Relationship between Convenience, Perceived Value, and Repurchase Intention in Online Shopping in Vietnam

Quoc Trung Pham [1] [iD], **Xuan Phuc Tran** [1], **Sanjay Misra** [2,3] [iD], **Rytis Maskeliūnas** [4] [iD] and **Robertas Damaševičius** [5,*] [iD]

[1] School of Industrial Management, HCMC University of Technology, Ho Chi Minh City 700000, Vietnam; pqtrung@hcmut.edu.vn (Q.T.P.); thienphuc99vn@gmail.com (X.P.T.)
[2] Department of Electrical and Information Engineering, Covenant University, Ota 1023, Nigeria; sanjay.misra@covenantuniversity.edu.ng
[3] Department of Computer Engineering, Atilim University, Incek, Ankara 06836, Turkey
[4] Department of Multimedia Engineering, Kaunas University of Technology, Kaunas 51368, Lithuania; rytis.maskeliunas@ktu.lt
[5] Department of Software Engineering, Kaunas University of Technology, Kaunas 51368, Lithuania
[*] Correspondence: robertas.damasevicius@ktu.lt; Tel.: +370-609-43772

Abstract: Electronic commerce (e-commerce) is an increasingly popular trend in modern economy concomitant with the development of the Internet. E-commerce has developed considerably, making Vietnam one of the fastest growing markets in the world. However, its growth rate has not matched its potential, leading to the question how online retailers could improve their practices and thus contribute to the sustainable development of emerging markets such as Vietnam. Therefore, with the goal of providing online retailers with many methods to improve their online shopping service, this study examined the direct and indirect influence of the dimensions of online shopping convenience on repurchase intention through customer-perceived value. A survey of 230 Vietnamese customers was conducted to test the theoretical model. A structural equation model was used for data analysis. The results determined that the five dimensions of online shopping convenience are: access, search, evaluation, transaction, and possession/post-purchase convenience. All dimensions have a direct impact on perceived value and repurchase intention. The results also show the important role of perceived value when a factor both directly influences repurchase intention and mediates the relationship between convenience and repurchase intention.

Keywords: online shopping; convenience; perceived value; repurchase intention; sustainable development; Vietnam

1. Introduction

With the rapid development of the Internet, online shopping has become an increasingly popular way to shop worldwide. The percentage of consumers involved in online shopping and revenue has increased steadily [1]. As the shopping process is completed on the Internet, online shopping has many advantages over traditional shopping. For businesses, the Internet is considered an effective distribution channel, helping businesses to reduce costs and remove geographical barriers. For consumers, online shopping offers many benefits including transactions that can be completed anywhere at any time, reductions in time and costs, more choice of goods and services, and finding information about products and comparing prices between different distributors is fast and east [2]. Furthermore, the development of cross-bored e-commerce contributes positively to the sustainable

development of both national economy and international trade [3], and provides a sustained competitive advantage for small and medium-sized enterprises (SMEs) over their competitors [4].

In Vietnam, online shopping has grown considerably. According to the Vietnam E-commerce Report in 2015, 28% of Vietnam's population was participating in online shopping, and revenues reached USD 4.07 billion, up 37% over 2014. Online shopping accounted for 2.8% of total nationwide retail sales of consumer goods and services in 2015. The total purchase value of an online shopper in a year is estimated at 160 USD. Thus, e-commerce in Vietnam is gradually developing in line with the general trend of Southeast Asia region and the world. However, its growth rate has not fully matched its potential, raising questions whether the aims of the sustainable development could be achieved and how the online retailers could improve their practices to contribute to the sustainable development of the emerging markets [5]. Consequently, to attract more online consumers, recognizing factors that influence consumers' online shopping intentions for online retail businesses and individuals is critical [6]. Furthermore, a well-designed e-commerce model helps to understand consumer behavior and develop more usable and efficient e-commerce systems [7].

Many studies have shown that shopping convenience is one of the main factors boosting the popularity of online shopping [8,9]. According to Farquhar and Rowley [10], convenience is considered as a customer resource than an attribute of service. Therefore, convenience plays an important role in marketing. However, this concept does not receive much attention from scholars in Vietnam and Southeast Asia region.

According to Zeithaml and Bitner [11], three methods can be used to add value to customers: product discounts, product quality improvements, and reduction of nonmonetary costs associated with purchasing and using products and services. According to Berry et al. [12], nonmonetary costs, including time and effort, are central to the concept of convenience. Therefore, convenience is one of the aspects that retail websites may offer to add value to customers [13]. Zeithaml [14] argued that convenience only indirectly affects the buying trend through perceived value. More recent studies, however, showed that convenience has a direct effect on purchasing trends [15,16].

For the above reasons, this study was conducted to achieve the following objectives: (1) measure the direct impact of convenience on repurchase intention, and the indirect impact of convenience on repurchase intention through perceived value in the context of online shopping in Vietnam; and (2) propose some management implications to promote repurchase intention in online shopping customers in Vietnam.

