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The Effect of Brand Equity Components on Automobile Purchase Intention of Consumers in Ho Chi Minh City, Vietnam

Nga Thi Hang PHAN¹, Thang Quyet NGUYEN²,
Dung TRUONG³, Nguyen The HUYNH⁴

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Abstract

The paper aims to investigate the factors of brand equity affecting the purchase intention of car buyers in Ho Chi Minh City. The authors use qualitative method and quantitative research to study the matters, specifically using scales and data collected for Cronbach alpha reliability testing, analyzing the discovery factor of EFA, CFA and verifying the regression models through AMOS software with SEM linear modeling. The study proposes four factors: (1) brand awareness, (2) self-expression value, (3) perceived quality, (4) brand psychology impacting on the brand loyalty and intention to buy cars of customers. The results show that all four factors are statistically significant for positive brand loyalty and purchase willing. The results showed that brand loyalty positively affects consumers' intention to buy cars. Among the factors included in the study, the brand psychology is a new factor which developed by experts in the context of Vietnam. This is the first study in Vietnam to quantify clearly the element of "crowd psychology" affecting the interests and habits of Vietnamese consumers. This explains why Vietnamese consumers prefer brands that are familiar in the market and some new cars with nice models and colors suitable for Vietnamese psychology.

Keywords: Brand Equity; Consumer Purchase Intention; Automobile; Vietnam.

JEL Classification Code: M30, D70, C50, L10.

1. Introduction

With a population of more than 93 million people, GDP per capita in 2017 is equivalent to \$2,587 and continues to increase rapidly (General Statistics Office of Vietnam, 2019). Vietnam is considered one of the fastest growing markets

for cars in the world. In 2018, the number of cars consumed reached 288,683, up more than 5.8% compared to 2016 (VAMA, 2019). Till the end of 2017, Vietnam has had about 173 automobile manufacturing and assembling enterprises in which, there are 56 enterprises producing vehicles from discrete components, 117 manufacturing enterprises produce from basic vehicles, with a total assembly capacity of about 500,000 cars / year, of which foreign invested units accounts for about 47%, domestic enterprises are about 53% (Ministry of Industry and Trade, 2018). There are several big companies that produce and assemble in Vietnam such as Toyota, Hyundai, Kia, Mazda, Honda, GM, Chevrolet, Ford, Mitsubishi, Nissan, Suzuki, Isuzu, Mercedes-Benz, Hino... It is forecasted that the demand for automobiles in Vietnam will average about 600-700 thousand vehicles in 2020 and about 1.5-1.8 million in 2030 each year (Ministry of Industry and Trade, 2018). This shows that Vietnam is a potential market in using car.

The study site is in Ho Chi Minh City, which is the largest city in Vietnam, is also an important center of politics, economics, culture and science of Vietnam. The territory of

1 First Author. Vice Dean, School of Post Graduate, University of Finance–Marketing (UFM), Vietnam.
E-mail: phannga@ufm.edu.vn

2 Corresponding Author. Associate Professor, Dean, Faculty of Tourism & Hospitality Management, Ho Chi Minh City University of Technology (HUTECH), Vietnam [Postal Address: 475A Dien Bien Phu Street, Ward 25, Binh Thanh District, Ho Chi Minh City, 700000, Vietnam] E-mail: nq.thang@hutech.edu.vn

3 Vice Dean, Faculty of Business Administration, Ho Chi Minh City University of Technology (HUTECH), Vietnam.
Email: tq.dung@hutech.edu.vn

4 Lecturer, School of Post Graduate, University of Finance-Marketing (UFM), Vietnam. E-mail: htnguyen@ufm.edu.vn

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the city stretches in the direction of Northwest - Southeast and ranges from 10°22'13" - 11°22'17" North latitude and 106°01'25" - 107°01'10" East longitude. Ho Chi Minh City is an important economic and cultural hub of Vietnam, and it is also the most populous city in Vietnam with the population of 8.611 million (as of December 2017) and GDP per capita reached over 5,500 USD (HCMC Statistical Office, 2017). According to data from the Ho Chi Minh City Department of Transportation (2018), the number of cars in the city is more than 500,000, particularly in 2017 the number would be registered to put into circulation is 55,000 cars, up 23, 6% compared to 2016.

In order to attract customers, and more importantly, to maintain and make customers loyal to their brand, famous manufacturers such as Toyota, Hyundai, Kia, Mazda, Honda, GM, Chevrolet, Ford, Mitsubishi, Nissan, Suzuki, Isuzu, Mercedes-Benz, Hino, ... and Vietnamese brands such as Thaco, Samco ... all have impressive marketing programs for their brands. However, there is currently no research on the elements of brand assets affecting consumers' intention to buy cars in Vietnam. It is expected that this study will determine which elements of brand assets affect consumers' intention to purchase, thereby help manufacturing enterprises plan to build brands and create brand values which get customers' loyalty and increase the intention of purchasing the manufacturer's products.

