

An Integrated Framework of Customer-based Brand Equity and Theory of Planned Behavior: A Meta-analysis Approach

Wann-Yih WU¹, Thi-Yen DO², Phuoc-Thien NGUYEN³, Nadia ANRIDHO⁴, Minh-Quan VU⁵

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Abstract

The objectives of this study are (1) to review previous studies in the context of brand management in consumer behaviors using customer based brand equity (CBBE) and theory of planned behavior (TPB) as the basic foundation of the study; and (2) to develop a comprehensive research model by integrating relevant research constructs using meta-analysis. This study reviewed a total 173 studies from 58 published papers with 40 journals during 1991–2014 and developed a comprehensive framework with 16 research hypotheses. The results showed that (1) brand image, brand personality, brand association, and subjective norm are the important antecedents of brand attitudes; (2) brand awareness, brand trust, perceived quality, and perceived behavioral control are the important antecedents of brand loyalty; (3) brand attitude positively influences brand loyalty, which further influences brand equity; and (4) brand equity positively influences behavioral intention. This study fills in the research gap by integrating more research variables into CBBE model, particularly to include the influence of social context on consumer behavior through TPB. These results indicated that the integration between CBBE and TPB is meaningful and the comprehensive model can explain more variances than that of the individual model. Limitations, and recommendations for future research in this area are provided.

Keywords: Customer-Based, Brand Equity, Planned Behavior Theory, Meta-Analysis

JEL Classification Code: M00, M30, M31

1. Introduction

Brand is one of the important assets of a company (M'zungu et al., 2010). Increasing the effectiveness of brand

management is an important task for manager. One way to do it is by building up strong brand equity. Many researchers and practitioners have already paid much attention to brand equity and thus, it has become a popular marketing concept (Atilgan et al., 2005). One of the famous models of brand equity is customer-based brand equity model which emphasizes on the cognitive customer-based or costumers' perceptions about a brand (Aaker, 1991; Keller, 1993). Aaker (1991) conceptualized brand equity as five components of sources: brand loyalty, brand awareness, perceived brand quality, brand associations (or brand image), and other proprietary assets (patents, trademarks, etc.). Keller (1993) viewed brand equity as the level of awereness, familiarity, the strength, favorability, and uniqueness of brand associations that consumers hold in memory. However, as Gambetti et al. (2012) mentioned, previous studies of customer-based brand equity have several weaknesses such as: (1) just focusing on the individual dimensions of consumer behavior and neglecting the influences of social, cultural, and relational context of brand equity on consumer behavior; and (2) just focusing on many fragmented views of brand

¹First Author. College of Management, Nanhua University, Taiwan. Email: wwanyi888@gmail.com

²Corresponding Author. PhD Student, Department of Business Administration, Nanhua University, Taiwan [Postal Address: No. 55, Sec. 1, Nanhua Rd., Dalin Township, Chiayi County 62249, Taiwan] Email: hannah.ba.nhu@gmail.com

³Faculty of Economics-Management, Dong Nai Technology University, Vietnam. Email: nhuanduc08@gmail.com

⁴Department of Accountancy, Universitas Airlangga, Indonesia. Email: nadiaanridho@gmail.com

⁵International School, Vietnam National University, Ha Noi, Vietnam. Email quanvm@isvnu.vn.

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equity. Therefore, it is difficult to develop a comprehensive framework of brand-related constructs. This study intends to fill this research gap by integrating more research variables into CBBE model, particularly to include the influence of social context on consumer behavior.

Theory of Planned Behavior (TPB) from Ajzen (1991) is one of the most important theories that is widely used to explain consumer behaviors in the literature. TPB consists of subjective norms, perceived behavioral control, attitude, and behavioral intention. Consumers' loyalty and purchasing behavior toward certain brand can be explained by TPB (Olsen, 2007). Several previous studies have evaluated TPB through meta-analysis. Among others, Notani (1998) who examined moderators of perceived behavioral control's predictiveness in TPB; Ravis and Sheeran (2003) who evaluated descriptive norms as an additional predictor in TPB; and Rise et al. (2010) who worked on the role of self-identity in TPB; etc. However, none of them conducted TPB meta-analysis in the context of brand management. Therefore, this study tries to fill in the research gap by conducting meta-analysis study to integrate CBBE and TPB into a more comprehensive research model.

The integration of CBBE and TPB is important because strong brand equity can enhance consumers' positive evaluation toward the brand which further influences repurchase behavior (Yoshida & Gordon, 2012). Positive customer-based brand equity will lead to greater revenues, lower costs, and higher profits. It also has direct implications for company to achieve premium price, consumers' willingness to seek out new distribution channels, the effectiveness of marketing communications, and the success of brand extensions and licensing opportunities (Keller, 2003).