2. Literature Review and Research Model

This section provides a concise and precise description of the experimental results, their interpretation, and the experimental conclusions that can be drawn.

2.1. Convenience

Initially, the concept of convenience in marketing theory involves the classification of products. Convenient products are products designed to minimize the time and effort required from customers to buy and own a product [17]. Berry et al. [12] and Seiders et al. [18] extensively reviewed the literature on consumer convenience in a service economy and defined "service convenience" as consumers' time and effort perceptions related to buying or using a service. In the retail context, Moeller et al. [19] investigated four dimensions of shopping convenience, decision, access, search, transaction, and after-sales convenience, and their impact on customer retention and loyalty. Beauchamp and Ponder [9] offered four components of convenience: access, search, transaction, and possession convenience, when considering the customer's perception of convenience in the online and traditional shopping environments. However, Jiang et al. [15] suggested that the dimensions and variables involved in Beauchamp and Ponder [9] did not reflect the unique characteristics of online shopping. Therefore, based on studies of Berry et al. [12] and Seiders et al. [18,20], Jiang et al. [15] identified salient online shopping convenience dimensions, and developed a valid online shopping

convenience measurement instrument. The results showed that the five dimensions of online shopping convenience are: access, search, evaluation, transaction, and possession/post-purchase convenience. Mpinganjira [16] recommended four dimensions: search, evaluation, order, and possession convenience, whereas Roy et al. [21] analyzed five service convenience types, including decision, access, transaction, benefit, and post-benefit. These dimensions are similar to those found in, and the variables were also based on Jiang et al. [15]. For the above-mentioned reasons, the concept of convenience in this study is based on five the convenience dimensions proposed by Jiang et al. [15].

Accordingly, the five dimensions of online shopping convenience are defined as follows:

- Access convenience is a consumer's perceived time and effort expenditures to accessing online shopping.
- Search convenience is a consumer's perceived time and effort expenditures to search for a product.
- Evaluation convenience is a consumer's perceived time and effort expenditures to evaluate a product.
- Transaction convenience is a consumer's perceived time and effort to effectively complete the trade or purchased.
- Possession/post-purchase convenience: (a) Possession convenience is consumers' perceived time and effort to own what they want and experience those benefits. (b) Post-purchase convenience is consumers' perceived time and effort expenditures to contact the supplier after using the service.

Jiang et al. [15] assumed that convenience, as a second-order concept, had a positive effect on repurchase intention. However, when considering the dimensions of convenience, as the first-order concept, only three dimensions have a positive effect on repurchase intention. Therefore, to understand which facets of convenience have the most impact on repurchase intention, we used the first-order convenience dimensions in this study.

Moreover, the development of knowledge economy recently required e-commerce businesses (a kind of knowledge intensive ones) to focus more on innovation capability. So, recent studies [22–24] tried to explore the relationship between innovation and business competitiveness, especially for e-commerce domain. According to [22], the knowledge creation process favors the development of technological innovation capabilities for processes and products, because processes and products can lead to a sustainable competitive advantage. The results of [24] demonstrated that relational and cognitive dimensions of social capital are important mediators in realizing organizational innovation performance. These studies showed the importance of innovative solutions for creating convenient process, focusing on perceived value, attracting more customers, and finally, ensuring customer retention.

2.2. Repurchase Intention

Repurchase intention is one of the most important behavioral goals for marketing, so consumers are willing to buy the same product or brand again [25,26]. In the context of online shopping, Chiu [27] stated that, "repurchase intention is the subjective probability that an individual will continue to purchase products from the online vendor or store in the future". Aagja et al. [28] showed that service convenience positively influences behavioral intentions. However, Chang and Polonsky [29] argued that only two of the five dimensions of convenience have a positive influence on behavioral intention. They stated that the influence of different dimensions of convenience on behavioral intentions depends on the nature of the service being considered. In the context of online shopping, Jiang et al. [15] and Mpinganjira [16] all agreed that service convenience has a positive effect on repurchase intention.

Therefore, the research hypotheses were formulated as follows:

Hypothesis 1 (H1). *(a) Access convenience, (b) search convenience, (c) evaluation convenience, (d) transaction convenience, and (e) possession/post-purchase convenience have a positive influence on repurchase intention in online shopping.*

2.3. Perceived Value

Zeithaml [14] defined perceived value as sacrifice, i.e., as "the consumer's overall assessment of the utility of a product (or service) based on perceptions of what is received and what is given". The sacrifice is not only a monetary cost, but also includes non-monetary opportunity costs called behavioral price: the time and effort spent to buy and use products and services. In addition, it is the convenience concept that shows the time and effort that customers spend on buying and using a product or service. This is not an attribute of the product/service [10]. Many studies have shown that customers are willing to pay a higher price in exchange for convenience or sacrifice convenience to obtain a service at a lower price, meaning that services that create more convenience will increase the perceived value of the customer [30].

