Print ISSN: 2288-4637 / Online ISSN 2288-4645
doi:10.13106/jafeb.2021.vol8.no3.1275

Consumption Value, Consumer Innovativeness and New Product Adoption: Empirical Evidence from Vietnam

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Received: November 30, 2020 Revised: February 07, 2021 Accepted: February 16, 2021

Abstract

The purpose of this study is to employ the theory of consumption value and consumers' innovative personality characteristics to explain the adoption of new personal electronics devices in Vietnamese market. This study adapts a quantitative survey-based approach to test hypotheses about relationship between consumption value, product specific innovativeness and new product adoption. The study uses a quantitative data set of 915 consumers who owned one mobile electronic device at least in Ho Chi Minh city, one of the biggest cities of Vietnam. The data was collected through personal interview and convenient sampling method. The conceptual model was tested using PLS structural equation model. The findings of this study suggest that both consumption value and product specific innovativeness influence the adoption of new electronic products. The results also reveal that product specific innovativeness mediates the relationship between consumption value and new product adoption. The study further identified that consumption value was taken as a second-order multi-dimensions construct with five components, namely functional value, epistemic value, economic value, social value and emotional value. As a result, the research suggests some implications to enhance marketers' capabilities to develop strategies for launching new hi-tech products in an emerging market as Vietnam.

Keywords: Consumer Innovativeness, Consumption Value, Functional Value, Hedonic Value, New Product Adoption

JEL Classification Code: D90, D91, M30, M31, M39

1. Introduction

The rapid development of science and technology makes the product life cycle shorter and shorter, so businesses try to improve their competitive advantage through developing new products (Beard & Easingwood, 1996). Steenkamp and Gielens (2003) also claim that launching a new product to the market is one of the most important marketing activities of a business. Firms rely on the success of new products for their own profitability and survival in the competitive market (Singh, 2006). Many researchers also confirm that new product development is clearly important for businesses, but at the same time it is challenging, risky and a costly process (Golder & Tellis, 1993; Gielens & Steenkamp, 2007). Gourville (2006) confirms that the failure rate of a new product is up to 40% to 90% while Schnurr (2005) found this rate to be 50% or higher. The key reason behind the failure of new product launch is the lack of understanding of new product adoption behavior (Kaushik & Rahman, 2014). A vast stream of studies on the adoption of new products by consumers is required because the success of new products ultimately depends on the target market's acceptance (Hauser et al., 2006).

Prior studies have paid much attention to the concept of consumer innovativeness because it was considered as an important variable in the adoption of new hi-tech products (Bartels & Reinders, 2011). Moreover, consumer value-driven decision-making has been one of major themes in consumer behavior research (Sheth et al., 1991). Consumption value is a fundamental issue in consumer behavior research,

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which can be applied in understanding consumer choices for a wide range of product categories (Sheth et al., 1991). This theory assumes that consumer choice is a function of multiple consumption value components which are used to explain their choice behavior. A number of previous studies tried to discover the relationship between consumption value and consumer innovativeness however, the results of this relationship as well as among levels of consumer innovativeness lack a degree of clarity and consensus. The innovator plays a prominent role in the adoption and diffusion of new products. Many researchers indicate that consumer innate consumer innovativeness for example have a weak influence on the adoption of new products even though it is statistically significant and suggests that other forms of consumer innovativeness may have a more significant influence on new product adoption (Goldsmith et al. 1995; Im et al., 2003). Further, as most new product diffusion studies are mainly conducted in the USA and Europe, there is a lack of studies within consumer innovativeness domain in an Asian context, especially in emerging markets (Kaushik & Rahman, 2014). Till date no academic research appears to have considered consumption value, consumer innate innovativeness, product specific innovativeness together. Therefore, this study investigates the effect of consumption value and consumer innovativeness on consumer adoption of new personal technologies devices. New products in the context of consumer electronics category are considered to have a greater number of innovative products being launched more than other categories in the market (Im et al., 2007).

