The Linkages Among Cross-channel Integration Capability, Showrooming, Webrooming, And Customer Value: An Empirical Study

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Abstract

Purpose: This study aims to investigate the linkages among cross-channel integration capability (CCI), showrooming, webrooming, and customer value of retail enterprises. From the literature review, this research proposes the research model on the direct impact of showrooming and webrooming on customer value as well as the indirect impact of cross-channel integration capability on customer value which is mediated by both showrooming and webrooming of retail enterprises. **Research design, data, and methodology:** By conducting a survey of 304 consumers in the five biggest retailers in Hanoi-Vietnam from mid-September 2021 to the end of November 2021, the PLS-SEM was used to test the hypotheses. **Results:** The research results reveal the favorable impact of (CCI) on improving showrooming and webrooming, and the important role of developing both showrooming and webrooming in bringing more value to the customer of retail enterprises. The findings also express that showrooming and webrooming acts mediating role in the favorable relationship between (CCI) and customer value of retailers. **Conclusions:** This research clarifies the positive impact of (CCI), showrooming, and webrooming on customer value. In addition, this study suggests practical implications for retail managers to provide more value for customers by enhancing (CCI) and developing both showrooming and webrooming.

Keywords : Cross-channel Integration Capability; Showrooming; Webrooming; Customer Value; Retail Enterprises

JEL Classification Code: M10, M30, M31, M39.

1. Introduction

In recent years, Vietnam has been one of the most attractive retail markets in the world. Besides the significant opportunities for retailers, such as the increase in per capita income and purchasing power, or the rise in urbanization rate, there have been lots of threats that require retail firms to overcome. Some key challenges are the changes in consumer behavior, the fierce competition among existing retailers, the threats of new entrants, the advanced technologies for retail, and the Covid-19 pandemic. To survive and develop, it is necessary for retail enterprises to quickly adapt to these changes and find the best way to increase the customer value which is considered one of the most important determinants in creating the success of retailers (Rintamäki et al., 2007).

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Nowadays, there are a lot of chances for consumers to seek, compare, choose, make a payment, obtain products, and experience after-sales services. The achievements of Industrial Revolution 4.0 (IR 4.0) have created the advanced retail technologies which are considered an effective way to bring more value to customers (Grewal et al., 2017; Herhausen et al., 2015). Consumers today may access via internet or use mobile devices to shop anywhere and at any time (Avery et al., 2012). They may search for product information via online channels and make a purchase at any stores they want (webrooming) or seek products in offline channels and make an order via website, mobile apps, or other mobile devices (Goraya et al., 2020). These purchasing trends require retailers to establish and integrate various retail channels that may provide a seamless shopping experience to consumers (cross-channel integration capability - CCI) (Shen et al., 2018).

It can be seen that to survive and develop, retailers need to establish a complete cross-channel system that provides various customer contact points or mediums through which the company and the customer interact (Neslin et al., 2006). The emerging cross-channel involves retail firms adding, organizing, and integrating new and current channels in various ways (Ansari et al., 2008; Flavián et al., 2020) to establish a unique customer experience. Prior studies not only recognized the important role in nurturing CCI but also revealed the remarkable differences in customer behavior among retail channels (Goraya et al., 2020; Li et al., 2018). Because CCI relates to the combination of physical channels, online channels, and other types of channels, customers have tendencies to use two or more types of channels for their purchases. In which, customers may search for information on products via an online channel and make a purchase at physical stores (webrooming), they also gather data for product information at offline channels before purchasing online (showrooming) (Goraya et al., 2020). Although there are differences in customer behavior between webrooming and showrooming, prior studies suggest the necessity of reinforcing both webrooming and showrooming to create customer value.

An abundance of public papers has studied CCI, webrooming, and showrooming in recent years. These studies have revealed the significant impact of CCI, webrooming, and showrooming on customer value ((Flavián et al., 2020; Gensler et al., 2017; Goraya et al., 2020; Kabadayi et al., 2017). However, to our best knowledge, little is considered CCI as an exogenous factor that influences webrooming and showrooming before they impact customer value. Especially, in the context of retail markets in developing economies like Vietnam, applying the latest technologies to channels is one of the most considerations for retailers. Therefore, it is necessary to conduct an empirical study to explore the influence

mechanism among CCI, webrooming, showrooming, and customer value. Based on the research findings, some recommendations will be proposed to bring more customer value by improving CCI, webrooming, and showrooming.

The paper is organized as follows. First, three theoretical discussions about customer value, CCI, showrooming, and webrooming are presented and synthesized into a research model. Second, the research methodology and data collection are described. Third, the findings resulting from investigating the research models are presented and discussed. Conclusive remarks include limitations and future research directions.