Therefore, the following hypotheses were formed:

Hypothesis 2 (H2). *(a) Access convenience, (b) search convenience, (c) evaluation convenience, (d) transaction convenience, and (e) possession/post-purchase convenience have a positive influence on the customer's perceived value when online shopping.*

Perceived value is an important antecedent to satisfaction and behavioral intentions [31]. Research studies suggested that perceived value may be a better predictor of repurchase intention than either satisfaction or quality [31]. According to Sweeney and Soutar [32], perceived value occurs at various stages of the purchase process, including the pre-purchase stage. Satisfaction is generally agreed to be a post-purchase and post-use evaluation. Sweeney and Soutar [32] also showed that perceived value has a positive effect on behavioral intentions. Chang and Wang [33] noted that customers with a high perceived value have a positive relationship with satisfaction and customer loyalty. For online shopping, Lee et al. [34] and Lien et al. [35] showed that perceived value has a positive effect on repurchase intention. Hu [36] found that perceived value significantly influenced customer satisfaction, and both were significant predictors of customer purchase intention. Chen et al. [37] concluded that perceived value is positively related to purchase intentions, amongst other factors.

We state our third research hypothesis as follows:

Hypothesis 3 (H3). *Perceived value has a positive influence on repurchase intention in the context of online shopping.*

2.4. Research Model

The research model is presented in Figure 1.

Figure 1. Research model.

3. Research Method
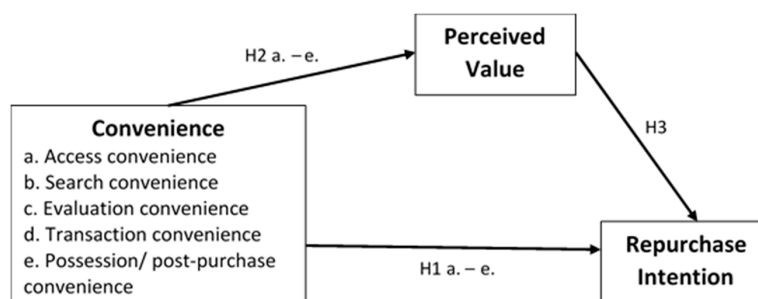
This research was conducted in two phases: a primary qualitative method was used to revise the measurement scale based on department interviews, and a quantitative method was adopted to test the scale, research model, and hypotheses using several tools, including: Cronbach's Alpha for testing scale reliability, Exploratory Factor Analysis (EFA) for testing the validity and consistency of

the scale, Confirmatory Factor Analysis (CFA) for testing the suitability of the model with sample data, and Structural Equation Modeling (SEM) for testing the hypothesis.

3.1. Measurement

Seven concepts were considered including access convenience measured by three observed variables, search convenience measured by four observed variables, evaluation convenience measured by three observed variables, transaction convenience measured by three observed variables, and possession/post-purchase convenience measured by five observed variables. Repurchase intention was measured by three observed variables. These scales were based on the scale presented by Jiang et al. [15]. Perceived value was measured by four observed variables, based on the scale in Parasuraman et al. [38]. The five-point Likert scale was used for all observed variables, with 1 denoting totally disagreeing, and 5 denoting totally agreeing.

3.2. Sampling and Data Collection

The sampling frame and subjects were customers over the age of 18 that have been shopping online in Vietnam. The samples were collected using a convenient method. Data were collected using two methods: (1) A survey questionnaire was designed on Google tools (Google Docs) and sent to subjects through online tools such as e-mail and social networking including forums, Facebook, and so on; (2) questionnaires were distributed directly to respondents.

3.3. Descriptive Statistics

Samples included 132 (57.4%) female customers and 98 (42.6%) male customers, i.e., 230 in total. In 2017, Vietnam had 53.86 million internet users [39], which considering 95% confidence, yields a confidence interval of 6.46%. In terms of age, 195 (84.8%) customers were aged 18 to 35 and 35 (15.2%) customers were over 35 years old. In terms of occupation, 131 (57%) customers were office workers, 43 (18.7%) were students, 27 (11.7%) were engineers, 12 (5.2%) were entrepreneurs or managers, and 17 (7.4%) had other type of occupation. In terms of income, 145 (67%) of customers earned over 5 million VND/month and 85 (37%) earned less than 5 million VND/month. In terms of education, 122 (53%) customers had a university degree, 77 (33.5%) were college/intermediate graduates, 22 (9.6%) had postgraduate qualifications, and 9 (3.9%) had an education of high school grade 12 or lower. Some characteristics of respondents are summarized in Figure 2 as follows.
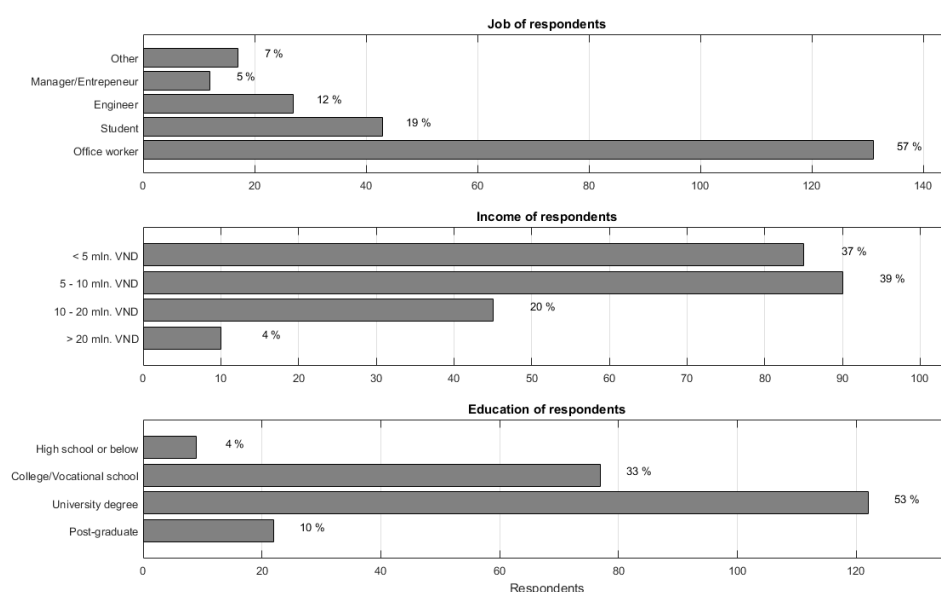

