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A Study on the Moderating Effect of Consumer's Intention to Use for Cross-Border Trade in Korea and Vietnam*

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Su-Young Kwak
Department of Global Trade, Dongguk University, Seoul, South Korea

Je-Hong Lee†
Department of International Trade, Chosun University, Gwangju, South Korea

Abstract

Purpose – This study aims to identify consumer tendencies in Korea and Vietnam, focusing on the online platform called cross-border, to derive revenue generation measures and use them for strategies to advance into ASEAN.

Design/methodology – The questionnaire collected 420 copies from December 1 to December 31, 2020, of which 408 were used for statistical processing. The structural equation model (SEM) and moderating effect analysis with Amos was used to test hypothesis in this research.

Findings – The hypotheses were set as factors that positively influence the intention to use e-commerce, such as effort expectancy, social influence, facilitating conditions and variety seeking showed statistically significant results. Among them, the social influence factor had the greatest influence, followed by facilitating condition. The sample was divided into countries, Korea and Vietnam, and these changes and differences in influence were confirmed through moderating effect analysis.

Originality/value – The moderating effect on both countries (Korea and Vietnam) was found to have a moderating effect on the intention to use. For Korean consumers, significant results were found in the effort expectancy, social influence, facilitating conditions, and variety seeking, but for Vietnamese consumers, there were significant effects on the social influence and facilitating conditions, but the effort expectancy and variety seeking had no significant effect.

Keywords: Cross-border trade, E-commerce, Korea, Vietnam, Intention to Use
JEL Classifications: L82, L84, L86, L96

1. Introduction

Recently, due to abundant labor force and stable economic growth, ASEAN has emerged as a major market for global growth and trade. ASEAN has become increasingly important among emerging consumer market with high purchasing power and has become second global production base to replace China. South Korea's export to Asia amounted to USD 100.1 billion in 2018, accounting for 16.6% of its exports. In particular, Vietnam accounted for 48.6% of the USD 100.1 billion amounted in exports. In response to ASEAN's improvement of income level and changes in the economic structure, we need advance into the entry of this promising consumer market. Due to recent fluctuations in the distribution sector, online shopping which was originally available only in the domestic market has transformed into cross-border commerce transactions (Samjeong KPMG Economic Research Institute,

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† **Corresponding author:** trade1@chosun.ac.kr

2016). The founder and Chairman of the Board of Directors for Alibaba, Jack Ma Yun, stated that cross-border e-commerce is the new future and used the analogy of comparing the past trading system as a container while the future trading system will consist of global trading, transportation, payment, and travel (Korea Trade News, 2018).

According to a survey provided by National Statistical Office (2018), in 2017 the amount of online overseas direct sales in Korea increased to 28.7% compared to the previous year, and the amount of online overseas direct purchases increased by 17.6%. In particular, ASEAN's online cross-border transaction with Korea increased by 17.3% compared to previous year, which emphasized the importance of online exports in Korea's trade. Accordingly, Vietnam is Korea's major trading partner in the ASEAN market and because online shopping has become highly popularized due to the development of internet environment, this led to drastic changes in the distribution structure and Korea can see even more significant steps toward cross-border trade. Similarly, among all ASEAN countries, Vietnam can see the fastest growing pace in the online market industry led by the younger generation. Therefore, using Vietnamese market as the bridgehead to advance into ASEAN, we conducted research on the Vietnamese market which is showing rapid growth in the online distribution market. Strategic entry in the Vietnamese consumer market for Korean products required analysis using the cross-border e-commerce platform presenting the factors of Korea and Vietnam's consumers' intention to use and fundamental data for market revitalization for companies and individuals seeking business interaction via cross-border platform.

Prior studies on ASEAN cross-border trade focused simply on strategies on advancing into ASEAN from the perspective of Korean companies or multilateral review of ASEAN companies' entry into Korea and strategic cooperation plans between the two countries. This study selected Vietnam, which accounts for the largest share of exports (48.6% in 2018) among ASEAN countries, to study the intention to use cross-border e-commerce by applying the UTAUT (Unified Theory of Acceptance and Use of Technology) theory. In particular, factors including effort expectancy, social influence, facilitating conditions, and variety seeking affecting intention to use cross-border e-commerce were analyzed using Korea and Vietnam as moderating variables.

Centering on cross-border online platform business model and the tendencies of the consumers in Korean and Vietnamese market, this study intends to identify profit-generating strategies and put them to use in the ASEAN advancement plan.

2. Cross-border Trade Status and Theoretical Review

2.1. Cross-border Transaction Status

2.1.1. Online Overseas Direct Sales

In the third quarter of 2020, online overseas direct sales amounted to KRW 1.61 trillion, an increase of 5.9% compared to previous year. Countries including China accounted for KRW 1.45 trillion (10.5%), European Union KRW 9.7 billion won (32.6%), with industrial sector cosmetics accounted for KRW 1.43 trillion (122%), and albums, videos, and musical instruments amounting for KRW 40 billion (68.2%). Overseas direct purchases increased by 13.8% to KRW 9,581 billion, with European Union accounting for KRW 43 billion (25.2%), China KRW 233.2 billion (28.3%) and industrial sector clothing and fashion-related products accounting for KRW 364.9 billion (15.4%) and food and beverage products accounting for KRW 277.5 billion (21.3%). Overseas direct sales amounted to 26.5% compared to the previous quarter, and overseas direct purchases increased to 4.8% as shown in Table 1.

