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Assessing Interactions Among Omnichannel Attributes, Customer Perceptions, Customer Experience, Channel Selection

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Abstract

Purpose: This study aims at understanding the impacts of three omnichannel attributes (channel transparency, channel uniformity, channel convenience) and four customer perceptions (perceived innovativeness, perceived personalization, perceived risk, perceived credibility) on customer experience and channel selection decision. **Research design and methodology**: A quantitative online survey with 356 shoppers was executed. The partial least squares linear structural model (PLS-SEM) and Smart PLS were adopted to analyze the collected data and test the proposed hypotheses. **Results:** The research findings indicate four dominant results: (i) The customers' channel selection is directly determined by customer experience; perceived innovativeness; perceived personalization; perceived risk; and perceived credibility; and (ii) among these, the perceived risk shows negative impact on the customer's experience and customers' channel selection whereas others reveal the positive status; (iii) The customer experience represents the most decisive impact on the channel selection, then perceived personalization, perceived credibility, perceived innovativeness, and perceived risk. (iv) Three proposed channel attributes (transparency, uniformity, convenience) significantly influence the overall customer experience. **Conclusions**: This research adds to the body of knowledge in omnichannel retailing, customer experience, and customer channel selection. Furthermore, this research provides omnichannel retailers with practical implications for improving customer channel selection.

Keywords : Omnichannel Attributes, Customer perceptions, Customer Experience, Channel Selection

JEL Classification Code: M10, M30, M37

1. Introduction

Bezes (2019) stated that retailing sector had undergone significant changes since the beginning of the 21st century in which traditional retailers shifted from single-channel, multi-channel towards the omnichannel model. Initially, multi-channel retailers manage channels separately (Neslin & Shankar, 2009), resulting in severe data discrepancy and, especially, the customer experience throughout the shopping journey. Therefore, omnichannel is a contemporary method to enhance customer's shopping experience and overcome all shortcomings of the multi-channel approach – organization touchpoints (Li, Liu, Lim, Goh, Yang, & Lee, 2018) and promote consistency in product/service offerings (Shen, Li, Sun, & Wang, 2018). Omnichannel integrates customer experience and focuses all purchaser interactions with the enterprises via the shoppers' perspective (Yrjölä, Spence, & Saarijärvi, 2018).

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According to Verhoef, Kannan, and Inman (2015), omnichannel management is the synergetic management of the multiple available channels and customer touchpoints to maximize the customer experience across channels and channel performance. The successful integration and coordination between sales channels shall better meet customers' needs. From there, businesses can improve their financial performance (Hübner, Wollenburg, & Holzapfel, 2016). In response to retailing evolution, retailers must adapt to the omnichannel strategy. Specifically, the goal of this strategy is to maximize the overall retail experience across all channels and total sales through the integration of all traditional and online channels (Verhoef et al., 2015). In addition, retailers must be flexible and agile in their ability to change the way orders are fulfilled to ensure cost-effectiveness (Ishfaq, Gibson, & Defee, 2016). The complex interactions in the retail supply chain present challenges to ensuring customer familiarity and comfort with the entire shopping process (Verhoef et al., 2015). Now, customers will need to decide which products and retailers to choose in a traditional shopping environment and which channel to choose in an omnichannel shopping environment. However, very few studies examine customer perceptions of the omnichannel method and how this affects customer's channel selection (Bilgicer, Jedidi, Lehmann, & Neslin, 2015; Verhoef et al., 2015; Ye, Lau, & Teo, 2018).

Given the above gaps in the literature, this study aims to devote to the literature of customer's channel selection and the customer experience in omnichannel retailing context by exploring the impact of channel attributes and customer perceptions on the customer experience and, subsequently, on the customer's channel selection. There have been three-omnichannel attributes, including Transparency, Convenience, Uniformity, and four customer perceptions: Perceived Innovativeness, Perceived Personalization, Perceived Credibility, and Perceived Risk.