As a result, this research addresses three key objectives. The first objective is to develop a theoretically derived conceptual framework to investigate the relationship between consumption value, consumer innovativeness and new product adoption in an emerging market context than the developed countries. The second one is to test influences of consumption value, consumer innovativeness on the adoption of new consumer electronic products. The third objective is to examine the mediating effect of consumer innovativeness between consumption value and new personal electronic product adoption.

2. Literature Review

2.1. New Products

The previous studies categorize new products basing on the technological innovation level in the products and the degree of newness of products to the market and consumers. Booz-Allen and Hamilton (1982) classified the new products into 6 categories by considering two dimensions, newness to the company and newness to the market, including new-to-the-world products, new product lines, additions to existing product lines, improvements to existing products, repositioning and cost reductions in new products. In general, researchers widely considered radical and incremental product innovations as a dichotomous classification of product innovations (Garcia & Calantone, 2002). Incremental product innovations require less technological changes and make it easier for organizations to analyze the success of this type of new product. On the other hand, radical product innovation often involves the highest degree of technology change and create the a lot of uncertainty for both customers and companies (Urban et al., 1996; Veryzer, 2005).

Radical product innovation as the propensity of a firm to introduce new products that (1) incorporate substantially different technology from existing products and (2) can fulfill key customer needs better than existing products (Chandy & Tellis, 1998). Radical innovation corresponds to the first type of innovative product raised by Booz-Allen and Hamilton (1982), called new-to-the-world products. On the other hand, incremental innovation products which improve the conveyance of a currently delivered benefit, but they produce neither the behavior change nor the change in consumption. This study focuses on the incremental innovation products that are suitable in Vietnam market. Incremental innovation products also cover the rest five categories of innovative products proposed by Booz-Allen and Hamilton (1982). This study considers new products in the context of personal electronics sector because of a greater number of new products launched than other areas of the market (Im et al., 2003; Chao et al., 2012).

2.2. Consumption Value

In consumer research, the concept of consumption value has long been studied and widely accepted by researchers as a key predictor of consumer decision-making behavior (Zeithaml, 1988; Sheth et al., 1991). Creating and delivering product and values to the target customers is continuously paid attention by marketing managers nowadays (Tran & Le, 2020). A review of the literature reveals two main research approaches to the conceptualization of value. The first approach defines perceived consumption value as a one-dimensional construct. According to this view, value is a single overall concept that can be measured by a set of self-reported items that evaluates the consumer's perception of value. This perspective includes the possibility that this one-dimensional construct might be produced by the effects of multiple antecedents, but it does not include its component. Zeithaml (1988) defined consumer perceived value as a consumer's overall assessment of the utility of a product or service based on his or her perceptions of what is received and what is given. Early interpretations of the "get" and "give" components were criticized as being too simplistic because they focused on perceived quality and monetary price, while ignoring the multi-dimensionality of decision

making (Sheth et al., 1991). Thus, the second approach conceives perceived value as a multi-dimensional construct that consists of several interrelated attributes or dimensions that form a holistic representation of a complex phenomenon (e.g. Sheth et al., 1991; Babin et al., 1994; Holbrook, 1999; Sweeney & Soutar, 2001). A vast stream of research that views perceived value as a multi-dimensional construct by considering both the utilitarian and the hedonic views of consumption values has been widely gaining acceptance.

An extensive and widely accepted theoretical framework on multiple perceived value dimensions is offered by the theory of consumption values of (Sheth et al., 1991). This theory provides the foundation for creating a comprehensive model of multiple consumption values: functional, social, emotional, epistemic and conditional values. Functional value pertains to whether a product is able to perform its functional, utilitarian, or physical purposes. Social value refers to an image that is congruent with the norms of a consumer's friends or associates and/or with the social image the consumer wishes to project. Emotional value is related to various affective states, which can be positive (for example, confidence or excitement) or negative (for example, fear or anger). Epistemic value is concerned with a desire for knowledge, whether this be motivated by intellectual curiosity or seeking novelty. Finally, conditional value reflects the fact that some market choices are contingent on the situation or set of circumstances faced by the consumers. According to Sheth et al. (1991), this theory rests on three fundamental propositions: (i) that market choice is a function of multiple values; (ii) that these forms of value make differential contributions in any given choice situation; and (iii) that the forms of value are independent. Utilizing the consumption value theory, Sweeney and Soutar (2001) developed consumer perceived value (PERVAL) scale, which was a measurement scale of consumers' perceptions of the value of durable goods. Their findings identified four value dimensions (emotional, social, quality/performance and price/value for money), but their exploratory study did not generate items for epistemic value and conditional value.