Table 1. Online overseas direct sales and purchases (KRW 100 million, %)

	2018		2019		2020		Increased/Decreased Rate	
	Yearly	3/4	Yearly	3/4	2/4	3/4p	Previous Quarter	Quarter Ratio of Previous Year
Oversea Direct Sales 1)	36,265	9,216	59,995	15,254	12,777	16,160	26.5	5.9
Duty Free	29,234	7,618	52,199	13,364	10,520	14,215	35.1	6.4
Oversea Direct Purchase 2)	29,717	6,958	36,360	8,420	9,145	9,581	4.8	13.8

1) Written in FOB (free on board) terms
2) Written in CIF (cost insurance and freight), FOB (free on board) terms
Source: Statistics Korea (2020).

Looking at the amount of online overseas direct sales by country (continent) in Table 2, the amount of online overseas direct sales by country (continent) in the third quarter of 2020 was KRW 1.45 trillion in China, KRW 53.1 billion in the US, and KRW 44.2 billion in Japan. However, compared to previous year's same quarter, ASEAN decreased 46.2%, Japan decreased 25.5%, whereas China increased 10.5% and European Union increased 32.6%.

Table 2. Online overseas direct sales by country (continent) (KRW million, %)

	2019	2020			Increase/Decrease Rate	
	3/4	2/4	3/4p	Duty Free	Previous Quarter	Quarter Ratio of Previous Year
Total	15,254	12,777	16,160	14,215	26.5	5.9
United States	554	642	531	1	-17.4	-4.2
China	13,175	10,951	14,563	14,036	33.0	10.5
Japan	569	531	424	51	-20.2	-25.5
ASEAN	538	283	290	59	2.3	-46.2
European Union	73	95	97	3	2.0	32.6
Middle East	18	25	26	0	3.9	43.5
Latin America	25	25	27	0	8.0	7.9
Oceania	28	38	45	0	17.4	62.3
Other	274	186	157	66	-15.5	-42.6

Source: Statistics Korea (2020).

Looking at the amount of online overseas direct sales by product group in Table 3, online overseas direct sales by product group in the third quarter of 2020 was KRW 1.43 trillion for cosmetics, KRW 74.5 billion for clothing and fashion related products, and KRW 40 billion for music, video and musical instruments. Compared to the same quarter of the previous year, apparel and fashion-related products decreased 46.6%, home appliances, electronics, and

communication devices decreased 41.2%, whereas cosmetics increased 12.2%, music records, videos, and musical instruments increased 68.2%.

Table 3. Online Overseas Direct Sales by Product Group (KRW million, %)

	2019		2020		Increase/Decrease Rate	
	3/4	2/4	3/4p	Duty Free	Previous Quarter	Quarter Ratio of Previous Year
Total	15,254	12,777	16,160	14,215	26.5	5.9
Computer and Surround Equipment	37	38	78	35	104.0	111.9
Home appliances, electronics, and communication devices	254	141	150	48	6.4	-41.2
Software	1	2	2	0	-21.1	24.3
Books	57	68	66	0	-2.3	15.2
Stationary	16	15	14	0	-4.9	-11.8
Musical Instrument, Video, Record	238	453	400	0	-11.6	68.2
Clothing and Fashion Items	1,413	890	754	29	-15.3	-46.6
Sports and Leisure	65	45	51	0	14.5	-21.2
Cosmetics	12,766	10,762	14,329	14,097	33.1	12.2
Baby Products	40	41	44	0	9.1	11.9
Food	87	32	26	6	-17.3	-69.8
Agricultural Products	0	0	0	0	2.5	86.4
Daily Supplies	132	94	79	0	-15.9	-40.3
Other	147	198	167	0	-15.9	13.0

Source: Statistics Korea (2020).

2.1.2. Online Oversea Direct Purchase

Looking at the purchase amount in Table 4, the amount of online overseas direct purchases by country (continent) in the third quarter of 2020 was KRW 411.3 billion in the US, KRW 243.8 billion in the EU, KRW 233.2 billion in China, and KRW 58.1 billion in Japan. Compared to the same quarter of the previous year, the amount increased in all countries, including the European Union (25.2%), China (28.3%), and Japan (23.1%).

Table 5 showed that the amount of online overseas direct purchases by product group in the third quarter of 2020 was KRW 364.9 billion for clothing and fashion-related products, KRW 277.5 billion for food and beverages, and KRW 59 billion for home appliances, electronic and communication devices. Compared to the same quarter of the previous year, home appliances, electronic and communication devices decreased by 39.7%, but clothing and fashion-related products increased 15.4%, food and beverages increased by 21.3% and household goods and automobile goods increased by 28.1%.