2. Literature Review

According to Holbrook and Hirschman (1982), *experience* is defined as the totality of events that a person experiences, usually affecting emotions and feelings when there is interaction through the stimulation of goods and services consumed. From a marketing point of view, the customer experience was proposed as the interaction between an organization and a unique customer (*different individuals will not have the same experience*), which can be remembered as a memorable event and enduring over time. Customer experience with a retailer was interpreted as an intrinsic and subjective response to interacting directly or indirectly with a company. More recently, Lemon and Verhoef (2016) describe *customer experience* as a multi-dimensional construct that focuses on customers' cognitive, behavioral, emotional, and social responses to a company's products throughout the entire customer journey. Although evaluated from different perspectives, customer experience is an overall concept, and there are certain commonalities between different definitions. The common point of the concepts is that customer experience is often theorized as a psychological construct and considered a subjective variable arising from feelings and comparing what customers receive with what they expect to receive (Suchánek & Králová, 2018).

Recent research on omnichannel retailing has focused on the dynamics that influence *consumers' channel choices*. Keen, Wetzels, Ruyter, and Feinberg (2004) analyzed the consumer decision-making process to know how product price, retail form, and degree of control affect channel selection behavior among several channels (e.g., online, brick-and-mortar). Ansari, Mela, and Neslin (2008) suggested that sociodemographic characteristics and consumer experience (previous channel experience, number of previous purchases, interval between last two last purchases) can influence a consumer's channel choice. In addition, Xu and Jackson (2019) investigated customers' channel selection intentions in the omnichannel retail environment by analyzing the impact of channel attributes (*Transparency, Convenience, Uniformity*) on customers' perception.

Channel transparency is expressed through various forms in the channel environment, including product information and order tracking capabilities (Xu & Jackson, 2019) and service availability information (Lee, Chan, Chong, & Thadani, 2019). Once a retailer cannot transparently disclose information and services on its sales channels, customers will face many difficulties in the purchasing process, negatively affecting their experience with the retailer (Bitner, Ostrom, & Meuter, 2002). Besides, *channel consistency* among stakeholders is reflected in product and service information across the entire channel (Lee et al., 2019), responsibility, and ability to communicate with the seller during the sales process (Xu & Jackson, 2019). Seck and Philippe (2013) suggest that channel consistency positively affects customer satisfaction and experience. In addition, the consistency of the channel also improves perceived service quality and minimizes customers' perceived risk. Finally, Aagja, Mammen, and Saraswat (2011) found that the higher the *channel convenience*, the greater the influence on the customer experience. In addition, convenience positively impacts customer satisfaction and repeat purchase behavior (Seiders, Voss, Godfrey, & Grewal, 2007). Thus, a retailer's channel possessing the three above attributes will limit the disclosure of shopper information to third parties, help buyers save monetary and non-monetary costs (time, effort), and

improve customer comfort when using the channel. Thereby promoting a positive purchasing experience of consumers on the channel. Therefore, this study proposes hypotheses as follows:

H1: Channel transparency positively affects Omnichannel customer experience
H2: Channel uniformity positively affects Omnichannel customer experience
H3: Channel convenience positively affects Omnichannel customer experience

Alpert (2015) investigated the impact of consumers' *perceived innovativeness* on various consumer goods. He examined perceived innovativeness' impact on satisfaction levels, and their results showed that greater awareness of technology novelty increases customers' satisfaction experience. For *perceived personalization*, personalization helps retailers better meet the increasingly diverse needs of customers, which has a positive impact on their experience (Lemke, Clark, & Wilson, 2011). McLean, Al-Nabhani and Wilson (2018) proposed the customization element that directly affects the customer experience in retail mobile applications. Also, on the integrated channel retail environment, Tyrväinen, Karjaluoto, and Saarijärvi (2020) confirmed the positive influence of personalization on the components of the buyer experience, including emotional experience experiential perception. In addition, personalization increases the customer's sense of control and makes them part of the experience creation (Chang, Yuan, & Hsu, 2010). Besides, *perceived credibility* plays a vital role in shaping customer experience towards a retailer, driving repurchase intention from that retailer. Higher perceived credibility has a more substantial impact on customer experience and purchase channel selection intention through the perception of high quality, low risk, and information cost savings (Baek & King, 2011).