2. Literature Review and Research Model

2.1. Customer value

Customer value refers to *"the customer's perception of the net benefit for what they received and what they gave; customer value also represents a trade-off between customer's perceived benefits and sacrifices in a firm's offerings"* (Chang et al., 2009). Bringing more value to customers (customer perceived value) is considered the key determinant that allows a firm to survive and develop (Holbrook, 1994; Yang & Peterson, 2004) Similarly, Kuo et al. (2009) reveal that customers tend to pay more attention to the comparison between their sacrifices and the benefits they get when purchasing products and services. Therefore, customer value has the strongest impact on customer intention and purchasing behavior (Chang & Wildt, 1994). Customers feel equitably treated if they perceive that the ratio of their outcome to inputs is worth the ratio of outcome to inputs experienced by a firm (Oliver & DeSarbo, 1998). In purchasing decisions, customers will measure the value they can get by comparing a firm's offerings with others (Yang & Peterson, 2004). Prior research affirms the important role in providing more value to customers. Because customer value relates to the customer's benefits and sacrifices of money, time, effort, and other opportunities, this study adopts the definition of customer value of Kuo et al. (2009) and considers customer value of retailers as *"the evaluation of benefits of a product or service by customers based on their advanced sacrifices and perceived performance when they use products or services"*. To determine customer value, a retailer should focus on bringing more value to its customer through enhancing product/service quality, the convenience of shopping, and benefits customers receive, and reducing costs and sacrifices that they may spend, such as money to purchase products or services, sacrifices of time, efforts, and other costs of opportunity. To identify customer value, there are three questions that a retailer should clarify: (1)- What exactly does the customer value? (2)- Of all things, customer value, on which ones should a retailer focuses

to achieve advantage? and (3)- How well do customers think a retailer delivers that value? (Kuo et al., 2009).

2.2. Cross-channel Integration Capability (CCI)

CCI refers to the total of a firm's efforts in adding value to consumers including pre-purchase, purchase, and post-purchase (Oh et al., 2012). Cao and Li (2015) suppose that CCI indicates the ability of a firm to combine its retail channels to create synergies and provide benefits for its clients. While some studies (Cao & Li, 2015; Oh et al., 2012) examine CCI through the lens of retailers' managers, recent studies have evaluated CCI based on consumers' viewpoints (Goraya et al., 2020; Herhausen et al., 2015; Zhang et al., 2018). Customers' feedbacks about CCI allow a retailer to assess the effectiveness of its cross-channel system before making decisions of reasonable adjustment to improve customer value. This study follows the CCI definition of Goraya et al. (2020), Zhang et al. (2018). Accordingly, CCI is defined as "The retailer's ability to coordinate all channels to create synergies for the retailers and offer a seamless shopping experience to its customers". If a retailer obtains a CCI, it not only provides convenient methods for customers to choose any retail channels they want but also offer consistent information of product, promotion programs, customer services on all retailers' channels (Goraya et al., 2020; Zhang et al., 2018).

2.3. Showrooming and Webrooming

Both showrooming and webrooming have become popular practices in cross-channel customer behavior (Flavián et al., 2020). Showrooming and webrooming refer to the combination of online and offline channels that facilitate the customers to search for products and make a purchase (Flavián et al., 2020; Goraya et al., 2020). Both of them express the decision-making process of the consumer which includes two stages: Searching and selecting products, and purchasing (Baal & Dach, 2005; Peterson et al., 1997). For showrooming, consumers examine products at offline stores before they order them online (Kang, 2018). For webrooming, customers seek product and service information online and purchase at physical stores after that (Flavián et al., 2020).

For retailers, previous studies have shown the important role of both webrooming and showrooming in retaining customers. They believe that if a retail firm provides consistently product information, methods of purchasing and payment in both online and offline channels, it can meet the customer requirements (Goraya et al., 2020). Despite a numerous studies examining showrooming and webrooming as moderator factors that affect the relationship between CCI and customer intention (Goraya et al., 2020; Li et al., 2018),

little is known about how CCI impacts showrooming and webrooming practices before it brings added value to consumers. Previous studies explore the precondition of developing CCI in operating effectively showrooming and webrooming practices (Gensler et al., 2017; Neslin & Shankar, 2009). In addition, showrooming and webrooming not only hasten customer intention to purchase but also bring more benefits for consumers, such as reducing time and cost for search product information (for webrooming) and providing more convenient methods for purchase and payment (for showrooming). Thus, this study considers showrooming and webrooming practices as mediating factors that are influenced by CCI and impact the customer value of retailers.