Table 4. Online Overseas Direct Purchases by Country (Continent) (KRW million, %)

	2019	2020		Increased/Decreased Rate	
	3/4	2/4	3/4	Previous Quarter	Quarter Ratio of Previous Year
Total	8,420	9,145	9,581	4.8	13.8
United States	4,119	3,832	4,131	7.8	0.3
China	1,583	2,327	2,032	-12.7	28.3
Japan	472	543	581	6.9	23.1
Asean	34	66	81	22.3	139.0
European Union	1,947	2,102	2,438	16.0	25.2
Middle East	4	4	6	44.6	73.3
Latin America	1	0	1	127.5	49.2
Oceania	207	188	224	18.9	7.9
Other	53	81	88	8.7	65.3

Source: Statistics Korea (2020).

Table 5. Online Overseas Direct Purchase Amount by Product Group (KRW million, %)

	2019	2020		Increased/Decreased Rate	
	3/4	2/4	3/4	Previous Quarter	Quarter Ratio of Previous Year
Total	8,420	9,145	9,581	4.8	13.8
Computer and Surround Equipment	94	112	95	-15.0	0.9
Home appliances, electronics, and communication devices	978	738	590	-20.1	-39.7
Software	33	36	38	5.3	13.2
Books	52	59	75	28.5	44.4
Stationary	36	42	42	0.1	17.7
Musical Instrument, Video, Record	21	22	25	13.4	17.4
Clothing and Fashion Items	3,162	3,277	3,649	11.3	15.4
Sports and Leisure	152	233	261	12.0	71.2
Cosmetics	448	455	476	4.7	6.3
Baby Products	149	180	149	-17.2	0.1
Food	2,289	2,579	2,775	7.6	21.3
Agricultural Products	12	21	36	69.4	208.5
Daily Supplies	435	599	557	-7.0	28.1
Other	559	792	813	2.6	45.4

Source: Statistics Korea (2020).

Table 6 showed the amount of online overseas direct purchases by ASEAN product group in 2019. The amount of online overseas direct purchases by product group was KRW 70.39 billion for clothing and fashion related products, KRW 47.5 billion for food and beverages, and KRW 15.75 billion for home appliances, electronic and communication devices.

Table 6. Online Overseas Direct Purchase Amount by ASEAN Product Group

(KRW 1 million)

Product Group	2014	2015	2016	2017	2018	2019
Total	3,323	5,179	9,982	12,624	10,949	14,979
Computer and Surround Equipment	80	122	82	158	342	267
Home appliances, electronics, and communication devices	161	341	366	501	770	1,575
Software	16	17	0	3	10	4
Books	49	79	42	394	75	57
Stationary	20	14	23	42	35	35
Musical Instrument, Video, Record	10	2	6	3	19	14
Clothing and Fashion Items	586	1,699	5,903	7,289	7,016	7,039
Sports and Leisure	30	28	28	82	46	36
Cosmetics	154	197	184	306	187	434
Baby Products	29	117	100	104	118	133
Food	1,668	1,701	2,818	3,156	1,608	4,075
Agricultural Products	20	16	14	19	9	26
Daily Supplies	191	188	159	185	220	515
Other	307	654	249	385	499	764

Source: Statistics Korea (2020).

2.2. Theoretical Research and Hypothesis

In the field of social psychology, research on various influencing factors on consumer's decision making and behavior is continuously being conducted as well as study on intention to use information technology of individuals in online transactions based on consumer behavior. In this study, in order to examine the intention to use cross-border platform, we will apply to our model UTAUT (Unified Theory of Acceptance and Use of Technology) which aims to explain user intentions to use an information system and subsequent usage behavior.

UTAUT is a theory first proposed by Venkatesh et al. (2003) and developed from Theory of Reasoned Action (TRA) based on social psychology. TRA is a theory that users' beliefs affect their attitudes, which lead to behaviors that accept technology through intention to use

behavior (Yoo Jae-Hyun and Park Chul, 2010). The concept of TRA has been applied in the TAM (Technological Acceptance Model) which is an acknowledged research model applied in various field. However, the basic theory of the TAM model was limited in regards to the difficulty in accumulating detailed factors and analyzing the interrelationships in the IT environment (Agrawal and Karahanna, 2000).

Afterwards, Venkatesh et al. (2003) stated that 17-53% of the existing model intent to explain the technology acceptance intention and that in order to supplement and improve the problems of the existing model, UTAUT was approached from an integrated perspective.

In other words, the UTAUT model, developed from TRA, is a theory to overcome the limitations of the simplicity and insufficient explanatory power of the existing TAM model and as the model was approached from an integrated perspective based on the problems of the TAM model, four new key factors performance expectation, effort expectancy, social influence, and developmental condition were applied (Song Byung-Chul and Kim Wan-Min, 2018).

2.2.1. Effort expectancy

Effort expectancy is defined by the degree of ease of use associated with using the system. The detailed factors composed in effort expectancy include perceived convenience of use, complexity, and ease of use. Convenience of use is the degree to which a shopping mall site can be easily used and browsed without difficulty. In a number of Internet shopping mall studies focusing on the characteristics of information systems, studies showed that the convenience of use has a significant effect on the consumer's trust in the shopping mall sites (Davis et al. 1989; Szajna 1996; Venkatesh 2000).