2. Literature Review and Research Model

2.1. Literature Review

2.1.1. Brand Equity

There are currently different views on the concept and the measurement of brand equity (Keller & Lehmann, 2003; Ailawadi, Lehmann, & Neslin, 2003; Erdem, Swait, & Valenzuela, 2006; Christodoulides & de Chernatony, 2010). However, up to now, brand equity is considered a precious asset for organizations (Zhang, Yu, & Zou, 2011; Kim, Kim, Kim, Kim, & Kang, 2008). According to Aaker (1991), "brand equity is a set of brand asset and liability connected to a brand, its name and logo add to or deduct from the value provided by a product or service to a company and/or to the company's consumers". Brand equity can be viewed from a company's or consumer's point of view (Atilgan, Akinci, Aksoy, & Kaynak, 2009; Ruževićiūtė & Ruževićius, 2010). From a consumer's perspective, brand equity is an added-value which is incentive for products and services. It can be reflected in how consumers think, feel and act on brands, as well as price, market share and profitability of brands. There

are many factors that can affect brand equity, but most researchers agree with the view that the access to consumers is indispensable in determining brand equity and is an important factor for success of the company (Keller & Lehmann, 2003; Ambler, 2003; Atilgan et al., 2009).

There are five types of brand equity which are determined by Aaker (1991) including: (1) brand loyalty; (2) brand awareness; (3) perceived quality; (4) associating brands; (5) and other proprietary assets. When conducting brand equity research based on visitor aspects, Lassar, Mittal, and Sharma (1995) argued that brand equity as an increase in customer perceived benefits to the brand and included five components: (i) performance, (ii) value, (iii) social image, (iv) Trustworthiness and (v) commitment. Sharp (1995) proposed 03 components of brand assets including: (i) company / brand awareness, (ii) brand image, (iii) relationships with customers / existing customer franchise. Berry (2000) claimed that brand equity was included consists of 2 components: (i) brand awareness, and (ii) brand meaning.

2.1.2. Consumer Purchase Intention

Purchase intention is consumer's preference to buy products or services. Keller (2001) pointed out that there are many factors that influence consumer's intention when choosing the products and the ultimate decision depends on consumer's intentions with great large external factors. Consumer buying behavior is influenced by cultural, social, personal and psychological factors. In addition, other factors such as age, income, educational level and interests maybe influence how they use goods and services (Kotler & Keller, 2012). Many studies around the world have tried to understand, create stimuli to satisfy consumer's needs, but this is not easy because consumers have different aspects of the lifestyle, culture, society, personality and psychology, etc. Mowen and Minor (2001) argued that consumer decision making was a series of processing results from perceiving problems, searching for solutions, evaluating alternatives and making decisions. Many other studies also pointed out that the key factor in purchasing decisions depended on consumer knowledge of products. However, this process also depends much on the subjective tendency of consumers (Fishbein & Ajzen, 1975). According to Zeithaml (1988), it was possible to measure purchase intention in many respects including possible to buy and intended to buy and considered to buy. Thus the intention to purchase is the decision of the consumer and in this study the author group aims to study which elements of the brand asset will affect the intention to buy cars of consumers in Ho Chi Minh City.

2.2. Research Model

There are very few studies related to brand assets that affect customer's intention to buy goods in Vietnam. Tho and Trang (2011), when conducting brand asset research for the consumer goods market in Vietnam, argued that the brand asset model and scales of Aaker (1991, 1996) and Keller (1993) was built in developed markets, so it would be unsuitable for the developing market like Vietnam. Therefore, Tho and Trang (2011) developed a scale of brand equity and its components to suit the Vietnam market, stated that brand assets for consumer products in Vietnam market included 03 components (i) quality of perception, (ii) brand awareness, and (iii) passion of brand. Nghi, Bang, and Minh (2014), when studying agricultural products in Vietnam, argued that brand-name agricultural products included (i) Brand Awareness; (ii) Brand Associations; (iii) Perceived Quality; (iv) Brand Loyalty and, (v) Perceived safety. Based on previous studies, this study has done a lot of qualitative researches, firstly discussing with more than 40 customers to learn the factors that influence their intention to buy cars.

Secondly the group discussed with 12 experts including Representatives of Vietnam Nam Automobile Association, Leaders of vehicle manufacturing enterprises, heads of major car dealers in Vietnam and experienced researchers in car market in Vietnam to build research models and scales. Most experts agreed that brand asset factors affecting the intention to buy cars in Ho Chi Minh City, Vietnam are (i) Brand awareness; (ii) self-expression value; (iii) Quality of perception; (iv) Brand psychology; (v) Brand loyalty. Particularly, "Brand psychology" is a new element named by experts, because consumers in Vietnam are greatly affected by cars' habits and consumption; tastes of the majority of Vietnamese people ("crowd" tastes). The proposed research model is shown in Figure 1.