Contrary to the above factors, *perceived risk* is an essential factor in hindering the formation of a positive customer experience and negatively influences consumer purchasing behavior in the retail sector. Chang, Chih, Liou, and Yang (2016) concluded that online shoppers' perceived risk significantly negatively influences their experience and purchase decision. The above conclusion is also accurate in e-commerce when Kim, Ferrin, and Rao (2008) confirmed that perceived risk harms users' purchase intention. Similarly, Nok, Suntikul, Agyeiwaah, and Tolkach (2017) show a negative relationship between perceived risk and purchase intention. Therefore, this study proposes hypotheses as follows:

H4: Perceived innovativeness positively affects Omnichannel customer experience
H5: Perceived personalization positively affects Omnichannel customer experience
H6: Perceived credibility positively affects Omnichannel customer experience
H7: Perceived risk negatively affects Omnichannel customer experience

Like the customer experience, customer channel selection is also influenced by four customer perception factors. According to Erdem and Swait (2004), perceived credibility is significantly related to emotion and reason in the customer decision-making process, therefore, has a positive influence on consumers' future channel choices and considerations. The channel with a high degree of credibility will ensure a long-term plan to provide products and services to consumers while developing customer satisfaction, loyalty, and retailers' commitments. This continues to deliver positive word-of-mouth results (Ghorban & Tahernejad, 2012), helping to improve retailers' profits and competitiveness (Sallam, 2015; Al-Baz et al., 2018). For *perceived innovativeness*, Slade, Dwivedi, Piercy, and Williams (2015) developed a research model to determine the relationship between perceived innovativeness and consumer's intention in the context of online mobile payments. They argued that innovativeness positively influences intention to use remote mobile payments services. Besides, Bilgihan et al. (2016) concluded that recommendation systems with personalized features could attract customers to channels. A personalized purchase funnel reduces product searches and product-review costs, thereby increasing the chances of a buyer staying on the channel.

Moreover, it helps to minimize the customer's shopping time and effort (Kim & Baek, 2018). Perceived risk is still the only factor that negatively impacts channel selection decisions. Chang et al. (2016) concluded that perceived risk significantly negatively influences satisfaction and purchase decision. The above conclusion is also correct in e-commerce when Kim et al. (2008) confirmed that perceived risk harms consumers' purchase intention. When buyers perceive the risks on the purchasing channel, they may not be satisfied with their experience and hesitate to choose this channel for future transactions. Consequently, this study proposes the following hypotheses:

H8: Perceived innovativeness positively affects customer's channel selection
H9: Perceived personalization positively affects customer's channel selection
H10: Perceived credibility positively affects customer's channel selection
H11: Perceived risk negatively affects customer's channel selection

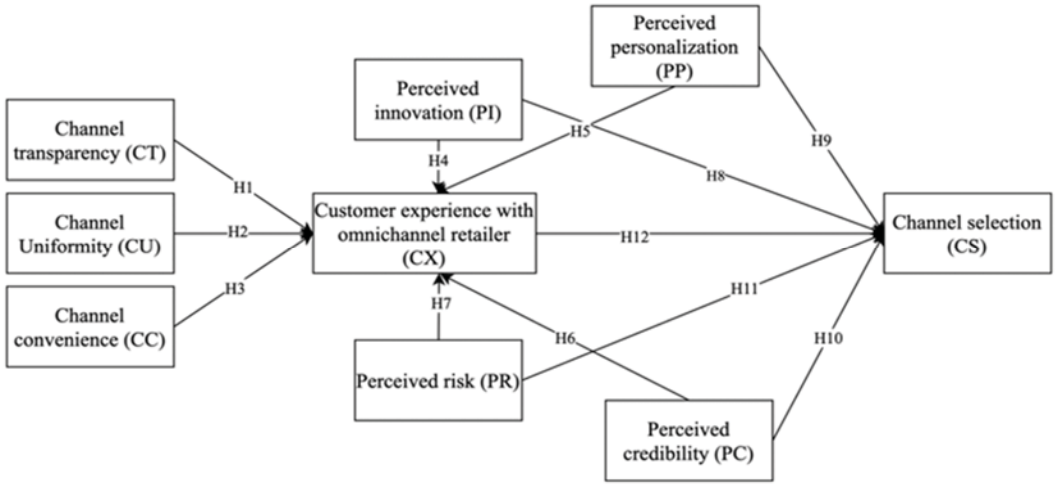

Figure 1: Proposed research model

Gounaris, Dimitriadis, and Stathakopoulos (2010) noted that customers would consider their previous retail purchase experience to decide whether to return or repurchase to the brick-and-mortar store. In the online retail environment, McLean et al. (2018) also assert that a complete customer experience will significantly increase the frequency of retailers using mobile applications. In the context of omnichannel, Shen, Li, Sun, and Wang (2018) suggest that customers' previous experiences with specific shopping channels should be considered when assessing their omnichannel shopping intentions. Accordingly, we propose the following hypotheses:

H12: Omnichannel customer experience positively affects customer's channel selection

3. Research Methods and Materials

The author surveyed 400 customers who already have shopping experience with omnichannel retailers to accomplish the research objectives. Moreover, to make the survey more accurate, we only focused on customers who bought electronic devices. In the actual market, electronic device retailers highly adopted the omnichannel distribution model.

An online survey with a structured questionnaire was conducted from October 2021 to December 2021. The entire questionnaire uses a 5-point Likert scale in ascending order of the respondent's level of agreement. First, the research team conducted a pilot-test interview with a small sample of respondents to check for the quality and validity of the questionnaire. Through receiving feedback and discussion, the research team made appropriate adjustments to develop the official scale and questionnaire, which have the most suitable level with Vietnam's actual business and culture context. Second, the questionnaire was delivered to 400 respondents by email social media accounts. At the end of the investigation, the questionnaires with errors such as missing value, repetitions, conflicts were deleted to ensure the research results were accurate. Finally, the study obtained 356 complete questionnaires (equivalent to the rate of 89.0%) to include in the subsequent analysis steps.

Collected data were cleaned and analyzed by Microsoft Excel for descriptive statistics purposes, Partial least squares path modeling (PLS-SEM), and Smart PLS 3.2.2 software is used to evaluate the scale and determine the importance of the factors test the hypotheses posed. PLS-SEM was adopted to support prediction models from empirical data when different measurement scales and small sample sizes are used in the research model (Birkinshaw & Morrison, 1995). The PLS-SEM analysis was executed to assess the measurement and structural models. The measurement model was appraised by examining the values of Cronbach Alpha, Internal composite reliability, convergent validity, and discriminant validity (Henseler, Ringle, & Sarstedt, 2009). The structural model was scrutinized both direct and indirect effects to test the proposed hypotheses through the values of path coefficients, R2, f2, Q2, and p-values.

All measured items followed preceding studies with several adjustments to suit the research context. The current study consists of nine multi-dimensional constructs. Three constructs belong to the channel attributions: channel transparency, channel uniformity, and convenience. The transparency and uniformity of channel measures were adopted from Lee, Chan, Chong, and Thadani (2019); and Xu and Jackson (2019). The items of channel convenience were inherited from Xu and Jackson (2019) and Yan, Chen, Zhou, and Fang (2020). Four customer perception attributes, including perceived innovativeness, perceived risk,

perceived personalization, perceived credibility was, advanced from the scale of Lin (2016); Xu and Jackson (2019); Chetioui, Benlafqih, and Lebdaoui (2020); Hickman, Kharouf, and Sekhon (2020); and Yan et al. (2020). The omnichannel customer experience was evolved from Le and Nguyen-Le (2020) and Nguyen (2021). The customer channel selection scale was adopted from Xu and Jackson (2019) and Truong (2020).

4. Results

When performing the descriptive statistical analysis procedure with the selected sample, the study obtained the results of sample structure distribution as follows:

Table 1: Sample demographic characteristics

Gender	No	%	Age	No	%
Male	215	60.4%	<23	110	30.9%
Female	141	39.6%	23-35	136	38.2%
Total	356	100.0%	36-45	78	21.9%
			>45	32	9.0%
			Total	356	100.0%
Occupation	***freq.***	***%***	**Income**	***freq.***	***%***
Student	90	22.5%	<6	89	25.0%
Officer	177	42.2%	6 – 11	116	32.6%
Workers	21	16.0%	11 – 20	89	25.0%
Freelancer	53	12.2%	>20	62	17.4%
Others	15	7.1%	Total	356	100.0%
Total	356	100.0%			

4.1. Assessment of measurement models

To assess the measurement model, we first estimated the convergent validity by examining the outer loadings of each item and the Cronbach Alpha (CA), the composite reliability (CR), average variance extracted (AVE) of each construct. According to Ford and Larcker (1981), the AVE coefficient must be greater than .50 to confirm the convergence value. The outer loadings of each item should exceed .70, and the CA of each scale is above 0.70 to achieve the significance level (Hair, Sarstedt, Matthews, & Ringle, 2016).