2.3. Consumer Innovativeness

Previous research suggests that consumer innovativeness plays a major role in influencing consumer acceptance of new products (Im et al., 2003; Roehrich, 2004). However, there is a lack of consensus regarding the definition and measurement of consumer innovativeness (Roehrich, 2004; Hauser et al., 2006). Hurt et al. (1977) defined personal innovativeness refers to individuals' willingness to change. Midgley and Dowling (1978) identified consumer innate innovativeness as a generalized personality trait of innovative degree, which is the predisposition to which the individual is receptive to new ideas and adopts an innovation independently with others' previous communicated experiences. Consumer innovativeness also reflects an inherent tendency to seek out novelty, creativity and new stimuli or experiences (Hirschman, 1980). Steenkamp et al. (1999) describe consumer innate innovativeness as the predisposition to purchase new products rather than to remain with previous choices. Consumer innovativeness has been defined as the degree to which a responding unit is relatively earlier in adopting an innovation than other units in the society (Rogers, 2003).

Prior studies suggest that consumer innate innovativeness is unchangeable, and each individual owns a certain level of consumer innovativeness (Midgley & Dowling, 1978) and suggest that considering consumer innovativeness to be general across domains can be problematic (Goldsmith & Foxall, 2003). Goldsmith and Hofacker proposed domain specific innovativeness as another approach to measure consumer innovativeness, defining it as "the tendency to learn about and adopt product innovations (new products) within a specific domain of interest' (1991, p.210)". A number of prior empirical studies adopt domain specific innovativeness in the developed countries and it is more suitable than innate innovativeness to predict consumers' adoption behavior (Zhang et al., 2020). However, Nasution and Astuti (2012) argued that domain specific innovativeness may not be a good predictor of new product adoption behavior in the adoption of consumer electronic products because of the different level between two measured constructs in a study, the domain-specific innovativeness is considered with the category level, meanwhile the product level used to new product adoption behavior. Thus, this research adopts product specific innovativeness to an emerging market as Vietnam. Product specific innovativeness is defined as the tendency to learn about and adopt product of an individual of a specific new product.

2.4. New Product Adoption

This study defines new product adoption behavior as the degree to which an individual adopts innovations relatively earlier than other members in his or her social system and makes a full use of an innovation (Rogers, 2003). Midgley and Dowling (1978) recommended the cross-sectional method based on the number of new products owned in a specific category at the time of the survey. This cross-sectional measure captures new-product adoption behavior by using actual actions rather than intentions (Im et al., 2003). Previous research mostly measured new product adoption in three important ways: the relative time adoption; the number of new products owned and purchase intention. Chao et al., (2012) suggests that both the relative time adoption and cross-sectional method should be incorporated into a study. We choose the personal electronic products users to collect

data for testing research hypotheses as these products are considered to have a greater number of new products being developed and launched than other categories (Im et al., 2003, Chao et al., 2012).

2.5. Hypotheses Development

2.5.1. Consumption Value and Its Components

Several studies have discussed the influence of the value dimensions on the adoption of new products (Hur et al., 2012; Wu & Chang, 2016). Lin et al. (2005) emphasized that the definition of consumption value is an overall assessment, is viewed as a multi-dimensional construct and is the aggregation of perceptions of various consumption values. Each component value is expected to contribute different degrees toward consumers' total value assessment. Using consumption value's components as predictors in a structural model ignores the role of overall value, creates a potential problem concerning the levels of abstraction between endogenous and exogenous constructs (Lin et al., 2005). The consumption value of new products in this study is considered by the multidimensional construct consisting of functional, economic, social, emotional and epistemic values (Sheth et al., 1991; Sweeney & Soutar, 2001). These dimensions are conceptualized as being independent of each other, and contribute to varying degrees towards customers' value assessments. Additionally, all consumption values as proposed by Sheth et al. (1991) are independent from each other and do not necessarily co-vary thus, they do not satisfy the conditions for the reflective measurement model (Jarvis et al., 2003). Accordingly, the consumption value construct in this study should be modeled as a second-order composite latent variable with first-order value components as formative indicators, each manifested by multiple reflective indicators. Using overall abstraction of perceived value in the model also helps study achieve the theoretical parsimony (Law et al., 1998). Thus, the following hypotheses were formulated:

H1a: *The functional value of new personal electronic product is positively correlated to its overall consumption value.*

H1b: *The social value of new personal electronic product is positively correlated to its overall consumption value.*

H1c: *The economic value of new personal electronic product is positively correlated to its overall consumption value.*

H1d: *The emotional value of new personal electronic product is positively correlated to its overall consumption value.*

H1e: *The epistemic value of new personal electronic product is positively correlated to its overall consumption value.*

2.5.2. Consumption Value and Consumer Innovativeness

Consumer innovativeness is seen as an existing personality trait for each individual, showing a tendency to react to new things as well as to new products as a cognitive construct (Venkatraman & Price, 1990; Goldsmith et al. (1998). The results of the value - attitude - behavior model shows that the value has a direct influence on behavior as well as an indirect influence through attitude. Homer and Kahle (1988) consider this to be a cognitive hierarchy model, in which the theory operates from abstract cognitions expressed through value to intermediate perception degree and eventually to specific behavior. The theory of reasonable action (TRA) model can be understood as the cognitive-attitude-behavior model in which the attitude shows an individual's tendency to react positively or negatively to a person or problem in their environment (Fishbein & Ajzen, 1975). Consumer innovativeness is also seen as an attitude construct (Hartman & Samra, 2008). Hence, it can be inferred that the consumption value for an innovative product also has impacts on consumer innovativeness of that new product. For that reason, the following hypotheses were proposed:

H2: *Consumption value of new product has a positive correlation to product specific innovativeness.*

2.5.3. Consumer Innovativeness and New Product Adoption

Prior studies have suggested that consumer innovativeness varies across product categories (Citrin et al., 2000). The domain specific innovativeness scale, which is considered appropriate for measuring the adoption of specific types of new products, has been validated by empirical research (Citrin et al., 2000; Hynes & Lo, 2006). Other authors (Chao et al., 2012) found the relationship between domain specific innovativeness and really new product adoption is still quite weak although positive. Nasution and Astuti (2012) argued that domain-specific innovativeness may not be a good predictor of new product adoption behavior in the adoption of consumer electronic products. Interestingly, many studies reported that the relationship between domain specific innovativeness and product adoption was weak, thus suggesting further research needs to be made to better understand how another form of innovativeness drives adoption of new products (Im et al., 2007; Chao et al., 2012). This study expects the consumers who are innovators in the product level, not in specific domain will quickly and early accept that specific new product. Thus, we hypothesize that:

H3: *Product specific innovativeness has a positive influence on new personal electronic device adoption.*

2.5.4. Consumption Value and New Product Adoption

Zeithaml (1988) claims that consumers' decision-making behaviors depend on perceived value or the overall assessment of consumption value. Homer and Kahle (1988) also argues that the value has a direct influence on behavioral outcomes. Previous studies confirm that perceived value has been identified as a reliable construct in predicting consumer behavior (Gallarza et al., 2011). Turel et al. (2010) found that overall consumption value has positive effect on the adoption of hedonic digital artifacts. Perceived value also has a positive influence on intention to adopt new wearable devices (Yang et al., 2016). Al-Jundi et al., (2019) demonstrated that perceived value has a positive impact on intention to buy new products. Therefore, the research proposes the following hypothesis:

H4: *The consumption value has a positive effect on the intention to adopt new personal electronic products.*