Figure 2. Descriptive statistics of sample data.

4. Results

This section provides a concise and precise description of the experimental results, their interpretation, and the conclusions.

4.1. Descriptive Statistics and Testing Normal Distribution

The distribution test of observed variables shows that the data deviated from the normal distribution, but the skew and kurtosis values were in the range of [−1, 1], which is considered as belonging to normal distribution (see Table 1).

Table 1. Descriptive statistics and test of the normal distribution.

	No.	Min	Max	Mean	Standard Deviation	Skew		Kurtosis	
						Statistic	Standard Error	Statistic	Standard Error
TTTC01	230	1	5	3.99	0.825	−0.783	0.160	0.868	0.320
TTTC02	230	1	5	3.97	0.848	−0.938	0.160	1.464	0.320
TTTC03	230	1	5	3.92	0.858	−0.644	0.160	0.359	0.320
TTTK04	230	1	5	3.85	0.910	−0.711	0.160	0.479	0.320
TTTK05	230	1	5	3.83	0.881	−0.637	0.160	0.394	0.320
TTTK06	230	1	5	3.71	0.929	−0.609	0.160	0.419	0.320
TTTK07	230	1	5	3.69	0.932	−0.521	0.160	−0.129	0.320
TTĐG08	230	1	5	3.80	0.893	−0.707	0.160	0.395	0.320
TTĐG09	230	1	5	3.75	0.879	−0.701	0.160	0.431	0.320
TTĐG10	230	1	5	3.80	0.913	−0.740	0.160	0.471	0.320
TTGD11	230	1	5	3.85	0.881	−0.432	0.160	−0.289	0.320
TTGD12	230	1	5	3.84	0.912	−0.522	0.160	−0.135	0.320
TTGD13	230	1	5	3.74	0.966	−0.520	0.160	−0.150	0.320
TTSH14	230	1	5	3.64	0.941	−0.596	0.160	0.236	0.320
TTSH15	230	1	5	3.68	0.929	−0.742	0.160	0.632	0.320
TTSH16	230	1	5	3.62	0.887	−0.165	0.160	−0.154	0.320
TTSH17	230	1	5	3.73	0.938	−0.560	0.160	0.048	0.320
TTSH18	230	1	5	3.75	0.941	−0.627	0.160	0.249	0.320
GTCN19	230	1	5	3.69	0.819	−0.569	0.160	0.383	0.320
GTCN20	230	1	5	3.68	0.871	−0.654	0.160	0.702	0.320
GTCN21	230	1	5	3.86	0.866	−0.664	0.160	0.552	0.320
GTCN22	230	1	5	3.64	0.913	−0.470	0.160	0.041	0.320
YDML23	230	1	5	3.79	0.787	−0.533	0.160	0.659	0.320
YDML24	230	1	5	3.61	0.879	−0.238	0.160	−0.070	0.320
YDML25	230	1	5	3.59	0.855	−0.456	0.160	0.155	0.320

4.2. Verification of Scale

Scales were evaluated by using Cronbach's alpha reliability and EFA factor analysis with 230 customers. Cronbach's alpha reliability test results have two variables for the possession and post-purchase convenience scale that were excluded because the Corrected Item-Total Correlation was less than 0.3. After removing the two variables from the scale, the reliability of the scales, of more than 0.7, was attained. Two variables were rejected from the results of the EFA (Principal Axis Factoring with Promax rotation) due to having a weight of less than 0.5. After removing these two variables, the scales met the EFA requirements on weightings (>0.5), average variance extracted (>50%), and the number of extracted factors. Therefore, these scales were used for subsequent analyzes. The results of Exploratory Factor Analysis (EFA) are presented in Table 2.

