.953	1.096
PBC1	-1.109	1.457
PBC2	-0.827	-0.032
PBC3	-0.478	-0.388
PM1	-0.964	0.994
PM2	-0.869	0.417
DS1	-0.850	0.323
DS2	-0.759	-0.266
AS1	-0.768	-0.227
AS2	1.1189	1.039

The study presents the fit indices of the proposed model, the reporting of the goodness of fit index (GFI), comparative fit index (CFI), normed fit index (NFI), non-normed fit index (TLI), and incremental fit index (IFI) were suggested by many researchers (Bentler, 1990; Diamantopoulos & Siguaw, 2000; Hoelter, 1983). As showed in Table 8, the model fits in this study were GFI = 0.85, CFI

= 0.91, NFI = 0.87, RMR = 0.04, and RMSEA = 0.069. Because the calculated model fit indices could be affected by sample size and the number of latent variables (Marsh, Balla, & McDonald, 1988), and a well-fitting model could be very unstable (Diamantopoulos & Siguaw, 2000), this study therefore adopted the current model fits without running model modifications to cover all variables.

Table 8 Fit indices of the proposed model

Fit index	Recommended value	Model Value
Chi-Square $\chi^2/d.f.$	$\leq 3$	<b>3.40</b>
Normed fit index (NFI)	$>0.9$	<b>0.87</b>
Comparative fit index (CFI)	$>0.9$	<b>0.91</b>
Root mean square residual (RMR)	$\leq 0.05$	<b>0.04</b>
Root mean square error of approximation (RMSEA)	$<0.08$	<b>0.069</b>
Adjusted Goodness of fit index (AGFI)	$\geq 0.8$	<b>0.85</b>

### Results of hypotheses

The findings of the test hypothesis were demonstrated in Table 9 to Table 10. Figure 3 depicts the results of the direct and indirect effects of marketing channel, marketing

strategy, attitudes, subjective norms, perceived behavioral control, payment method, and delivery services on purchase intention, purchase behavior, and post-purchase behavior.

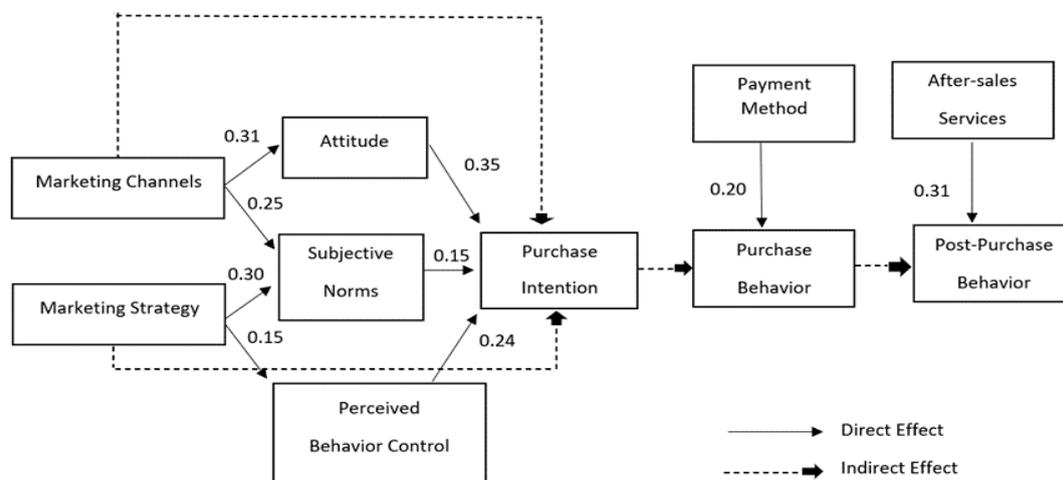


Figure 3 Direct and indirect effects model

Marketing channels have direct influence on attitudes and subjective norms toward online purchasing at 0.31 and 0.25 respectively. Thus, Hypothesis 1 (MC → AT) and Hypothesis 2 (MC → SN) are supported. The marketing strategy is positively related to subjective norms and perceived behavioral control at 0.30 and 0.15. Therefore, Hypothesis 3 (MS → SN) and Hypothesis 4 (MS → PBC) are supported. Attitudes, subjective norms, and perceive behavior control directly affect purchase intention at 0.35, 0.15, and 0.24, respectively. Therefore,