2.4. Research Hypotheses and Model

The influence of cross-channel integration capability on showrooming and webrooming:

The study of Oh et al. (2012) explores the most considerations of the customer in seamless shopping experiences are integrated promotions, integrated pricing and production information, transaction over integrated channels, and integrated order fulfillment. These findings express that if a retailer exhibits an effective CCI, it can establish a consistent channel system both online and offline which allows consumers to search and purchase the desired products through any retail channels that they prefer (Zhang et al., 2018). Cao and Li (2018) also suggest the important role of developing CCI in diversifying methods of shopping. As mentioned above, using both online and offline channels in searching and purchasing consumers are expressed by showrooming and webrooming mechanisms. When a retailer obtains CCI, it can improve the effectiveness of showrooming and webrooming practices. These suggestions all support the view of the positive linkages among CCI, webrooming, and showrooming. Thus, the hypotheses are proposed as follows:

The influence of showrooming and webrooming on customer value:
H1: Cross-channel integration capability has a positive impact on the showrooming of retail enterprises.
H2: Cross-channel integration capability has a positive impact on the webrooming of retail enterprises.

Customer value refers to the added value that customers perceive in the relations between sacrifices of money, time, effort, and other opportunities, and the benefits they get from purchased products and services (Chang et al., 2009). Regarding shopping experiences, when a retail firm facilitates the way to seek product information via both online and offline channels, it may reduce significantly

scarifies to consumers (Cao & Li, 2018; Zhang et al., 2018). Besides, if retailers diversify methods of purchase and payment, it may shorten the time to make a purchase decision which will create more benefits for customers (Flavián et al., 2020; Goraya et al., 2020. As discussed above, while webrooming practices allow consumers to seek price and product information online and purchase offline, the showrooming mechanism explains the way that consumers gather data at physical stores before making a purchase decision via online channels (Peterson et al., 1997). Because previous research suggests that either webrooming or showrooming creates more value to customers, this study proposes the hypotheses as below:

Mediation (showrooming and webrooming):
H3: Showrooming has a positive impact on the customer value of retail enterprises.
H4: Webrooming has a positive impact on the customer value of retail enterprises.

Previous studies revealed a favorable relationship between CCI and customer value (Kabadayi et al., 2017; Yrjölä et al., 2018). In particular, past research suggests that if retailers operate successfully their retail channels, they can increase significantly customer value. In addition, when retail channels are integrated and become consistent, it is easier for consumers to find products information via online channels (webrooming) and/or purchase them in online stores (showrooming). Many studies agree with the view that showrooming and webrooming mechanisms may reduce scarifies as well as create more benefits to consumers which are the main ingredients of customer value. Obtaining CCI allows a retailer to provide excellent shopping experiences which will improve remarkably customer value. These suggestions all reinforce the favorable linkages among showrooming, webrooming, CCI, and customer value. Thus, the hypotheses are proposed as follows:

Control variables:
H5: Showrooming mediates the relationship between CCI on customer value.
H6: Webrooming mediates the relationship between CCI on customer value.

This study uses control variables to consider the differences in customer characteristics that may influence the research results. The control variable includes three items which are: "Age of respondents", "Education of respondents", and "Occupation of respondents". The dimension adapted from Pantano and Viassone (2015) and Li et al. (2018).

Based on the above discussion, the research model is presented in Figure 1.
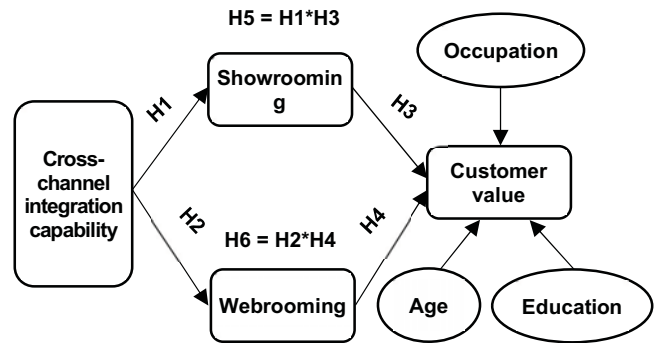

Figure 1: Research model

3. Methodology and Data Collection

3.1. Sampling

The unit of the study is a customer of retailers in Hanoi. Thus, a survey of the customers is conducted to collect data. Because of the expensive and impossibility of a population survey, a random sampling method is used. Customers who have visited or purchased in one of the five biggest retailers in Hanoi – the capital city of Vietnam will be selected to be research samples. Besides that, since this study explores the customer value through their experiences on both online and offline channels of retailers, customers who have never visited online stores or mobile shopping Apps of these five retailers would not be selected.