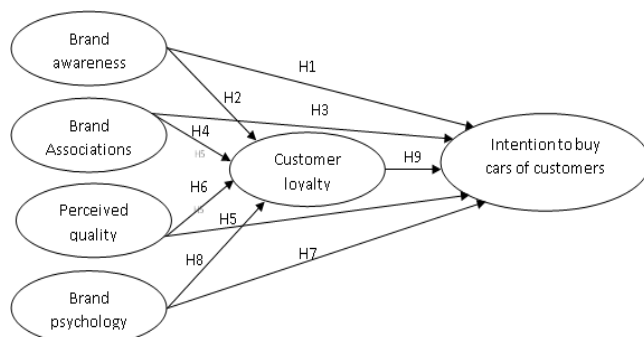


Figure 1: Research model

2.2.1. Brand Awareness

According to Keller (1993), brand awareness is an important component of Brand equity. The ability of

consumers to distinguish brands in different situations is called brand awareness (Keller, 2013, p.73), in other words, brand awareness is whether consumers recognize the brand or not. Rossiter and Percy (1987) described brand awareness is a critical deliberation. It may be thought of as a buyer identifies a brand within a category in sufficient detail to make a purchase. It is important to remember that sufficient detail does not always require identification of the brand name. Brand awareness may be proceeding through brand recognition and brand is recognized at point of purchase. One of the important things to maintain brand awareness is advertising because brand is necessary to be introduced to customers and therefore recognized (Macdonald & Sharp, 1997). According to Keller (2013, p.74), it is imperative that the marketer researches and identifies the stage at which the consumer(s) make the purchase decision. This is so because the role played by brand recognition is more crucial in cases where the decision to buy is made at a location where the brand name and logo is displayed, for example, a car dealership. Therefore, in this study, we identify that brand awareness relates to consumer perceptions. Consumers have knowledge or awareness about the products. This perception gains through consumer perception, recognition or outside information. Companies should incorporate tools such as advertising, direct sales, promotions, public relations to spread information and boost sales. Therefore, if a consumer has a good attitude towards a certain brand of car, he or she first recognizes the presence of the brand in the market and distinguishes it from competing brands. This helps them become more and more connected with the car brand and affect their intention to buy. The hypothesis may be:

Hypothesis H₁: Identifying brands has a positive influence (+) on the intention to buy a car.

Hypothesis H₂: Identifying brands has a positive impact (+) on brand loyalty.

2.2.2. Brand Associations (Perceived Value)

Aaker and McLoughlin (2010) explained that brand associations have linkage to the brand in the consumers' mind is a brand association. Brand associations are significant in that they enable consumers to process and retrieve brand related information and the creation of attitudes (Aaker, 1991; Yoo, Donthu, & Lee, 2000). They also provide a critical understanding of diverse consumer related aspects (Christodoulides, Michaelidou, & Li, 2009). Brand associations are said to be a key element for consumer intentions, for consumer loyalty to the brand and creating value for the business. Consumers feel comfortable when they feel that brands fit their self-awareness (Gurhan

& Canli, 2007). Brand associations will help create the value of businesses and customers and increase brand value as well by helping customers distinguish different brands, creating positive feelings and attitudes in memory of consumers and providing reasons for consumers to buy them (Tong & Hawley, 2009). Thus, brand association is a component of brand equity and it has an impact on brand loyalty (Bang, 2016) and consumer buying intentions (Nghi et al., 2014). The hypothesis is set up:

Hypothesis H₃: Brand association has a positive influence (+) on consumers' intention to buy cars.

Hypothesis H₄: Brand association has a positive (+) effect on brand loyalty.

2.2.3. Perceived Quality

The perceived quality is the result of the consumer's subjective judgment to a product (Zeithaml, 1988; Dodds, Monroe, & Grewal, 1991; Aaker, 1991). Aaker (1991) argued that perceived quality can show the striking difference of a product or service and become a selective brand in the minds of consumers. The perceived quality is a sign of achieving a distinctive brand position. For several consumers, it is the basis that their purchasing decisions are made (Aaker & McLoughlin, 2010). Product quality dimensions include performance; conformance to specifications; features; customer support; process quality and aesthetic design, etc. (Aaker & McLoughlin, 2010; Yoo et al., 2000). According to Atilgan et al. (2009), perceived quality forms the basis for differentiation and expansion and is an important element of brand asset building. The quality of sentiment directly affects the intention of purchasing and loyalty of the brand (Bang, 2016), especially in the case of consumers who are not motivated or unable to conduct detailed analysis first (Aaker, 1991; Bick, 2011; Buil, Martinez, & Dechernatony, 2013). Therefore, it plays an important role in consumer awareness of the value of car brands. In particular, the perceived quality affects the intention of buying consumer cars (Thanomsub, 2013).