If the convenience of use of shopping mall's website is high, this implies that the website operator's design and operation capabilities are considered to be high, which also gives high level of trust in terms of technical excellence. However, higher convenience of use of shopping mall will increase trust from the consumers toward technical support because of increase understanding of not only the contents listed on the web-site, but also the purchase process such as ordering and payment process, and reduce the possibility of errors or mistakes in use.

Kwon Oh-Jun et al. (2008) defined the degree of how the new technology will help achieve business performance and explained how convenient and intuitive the interface of information technology is as well as that the ease of use and the provision of various and convenient help functions are directly related to the effort expectancy.

Effort expectancy is the level of convenience associated with the use of technology which influences the behavior of use. This level of convenience can impact the intention to use online cross-border platform.

In this study, we intend to demonstrate convenience of use of cross-border e-commerce platform. Therefore, we would like to present the following hypothesis:

H1: Effort expectancy *on the use of the cross-border platform will have a positive effect on the intention to use.*

2.2.2. Social Influence

Venkatesh et al. (2003) defined social influence as the degree of how much an individual believes other important people should use the new system. In the technology acceptance model, the socio-cultural influence was included as an alternative appropriate external factor for the lack of due to its focus on individual judgment (Malhotr and Galletta, 1999). The concept of social influence can be divided into subjective norms and social image and

visibility. The social image was viewed to the extent that users would believe their social position they belonged to would improve when they used the technology (Moore and Benbasat, 1991), and that visibility refers to the degree to which the adaptation is made visible to the organization, and consumers tend make the adaptation as it becomes easier to see the results of the reform (Seo Young Soo and Lee Seung Sin, 2014). In addition, subjective norm is the degree of importance on whether its peer groups support or oppose their action as subjective norms have a positive (+) effect on behavioral intentions (Fishbein and Ajzen, 1975). Therefore, we can predict that the normative social influence is an important influence factor in the consumer's use of cross-border e-commerce.

In cross-border e-commerce platform, high skill in foreign language or easy access to credit cards available for payment overseas are all important factors. Consumers become more hesitant due to strong barriers of entering cross-border e-commerce, to which family members and friends can be a resource as well as psychological support in this case and can be more important factor than in other shopping alternatives. Therefore, the social influence on cross-border e-commerce will be significant as an important external variable that explains the intention to use. In this study, we covered that social influence on the cross-border platform reflects the social image, visibility, and subjective norms, and attempts to define the degree to which purchases abroad are influenced by people around them. Therefore, we would like to present the hypothesis as follows.

H2: The social influence on the use of the cross-border platform will have a positive effect on the intention to use

2.2.3. Facilitating conditions

Facilitation condition is defined as the extent that an individual believes an organizational and technical infrastructure exists to support the use of the system. This definition captures concepts embodied in three different structures: perceived behavioral control, facilitating conditions, and compatibility. Each of these structures operates to contain aspects of the organizational environment and/or technology designed to eliminate barriers to use. Taylor and Todd (1995) acknowledged theoretical redundancy by modeling facilitation conditions as a key component of perceived behavioral control. The compatibility configuration incorporates items that fit between the individual's working style and the use of the system within the organization. Venkatesh et al. (2003) defined the degree as an organizational and technical basis for supporting the use of information systems as a facilitating condition and Shim Yun-Jung (2018) defined the facilitating condition as the degree of necessary organizational or technical foundation for applying new technologies. In this study, when using a cross-border platform, we intend to define as the degree to which we believe that an organizational and technical environment foundation that supports individual usage behavior has been created. Therefore, we would like to present the hypothesis as follows.

H3: Facilitating conditions on the use of the cross-border platform will have a positive effect on the intention to use

2.2.4. Variety Seeking

Variety seeking can be defined as the behavior of consumers to choose alternatives different from the past from the set of choices over time, and measures this concept as the frequency of brand change and behaviors such as innovation-seeking (Kahn & Raju, 1986). Variety Seeking analyzes this concept as the behavior of which consumers intend to choose an

alternative choice from their past set of choices, such as change of brand or preference for innovation (Kahn & Raju, 1986). In accordance to various studies, the propensity for variety seeking refers to the purchase of a particular brand decreases the probability of purchasing the same brand in a different situation (Bawa, 1990; Kahn & Raju, 1986). This thesis on decrease probability of repeated purchases can be understood in the same context as the existing trademark selection studies which defines consumers' boredom in relation to repeated purchases of the same product (Mcalister and Pessemier, 1985). Kahn & Raju (1986) cited the cause for variety seeking behavior as the desire for new things, desire for change from familiar products, and desire for new information. Dodd, Pinkleton and Gustafson (1996) stated that variety seeking behavior occurs in products such as automobile and medical supplies. In studies ran by Yoon Yang and Choi Hoon-Hee (2002), variety seeking often occurs in specialty products for individual pleasure rather than convenience products for practical use. According to Suk Kwan-Ho and Lee Ji-Heon (2010), they argued that when simultaneously purchasing products from the same product group, we can see consumers tendencies to select products from various brands. In conclusion, when using cross-border platform variety seeking behavior can be defined as the diversity seeking in new products even in situations where consumers make purchases in the same product group. Therefore, we would like to present the hypothesis as follows.