For sample size, there have been several recommendations from previous researchers. Hair et al. (2014) suggest that the sample number should be five times larger or more than the number of observation variables in the research model. Sekaran and Bougi (2010) recommend the samples should be at least 10 times larger than the number of variables. Because of a consumer survey, to get reliable data, this study follows the suggestion of Sekaran and Bougi (2010). There are 27 observation variables in the research model, and at least 270 responses are expected to achieve.

The survey had taken place for 2.5 months, from mid-September 2021 to the end of November 2021. Because of the Covid-19 pandemic, this study used an online survey approach to collect data. The questionnaire is designed in the form of a Google Form, the link is sent through social sites, online newspapers, and consumer groups in Hanoi. In total, there are 338 responses collected which includes 34 invalid responses. Finally, there are 304 valid responses which account for an 89.94 percent response rate.

The descriptive statistics of respondents are displayed in Table 1. 100 percent of respondents have visited or

purchased one of the chosen retailers before. The respondents also inform that they have had experiences on both online and offline channels of these retailers before. For characteristics of respondents, customers under 25 years old contribute 63.5 percent; 26-45 years old respondents account for 36.2 percent. For gender, a majority of the respondents are female (99.3 percent). For occupation, customers have been students account for the largest proportion (30.9 percent), followed by customers as officers (20.4 percent), public servants (14.1 percent), and businessmen (11.5 percent). For education, 75.3 percent of respondents have a college degree or higher.

Table 1: The Descriptive Statistics of Respondents

		Frequency	Percentage (%)	Validity percentage	Cumulative percentage
Age	Under 18-year-old	9	3.0	3.0	3.0
	18-25-year-old	184	60.5	60.5	63.5
	26-35-year-old	94	30.9	30.9	94.4
	36-45-year-old	16	5.3	5.3	99.7
	46-59-year-old	1	0.3	0.3	100.0
	Total	*304*	*100.0*	*100.0*	
Gender	Male	40	13.2	13.2	13.2
	Female	262	86.2	86.2	99.3
	Other	2	0.7	0.7	100.0
	Total	*304*	*100.0*	*100.0*	
Occupation	Public servants	43	14.1	14.1	14.1
	Officers	62	20.4	20.4	34.5
	Businessman	35	11.5	11.5	46.1
	Administrators	29	9.5	9.5	55.6
	Housewife	9	3.0	3.0	58.6
	Freelance business	30	9.9	9.9	68.4
	Students	94	30.9	30.9	99.3
	Others	2	0.7	0.7	100.0
	Total	*304*	*100.0*	*100.0*	
Education	Postgraduate degree	36	11.8	11.8	11.8
	University degree	165	54.3	54.3	66.1
	College degree	28	9.2	9.2	75.3
	High school diploma or equivalent	72	23.7	23.7	99.0
	Others	3	1.0	1.0	100.0
	Total	*304*	*100.0*	*100.0*	

3.2. Measures

In this study, the exogenous variable which is a reflective and 1st-order construct is CCI. The dimensions of CCI are adopted from Li et al. (2018). There are 10 items of cross-channel integration capability, they are coded from CCI1 to CCI10.

Endogenous variables include showrooming, webrooming, and customer value. All variables are reflective and 1st-order constructs. The dimensions of showrooming (SHOW) and webrooming (WEB) which include four items for each variable are adopted from Li et al. (2018) and Rapp et al. (2015). For customer value, there are three items coded from CV1 to CV3 adopted from Kuo et al. (2009).

Control variables are used to examine the differences among consumers' characteristics that effect on customer value of retail enterprises. There are three control variables which are "Age of respondents", "Education of respondents", and "Occupation of respondents". These control variables are adapted from Pantano and Viassone (2015) and Li et al. (2018).

3.3. Questionnaire Design

The questionnaire is divided into three sections. Section 1 displays the introduction of the authors, the survey purposes, and the instruction for respondents to answer the questions. Section 2 includes three parts focused on the main contents of cross-channel integration capability, showrooming and webrooming, and customer value. Section 3 collects the profile of respondents which are age, gender, occupation, and education. To measure the viewpoint of

respondents, the five-point Likert scale is used, the ratings ranged from 1 – "strongly disagree" to 5 – "strongly agree".

3.4. Research Methodology

To examine the research hypotheses, PLS-SEM by Smart-PLS is used. There are two stages to analyzing data by PLS-SEM, including an examination of the measurement model (the outer model) and an examination of the structural model (the inner model).