Hypothesis H₅: Perceived quality positively (+) affects the intention to buy a car.

Hypothesis H₆: Perceptual quality has a positive (+) effect on brand loyalty.

2.2.4. Brand Psychology

Tong and Hawley (2009) stated that consumer's intention to purchase can vary by situation and across cultures. Tho and Trang (2011) said that brand assets for consumer products in Vietnam market include 03 components (i) Perceptual quality, (ii) Brand awareness, and (iii) Passion

for the brand. Passion for the brand can be interpreted as enthusiasm, passion for the brand that consists of two components of consumer preferences and trends. Consumption trends may be affected by social consumption trends. For the car market in Vietnam, the preference for car brands aside from the advantages of luxury, style, features, durability, low fuel consumption, etc. of cars, consumers Vietnam is also affected by social consumption trends. According to the Vietnam Automobile Manufacturers' Association (VAMA, 2017), when Vietnamese consumers decide to buy a car, they often choose a safe option to buy a car according to "crowd psychology". This is explained to make it easier for them to resell but less devalue when converting cars (VAMA, 2017). Vietnamese people often prefer familiar car brands that have been available in many Vietnamese markets such as Toyota, Honda, Ford, etc. Furthermore, besides the designs, the ordinary Western consumers attach much importance to criteria on equipment and safety technology. Meanwhile, for many Vietnamese consumers, they pay much attention to factors such as color of vehicles, forms of cars, etc. (VAMA, 2017). Vietnamese people prefer cars with reddish brown, black, silver white color to yellow, purple, or blue. They are willing to spend more money on accessories that do not bring much efficiency to use such as plastic bumpers, gas tank cover, headlight trim, exhaust pipes ... in order to "beautify" the car, they do not pay attention to facilities such as seats, air conditioning systems or even safety systems such as ABS anti-lock brakes, electronic balance system, airbags on vehicles (VAMA, 2017).

All factors related to "crowd psychology" such as consumer trends, colors, forms, etc. of cars for Vietnamese consumers can be considered as an element of brand equity. This factor relates to other proprietary assets in the model of Aaker (1991) or "Social image" of Lassar, Mittal, and Sharma (1995). Experts named this element "Brand Psychology" and considered it as a new factor in the case of research in Vietnam with the intention of buying cars. Consumer behaviors relating to brand preferences and purposes have an impact on the intention of the buyers (Aaker, 1991, 1996). In addition, factors such as crowd psychology, colors, forms, usage habits... also affect customer's loyalty (VAMA, 2017). The hypothesis is set up:

Hypothesis H₇: Brand Psychology has a positive (+) effect on customer's intention to buy cars.

Hypothesis H₈: Brand Psychology has a positive (+) effect on brand loyalty.

2.2.5. Brand Loyalty

Aaker (1991) emphasized that consumer's loyalty to the brand is at the core of the brand equity. The continuing

consumer's willingness and preferences to buy a specific brand is called brand loyalty (Moon, Park, & Choi, 2010). Assael (1998) pointed out that brand loyalty would be expressed when a consumer satisfied their past experience in using the same brand and made a repurchase behavior. From the consumer's point of view, brand loyalty is represented by the intention to buy the brand as a priority option (Pappu & Quester, 2016). It means brand preference that consumers will not consider other brands when they buy products (Chi, Yeh, & Yang, 2009). Brand loyalty can only exist after consumers buy products, have feeling of warmth, respect or trust for the brand and are satisfied with the brand (Aaker, 1991; De Chernatony, 1992). For car cases, loyalty to a brand can reflect an efficient motive. This is when customers feel the brand good and then they automatically choose it (Amine, 1998). Many researchers believe that the brand loyalty of existing customers is very important in building and sustenance of brand equity (Aaker, 1991; Tong & Hawley, 2009; Bick, 2011). The stronger the relationship between brand and consumer is, the better the brand will benefit. The brand creates the loyalty of consumers highly, they will gain much profit because of reducing the costs of marketing, advertising and distribution and loyal customers also help them reduce marketing costs compared to obtaining new customers (Aaker & McLoughlin, 2010). Brand loyalty will positively affect the buying intention and customer repurchase behavior (Aaker, 1991). Consumers will have a positive feeling about products to create brand loyalty (in order to make brand loyalty). For this purpose, customer satisfaction is an essential element that can help customers stay loyal to the brand. If consumers are satisfied with their specific brand, they will make a purchase and repeat purchases, therefore, it is difficult for customers to change their thinking to other brands.