The CFA results show that the saturated model matches the market data [40]: Chi-square = 326.069, df (degree of freedom) = 168, $p = 0.000$, and Chi-square statistics CMIN/df = 1.941 < 2. Indicators TLI (Tucker-Lewis Index) = 0.927, and CFI (Comparative Fit Index) = 0.942 were all greater than 0.9. TLI and CFI are incremental fit indices, which both indicate how much better a model fits the data compared to a baseline model where all variables are uncorrelated. Index values above 0.90 indicate reasonable model fit [41]. RSMEA (Root Mean Square Error of Approximation) was 0.064 (less than 0.08). The CFA weights were high (≥0.725) and statistically significant ($p < 0.05$; Table 3).

Table 2. The Exploratory Factor Analysis (EFA) results.

	Factor						
	1	**2**	**3**	**4**	**5**	**6**	**7**
Search Convenience							
Find desired products quickly	0.854						
Easy to understand and navigate web site	0.838						
Product classification is easy to follow	0.759						
Possession/Post-Purchase Convenience							
Receive all the items I ordered		0.882					
Prices are identical to those on the order form		0.783					
Undamaged delivered goods		0.774					
Evaluation Convenience							
Provides product specifics			0.877				
Sufficient information to identify different products			0.764				
Uses both text and graphics of product information			0.710				
Access Convenience							
Could shop anytime I wanted				0.843			
Could order products wherever I am				0.796			
The web site is always accessible				0.732			
Transaction Convenience							
Without difficulty to complete my purchases					0.824		
Flexible payment methods					0.817		
Simple and convenient online payment					0.754		
Repurchase Intention							
I will use this retailer web site more often for online purchases						0.898	
I encourage others to shop online at this retailer						0.766	
I will continue to shop online at this retailer						0.523	
Perceived Value							
The prices of the products and services available at this site (how economical the site is)							0.898
The overall value you get from this site for your money and effort							0.720
The overall convenience of using this site							0.689

Table 3. Normalized CFA weights (λ) of the observed variables.

Factor and Item	λ	*p*
Access Convenience: $\rho_c = 0.828$; $\rho_{vc} = 0.616$		
Could shop anytime I wanted	0.787	***
The web site is always accessible	0.741	***
Could order products wherever I am	0.825	***
Search Convenience: $\rho_c = 0.858$; $\rho_{vc} = 0.669$		
Easy to understand and navigate web site	0.79	***
Find desired products quickly	0.88	***
Product classification is easy to follow	0.78	***
Evaluation Convenience: $\rho_c = 0.833$; $\rho_{vc} = 0.624$		
Provides product specifics	0.807	***
Sufficient information to identify different products	0.764	***
Uses both text and graphics of product information	0.798	***
Transaction Convenience: $\rho_c = 0.846$; $\rho_{vc} = 0.647$		
Simple and convenient online payment	0.786	***
Flexible payment methods	0.822	***
Without difficulty to complete my purchases	0.804	***

Table 3. *Cont.*

Factor and Item	λ	*p*
Possession/Post-Purchase Convenience: $\rho_c = 0.856$; $\rho_{vc} = 0.666$		
Undamaged delivered goods	0.725	***
Receive all the items I ordered	0.884	***
Prices are identical to those on the order form	0.832	***
Perceived Value: $\rho_c = 0.849$; $\rho_{vc} = 0.652$		
The prices of the products and services available at this site (how economical the site is)	0.788	***
The overall convenience of using this site	0.827	***
The overall value you get from this site for your money and effort	0.806	***
Repurchase Intention: $\rho_c = 0.857$; $\rho_{vc} = 0.667$		
I will continue to shop online at this retailer	0.811	***
I encourage others to shop online at this retailer	0.826	***
I will use this retailer web site more often for online purchases	0.813	***

Note: star notation is used * ($p < 0.05$), ** ($p < 0.01$), *** ($p < 0.001$).

This result confirms the uni-dimensionality [42] and convergent validity of the scales [43]. Correlation coefficients between the concepts and their Standard Error (SE) (Table 4) show that these correlations are different from the unit, confirming discriminant validity between concepts [42]. The above results also show that the scales meet the requirements for Composite Reliability (CR ≥ 0.828) and Average Variance Extracted (AVE ≥ 0.616) [44]. Thus, the scales of research concepts meet the reliability and validity requirements.

Table 4. Correlation coefficient between concepts.