Hypotheses 5 (AT → PI), 6 (SN → PI), and 7 (PBC → PI) are supported as well. The study found that the payment method has a positive relationship with the customer's decisions, which indicates that payment method contributes to consumers' decision-making process towards their online shopping process at 0.20, Hypothesis 8 (PM → PB) is therefore supported. Findings from the research also postulated that after-sales services are positively related to the post-purchase behavior at 0.31, Hypothesis 9 (AS → PB) is thus supported as well.

Table 9 Summary of hypotheses testing results

Hypothesis	Estimate	Standardize of coefficient	P-value ***(< 0.005)	Results
<b>H1:</b> Marketing channels are positively related to consumers' attitudes towards consumer intention of online purchasing.	0.311	0.200	0.001	Supported
<b>H2:</b> Marketing channels are positively related to subjective norms towards consumer intention of online purchasing.	0.246	0.233	0.001	Supported
<b>H3:</b> Marketing Strategy positively influences subjective norms towards consumer intention of online purchasing.	0.300	0.400	0.001	Supported
<b>H4:</b> Marketing strategy positively influences to perceived behavior control towards consumer intention of online purchasing.	0.152	0.200	0.001	Supported
<b>H5:</b> Consumers' attitudes are positively related to online purchase intention.	0.352	0.303	0.001	Supported
<b>H6:</b> Subjective norms are positively related to online purchase intention.	0.152	0.174	0.001	Supported
<b>H7:</b> Perceived behavioral control is positively related to online purchase intention.	0.244	0.221	0.001	Supported
<b>H8:</b> Payment method is positively related to consumers' purchasing behavior.	0.196	0.264	0.001	Supported
<b>H9:</b> Delivery services are positively related to consumers' post-purchase behavior.	0.307	0.400	0.001	Supported

Table 10 Estimated direct and indirect effects

Constructs	Effects		Standardize direct effects	Standardized indirect effects	Totals effects
Marketing channels	Direct	Attitude	0.200		0.311
Marketing channels	Direct	Subjective norms	0.233		0.246
Marketing strategy	Direct	Subjective norms	0.400		0.300
Marketing strategy	Direct	Perceived behavior control	0.200		0.152
Attitude	Direct	Purchase intention	0.303		0.352
Subjective norms	Direct	Purchase intention	0.174		0.152
Perceived behavior control	Direct	Purchase intention	0.221		0.224
Payment method	Direct	Purchase behavior	0.264		0.196
Delivery services	Direct	Purchase behavior	0.400		0.307
Marketing channels	Indirect	Purchase intention		0.112	0.100
Marketing strategy	Indirect	Purchase intention		0.150	0.101