The channel attributes constructs would be more reliable after removing five items, including CT3, CU3, CU9, CC6, and CC7. The customer perception constructs would be more reliable when eliminating PI4, PI7, PR2, PR3, and PP3. Ten disqualified items possessed the outer loading values below the approved value of .70. All the remaining 51 items satisfied the levels of reliability. The nine constructs' CA and CR values are more significant than .70, and AVE values greater than .50 indicate the consistency reliability and convergent validity.

Table 2: Consistency reliability & convergent validity

Constructs	Outer Loadings	CA	CR	AVE
Channel Transparency	.851 - .868	.930	.944	.739
Channel Uniformity	.727 - .857	.910	.925	.637
Channel Convenience	.773 - .824	.864	.900	.644
Perceived Innovativeness	.834 - .863	.901	.926	.716
Perceived Risk	.828 - .878	.920	.937	.714
Perceived Personalization	.834 - .858	.920	.938	.715
Perceived Credibility	.752 - .828	.849	.892	.624
Customer Experience	.776 - .921	.895	.920	.658
Channel Selection	.805 - .835	.877	.910	.670

Note: All item loadings are significant at .001 ($p < .001$).

Fornell and Larcker (1981) suggested that the square root of the AVE of each variable should be greater than the correlation coefficients between the latent variables to achieve discriminant performance. As the results are shown in Table 3, the square root AVE of each variable (at the beginning of each column) is larger than the correlations between the latent variables (correlation coefficient is below the initial value in the column). Thus, we may conclude that the measurement model showed adequate discriminant validity. (Appendix 2)

4.2. Assessment of Structural models

Multicollinearity is a phenomenon where the independent variables are strongly correlated with each other. The model that occurs with multicollinearity will cause many indexes to be skewed, leading to the results of quantitative analysis no longer giving much meaning. Sarstedt, Hair, Cheah, Becker and Ringle (2019) proposed that VIF indexes of 5 or more show a very high degree of multicollinearity, and below 3, there is no multicollinearity. The analysis indicated that the lowest VIF value is 1.100 and the highest is 2.137, all lower than 3. Thus, there is no crucial multicollinearity concern in the structural model. To assess the quality of the structural model, we used the Standardized Root Mean Square Residual (SRMR) value. Hu and Bentler (1999) consider a .08 or lower acceptable value. The analysis result of the model fit summary (Table 3) demonstrates the SRMR value of .056, indicating the model's good fit for theory.

R2 is the primary way to measure the model's predictive accuracy and represent the percentage of variance in the dependent variables as explained by the independent variables in the model. Three dimensions of channel attributes (transparency, uniformity, and convenience) and three dimensions of customer perception (perceived personalization, perceived risk, and perceived credibility) can be explained 60.7% of the variance of the customer experience. Four observed dimensions of customer

perception and experience explained 61.4% of the customer's channel selection variance. Q2 describes the model's ability to predict the observed variables of a latent variable (Reinartz, Haenlein, & Henseler, 2009). If the value of Q2 obtained is more significant than .00, the model can predict a particular dependent variable (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014).

Hair et al. (2019) proposed thresholds to assess the predictability according to the Q2 index below 0.25 as low predictability, from .25 to less than .5 as medium predictability, and .5 or more as high predictability. Q2 values of CX is .390, and of CS is .408, indicating that the customer experience and channel choice demonstrate satisfactory predictive relevance.

Table 3: R2, Q2, SMRM

	R2	Q2	SMRM
CX (Customer Experience)	.607	.390	**.056**
CS (Channel Choice)	.607	.390	

The consecutive criterion to assess the structural model is path coefficients (β values). The path coefficients (Gronemus, Hair, Crawford, Nyalwidhe, Cunnion, & Krishna, 2010) express the degree of shift in the dependent variable for each independent variable. The path coefficient value is suggested to be above .100. However, the relationship between Perceived innovation and customer experience represented the β of less than .100 (.094) so the study rejected this hypothesis. Table 4 shows that the path coefficients for all relationships were statistically significant due to all p values < .05. Therefore, eleven over twelve proposed hypotheses were supported.