3. Methodology

3.1. Data Collection

The study employs both the qualitative and quantitative research to reach the overall goal. Qualitative study first was conducted through focus group discussion to discover and modify constructs' scales which are suitable to Vietnamese consumers, next quantitative research is to test hypotheses. A pre-test of the questionnaire was completed by Vietnamese student in Ho Chi Minh city before inclusive quantitative research proceeded. The survey utilizes five-point Likert-type scales to measure the variables. A set of data was collected in Ho Chi Minh city by paper-based survey questionnaires from a convenience sample of consumers. Participants were recruited from individuals in front of shopping centers, only limitation related to respondents is that they need to be over 18 years of age and had bought and owned at least one new personal electric device within the last 2 years. After completing the questionnaire, respondents were given small rewards for their participation. The final sample size 915 usable questionnaires for analysis. The measurement and structural models were analyzed using partial least squares SEM (PLS SEM). SmartPLS 3.0 software was used as a tool for PLS-SEM analysis.

3.2. Measurements

All of the scales measured research constructs in this work were adapted from the previous studies. Overall value is not directly measured but is conceptualized through the five first-order formative components. In this study, consumption value is defined as a second-order construct with first-order components as formative indicators. Five consumption values were measured based on Sheth et al. (1991) and Sweeney and Soutar (2001). To measure consumer innovativeness, this study adapts 4 items developed originally by Goldsmith and Hofacker (1991). Adoption intention was measured with 2 items from Chao

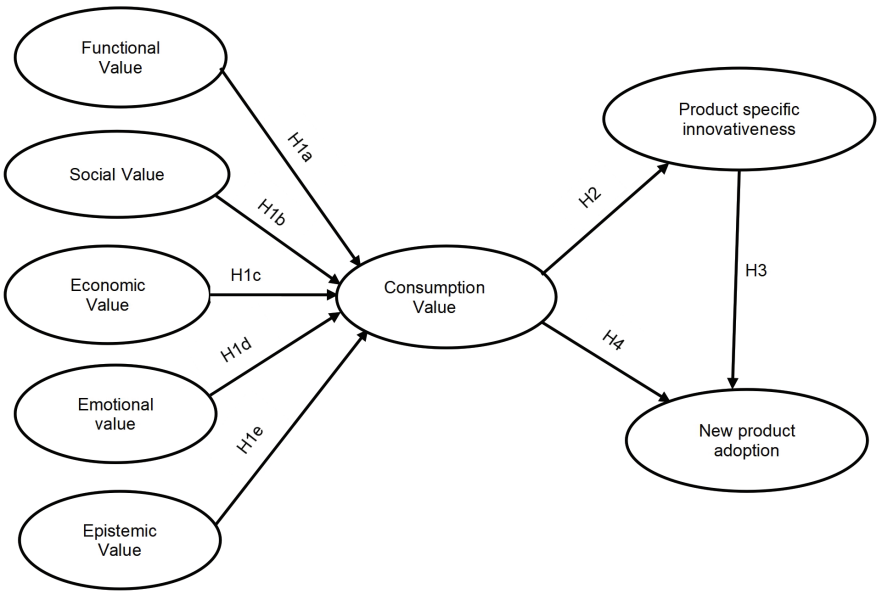

Figure 1: The Theoretical Model

Table 1: Constructs and Items

Factor	Code	Items
Functional value (Sheth et al., 1991)	FUNC1	New product X is useful for my job and daily activity
	FUNC2	New product X is more functional than my current product
	FUNC3	New product X is the latest device
Emotional value (Sheth et al., 1991)	EMO1	Using new product X gives me a sense of personal enjoyment
	EMO2	New product X make my life more interesting and exciting
	EMO3	New product X makes me feel more satisfied
Social value (Sheth et al., 1991)	SOC1	X would help me to feel acceptable
	SOC2	X would improve the way I am perceived
	SOC3	X would make a good impression on other people
	SOC4	X would help me more self-confident
Epistemic value (Sheth et al., 1991)	EPIS1	New product X helps me satisfy my analytical mind
	EPIS2	New product X arouses my curiosity
	EPIS3	New product X help me update new technological knowledge
Economic value (Sweeney & Soutar, 2001)	ECO1	New product X is reasonably priced
	ECO2	X is a good product for the price
	ECO3	Buying new electronic product X would be economical
Product specific innovativeness (Goldsmith & Hofacker, 1991)	PSI1	If I heard that a new electronic product X, I would consider purchase it
	PSI2	I know more about new electronic product X before other people do.
	PSI3	I seek out information of product electronic product X more than other electronics devices
	PSI4	I am more interested in product electronic product X than other electronic devices
New product adoption (Chao et al., 2012)	ADOP1	I am always one of the first people who buy new electronics product X as soon as it hits the market
	ADOP2	I generally buy a larger number of new product X than other electronic products
	ADOP3	I try my best to make use full of all features of new product X that I own
	ADOP4	I mostly spend a lot of time on using new product X that I own