H4: Variety seeking on the use of the cross-border platform will have a positive effect on the intention to use.

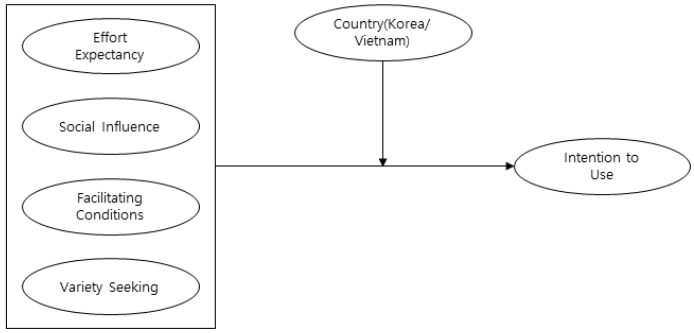
2.2.5. Behavior Intention to Use

Various studies regarding behavior intention to use have been conducted by many researchers over a long period of time and has been used in terms in relation to intention of action, intention to use, and use intention. Intention to use can be the best prediction of awareness of making a certain action (Shin, 2010). However, early use of system and intention of use in the future may differ. In the perspective of IT, this intention reflects the perception of benefits and ease of use. More specifically, this intention applies to apply work systems, use direct methods of achieving goals, and improve performance in work environments (Venkatesh, Thong and Xu, 2012). The determination for adoption of intention to use e-commerce is related to the perception of benefits and ease of use (Venkatesh and Bala, 2008).

First, Davis et al. (1989) stated that consumers' intention to use is the degree to which he or she intends to perform a specific action, which is an important factor that actually affects the subsequent behavior. Madden et al. (1992) and Sommer and Haug (2011) defined behavior intention to use as personal motivations and intentional plans to expand efforts while performing certain action, which can be understood that individual's positive and negative attitudes can be the determinant factors. Boulding et al. (1993) and Zeithaml et al. (1996) explained that behavior intention to use is a positive recommendation intention or solicitation for a certain target, continuous use and expansion of use, willingness to pay a higher amount than competitors, and the highest priority in the future. Lee Joung-Sil and Park Myung-Joo (2005) referred to the intention of use as the subjective will or belief of an individual who intends to plan or modify future use behaviors based on the perceived feelings that consumers have about a product or service, or experiences before and after purchase, while in the study of Kwon Oh-Jun (2010), defined use of intention as the degree of intention or plan to use new information technology. In addition, in the online shopping field of information system, intention of use was explained as revisit intention (Siekpe, 2005; Hausman and Siekpe, 2009), repurchase intention (Bae Jae-Kwon, 2013), Intention to use information technology and information systems (Bhattacherjee & Sanford, 2006; Li, 2013),

and Intention to use the Internet through mobile device (Shin Hyun-Sik, 2010). The UTAUT model explained that intention triggers action while many studies have found that intention affects behavior (Kang Myeong-Hee et al., 2013; Kang Sun-Hee, 2016). Therefore, in this study, the intention to use the cross-border e-commerce platform or the degree of willingness to continue to use is defined as the intention to use.

Fig. 1. Research Model



3. Methodology

3.1. Data Collection

This study conducted survey method to obtain necessary data. The survey consisted of factors such as effort expectancy, social influence, facilitating conditions, variety seeking, and intention to use. The variable used for hypothesis testing in the research model was composed of survey on the Likert 7-point scale. The survey included questions regarding individual's characteristics such as gender, age, country, education, and occupation. The sample was surveyed through Google survey targeting the general public in the metropolitan area of Korea and local Internet cafes in Vietnam. About 420 copies of the questionnaire were collected from December 1st to December 31st, 2020, and 408 copies of the total questionnaire were used for statistical processing, excluding 12 irrelevant response. In order to verify the established research hypothesis, the collected questionnaire data was analyzed using SPSS and Amos to analyze the structural equations and control effects. Also, to secure the validity and reliability of the variables, factor analysis and a reliability test were conducted. First, frequency analysis was conducted to confirm the demographic characteristics of the survey participants.

Questions for each variable were prepared with reference to previous studies and in Table 7, measurement items of variables, operational definitions, and referenced prior studies are shown.

3.2. Sample

As shown in Table 8, the demographics of survey respondents were of the following: 52.2% Korean, 47.8% Vietnamese, 32.8% male, 67.2% female, 83.3% high proportion in their 20s, 10.5% in 30's, 1.5% in 40s, and 1.5% in 50s. As for occupation, 60.3% were students, 23.3% office workers, 8.1% unemployed/others, and 3.4% civil service employees.