Table 4: Hypotheses testing

Hypotheses	Path	*β*	*t*	*f2*	*p*	Decision
H1	CT → CX	.193	5.602	.072	.000	Supported
H2	CU → CX	.177	4.945	.071	.000	Supported
H3	CC → CX	.112	3.011	.027	.003	Supported
H5	PI → CS	.117	2.991	.024	.003	Supported
H6	PP → CX	.395	12.788	.282	.000	Supported
H7	PP → CS	.336	8.200	.170	.000	Supported
H8	PR → CX	-.165	4.238	.054	.000	Supported
H9	PR → CS	-.107	2.900	.022	.004	Supported
H10	PC → CX	.387	10.006	.289	.000	Supported
H11	PC → CS	.233	4.975	.085	.000	Supported
H12	CX → CS	.345	6.006	.145	.000	Supported

The results of table 4 indicate that there have been nine positive relationships and two adverse ones among twelve proposed interactions. The perceived risk shows both negative impacts on customer experience and channel selection. In addition, Cohen (1988) proposed the f2 index level to assess the importance of independent variables according to the following levels .02, .15, and .35 indicating small, medium, and high effects. The results of Table 4 illustrated the two highest impacts of perceived credibility and perceived personalization on customer experience as f2 =.289 and f2=.282. In comparison, perceived risk moderately affects customer experience as f2=.054. Three channel attributes have medium influences on customer experience as f2 values range from .027 to .072. Customer experience shows the highest degree of influence for customer's channel selection as f2=.145 whereas four customer perceptions showed slight to medium effects due to the f2 values ranging from 0.024 to 0.170.

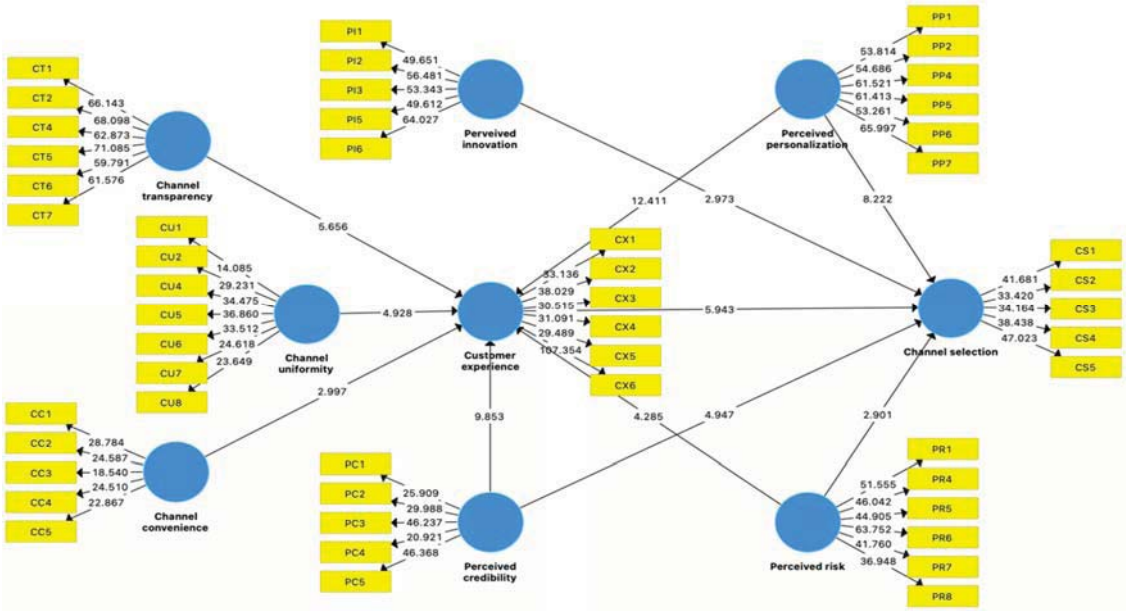

Figure 2: PLS results

5. Discussions and Implications

Channel attributes with three dimensions and customer perception with three dimensions were scrutinized as the propulsive factors of customer experience. Three sub-dimensions of channel attributes, comprising transparency, uniformity, and convenience, were approved to affect omnichannel customer experience positively. While perceived personalization and perceived credibility of customer perception have an intense and positive impact on customer experience, perceived risk harms this dependent variable. These findings are supported by the studies of Sunikka and Bragge (2012); Seck and Philippe (2013); Bilgihan, Kandampully, and Zhang (2016); Chang, Chih, Liou, and Yang (2016); Choi, Kwon, and Shin (2017); Oppong (2020). Among the six examined components, perceived personalization has the most significant impact on customer experience, followed by perceived credibility. Two findings suggest that to advance positive customer experiences, retailers need to increase trustworthiness and develop personalization features across their sales channels.