For the first stage, testing the convergent validity, the construct reliability, and the discriminant validity. It is suggested to examine the outer loading of all items, Cronbach's Alpha, CR, and AVE of all constructs to identify the convergent validity and construct reliability (Hair et al., 2014). The outer loading of each item is required to be 0.7 or higher, both Cronbach's Alpha and CR of all constructs must be at least 0.6, and their AVE should be greater than 0.5 (Hair et al., 2014). Hair et al. (2014) also recommend keeping the items ranging [0.5; 0.7] if their Cronbach's Alpha, CR, and AVE are qualified. Finally, examination of discriminant validity to identify the statistical difference between all pairs of constructs by HTMT scores. Accordingly, the latent variables are satisfactory for discriminant validity if the HTMT scores of all pairs of constructs is lower than 0.85 (Henseler et al., 2015).

The second stage examines the outer model. It is required to test the multi-collinearity by VIF first. To ensure the inner model has no multi-collinearity, VIF must be less than 5 (Hair et al., 2014). Next, assess R^2_{adj} to identify the total variance of showrooming and webrooming explained by cross-channel integration capability, and customer value explained by both showrooming and webrooming. Later, estimation of the direct influence among cross-channel integration capability, showrooming, webrooming, and customer value by bootstrapping with 5000 samples and choosing a one-tailed test (Hair et al., 2014). It is recommended to check P-value (must be < 0.05), T-value (must be > 1.65), Path coefficient, and confidence interval bias-corrected. It is also suggested to consider the effect size (f^2) to quantify the level of direct effects.

4. Results and Findings

4.1. Examination of The Measurement Model

Table 2 shows the results of checking construct reliability and convergent validity of constructs. For construct reliability, the first checks the outer loading of all observed variables. While most items are from 0.743 to 0.897, one item belonging to cross-channel integration capability (CCI1) gets the outer loading of 0.671 (<0.7). The

second examines the Cronbach's Alpha and CR of the constructs. All the constructs get the Cronbach's Alpha and CR greater than 0.7, ranging from 0.836 to 0.922 and 0.845 to 0.924, respectively. Although the outer loading of CCI1 is slightly smaller than 0.7, the Cronbach's Alpha and CR scores are qualified. Thus, to avoid removing this item from affecting the resulting research, CCI1 is kept. Next, check AVE for convergent validity. The results illustrate that AVE of CCI, showrooming, webrooming, and customer value are greater than 0.5 which are 0.587, 0.671, 0.708, and 0.770, respectively. Therefore, all the dimensions and constructs are qualified for both construct reliability and convergent validity.

Next, testing the discriminant validity (Table 3). The results show the HTMT of all pairs of constructs is lower than 0.85. Thus, the discriminant validity fits the research model.

Table 2: Examination of Construct Reliability and Convergent Validity

Constructs and items	Outer loading	Cronbach's Alpha	Rho_A	CR	AVE
CCI		**0.922**	**0.924**	**0.934**	**0.587**
CCI1	0.671				
CCI2	0.743				
CCI3	0.762				
CCI4	0.761				
CCI5	0.784				
CCI6	0.764				
CCI7	0.818				
CCI8	0.784				
CCI9	0.766				
CCI10	0.800				
SHOWRO-OMING		**0.836**	**0.845**	**0.890**	**0.671**
SHOW1	0.788				
SHOW2	0.868				
SHOW3	0.849				
SHOW4	0.767				
WEBRO-OMING		**0.862**	**0.864**	**0.906**	**0.708**
WEB1	0.847				
WEB2	0.871				
WEB3	0.867				
WEB4	0.777				
CV (Customer value)		**0.850**	**0.853**	**0.909**	**0.770**
CV1	0.897				
CV2	0.881				
CV3	0.854				
Control variables					
AGE	1.000	1.000	1.000	1.000	1.000
OCCUP (Occupation)	1.000	1.000	1.000	1.000	1.000
EDUCA (Education)	1.000	1.000	1.000	1.000	1.000

Table 3: The HTMT Results

	CCI	SHOW-ROOMING	WEB-ROOMING	CV	AGE	OCCUP
CCI						
SHOW-ROOMING	0.643					
WEB-ROOMING	0.680	0.830				
CV	0.616	0.694	0.632			
AGE	0.076	0.092	0.135	0.051		
OCCUP	0.133	0.098	0.145	0.071	0.471	
EDUCA	0.111	0.131	0.155	0.046	0.177	0.374

4.2. Examination of The Structural Model

The structural model is performed after checking the measurement model. Firstly, it is required to examine the multicollinearity in the model by VIF (Table 4). Hair et al. (2017) recommend that VIF must be less than 5. The results show that the VIF scores of all four pairs of constructs are much smaller than 5. Hence, the research model does not have the multicollinearity.