et al. (2012) and 2 items proposed through a focus group. All the scale items originally in English were translated into Vietnamese and were translated back into English to ensure equivalent meaning (Brislin, 1980). All items in the questionnaire were asked by using 5 points Likert scale from (1) Strongly disagree to (5) Strongly agree.

4. Results and Discussion

4.1. Respondents Information

In the inclusive quantitative study, a total of 960 questionnaires are given out to respondents in which 915 responses were qualified the criteria for analysis, achieving the valid response rate is about 95.3%. Among 915 participants, there are 52.5% males and 47.8% females. The occupation of respondents is divided into office worker (39.28%), student 28.2 %, trader (12.6%), business owner (4.8%) and the others (12.9%). The age of the respondents from 18 to 45 accounting for 92.3%; almost of the respondents' education background was higher education level accounting for 86.8%. About the interviewees' native land, 25.5% of respondents come from the North, 23.0% from the Central and 51.5 from the South of Viet Nam.

4.2. Partial Least Squares Measurement (Outer) Model Results

The consumption value construct in this work is a formative second-order construct, multicollinearity among first-order dimensions was evaluated according to the

Table 2: Demographic Information

Demographic Variables		Frequency	Percent (%)
Gender	Male	478	52.2
	Female	437	47.8
Age	18–25	234	25.6
	26–35	359	39.2
	36–45	252	27.5
	≧45	70	7.7
Occupation	Student	258	28.2
	Officer worker	380	41.5
	Trader	115	12.6
	Business Founder/Owner	44	4.8
	Other	118	12.9
Education Level	High school graduate	121	13.2
	College graduate	269	29.4
	University graduate	353	38.6
	Post-graduate	172	18.8
Hometown	The North	233	25.5
	The Central	210	23.0
	The South	472	51.5

approaches suggested in Diamantopoulos et al. (2008). Multicollinearity among the five dimensions of consumption values was evaluated by the variance inflation factor (VIF). The results (Table 3) showed that the VIF values of all consumption value dimensions were lower than the recommended value of 3.3 (Roberts & Thatcher, 2009) thereby multicollinearity problem was not violated.

Internal consistency reliability: Cronbach's alpha and composite reliability scores were calculated to examine internal consistence and reliability. As presented in Table 3, all scores exhibited acceptable to high reliability with Cronbach's alpha coefficients exceeding the 0.70 threshold thereby meeting the requirement of reliability. Composite reliabilities of all constructs exhibited acceptable to high scores exceeding the 0.70 threshold recommended by Hair et al. (2017). The results show that the internal consistency reliability is acceptable in measurement model.

Convergent validity: This refers to the extent to which a measure correlates with other measures of the same construct (Hair et al., 2017). Convergent validity is demonstrated when the average variance extracted (AVE) value between the constructs is equal to, or exceeds, 0.5 (Fornell & Larcker, 1981). As presented in Table 3, the convergent validity was supported by the AVE scores of all latent constructs, which were well above the required minimum level of 0.50. The outer loadings were examined in order to view the correlations between the latent variable and the reflective indicators in its outer model. According to Hair et al. (2017), indicators with an outer loading above 0.6 were retained, whereas indicators with an outer loading between 0.4 and 0.6 were considered for elimination. As shown in Table 3, all outer loadings scores were found to be above the level of 0.6, thus demonstrating reliable items.