Moreover, the customer perception, which includes perceived innovativeness, perceived personalization, perceived risk, and perceived credibility, together with customer experience, positively affect the customer's channel selection. These findings support the studies of Murali, Pugazhendhi, and Muralidharan (2016); and Mahmoud, Hinson, and Adika (2018). Likewise, perceived personalization and credibility are two factors that have the most profound effect on customer channel selection. These findings suggest that consumers are interested in personalization capabilities and high-demand credibility from the retailer's channel. A reliable and personalized channel help customer reduce search costs and possible risks and increase customer belief in the quality of products/ services and retailers. (Erdem & Swait, 1998).

Theoretically, this study supports the two aspects of omnichannel retailing, customer experience, and especially customer's channel choice. First, although there have been several studies on customer experience, and customer's channel selection in omnichannel retailing, these two variables are only individuals affected by either the channel's attributes or the customer's perception. However, this study combined the two above groups of factors above and examined their sub – dimensions' influences on customer experience to understand better the role of each factor group in enhancing overall customer experience and customer's channel selection. Second, this study examines the relationship that previous models have overlooked – the relationship between the customer experience and channel selection decisions.

Practically, we consider that this study has several implications for management. First of all, omnichannel retailers should focus on enhancing perceived personalization on both online and offline channels to deliver a seamless shopping experience to their customers. Retailers can apply information technology to collect customer behavior across channels and make appropriate recommendations to buyers. Specifically, brick-and-mortar store salespeople could view recent customers' purchases and behavior by a tablet and their loyalty card or email address. As a result, salespeople will make tailored recommendations to in-store shoppers based on data across channels. Second, posting high-quality and consistent content will increase brand awareness and strengthen the retailer's business image with customers. Besides, content and action must be persistent across channels, improving perceived credibility and customer experience. Finally, omnichannel retailers should also pay attention to decreasing customers' perceived risk of omnichannel shopping. Guarantee policy and customers' personal information are two critical aspects retailers need be considered. To limit the risk of customers' personal information, retailers need to issue regulations to classify groups of information decentralize the use of information groups to ensure information security.

6. Conclusions and future research

The fact that more and more businesses are applying the omnichannel retail model has been attracting the research focus of scholars and professionals. Channel selection will help businesses improve sales strategies, increase customer experience and retain loyal customers with companies. This study advances the literature on omnichannel retailing in theoretical and practical implications. However, this study still has several limitations, which suggest directions for further research. First, this study mainly depended on the quantitative survey method with self-reported data from the methodology perspective.

Future studies are suggested using other methods such as field experiments, data mining, or qualitative interviews to improve the validity of the proposed research model. Secondly, implemented in Vietnam and mainly focused on the consumer electronics retailing sector, the research result maybe not be generalized to other contexts. Hence, future studies could assess this theoretical framework concerning other industries. Third, this research was taken in Vietnam and did not mention significant cultural or demographic differences to anticipate customer behaviors. Future studies, thus, are suggested to assess the effects of cultural or demographic factors in its research to enhance the generalization of research results.