Hypothesis H₉: Brand loyalty will positively impact (+) on purchase intentions

3. Methodology

We conducted this study in three phases. The first phase was for a qualitative research in which we interviewed 12 experts (from Vietnam Automobile Manufacturers' Association and representatives of 04 brands in Vietnam) and discussing in groups with 40 customers using cars to improve the factor scales and design a survey questionnaire for a pilot test which was used as a refinery tool for final version to conduct official survey in five months, February – June, 2018.

Hair, Anderson, Tatham, and Black (2006) state that the sample size must be at least $m \times 5$, where m is the number

of independent variables. Thus, for the 27 independent variables in this study, the sample size must be at least 135. However, to ensure high reliability, the team conducted interviews with 540 respondents. A total of 415 samples was obtained, of which 115 samples were not standard, reducing the total to the satisfactory number of 300 responses. The survey was carried by two groups of researchers, from University of Finance - Marketing (UFM) and University of Technology (HUTECH).

In the second phase, we conducted scale reliability analysis with Cronbach's Alpha coefficient. Literally, a scale is considered reliable if Cronbach's Alpha coefficient must be greater than 0.7 and its corrected total-item correlation of each item is greater than 0.3 (Nunnally & Bernstein, 1994). Then, the reliable scales are further analyzed with Exploratory Factor Analysis (EFA) which requires: (1) Eigen value ≥ 1 ; (2) Total variance explained $\geq 50\%$; (3) KMO ≥ 0.5 ; (4) Sig. coefficient of the KMO test ≥ 0.05 ; (5) Factor loadings of all observed variables are ≥ 0.5 ; and (6) Weight difference between the loadings of two factors > 0.3 (Hair, Black, Babin, & Anderson, 2010).

In the third phase, the data are analyzed with Confirmatory Factor Analysis (CFA) to further confirm the results obtained from EFA. Finally, Structural Equation Modeling (SEM) is used to test the proposed model which is considered appropriate if the significance value of Chi-square test is no more than 5%; CMIN/df ≤ 2 (but in some cases, CMIN/df ≤ 3 is also acceptable); and GFI, TLI, CFI ≥ 0.9 . Besides these criteria, recent researchers suggest that GFI should be greater than 0.8, RMSEA ≤ 0.08 , composite reliability > 0.6 , and the extracted variance > 0.5 (Hair et al., 2010).

4. Empirical Findings

4.1. Descriptive Statistics

According to the survey with 300 samples, women accounts for 15% and men accounts for 85%. Samples of car users aged from 18 to 35 is 25.3%, from 36 to 45 is 40.7%, from 46 to 55 is 28%, over 55 is 6%. In terms of income, there are many levels but concentrate mainly in the income level from 25 to less than 50 million VND that accounts for 44.3%, less than 15 million is 8.7%, from 15 to under 25 million VND is 28.3% and over 50 million VND accounts for 18.7%. In terms of occupation, people in the service industry account for the highest percentage of 24% and the lowest of 4% for housewife. The survey also showed that the proportion of people using cars for traveling is 51.3%, for doing business like Taxi, Grab is 32.7%, and for both purposes is 16%. Thus, it can be seen that the

scale of consumers that use cars for traveling is quite high. This stated that people's incomes have increased, their living standards and their lives have gradually improved.

Table 1: Respondents' demographic profile

Dimension	Frequency (n)	Percentage (%)
Gender		
Male	255	85%
Female	45	15%
Age		
18 - 35	76	25.3%
36 - 45	122	40.7%
46 - 55	84	28.0%
Trên 55	18	6.0%
Purposes of buying cars		
Travel	154	51.3%
Business (Taxi, Grap)	98	32.7%
Both purposes	48	16.0%
Average monthly income (million VND)		
Under 15	26	8.7%
15 to under 25	85	28.3%
25 to under 50	133	44.3%
Above 50	56	18.7%
Occupation		
Employee	28	9.3%
Housewife	12	4.0%
Retired	64	21.3%
Service industry	72	24.0%
Business	38	12.7%
Government employee	34	11.3%
Others	52	17.3%

Note: VND (23.000= 1USD) (at the time of this writing)

4.2. Reliability of Measurement Scale

The reliability test shows that the Cronbach's Alpha (α) coefficients of the scales are greater than 0.6, with the smallest being the scaling for Consumer's purchase intention with α equal to 0.771 (see Table 2). All corrected item–total correlations are greater than 0.3, once the BA1 variable (which has a corrected item–total correlation of 0.187, which is less than 0.3) is rejected. Thus, after the BA1 variable has been eliminated, all scales are accepted and included in the next exploratory factor analysis.