Table 4: Checking Multicollinearity by VIF

	SHOW-ROOMING	WEB-ROOMING	CV
CCI	1.000	1.000	
SHOWROOMING			1.976
WEBROOMING			2.005
AGE			1.291
OCCUP			1.452
EDUCA			1.177

Note: CCI – Cross-channel integration capability
CV – Customer value
OCCUP – Occupation
EDUCA - Education

Next, check the R^2_{adj}. As displayed in Table 5, R^2_{adj} scores illustrate that showrooming and webrooming are respectively explained at 0.327 percent and 0.368 percent by cross-channel integration capability, and customer value is also explained at 0.377 percent by both showrooming and webrooming.

Table 5: Examination of R^2_{adj}

	SHOW-ROOMING	WEB-ROOMING	CUSTOMER VALUE
R^2_{adj}	0.327	0.368	0.377

Later, evaluation of the predictive level of endogenous variables and examination of the research hypotheses. The results are displayed in Table 6 and Figure 2.

Table 6: The Results of Evaluating Research Hypotheses

Hypotheses	Relationship	Std. Beta	Std. Deviation	T-Value	P-Value	f²	CI (95%)	Results
H1	CCI → SHOW	0.574	0.052	11.007	0.000	0.491	[0.488; 0.658]	Supported
H2	CCI → WEB	0.608	0.05	12.217	0.000	0.587	[0.524; 0688]	Supported
H3	SHOW → CV	0.415	0.067	6.156	0.000	0.142	[0.304; 0.522]	Supported
H4	WEB → CV	0.262	0.071	3.671	0.000	0.056	[0.150; 0.382]	Supported
H5	CCI–SHOW–CV	0.238	0.046	5.118	0.000		[0.153; 0.333]	Supported
H6	CCI–WEB–CV	0.159	0.047	3.397	0.001		[0.075; 0.259]	Supported
Control variables	AGE – CV	0.021	0.055	0.373	0.355	0.001	[-0.071; 0.110]	Not supported
	OCCUP – CV	0.037	0.056	0.664	0.253	0.002	[-0.055; 0.126]	Not supported
	EDUCA – CV	-0.087	0.052	1.663	0.048	0.010	[-0.172; 0.000]	Not supported

Note:
CCI – Cross-channel integration capability
SHOW– Showrooming
WEB – Webrooming

CV – Customer value
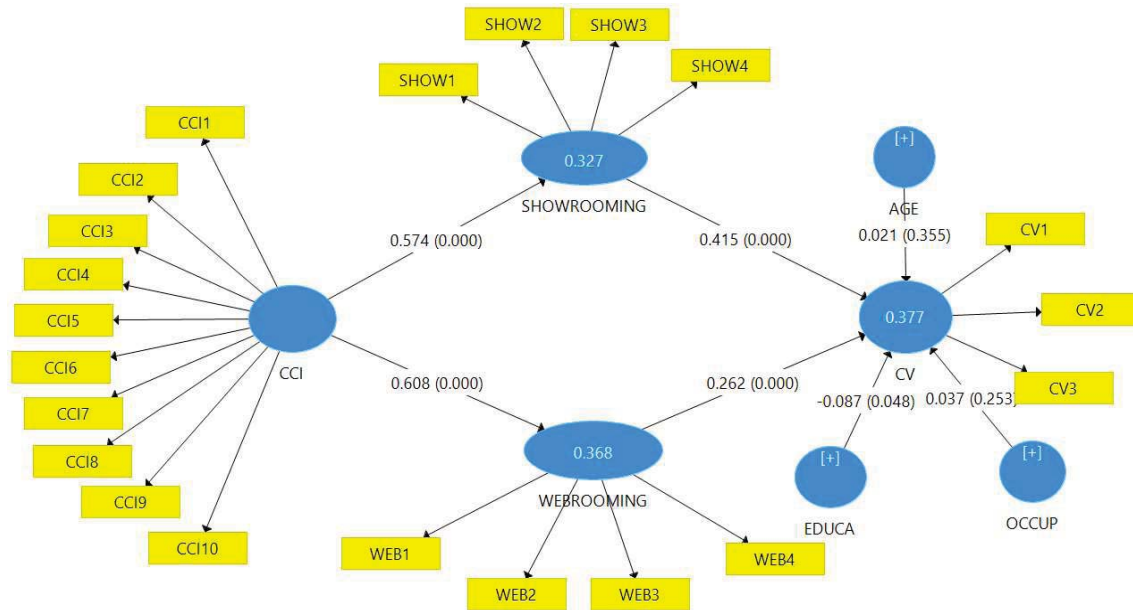OCCUP – Occupation
EDUCA – Education