A plenty of empirical studies have identified the key success factors to CBBE and TPB, however, meta-analysis study in these contexts remains rare. This study seeks to review previous research and identify the effect size for each hypothesis of the integrative model which consists of the components of CBBE and TPB in consumer behavior research. Therefore, the objectives of this study are (1) to review previous studies in the context of brand management in consumer behaviors which using CBBE and TPB as the basic foundation of the study; and (2) to develop a comprehensive research model by integrating CBBE and TPB.

2. Literature Review

2.1. The Antecedents of Brand Attitude

This study identifies brand image, brand personality, brand association, and subjective norm as the four

important antecedents of brand attitude. Brand image is essential to differentiate a product from its competitors (Ismail & Spinelli, 2012). It is a set of perceptions about a brand as reflected by brand association held in the consumers' memory. Brand personality is defined as human characteristics which associate with a brand, while brand association is defined as the category of brand's assets and liabilities that include anything 'linked' in memory to a brand (Aaker, 1991, 1997).

Both of brand image and brand personality sometimes have been used interchangeably in several studies (Ismail & Spinelli, 2012). This study proposes that brand image positively influences brand personality because most previous studies's results directed to that direction (Peterson, 1997; Hosany et al., 2006; Chen & Phou, 2013; Oh & Park, 2020). Through the brand image, brand personality can be built up (Chen & Phou, 2013). Moreover, when product information is given about the personality of the brand, it may increase consumers' attention to the brand and stimulate active information processing which further enhances the emergence of brand association (Freling & Forbes, 2005). Thus, the following hypotheses are developed:

H1: *Brand image has positive influence on brand personality.*

H2: *Brand personality has positive influence on brand association.*

Consumer behaviors can be influenced by internal and external factors (Lin, 2008). Brand image, brand personality, and brand association tend to influence consumers' attitude toward the brand from the internal side or consumers' cognition side. Brand image and brand association remain in consumers' memory, while brand personality used to convey consumers' ideal-self, and consumer perception can be used by the consumers to make brand evaluation (Faircloth et al., 2001; Guthrie et al., 2008). Brands with positive image and association in consumers' mind and that bear similar personality with consumers tend to lead to consumers' positive attitude toward such brands. On the other hand, subjective norm tends to influence brand attitude from the external side. Based on TPB, subjective norm is reflected by a consumer's tendency to conform to the expectations of others regarding purchase decisions making in order to gain rewards or to avoid punishment from others (Zhan & He, 2012). Consumers tend to have the similar attitude toward a brand with other people in their community. Therefore, the following hypotheses are developed:

H3: *Brand image has a positive influence on brand attitude.*

H4: *Brand personality has a positive influence on brand attitude.*

H5: Brand association has a positive influence on (a) brand attitude and (b) brand trust.

H6: Subjective norm has a positive influence on brand attitude.

2.2. The Antecedents of Brand Loyalty

Brand awareness, brand trust, perceived quality, and perceived behavioral control are the important antecedents of brand loyalty. Brand loyalty is consumers' tendency to be loyal to a brand, as demonstrated by the intention to purchase from the brand as a primary choice (Yoo & Donthu, 2001). Brand awareness is consumers' ability to recognize or recall that a brand is a member of a certain product category. Perceived quality can be defined as consumer's overall impression of the relative superiority of the brand. Brand trust can be defined as the confident expectations of the brand's perceived credibility and benevolence (Kumar et al., 2013). This study proposes that brand awareness and perceived quality positively influence brand trust. More brand awareness and higher brand perceived quality lead to higher consumers' trust toward a brand. Thus, the following hypotheses are developed:

H7: Brand awareness has a positive influence on brand trust.

H8: Perceived quality has a positive influence on brand trust.

Furthermore, this study proposes that brand awareness, brand trust, perceived quality, and perceived behavioral control positively influence brand loyalty. Consumer with higher awareness, higher trust, and higher perceived quality toward the brand will be more committed toward that brand (Pappu et al., 2005; Anuwichanont & Mechinda, 2009; Kumar et al., 2013). When a consumer highly trusts a brand and perceived that a brand has good quality, they tend to have higher commitment to be loyal to that brand.

In addition, Ajzen (1991) defined perceived behavioral control as the person's beliefs on how easy or difficult performance of the behavior is likely to be. Olsen (2007) defined perceived behavioral control as the internal and external resources, as well as the contextual factors that make it difficult to act upon the motivation to consume and to engage in repurchase loyalty toward a product category. Furthermore, perceived behavioral control is an important predictor of motivation, intention, and behavior (Olsen, 2007). Lee, et al. (2009) also found that perceived behavioral control positively influences consumer loyalty. Consumers may need an opportunity to be involved to consume and/or engage in repurchase loyalty (Olsen, 2007; Park & Park, 2019). Therefore, the following hypotheses are proposed:

H9: Brand awareness has a positive influence on brand loyalty.