Table 2: Reliability of measurement scale

Code	Factor	Cronbach's Alpha
BQ	Perceived quality	.853
SEV	Brand Associations	.865
BA	Brand awareness	.815
CUL	Brand psychology	.922
LOY	Brand loyalty	.852
PI	Consumer's purchase intention	.771

4.3. Exploratory Factor Analysis (EFA)

The results of factor analysis for the first time show that variables SEV4 and CUL4 do not meet the different requirement of weight $\lambda_iA - \lambda_iB$ đều < 0.3 ; therefore, it was eliminated. The results of factor analysis for the second time show that the variables are categorized into four groups, with a cumulative variance of 61.636%, larger than 50%, so the scale is appropriate. The KMO coefficient is equal to 0.895, which is in the range of 0.5 to 1, so the factor analysis is appropriate. The Bartlett test has significance equal to .000, indicating a high level of significance. All factor loading values of the independent variables are greater than 0.5, and the weight difference between λ_iA and λ_iB is greater than 0.3 (see Table 3).

Table 3: Exploratory factor analysis of independent variables

Code	Factors				α	Corrected Item-Total Correlation	α if Item Deleted
	1	2	3	4			
BQ3	.804				.853	.721	.808
BQ1	.768					.712	.810
BQ4	.746					.639	.829
BQ5	.743					.633	.831
BQ2	.652					.621	.834
CUL2		.872			.899	.829	.851
CUL1		.828				.748	.879
CUL3		.827				.780	.868
CUL5		.813				.746	.880
SEV2			.864			.810	.823
SEV3			.848		.891	.839	.797
SEV1			.774			.716	.903
BA4				.779		.672	.732
BA3				.760		.591	.771
BA2				.722		.629	.752
BA5				.626	.592	.771	
Eigenvalue	6.746	2.036	1.346	1.178			
% of Variance	42.163	12.726	8.410	7.362			
KMO Bartlett's Test					.895		
					Chi-Square	2752.896	
					df	120	
					Sig.	.000	

We then conducted EFA for dependent variables Brand loyalty (LOY) and Consumer's purchase intention in automobile (PI). Table 4 shows the analysis results of EFA for LOY scale, where we have a cumulative variance of 69.246%, KMO coefficient 0.783, the significance level of Bartlett's test is less than 1%, indicating that the factor analysis for LOY is appropriate.

Table 4: Exploratory factor analysis of Brand loyalty (LOY)

Code	Factor	
	1	
LOY2	.869	
LOY1	.867	
LOY4	.825	
LOY3	.762	
Eigenvalue	2.770	
% of Variance	69.246	
KMO Bartlett's Test		.783
	Chi-Square	552.935
	df	6
	Sig.	.000

In the same token, Table 5 shows the analysis results of EFA for PI scale, where we have a cumulative variance of 69.170% > 50%, KMO coefficient 0.682 (0.5 ≤ KMO ≤ 1), the significance level of Bartlett's test is less than 1%, indicating that the factor analysis for PI is also appropriate.

Table 5: Exploratory factor analysis of Consumer's purchase intention in automobile (PI)

Code	Factor	
	1	
PI1	.865	
PI2	.845	
PI3	.783	
Eigenvalue	2.075	
% of Variance	69.170	
KMO Bartlett's Test		.682
	Chi-Square	259.933
	df	3
	Sig.	.000

4.4. Confirmatory Factor Analysis (CFA)

Table 6 shows that the composite reliability coefficients of the scales are all greater than 0.6 and all of the average variances extracted from the scales are greater than 0.5; therefore, it can be said that the scales are satisfactory to be included in the next analysis.

Table 6: Confirmatory factor analysis (CFA)

Concept	Abbreviation	Observed Variables	Reliability Composite	Average Variance Extracted
Perceived quality	BQ	5	0.968	0.861
Brand Associations	SEV	3	0.988	0.967
Brand awareness	BA	4	0.945	0.826
Brand psychology	CUL	4	0.989	0.989
Brand loyalty	LOY	4	0.973	0.902
Consumer's purchase intention	PI	3	0.954	0.876

Figure 2 shows the results of CFA of the final measurement model (critical model) of the scales BQ, SEV, BA, CUL, LOY, and PI; including: Chi-square = 374.987; df = 216, P-value = 0.000; CMIN/df = 1.736 which is less than 3, GFI = 0.900, TLI = 0.952, and CFI = 0.959, RMSEA = 0.049, which is less than 0.08. These model parameters well fit the required criteria for CFA; thus, it could be concluded that the model is consistent with the actual data. In addition, these figures also show that the elements investigated in the research model are unidirectional, ensuring convergence values, ensuring reliability and distinct values. The proposed model is consistent with market data.