Figure 2: Research Model

5. Discussions and Implications

5.1. Theoretical Implications

This study proposes some theoretical implications. 1) We reinforce the important role of providing seamless shopping experiences in bringing more value to consumers. By diversifying and integrating all channels, retailers' distribution system becomes consistent and allows the customer to choose any channels they prefer to seek products and make the purchase. The results express that enhancing capability of cross-channel is an effective way to facilitate the shopping procedures of consumers. When consumers find it easy to choose either physical stores or online channels for generating product information and making the order, the cost and scarifies will be reduced while the benefits will be added. 2) We highlight the mediating role of showrooming and webrooming in the positive relationship between CCI and customer value. Whilst prior studies consider both showrooming and webrooming as the moderator in this relationship, this study highlights their mediating role. In that, customers will receive more value if they get great experiences from searching product information, ordering, paying, and using after-sale services in a uniform way across all channels of retailers. Great experiences will be found when retailers offer effective showrooming and webrooming which are enhanced by expanding and combining all retailers' channels. 3) The knowledge stock of customer value is added to an

appreciated case study on the linkage among CCI, showrooming, webrooming, and customer value in the retail sector in Vietnam. By surveying the five biggest retailers in Hanoi – the capital city of Vietnam, the research provides valuable evidence to affirm the important role of nurturing CCI in developing showrooming and webrooming, and the effective way to bring more value to customers through CCI, showrooming, and webrooming in developing nations.

5.2. Managerial Implications

The research explores some managerial implications results for retail managers in developing countries to add more customer value by reinforcing CCI and developing both showrooming and webrooming. *First,* retailers should invest more in applying the latest technologies for expanding new methods of retail. Besides adding modern retail channels, retail managers should coordinate with payment and logistics service providers to facilitate methods of payment and delivery. *Second,* it is necessary for retail managers to integrate their retail network to become consistent. We mean that all retailer's channels need to be combined and allow consumers to get seamless shopping experiences. The information of products and services must be informed consistently in overall channels. The order should be made easily in any method and the after-sale services could be offered in both online and offline channels. *Third,* we highly recommend retailers invest in communication and promotion in all retail channels. By highlighting each retail channel, customers easily find a

suitable channel for them and get more benefits as well as reduce their costs and scarifies.

6. Conclusion, Limitation, and Future Studies

This study explores the linkages among CCI, showrooming, webrooming, and customer value of retailers. Through an empirical study, the findings clarify the positive impact of CCI, showrooming, and webrooming on customer value. In that, showrooming and webrooming directly impact customer value and the relationship between CCI and customer value is mediated by showrooming and webrooming. The research results provide valuable evidence which is useful information for retail managers to bring more customer value by enhancing CCI and developing both showrooming and webrooming.

Nevertheless, this study still has a few limitations to consider. *First*, other factors that are crucial for providing customer value are not identified in this research. Further study should look for them and investigate their role in creating customer value. *Second*, the empirical context is small, concentrating on Hanoi – the capital city of Vietnam. The findings thus might not be transferable to other contexts. Different studies should be implemented to surface with a broader sample of firms with greater variation in the firm, industry, or country.

References

Ansari, A., Mela, C. F., & Neslin, S. A. (2008). Customer Channel Migration. *Journal of Marketing Research*, *45*(1), 60–76.

Avery, J., Steenburgh, T. J., Deighton, J., & Caravella, M. (2012). Adding Bricks to Clicks: Predicting the Patterns of Cross-Channel Elasticities over Time. *Journal of Marketing*, *76*(3), 96–111.

Baal, V., & Dach, S. C. (2005). Free Riding and Customer Retention across Retailers' Channels. *Journal of Interactive Marketing*, *19*(2), 75–85.

Cao, L., & Li, L. (2015). The Impact of Cross-Channel Integration on Retailers' Sales Growth. *Journal of Retailing*, *91*(2), 198–216.

Cao, L., & Li, L. (2018). Determinants of Retailers' Cross-channel Integration: An Innovation Diffusion Perspective on Omni-channel Retailing. *Journal of Interactive Marketing*, *44*, 1–16.

Chang, H. H., Wang, Y. H., & Yang, W. Y. (2009). The impact of e-service quality, customer satisfaction and loyalty on e-marketing: Moderating effect of perceived value. *Total Quality Management and Business Excellence*, *20*(4), 423–443.

Chang, T. Z., & Wildt, A. R. (1994). Price, product information, and purchase intention: An empirical study. *Journal of the Academy of Marketing Science*, *22*(1), 16–27.

Flavián, C., Gurrea, R., & Orús, C. (2020). Combining channels to make smart purchases: The role of webrooming and showrooming. *Journal of Retailing and Consumer Services*, *52*(7), 101923.

Gensler, S., Neslin, S. A., & Verhoef, P. C. (2017). The Showrooming Phenomenon: It's More than Just About Price. *Journal of Interactive Marketing*, *38*, 29–43.