Table 7. Operational Definition and Measurement Items

Variable	Operational Definition of Variables	Prior Research
Socio-Demographic Variables	Gender, Age, Country, Education, Occupation	-
Effort expectancy	① Using overseas direct search service is easy for me ② You can easily search for the products you want from overseas direct purchases ③ Product explanations can be easily understood at overseas direct purchases. ④ Overseas direct search is not more difficult than traditional e-commerce transactions	Davis et al. (1989); Venkatesh and Davis (2000); Venkatesh et al. (2003); Kwon (2008)
Social Influence	① My peers support my use of overseas direct search. ② My peers think that it is useful to use overseas direct search ③ When I use overseas direct search, my peers will appreciate my ability more	Venkatesh et al. (2003); Venkatesh and Davis (2000); Venkatesh and Morris (2000)
Facilitating conditions	① Using e-commerce will provide time benefit ② Using e-commerce provides convenience ③ Using e-commerce provides benefits to my life	Ajzen (1991); Davis et al. (1989); Thompson et al. (1991)
Variety Seeking	① I tend to be interested in trendy products ② I tend to find out when new products release ③ I am interested in a variety of products and product brands	McAlister and Pressemier (1982); Raju (1980); Holbrook and Hirschman (1982); Simonson (1990)
Intention to Use	① I am willing to use overseas direct purchase ② I made plans to use overseas direct purchase	Shin (2010); Wang (2008); Venkatesh, Thong and Xu (2012); Venkatesh and Bala (2008) Davis et al. (1989)

Interest items of consumers for oversea direct purchase consists of 22.7% bags/shoes/jewelry, 20.0% cosmetics, 15.4% clothing, 14.4% home appliances/cell phones, 9.5% health supplements, and 9.3% food and beverage, 4.4% toys, and 4.4% others. For Korean consumers' interest items were in the order of clothing 27.2%, bags/shoes/jewelry 19.5%, home appliances/cell phones 15.1%, cosmetics 14.7%, food 9.5%, health supplements 8.6%, others 4.2%, and toys with the lowest ratio of 1.2%. For Vietnamese consumers' interest items were in the order of bags/shoes/jewelry 25.8%, cosmetics 25.3%, home appliances/cell phones 13.6%, health supplements 10.4%, food 9.0%, toys 7.6%, others 4.6%, and clothing 3.7%.

Overall, the platforms used for overseas direct purchases were Amazon 30.5%, Taobao 17.1%, e-Bay 12.6%, Lazada 11.7%, Alibaba 8.5%, and Ralph Lauren. The platforms used by Koreans were Amazon 38.1%, eBay 18.3%, Taobao 8.7%, I-Herb 8.7%, Alibaba 6.8%, Ralph Lauren 4.6%, and Q10 3.7%. The platforms used by Vietnamese were Amazon 24.4%, Taobao 23.9%, Lazada 20.7%, Alibaba 9.9%, e-Bay 8.1%, and VatGia 3.7%.

Table 8. Demographic Features

Respondents		Frequency	Percent (%)	Respondents		Frequency	Percent (%)
Age	Under 20's	5	1.2	Gender	Male	134	32.8
					Female	274	67.2
	20's	340	83.3				
				Country	Korea	213	52.2
	30's	43	10.5				
					Vietnam	195	47.8
	40's	6	1.5				
				Occupation	Civil Service Worker	4	1.6
	50's	6	1.5				
					Office Worker	3	1.2
	60's and above	8	2.0				
					Self-Employed	7	2.9
Final Education	High School Graduate	70	17.2				
					Specialized Profession	138	57.3
	Attending College	279	68.4				
					Housewife	10	4.1
	College Graduate	49	12.0				
					Student	5	2.1
	Graduate School and above	6	1.5				
					Other	15	6.2
Total		408	100	Total		408	100

As for countries that directly purchase overseas US accounted for 29.9%, Korea 23.8%, China 23.3%, Japan 9.9%, EU 9.3%, and other countries for 3.9%. Oversea direct purchase countries for Korean consumers accounted for 43.4% US, 17.6% China, and 14.3% EU. As for Vietnamese consumers accounted for 34.1% Korea, 28.3% China, 18.1% US, and 11.1% Japan.

4. Analysis and Results

4.1. Confirmatory Factor Analysis

Before conducting the confirmatory factor analysis (CFA), this study conducted a validity and reliability analysis of the measurement model in Table 9. For confirmatory factor analysis, to verify the convergent validity between the constituent concepts, the study examined the possibility of significant path coefficient between the constituent concepts and the measured values (Bagozzi and Yi 1988). All of the measured values were significant, indicating that there was no problem with the focus validity as a result of the confirmatory factor analysis. In order to verify discriminant validity, the average variance extracted value was measured, and each research unit satisfies the criterion of 0.5 or higher, so that it can be judged as having overall discriminant validity (Bagozzi and Yi, 1988). Since the value exceeded 0.7 value suggested by Nunnally (1978), this ensures secure reliability of each constituent concept shown as in Table 10.