Discriminant validity: Discriminant validity examines the extent to which a latent variable is truly distinct from other latent variables in predicting the dependent variable (Hair et al., 2017). In this study, discriminant validity was assessed by comparing the minimum variance extracted for each pair of constructs with the square of the correlation between them (Fornell & Larcker, 1981). The results in Table 4 indicate that the square root of the AVE for each construct was higher than the corresponding inter-construct correlations, confirming all constructs in the outer model achieved the discriminant validity.

4.3. Partial Least Squares Structural (Inner) Model Results

An assessment of the structural model was undertaken to determine the significance of the paths and the predictive power of the model through the PLS algorithm, and then by considering a bootstrapping process that involved random resamples from the original data set to determine the significant levels of path coefficients (Hair et al., 2017). The scores presented in Table 5 highlights the results of testing hypotheses of the study and shows the path coefficient between the latent variables. As a result, the structural model showed that all hypotheses were supported. Overall, the model explained major portions of the variation in new product adoption behavior. The amount of variance explained by R^2 provides an indication of the model fit as well as the predictive ability of the endogenous variables (Chin, 1998). Hair et al. (2017) suggest that an individual R^2 should be greater than a minimum acceptable level of 0.10. The R^2 value of "New product adoption" was found to be moderate and equal to 41.8% whereas "product specific innovativeness" scored at 13.3%. Overall, all R^2 values mentioned are greater than 0.10; therefore, it was appropriate to examine the significance of the paths associated with these variables.

The findings suggest that consumption values play a significant role in the adoption of new product adoption. In line with our expectations, all dimensions were also shown to have significant weights in the formative measurement model of consumption value. The functional value is the strongest predictor which effects on the assessment of the consumption value (β = 0.445), following ranking to economic value (β = 0.391), epistemic value (β = 0.388), emotional value (β = 0.281). Lastly, social value has positive

Table 3: Testing Measurement Model Results

Construct	Items	Outer Loadings	CA	CR	AVE	VIF
Functional value (FUNC)	FUNC1	0.856	0.804	0.884	0.719	1.188
	FUNC2	0.877				
	FUNC3	0.808				
Economic value (ECO)	ECO1	0.87	0.789	0.877	0.703	1.234
	ECO2	0.799				
	ECO3	0.846				
Emotional value (EMOT)	EMOT1	0.914	0.867	0.919	0.791	1.081
	EMOT2	0.876				
	EMOT3	0.877				
Epistemic value (EPIS)	EPIS1	0.864	0.852	0.91	0.772	1.249
	EPIS2	0.882				
	EPIS3	0.889				
Social value (SOC)	SOC1	0.77	0.857	0.904	0.701	1.014
	SOC2	0.824				
	SOC3	0.838				
	SOC4	0.912				
Product specific innovativeness (PSI)	PSI1	0.853	0.893	0.926	0.757	1.000
	PSI2	0.861				
	PSI3	0.863				
	PSI4	0.903				
New product adoption (ADOP)	ADOP1	0.871	0.864	0.907	0.71	1.153
	ADOP2	0.859				
	ADOP3	0.83				
	ADOP4	0.809				

Note: CA: Cronbach's Alpha; CR: Composite Reliability; AVE: Average Variance Extracted, VIF: variance inflation factor.

Table 4: Inter-Construct Correlation Matrix with Square Roots of AVEs

Construct	ADOP	ECO	EMOT	EPIS	FUNC	PSI	SOC
ADOP	0.843						
ECO	0.344	0.839					
EMOT	0.315	0.142	0.889				
EPIS	0.338	0.376	–0.035	0.878			
FUNC	0.537	0.283	0.199	0.304	0.848		
PSI	0.448	0.169	0.299	0.099	0.371	0.870	
SOC	0.020	0.066	0.107	0.006	0.021	0.083	0.838

Note: Square roots of AVEs are presented on the diagonal. Construct correlations are shown below the diagonal.