Correlation	r (SE)	CR	*p*
Search convenience ↔ Possession/post-purchase convenience	0.395 (0.071)	8.485	0.000
Search convenience ↔ Evaluation convenience	0.367 (0.072)	8.767	0.000
Search convenience ↔ Access convenience	0.358 (0.072)	8.859	0.000
Search convenience ↔ Transaction convenience	0.463 (0.069)	7.806	0.000
Search convenience ↔ Repurchase intention	0.501 (0.067)	7.429	0.000
Search convenience ↔ Perceived value	0.496 (0.067)	7.478	0.000
Possession/post-purchase convenience ↔ Evaluation convenience	0.503 (0.067)	7.409	0.000
Possession/post-purchase convenience ↔ Access convenience	0.455 (0.069)	7.885	0.000
Possession/post-purchase convenience ↔ Transaction convenience	0.577 (0.063)	6.673	0.000
Possession/post-purchase convenience ↔ Repurchase intention	0.592 (0.063)	6.522	0.000
Possession/post-purchase convenience ↔ Perceived value	0.591 (0.063)	6.533	0.000
Evaluation convenience ↔ Access convenience	0.399 (0.071)	8.445	0.000
Evaluation convenience ↔ Transaction convenience	0.619 (0.061)	6.250	0.000
Evaluation convenience ↔ Repurchase intention	0.594 (0.062)	6.502	0.000
Evaluation convenience ↔ Perceived value	0.599 (0.062)	6.452	0.000
Access convenience ↔ Transaction convenience	0.529 (0.066)	7.151	0.000
Access convenience ↔ Repurchase intention	0.550 (0.065)	6.942	0.000
Access convenience ↔ Perceived value	0.553 (0.065)	6.912	0.000
Transaction convenience ↔ Repurchase intention	0.662 (0.058)	5.810	0.000
Transaction convenience ↔ Perceived value	0.662 (0.058)	5.810	0.000
Repurchase intention ↔ Perceived value	0.672 (0.057)	5.707	0.000

4.3. SEM Results

Structural equation modeling (SEM) was used to test the theoretical model and hypotheses. The SEM results show that the theoretical model is consistent with market data [40]: Chi–square = 326.069, df = 168, $p = 0.000$, and CMIN/df = 1.941 < 2. Indicators TLI = 0.927, CFI = 0.942 are all greater than 0.9 (reasonable fit), and RSMEA was 0.064 which is less than 0.08.

SEM estimates of the theoretical model show that the relationships hypothesized in the model are statistically significant with a reliability of 95%, so that hypotheses in the model are acceptable. Table 5 shows that the independent variables that affect the mediating variable (access convenience: $\beta = 0.196$, $p = 0.009$; search convenience: $\beta = 0.159$, $p = 0.019$; evaluation convenience: $\beta = 0.218$, $p = 0.009$; transaction convenience: $\beta = 0.239$, $p = 0.013$; and possession/post-purchase convenience: $\beta = 0.192$, $p = 0.014$) satisfy the first condition of the mediating variable. The mediating variable affecting the dependent variable ($\beta = 0.201$, $p = 0.042$) satisfies the second condition of the mediating variable, and satisfies the effect of the independent variable on the dependent variable with the presence of the mediating variable (access convenience: $\beta = 0.15$, $p = 0.046$; search convenience: $\beta = 0.134$, $p = 0.047$; evaluation convenience: $\beta = 0.166$, $p = 0.047$; transaction convenience: $\beta = 0.195$, $p = 0.044$; and possession/post-purchase convenience: $\beta = 0.156$, $p = 0.045$).

Table 5. Hypothesis testing.

Relationship	Estimate	p	Result
Access convenience → Repurchase intention	0.150	0.046	Supported H1(a)
Search convenience → Repurchase intention	0.134	0.047	Supported H1(b)
Evaluation convenience → Repurchase intention	0.166	0.047	Supported H1(c)
Transaction convenience → Repurchase intention	0.195	0.044	Supported H1(d)
Possession/post-purchase convenience → Repurchase intention	0.156	0.045	Supported H1(e)
Access convenience → Perceived value	0.196	0.009	Supported H2(a)
Search convenience → Perceived value	0.159	0.019	Supported H2(b)
Evaluation convenience → Perceived value	0.218	0.009	Supported H2(c)
Transaction convenience → Perceived value	0.239	0.013	Supported H2(d)
Possession/post-purchase convenience → Perceived value	0.192	0.014	Supported H2(e)
Perceived value → Repurchase intention	0.201	0.042	Supported H3

Without the presence of the mediating variable (Table 6), the regression coefficient between independent variable and dependent variable are as follows: access convenience: $\beta = 0.189$, $p = 0.011$; search convenience: $\beta = 0.166$, $p = 0.014$; evaluation convenience: $\beta = 0.208$, $p = 0.011$; transaction convenience: $\beta = 0.245$, $p = 0.011$; and possession/post-purchase convenience: $\beta = 0.193$, $p = 0.012$. The above results show that the mediating variable reduces the impact of the independent variable on the dependent variable (access convenience: $\beta = 0.189$ decreases to 0.15; search convenience: $\beta = 0.166$ decreases to 0.134; evaluation convenience: $\beta = 0.208$ decreases to 0.166; transaction convenience: $\beta = 0.245$ decreases to 0.195; and possession/post-purchase convenience: $\beta = 0.193$ decreases to 0.156), satisfying the third condition of the mediating variable. The analysis above demonstrates the partial mediating role of perceived value in the relationship between the dimensions of convenience and repurchase intention.

Table 6. Direct effect on the regression coefficient without the mediator.