Table 9. Results of Reliability and Validity Analysis

Construct/Items	Standardized loadings
Effort Expectancy (Cronbach's a=0.840, AVE=0.505, CR=0.753)	
Using overseas direct search service is easy for me	0.776
You can easily search for the products you want from overseas direct purchases	0.815
Product explanations can be easily understood at overseas direct purchases	0.776
Social Influence (Cronbach's a=0.839, AVE=0.692, CR=0.818)	
My peers support my use of overseas direct search	0.839
My peers think that it is useful to use overseas direct search	0.859
Facilitating Conditions (Cronbach's a=0.806, AVE=0.600, CR=0.746)	
Using e-commerce will provide time benefit	0.842
Using e-commerce provides convenience	0.887
Variety Seeking (Cronbach's a=0.810, AVE=0.502, CR=0.750)	
I tend to be interested in trendy products	0.820
I tend to find out when new products release	0.824
I am interested in a variety of products and product brands	0.789
Intention of Use (Cronbach's a=0.912, AVE=0.810, CR=0.895)	
I am willing to use overseas direct purchase	0.848
I made plans to use overseas direct purchase	0.870
$\chi 2$=224.657(df=130, p=0.000), $\chi 2$/df=1.728, RMSEA=0.030, CFI=0.982, GFI=0.958, NFI=0.957, TLI=0.972, IFI=0.982	

Table 10. Confirmatory Factor Analysis

Factors		Unstandardized Estimate	S.E.	C.R.	Standardized Estimate	AVE	Composite Reliability
Effort expectancy	2-1	1			0.825	0.505	0.753
	2-2	1.046	0.068	15.280	0.923		
	2-3	0.877	0.067	13.186	0.795		
Social Influence	3-1	1			0.867	0.692	0.818
	3-2	0.968	0.083	11.716	0.920		
Facilitating conditions	4-1	1			0.956	0.600	0.746
	4-2	0.591	0.100	5.901	0.705		
Variety Seeking	5-1	1			0.729	0.502	0.750
	5-2	1.156	0.117	9.850	0.843		
	5-3	0.886	0.095	9.299	0.722		
Intention to Use	9-1	1			0.987	0.810	0.895
	9-2	0.942	0.047	20.119	0.914		

The correlation was evaluated as shown in Table 11. By comparing the correlation coefficient between each constituent concept and the other constituent concepts and the square root of the average variance extraction value of each constituent concept, the shared variance of each constituent concept and the related measurement items were found to be greater than the variance shared with other constituent concepts.

Table 11. Correlation

	Effort expectancy	Social Influence	Promotion Conditions	Variety Seeking	Intention to Use
Effort expectancy (p^2)	1				
Social Influence (p^2)	0.395*** (0.156025)	1			
Facilitating conditions (p^2)	0.409*** (0.16728)	0.155 (0.024025)	1		
Variety Seeking (p^2)	0.234** (0.054756)	0.418*** (0.174724)	0.263** (0.069169)	1	
Intention to Use (p^2)	0.561** (0.314721)	0.532*** (0.283024)	0.273** (0.074529)	0.405*** (0.164025)	1

*: $P<0.1$, **: $P<0.05$, ***: $P<0.001$

p^2: square value of the correlation.

4.2. Hypothesis Verification

In this study, the results were derived using a structural equation model for hypothesis testing. To evaluate the fit of the study model, p values for CFI, RMSR, and NFI were used. As a result of verifying the overall model of the research model values were derived as $\chi 2=224.657$, degrees of freedom (df)=130, p value=0.000, CMIN/DF=1.728, GFI=0.958, CFI=0.982, IFI=0.982, TLI= 0.972, RMSEA =0.030 and NFI=0.957. Next, the results of analyzing the significance of the path to verify the four hypotheses set are shown in Table 11.

The first hypothesis that effort expectancy in cross-border e-commerce will affect the consumers' intention to use was supported (path coefficient = 0.359(***), $p<0.10$). Therefore, we can presume that consumers are inclined to use cross-border e-commerce platform. The degree of ease of use of cross-border e-commerce site affects consumers' intention to use.

The second hypothesis that social influence in cross-border e-commerce will affect the consumers' intention to use was supported (standardized path coefficient=0.397(***), $p<0.50$). Therefore, social influence relates to the influence of social interaction among friends, family, and acquaintances and their opinions that affect the adaptation of cross-border e-commerce. Among consumers, we can presume intention to use in relation to social influence on cross-border e-commerce.

The third hypothesis that facilitating conditions in cross-border e-commerce will affect the consumers' intention to use was supported (path coefficient = 0.124(**), $p<0.5$). Thus, we can presume higher intention to use for higher facilitating conditions in cross-border e-commerce.

The fourth hypothesis that variety seeking in cross-border e-commerce will affect the consumers' intention to use was supported (Path coefficient=0.194(***), $p<0.5$). Variety seeking and consumers' desire for new and different products influence intention to use cross-border e-commerce.

Table 12. Hypothesis Test Results

Hypothesis				Estimate	S.E.	C.R.	P
H1	Intention to Use	←	Effort expectancy	.359	.056	6.375	***
H2	Intention to Use	←	Social Influence	.397	.057	6.928	***
H3	Intention to Use	←	Facilitating conditions	.124	.061	2.041	.041(**)
H4	Intention to Use	←	Variety Seeking	.194	.060	3.223	.001(***)

*: $P<0.1$, **: $P<0.05$, ***: $P<0.001$

CMIN/DF: 1.728, CFI: 0.982, GFI=0.958, NFI: 0.959, RFI: 0.937, IFI: 0.982, TLI: 0.972, RMSEA: 0.030.

4.3. Analysis of the Moderating Effect

This study analyses factors affecting consumers' intention to use: effort expectancy, social influence, facilitating conditions, and variety seeking. The survey was collected in both Korea and Vietnam and confirmed the changes and differences in influence through moderating effect model.