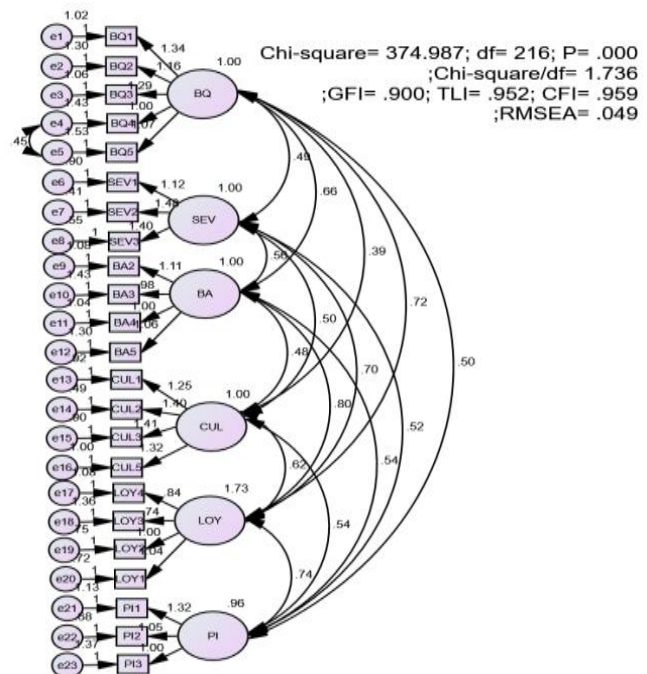


Figure 2: Confirmatory factor analysis (CFA) critical model

4.5. SEM (Structural Equation Modelling)

4.5.1. Model Testing and Hypotheses

The estimated results (standardization) in Figure 3 clearly show that the model is consistent with the data. Particularly, Chi-square is equal to 361.971; df is equal to 215; P-value is equal to 0.000; CMIN/df is equal to 1.684, which is less than 3; GFI is equal to 0.906; TLI is equal to 0.955; CFI is equal to 0.962, all of which are greater than 0.8; RMSEA is equal to 0.047, which is less than 0.08.

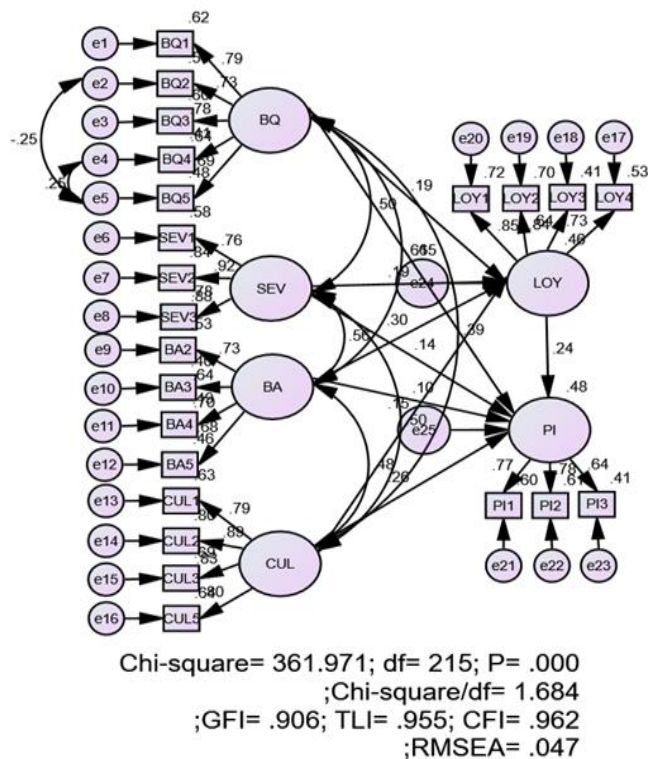


Figure 3: SEM (Standardization) results

4.5.2. Estimating the Research Model with Bootstrapping

Using bootstrapping technique with 1000 times, we found that the resulted bias still exists but it is insignificant. Therefore, it can be concluded that the estimates in the model can be reliably verified.

4.5.3. Estimating the Research Model with SEM

The results of the research model estimation using SEM analysis reveal that the relationship hypothesized in the

research model is statistically significant because all p values are less than 0.05. The hypothesis with the highest P-value is the hypothesis H₁, with a value of p of 0.048 and a significant level of significance (at 95% confidence). In other words, all the hypotheses H₁ to the H₉ model are accepted (see Table 7).