Relationship	Estimate	p	Result
Access convenience → Repurchase intention	0.189	0.011	Supported
Search convenience → Repurchase intention	0.166	0.014	Supported
Evaluation convenience → Repurchase intention	0.208	0.011	Supported
Transaction convenience → Repurchase intention	0.245	0.011	Supported
Possession/post-purchase convenience → Repurchase intention	0.193	0.012	Supported

Table 7 shows that transaction convenience has the strongest impact ($\beta_{total} = 0.243$) on repurchase intention, followed by evaluation convenience ($\beta_{total} = 0.21$), possession/post-purchase convenience ($\beta_{total} = 0.195$), access convenience ($\beta_{total} = 0.189$), and finally, search convenience ($\beta_{total} = 0.166$). In summary, Figure 3 illustrates the direct and indirect impact of convenience on perceived value and repurchase intention of customers in Vietnam.

Table 7. Direct, indirect, and total impact of different convenience factors on perceived value and repurchase intention.

		Access Convenience	Search Convenience	Evaluation Convenience	Transaction Convenience	Possession/ Post-Purchase Convenience
Perceived Value	Direct	0.196	0.159	0.218	0.239	0.192
	Indirect	0.000	0.000	0.000	0.000	0.000
	Total	0.196	0.159	0.218	0.239	0.192
Repurchase Intention	Direct	0.150	0.134	0.166	0.195	0.156
	Indirect	0.039	0.032	0.044	0.048	0.039
	Total	0.189	0.166	0.210	0.243	0.195
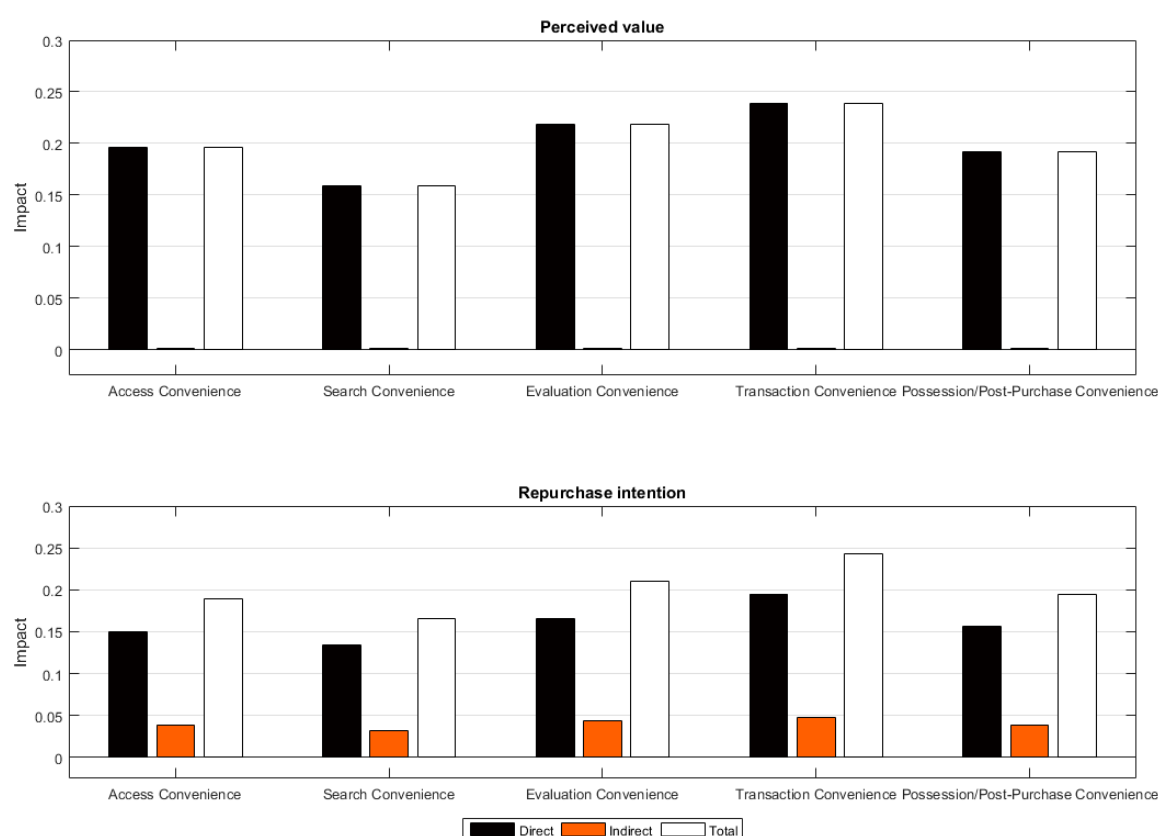
Figure 3. Impact of convenience on perceived value and repurchase intention.

5. Conclusions and Management Implications

5.1. Conclusions

In the study of Jiang et al. [15] the results of CFA analysis showed that the scales obtained an average variance extracted of more than 0.5, except for the scale of access convenience, which was 0.469. This was a limiting point in their research. The CFA results of this study indicated that the scales have composite reliability of greater than or equal to 0.828, and average variance extracted was greater than or equal to 0.616. The results showed that the scales are both reliable and valid, providing better results than those of Jiang et al. [15], but simultaneously reaffirming the five dimensions of convenience proposed by them. The study by Jiang et al. [15] reported that only three dimensions, search convenience, transaction convenience, and possession/post-purchase convenience, had a positive influence on repurchase intention with standardized regression weights, at 0.161, 0.262, and 0.202,

respectively. However, the results of this study showed that all five dimensions of online shopping convenience have a positive effect on repurchase intention.