Table 13. Comparison of Models

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Constraint	4	5.903	.206	.001	.001	.000	.000
Data Model							

*: $P<0.1$, **: $P<0.05$, ***: $P<0.001$.

Since the significance level for the constraint model is 0.206, which does not satisfy P<0.05, the null hypothesis cannot be dismissed. In other words, Korea and Vietnam can be affected in a different level.

Table 14. Hypothesis Test Result (Korea)

Hypothesis				Estimate	S.E.	C.R.	P
H1	Intention to Use	←	Effort expectancy	.359	.056	6.375	***
H2	Intention to Use	←	Social Influence	.397	.057	6.928	***
H3	Intention to Use	←	Facilitating conditions	.124	.061	2.041	.041(**)
H4	Intention to Use	←	Variety Seeking	.194	.060	3.223	.001(**)

*: $P<0.1$, **: $P<0.05$, ***: $P<0.001$.

The test result verifies that effort expectancy, social influence, facilitating conditions, and variety seeking factors positively affect Korean consumers' intention to use cross-border e-commerce in table 14.

Table 15 shows the moderating effect of Vietnam's cross-border e-commerce verifying that social influence and facilitating conditions factors affect intention to use, but the effort expectancy and variety seeking factors do not affect intention to use.

Table 15. Hypothesis Test Result (Vietnam)

Hypothesis				Estimate	S.E.	C.R.	P
H1	Intention to Use	←	Effort expectancy	.138	.257	.538	.591
H2	Intention to Use	←	Social Influence	.505	.188	2.682	.007(**)
H3	Intention to Use	←	Facilitating conditions	.360	.124	2.917	.004(**)
H4	Intention to Use	←	Variety Seeking	.001	.117	.009	.993

*: $P<0.1$, **: $P<0.05$, ***: $P<0.001$.

5. Conclusion and Implications

In the ASEAN market, Vietnam is Korea's major trading partner and with the development of online shopping and internet environment led to drastic changes in the distribution structure which leads to higher cross-border trade. Through a comparative study on the consumption behavior of cross-border consumers targeting Korean and Vietnamese consumers, we attempted to present basic data for revitalization of the cross-border e-commerce market in both Korea and Vietnam.

The conclusion and implications of this study are as follows. First, the hypothesis was set on effort expectancy, social influence, facilitating conditions, and Variety Seeking as factors that positively influence the intention to use cross-border e-commerce for Korean and Vietnamese consumers as all of the empirical analysis results showed statistically significant results.

Among these factors, social influence had the greatest impact, followed by effort expectancy. The moderating effect on the country was found to have a moderating effect on the intention to use. For Korean consumers, significant results were found in the effort expectancy, social Influence, facilitating conditions, and variety seeking but as for Vietnamese consumers showed significant effects on social influence and facilitating conditions, but less significant effect on effort expectancy and variety seeking.

Second, cross-border e-commerce is showing rapid growth in Vietnam however, the use of cross-border e-commerce is still carried out through a different procedure from domestic internet shopping of which we can presume lack of correlation between effort expectancy and the intention to use cross-border e-commerce.

Third, variety seeking factor also showed lack of correlation with intention to use cross-border e-commerce. This that diverse product range results in satisfaction of consumers but does not affect the intention to use cross-border e-commerce. Most of the overseas direct shopping malls are in forms of specialized shopping malls (instead of general shopping malls with variety of products) with manufactured goods such as clothing, printed materials, and food. This means that Vietnamese consumers who purchase products through overseas direct shopping malls do not view the diversity of products as a factor in their intention to use. Therefore, cross-border e-commerce shopping malls suggest that shopping malls with specialized high-quality products (rather than having a variety of products assortment) is advantageous for entering the Vietnamese market.

Fourth, the level of technical infrastructure of e-commerce web-site will increase intention to use for the consumers. Both countries showed their use in web-site when the primary environment has reached the technical level. Therefore, in order for domestic shopping malls

to spread the use of Vietnamese consumers, it is necessary to establish a system that sufficient product search is convenient even when connected to a device in an environment with slow Internet speed. Positive social influence from surroundings for Vietnamese consumers bring positive perspective toward cross-border e-commerce.

Fifth, the easy accessibility of cross-border e-commerce sites for Vietnamese consumers is essential. In particular, in Vietnam where credit card accessibility rate is low, credit card users often have barrier to the cross-border e-commerce market therefore strategies such as cash payment and small orders need to be available. In addition, the platform needs to focus on the convenience of personal information input and payment procedures rather than efforts to make consumers aware of the stability of payment procedures or personal information processing in domestic shopping malls targeting Vietnamese consumers. The convenience of use should be improved while maintaining the basic security level rather than causing inconvenience by setting a high security level.

Lastly, Vietnam's high interest in Korean products and strong influence from Korea Wave requires including various cultural contents related to Korean culture to attract Vietnamese consumers. In addition, the level of engagement for Vietnamese consumers plays a crucial role when operating devices or searching for products in cross-border e-commerce platform, and therefore shopping malls need to increase language support and use of ease when using the system. Another strategic method is to benchmark main shopping malls used by Vietnamese consumers by renewing menus, product search methods, and ordering procedures.

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