Goraya, M. A. S., Zhu, J., Akram, M. S., Shareef, M. A., Malik, A., & Bhatti, Z. A. (2020). The impact of channel integration on consumers' channel preferences: Do showrooming and webrooming behaviors matter? *Journal of Retailing and Consumer Services*, *March*, 102–130.

Grewal, D., Roggeveen, A. L., & Nordfält, J. (2017). The Future of Retailing. *Journal of Retailing*, *93*(1), 1–6.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Thousand Oaks. In *Sage*.

Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, *26*(2), 106–121.

Henseler, J., Ringle, C. M., & Sarsstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135.

Herhausen, D., Binder, J., Schoegel, M., & Herrmann, A. (2015). Integrating Bricks with Clicks: Retailer-Level and Channel-Level Outcomes of Online-Offline Channel Integration. *Journal of Retailing*, *91*(2), 309–325.

Holbrook, M. B. (1994). The nature of customer's value: An axiology of service in consumption experience. *New Directions in Theory and Practice*, *21*(1), 21–71.

Kabadayi, S., Loureiro, Y. K., & Carnevale, M. (2017). Customer Value Creation in Multichannel Systems: The Interactive Effect of Integration Quality and Multichannel Complexity. *Journal of Creating Value*, *3*(1), 1–18.

Kang, J. Y. M. (2018). Showrooming, Webrooming, and User-Generated Content Creation in the Omnichannel Era. *Journal of Internet Commerce*, *17*(2), 145–169.

Kuo, Y. F., Wu, C. M., & Deng, W. J. (2009). The relationships among service quality, perceived value, customer satisfaction, and post-purchase intention in mobile value-added services. *Computers in Human Behavior*, *25*(4), 887–896.

Li, Y., Liu, H., Lim, E. T. K., Goh, J. M., Yang, F., & Lee, M. K. O. (2018). Customer's reaction to cross-channel integration in omnichannel retailing: The mediating roles of retailer uncertainty, identity attractiveness, and switching costs. *Decision Support Systems*, *109*, 50–60.

Neslin, S. A., Grewal, D., Leghorn, R., Shankar, V., Teerling, M. L., Thomas, J. S., & Verhoef, P. C. (2006). Challenges and Opportunities in Multichannel Customer Management. *Journal of Service Research*, *9*(2), 95–112.

Neslin, S. A., & Shankar, V. (2009). Key Issues in Multichannel Customer Management: Current Knowledge and Future Directions. *Journal of Interactive Marketing*, *23*(1), 70–81.

Oh, L. Bin, Teo, H. H., & Sambamurthy, V. (2012). The effects of retail channel integration through the use of information technologies on firm performance. *Journal of Operations Management*, *30*(5), 368–381.

Oliver, R. L., & DeSarbo, W. S. (1998). Response determinants in satisfaction judgments. *Journal of Consumer Research*, *14*(4), 495–507.

Pantano, E., & Viassone, M. (2015). Engaging consumers on new integrated multichannel retail settings: Challenges for retailers. *Journal of Retailing and Consumer Services*, *25*, 106–114.

Peterson, R. A., Balasubramanian, S., & Bronnenberg, B.J. (1997). Exploring the Implications of the Internet for Consumer Marketing. *Journal of the Academy of Marketing Science*, *25*(4), 329–346.

Rapp, A., Baker, T. L., Bachrach, D. G., Ogilvie, J., & Beitelspacher, L. S. (2015). Perceived customer showrooming behavior and the effect on retail salesperson self-efficacy and performance. *Journal of Retailing*, *91*(2), 358–369.

Rintamäki, T., Kuusela, H., & Mitronen, L. (2007). Identifying competitive customer value propositions in retailing. *Managing Service Quality*, *17*(6), 621–634.

Sekaran, U., & Bougi, R. (2010). *Research Methods for Business: A skill building approach* (5th ed.). Wiley India (Pvt) Ltd.

Shen, X. L., Li, Y. J., Sun, Y., & Wang, N. (2018). Channel integration quality, perceived fluency and omnichannel service usage: The moderating roles of internal and external usage experience. *Decision Support Systems*, *109*(2017), 61–73.

Yang, Z., & Peterson, R. T. (2004). Customer perceived value, satisfaction, and loyalty: The role of switching costs. *Psychology and Marketing*, *21*(10), 799–822.

Yrjölä, M., Saarijärvi, H., & Nummela, H. (2018). The value propositions of multi-, cross-, and omni-channel retailing. *International Journal of Retail and Distribution Management*, *46*(11–12), 1133–1152.

Zhang, M., Ren, C., Wang, G. A., & He, Z. (2018). The impact of channel integration on consumer responses in omni-channel retailing: The mediating effect of consumer empowerment. *Electronic Commerce Research and Applications*, *28*, 181–193.