This result is similar to some other researches in the Southeast Asia region [26,28,30]. In our study, the effect of the dimensions differed from previous studies in different countries, and this difference is due to a number of factors such as the level of development in information technology, infrastructure, and internet, quality of products and services, experience, hobbies, shopping habits of customers, and so on. In addition, the effect of the different dimensions of convenience on repurchase intention depends on the nature of the e-commerce service. Thus, the results of this study are not only applicable in Vietnam and Asia region, but also theoretically contribute to the results of previous research.

The research results showed that the factors access convenience, search convenience, evaluation convenience, transaction convenience, and possession/post-purchase convenience are important factors contributing to increased perceived value and repurchase intention of the customer. Among the factors, the transaction convenience has the strongest effect (β_{total} = 0.243) on repurchase intention, followed by evaluation convenience (β_{total} = 0.21), possession/post-purchase convenience (β_{total} = 0.195), access convenience (β_{total} = 0.189) and, lastly, search convenience (β_{total} = 0.166). This result could help online retailing websites to capture the elements of convenience and the extent of their effects on customers' repurchase intention, enabling the implementation of measures to improve convenience, to attract more online shoppers.

The results of the study also showed the importance of perceived value as this factor directly affects both repurchase intention and plays a mediating role in the interaction of factors of convenience with repurchase intention. In this study, perceived value is the comparison between what the customer receives and what they spend (sacrifice) to buy and use product or service. The sacrifice is not only a monetary cost, but also includes non-monetary opportunity costs called behavioral price, which is the time and effort to buy and use products or services. Therefore, increasing convenience, and reducing non-monetary expenses including time and effort, will increase the customer's perceived value, and thereby increase their repurchase intention.

5.2. Management Implications

Our research results showed that access convenience, search convenience, evaluation convenience, transaction convenience, and possession/post-purchase convenience are important factors contributing to increasing perceived value and customer repurchase intention. The purchase process involves many different stages, and in each stage, time and effort are the important resources that customers have to spend to buy and use the products and services. Spending too much time and effort in addition to experiencing any difficulties during these periods prevent customers from purchasing goods, which consequently hinders the sustained growth of economy and cross-border trade. Therefore, increasing convenience in these stages will increase the perceived value and repurchase intention, helping businesses to improve their online sales. To increase the repurchase intention of the customer, the retailing website must improve the following factors. For access convenience, investing in increasing Internet bandwidth is necessary to further improve the speed of online access and transactions. For search convenience, building a website with a user-friendly interface is essential, designed to help customers move easily, integrate the search tools, and compare products to help customers quickly find the product that best meets their needs. For evaluation convenience, full and accurate product details must be provided so customers can accurately evaluate the product. The ability to sort and compare products by price between different stalls should also be provided. Daily purchase decisions are being increasingly influenced by social media. Therefore, retailing websites need to build a feedback system so that customers can leave valuable comments, providing other customers and the seller a full view of the products, which helps increase customer confidence when making purchasing decisions. For transaction convenience a variety of flexible, convenient, and simple payment methods should be provided, such as bank cards, online payments, cash on delivery (COD), or electronic wallet. Vietnamese people are still concerned about the safety of online transactions. As a result,

the traditional payment terms of cash or cash on delivery are still common. Therefore, retailing websites may use the method of payment upon delivery. This method of payment is also very suitable for Vietnam, where the majority of customers are accustomed to using cash in commercial transactions. Finally, for possession/post-purchase convenience, the customer should be informed of the place and time of delivery so that customers are involved when receiving goods. The goods should be carefully packed to avoid damage during transport. Retail websites should focus on customer service development, including the return of goods after purchase and timely support for complaints from customers. The suppliers' product warranties and policies must be clear, including coverage of the cost of back-and-forth transport when the product is under warranty.

5.3. Limitations and Future Researches

This study has some limitations. By using convenient sampling method, the possibility of realizing the results is not high. We also only focused on the effect of convenience and perceived value on a customer's online repurchase intention. The factors that affect the online repurchase intention of an organization or individual are fundamentally different in each business model, each specific product line, but were not considered in this context.

Further studies may focus on expanding the sample size and scope of the survey, considering the impact of other factors, and consider the impact of a specific e-commerce model or a specific product line.

Author Contributions: Q.T.P., S.M. and X.P.T. conceived and designed the experiments; Q.T.P. collected the data and performed the experiments; Q.T.P., S.M., R.D., R.M. and X.P.T. analyzed the data; Q.T.P. and X.P.T. wrote the paper; S.M., R.D. and R.M. provided valuable comments and revisions.

Conflicts of Interest: The authors declare no conflicts of interest.

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