Table 5: The Result of Testing Nomological Validity for Constructs

Hypotheses	O	M	STDEV	*T* Statistics	*P* Values	Results
ECO → CON_VAL	0.391	0.388	0.018	21.219	0.000	Supported
EMOT → CON_VAL	0.281	0.280	0.031	9.160	0.000	Supported
EPIS → CON_VAL	0.388	0.386	0.025	15.837	0.000	Supported
FUNC → CON_VAL	0.445	0.442	0.020	22.569	0.000	Supported
SOC → CON_VAL	0.115	0.117	0.051	2.238	0.023	Supported
PSI → ADOP	0.266	0.266	0.028	9.597	0.000	Supported
CON_VAL → PSI	0.364	0.365	0.030	12.220	0.000	Supported
CON_VAL → ADOP	0.500	0.500	0.028	17.623	0.000	Supported

Note: Original Sample (O); Sample Mean (M); Standard Deviation (STDEV).

impact on the overall consumption value although this correlation is quite weaker ($\beta = 0.115$).

The nomological validity was confirmed by examining the consumption value construct's relation to other constructs, which are consumer innovativeness and adoption behavior. The consumption value construct was shown to have significantly positive relationships with all outcome variables. The effect of consumption value on consumer innovativeness was significant ($\beta = 0.364$, $p < 0.001$), the analysis provides support for H2. Besides, consumer innovativeness has a significant positive effect on new product adoption ($\beta = 0.500$, $p < 0.001$), H3 is also supported. Finally, results support H4 which demonstrates that consumption value has a positive influence on new product adoption. Interestingly, this study revealed that the effect of consumption value on new product adoption was mediated through consumer innovativeness.

The findings of this work support previous results. First of all, consumption value is considered a second-order factor model which compound five dimensions as functional value, economic value, epistemic value, emotional value and social value. The formative second-order model for consumption value is a reasonable and parsimonious way to predict the new products adoption. All five dimensions have significant weights in the formative measurement model of the consumption value in which the functional value has the strongest impact on the overall construct. In addition, not only the functional value, but also hedonic shopping motivation (Widagdo & Roz, 2021) or perceived mental benefits (Nguyen & Khoa, 2019) such as epistemic, emotional and social values are important component contributing to total consumption value. These results conform to previous studies that the hedonic and utilitarian functions of products are important to consumers (Hirschman & Holbrook, 1982; Holbrook, 2006).

This finding support with the consumption value theories (Sheth et al., 1991; Sweeney & Soutar, 2001). Secondly, the study shows a significant and positive relationship between consumption value and consumer innovativeness, the result also confirms there is a positive impact of the consumption value on the new product adoption. These findings support the V-A-B theory (Homer & Kahle, 1988). Further, the results suggest that product specific innovativeness influences on the new personal electronic products adoption. This finding is thus to show that consumers who have a high level of product specific innovativeness tend to own more consumer electronic products and adopt earlier than others in society system. Finally, the results of mediation analysis suggest that product innovativeness mediates the relationship between consumption value and personal electronic products adoption, this result supports the V-A-B hierarchy model (Homer & Kahle, 1988).

5. Conclusions

A key contribution of this study is a combination consumption value and product domain innovativeness to explain the new personal electronic products adoption. In conclusion, this study adapts the theory of consumption value as a mean of explaining and predicting the adoption of personal electronic products. It was shown that consumers assess both functional value and non-instrumental utilities of the new product when they consider overall value assessment on which they form their consumer innovativeness and behavioral innovativeness through adopting new products. There are some implications that we can draw from above research results. In order to increase the total consumption value for customers, businesses can pay attention to creating and communicating both functional and non-functional benefit of new products. First, marketer should highlight the functional value of new electronic device, as well as emphasizing the economic, epistemic, emotional and social value of innovative products. Secondly, promotion

or integrated marketing communication efforts should focus on creating more opportunities for consumers to experience new products. Additionally, communicating information of new product that emphasize consumption values can be provided as to improve working efficiency, challenge curiosity, enhance interpersonal relations and enjoy the life. To launch a new personal electronic product, marketers should use product specific innovativeness scale to best identify innovators and predict consumers' adoption behaviors in a specific product.

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