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Appendixes

Appendix 1: Scale development

CODE	STATEMENTS	SOURCES
Channel Transparency		
CT1	The expected date of receipt of the product is clear	Xu & Jackson (2019)
CT1	The expected date of receipt of the product is clear	Xu & Jackson (2019)
CT2	The delivery information is readily available	
CT3	I know when my order has been delivered or is ready to be picked up in this channel	
CT4	I am aware of availability of the services of this channel	Lee et al. (2019)
CT5	I am familiar with availability of the services of this channel	
CT6	I know how to utilize availability of the services of this channel	
CT7	This channel delivers what it promises	
Channel Uniformity		
CU1	I can contact the seller directly regarding any transaction issue in this channel	Xu & Jackson (2019)
CU2	The seller will handle any issues directly when using this channel	
CU3	The seller is responsible for the entire transaction process	
CU4	Product information are consistent across the channels	Lee et al. (2019)
CU5	The product prices are consistent across the channels	
CU6	Promotion information are consistent across the channels	
CU7	Stock availability is consistent across the channels	
CU8	The levels of customer service are consistent across the channels	
CU9	The channels have consistent performance in the speed of service delivery	
Channel Convenience		
CC1	I can shop anytime I want in this channel	Xu & Jackson (2019)
CC2	I can shop anywhere I want in this channel	
CC3	It is easy to search and learn for the product in this channel	
CC4	I save time and energy using this channel	Yan et al. (2019)
CC5	I get better service thanks to this channel	
CC6	I find that this channel works very well	
CC7	I can have multi-channel choice	Albesa (2007)
Perceived Innovation		
PI1	I like to use new technologies	Hickman et al. (2019)
PI2	Technology makes me more productive	
PI3	This channel offers many innovative services	
PI4	This channel offers more innovative services than other channels	
PI5	Products and services that use the newest technologies are much more convenient to use	Lin (2016)
PI6	The ICT in this channel are always the latest technology	
PI7	In relation to its competitors, its technology is more advanced	
Perceived Risk		
PR1	I am uncertain about the delivery of my order using this channel	Xu & Jackson (2019)
PR2	I am worried that I may have to return the product using this channel	
PR3	I am concerned that the product will not be delivere by the date I need the product when using this channel	
PR4	I am uncertain about the security of privacy using this channel	Yan et al. (2019)
PR5	I am uncertain about the security of payment method using this channel	
PR6	I am worried that sellers in this channel is not credible	
PR7	I am worried that the quality in this channel is not reliable	
PR8	I am concerned that the after-sales service is not guaranteed	
Perceived Personalization		
PP1	Omnichannel platform provides individualized advertisements	Yan et al. (2019)
PP2	Omnichannel platform provides individualized shopping services	Hsia et al. (2020)
PP3	Omnichannel platform offers individualized push notifications	
PP4	Personalized products based on purchase history and browsing history of the retailer app	Wetzlinger et al. (2017)
PP5	Payment based on saved payment data and preferred payment method	
PP6	Receive shopping recommendations related to previous shopping records	
PP7	Receive shopping recommendations related to personal preferences	

Perceived Credibility

PC1	The retailer has great expertise	Kumar & Polonsky (2019)
PC2	The retailer makes truthful claims	
PC3	I do believe that the channel I follow are credible	Chetioui et al. (2020)
PC4	I do believe that the channel advertising is a good reference for purchasing products	
PC5	I find purchasing product/service advertised by the channel I follow to be worthwhile	

Customer Experience

CX1	I am satisfied with the shopping experience at this channel	Le & Nguyen-Le (2020), Nguyen (2021)
CX2	The shopping experience at this channel is exactly what I need	
CX3	Using this retailer's omnichannel service provides information that would be helpful in buying a product	Gao et al. (2021), Nguyen (2021)
CX4	Using this retailer's omnichannel service provides entertainment	
CX5	Using this retailer's omnichannel service is pleasurable	
CX6	I think that the total experience procedure at this channel is excellent	Nguyen (2021)

Channel Selection

CS1	I would choose this channel in the future	Xu & Jackson (2019)
CS2	I would choose this channel in almost every situation	
CS3	I would purchase products using this channel in the future	
CS4	I would encourage family members, friends and relatives to use the omni-channel method for shopping	
CS5	I would spread positive word of mouth about this channel to my friends	Truong (2020)

Appendix 2: Discriminant Vailidity

	CC	CS	CT	CU	CX	PC	PI	PP	PR
CC	.802								
CS	.128	.819							
CT	.091	.373	.860						
CU	.237	.233	.192	.798					
CX	.235	.708	.469	.316	.811				
PC	.120	.578	.315	.146	.587	.790			
PI	.192	.426	.271	.220	.407	.389	.846		
PP	.145	.643	.406	.111	.605	.403	.379	.846	
PR	.215	.227	.298	.135	.221	.358	.452	.366	.845