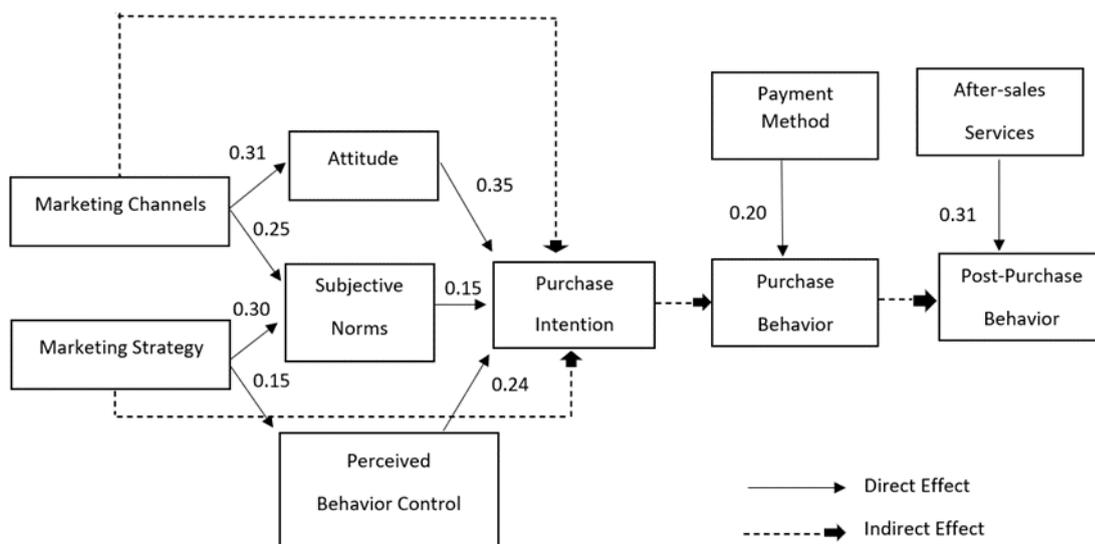


Figure 4 Direct and indirect effects model

## Conclusion

### Summary of findings

The results of the study inferred that online customers' behavior was influenced by the basics of the theory of planned behavior (TPB model) including attitude, subjective norms, and perceived behavior control, similar to other previous studies. More importantly, the results also demonstrated the TPB theory in support of purchase and post-purchase behavior of the customers and have a significant role in customers' decision making towards online shopping. Hypothesis testing results are then summarized as follows:

1. Marketing Channels and marketing strategies were found to predict consumer's attitudes, subject norms, and perceived behavior control in terms of internet advertising, rating scores, and online reviews.
2. Consumers' attitudes, subjective norms, and perceived behavior control created direct influences on their online purchase intention.
3. The compatibility of payment method, delivery, and aftersales services was revealed to significantly impact consumers' purchase and post-purchase behavior.

In terms of magnitude, the paper found that the positive influence of marketing strategy on subjective norms to consumer purchase intention as the most significant factor. This implied that people showed better awareness before making a decision of online purchase attributed to the online reviews with increased product credibility. In addition, the paper found the subsequent factors that strongly affected consumers online shopping were aftersales services in post-purchase phases, including the delivery services, the quality of customer services, the speed of delivery, and the guarantee of products.

### Practical implications

Given the results, this study offers three important practical implications for sellers as

well as businesses to remain competitive in the wake of growing online businesses competition and increasing growth in Thailand. Firstly, customers prefer to read an online review before making a decision. As such, the e-retailers or businesses should implement market strategy where consumers are allowed to write reviews or give feedback to increase the credibility of the product. Secondly, consumers expect good customer services from the online shopping services and product guarantee because these affect their purchasing experience. Thus, the more a retailer extends support to customers through the after-sale services and delivery services the more trust they receive from customers. Thirdly, the payment method also emerges as a significant influencer. Therefore, the business should provide a variety of payment options and security.

### Limitations of the Research

This research has some limitations and provides a variety of suggestions to continue studies in the future. The first constraint is that the study only considers Thai respondents, which means that the sample is standardized. The findings therefore do not extend to all online shopping sites worldwide. The second constraint is a cross-sectional study in which data is obtained at a given date. Longitudinal research will yield specific results as to why customers shop online. Improving and expanding the limitations of this analysis would contribute to the number of factors that influence the buying decision.

### Recommendations for Future Research

For a better understanding of consumer behaviors in Thailand, it is recommended that the four primary model components developed in this study (i.e., marketing channels, marketing strategy, paying methods, and

after-sale services) should be fully integrated into the theory of planned behavior. These performance models are suitable for future implementations and extensions to find more variables. According to the limitation of this study, the data were collected in a short period of time. Therefore, the longitudinal studies are suggested in this field. It is possible that the researcher could adopt the theory that relates to the customer shopping experience to better understand from the first stage to the final stage, and improve the model by investigating other significant factors in each stage to improve the model.

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