5. Discussions and Managerial Implications

5.1. Discussions

This study aims to develop a conceptual framework for further debate on the effect of brand equity on purchase intention of consumers. The results of empirical research showed that brand loyalty positively affects consumers' intention to buy cars with a coefficient of 0.236. The results of this study are consistent with those of many previous studies such as Aaker (1991), Keller (1993); Vietnam Automobile Manufacturers' Association (2017). Among the factors included in the study, the brand psychology (CUL) is a new factor which developed by experts in the context of Vietnam. The research result showed that this factor CUL has impacted on brand loyalty with a coefficient of 0.155 on the car purchasing intention of Vietnamese with a coefficient of 0.262. This result demonstrated more clearly about the judgment of Vietnam Automobile Manufacturers' Association (2017, p.16) that "The factors related to psychology, brand preferences, designs, models of cars etc. can greatly affect the consumer's consumption intentions". This is the first study in Vietnam to quantify clearly the element of "crowd psychology" affecting the interests and habits of Vietnamese consumers. This explains why Vietnamese consumers prefer brands that are familiar in the market and some new cars with nice models and colors suitable for Vietnamese psychology.

Table 7: Regression coefficients of the research model

Relationship	Coefficient	Standardized Coefficient (β)	S.E.	C.R.	P-alue	Conclusion
LOY <--- BQ	.254	.193	.106	2.399	.016	H ₆ Acceptable
LOY <--- SEV	.255	.194	.092	2.762	.006	H ₄ Acceptable
LOY <--- CUL	.204	.155	.085	2.401	.016	H ₈ Acceptable
LOY <--- BA	.390	.296	.122	3.198	.001	H ₂ Acceptable
PI <--- BQ	.145	.147	.085	1.711	.047	H ₅ Acceptable
PI <--- SEV	.140	.142	.074	1.884	.040	H ₃ Acceptable
PI <--- BA	.097	.099	.100	.971	.048	H ₁ Acceptable
PI <--- CUL	.257	.262	.070	3.652	***	H ₇ Acceptable
PI <--- LOY	.176	.236	.062	2.831	.005	H ₉ Acceptable

Other elements of brand equity such as brand awareness (BA), perceived quality (BQ), brand associations (SEV) have a positive relationship and directly affect loyalty and consumer's intention. The results of this study are consistent with previous studies such as that of Keller (1993); Jacoby and Olson (1997); Macdonald and Sharp (2000); Bang (2016), in which, the perceived quality (BQ) element strongly influenced the intention of buying a consumer car with a coefficient of 0.147. Our initial research on this issue with 140 customers stated that most customers pay much attention to the system of warranty and customer support, aesthetic design and fuel economy compared to other criteria. Moreover, most customers buy cars in the low and medium price segments (93.2%) and they think that these factors will make it easier to maintain the vehicles and sell the cars again without losing value.

5.2. Managerial Implications

Firstly, according to research results, brand loyalty is a factor affecting consumers' intention to buy goods, therefore, producers need to have a medium and long-term production plan to create qualified products. Especially, manufacturers need to regularly investigate and design products to meet the expectations of Vietnamese customers. In addition, car manufacturers should pay attention to the issue of "competitive prices" in order to increase the buying intention of Vietnamese consumers.

Secondly, the factor of brand psychology (CUL) has an impact on loyalty and intention to consume cars of Vietnamese; therefore, manufacturers need to pay attention to the designs of models, colors of cars ... in accordance with the tastes of Vietnamese consumers. It should be noted with the specificity because the infrastructure and roads of Vietnam are not good, so the model also needs to be suitable for the terrain of Vietnam, thus increasing loyalty and increasing the purchase intention of consumers to their products.

Thirdly, companies should promote the element of brand awareness (BA) through a combination of tools such as advertising, direct sales, promotions, public relations activities (PR) to convey information and sales promotion. Especially, it is necessary to promote activities of sponsoring events, conferences, sports, environmental protection ... in order to increase the brand recognition and create a good attitude of consumers with their brands. Particularly for many new cars approaching Vietnam market, together with advertising the brand new cars of the company, it is necessary to promote the brand identity of the automaker.

Finally, the value of self-expression of products to consumers should be increased such as creating a brand

that is consistent with the characteristics of Vietnamese consumers for each age group and personalities of each customer group in order to attract more consumers than other brands. Companies need to emphasize the specificity, advantages of design, quality, technological advantages, fuel saving, etc... to enhance the brand associations and perceived quality factors for Vietnamese consumers. Moreover, the infrastructure system in Vietnam is still limited compared to many developing countries, so Vietnamese consumers pay much attention to maintenance system of manufacturers. Companies should also focus on developing a warranty and customer support service to enhance the factor of perceived quality.

5.3. Limitations and Suggestions for Further Research

The study only focused on customer surveys in Ho Chi Minh City, Vietnam's largest city. In the future, research areas will be expanded to other localities and sample size as well. In addition, the next research direction of this study is in-depth study of the factors of "brand equity" affecting Vietnamese consumers' intention to buy cars.

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