H10: Brand trust has a positive influence on brand loyalty.

H11: Perceived quality has a positive influence on brand loyalty.

H12: Perceived behavioral control has a positive influence on brand loyalty.

2.3. The Effect of Brand Attitude and Brand Loyalty

Brand attitude is consumers' overall evaluation of the brand. Brand attitude depends on consumer perceptions regarding a brand and can be a predictor of consumers' behavior toward brand (Shimp, 2010). Brand loyalty is consumer commitment to re-buy or re-patronize a preferred product or service in the future (Oliver, 1997). Previous research showed that brand attitude positively influences brand loyalty (Liu et al., 2012). Keller (1993) argued that loyalty toward a brand is an outcome of effectively managed attitude toward the brand. Consumers with more positive attitude towards a brand tend to be more loyal towards it.

Furthermore, brand attitude and brand loyalty are the key components to value brand equity (Liu et al., 2012; Moisescu & Allen, 2010). Consumer's self-reported brand value is driven by her/his attitude toward the brand which further enhances brand equity (Faircloth et al., 2001). In addition, brand loyalty has been found to be the strongest driver of brand equity (e.g. Yoo et al., 2000; Atilgan et al., 2005; Yasin et al., 2007; Buil et al., 2013). Loyal consumers show more favorable responses toward a brand which further contribute to the growth of brand equity. Therefore, the following hypotheses are developed:

H13: Brand attitude has a positive influence on brand loyalty.

H14: Brand attitude has a positive influence on brand equity.

H15: Brand loyalty has a positive influence on brand equity.

2.4. The Effect of Brand Equity

Brand equity is one of the core concepts in marketing (Buil et al., 2013). Aaker (1991) defined brand equity as "a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers". Brand value can be derived from the impact of brand knowledge on consumer's response to the brand marketing (Aaker, 1991; Agarwal & Rao, 1996; Keller, 1993).

3.2. Meta-Analysis

This study employs meta-analysis study to empirically test the above 16 research hypotheses. Meta-analysis is the process to summarize, to evaluate, and to analyze the findings of quantitative research (Kirca & Yaprak, 2010). In case that some primary studies lack of sufficient power (i.e., sample size) to achieve significant results, meta-analysis is important to solve that problem (Lipsey & Wilson, 2001). Meta-analysis can be more accurate to conclude the conflicting findings by correcting the distorting effects of artifacts into a single estimation result from multiple independent studies that bear on the same relationship (Hunter & Schmidt, 2004).

To collect the data, this study firstly sought the relevant literatures in various databases such as ABI/Inform, JSTOR, Elsevier Science Direct, Wiley Online Library, Taylor & Francis Online Journals, and many others. Keywords which related consumer-based brand equity and theory of planned behavior (e.g., brand awareness, brand attitude, brand loyalty, etc.) were used to find the suitable data for this study.

Total 173 studies from 58 published papers written in English were included in this study. All papers have brand management foundation in consumer behaviors field. In order to measure the effect size of the hypotheses, this study used correlation coefficient (r) between two variables. The reason for using correlation coefficient as the primary effect size is that because it is easier to be interpreted and most of meta-analytical studies have used it as the criteria (Byron & Khazanchi, 2010; Shrinivas & Shaffer, 2005; Hechenova, 2003). Comprehensive Meta-Analysis (CMA) 2 software was used to calculate the correlations coefficient which obtained from r value, t -value, z -value, and p -value in each paper. Effect size results (r) can be categorized into small ($r < 0.1$), medium ($r = 0.25$), and large ($r > 0.40$); as suggested by Lipsey and Wilson (2001).

Furthermore, Q -statistic test was adopted to check the homogeneity of the effect size distribution. Lipsey and Wilson (2001) explained that Q -statistic is distributed as a chi-square with degree of freedom = $n-1$, where n = number of studies. This Q -statistic test has assumed that all of the effect sizes estimating the same population mean is a reasonable assumption. The criterion for Q -statistic is that Q -value should be higher than Chi-square, and then it suggests that the null hypothesis of homogeneity is rejected. In this case, it can be concluded that the differences in effect size may be attributed to factors other than sampling. Therefore, the heterogeneity between the variance existed.

Table 1 shows the coding of all the studies which is included in this study. The sources for 58 published papers are come from 40 different journal publications.

3.3. Structural Equation Model

In order to test if our research model is fit, we run structural equation modelling using LISREL. Correlation coefficient matrix and median sample size were used as data input. We analyzed path coefficient and goodness of fit results.

4. Results and Discussions

4.1. Meta-Analysis

Table 2 shows the meta-analysis results for this study. The correlations (r) shown are the mean values of correlations among previous studies. First, for the antecedents of brand attitude (H1-H6), the results show that brand image has positive influence on brand personality ($r=0.491$) and brand attitude ($r=0.349$); brand personality has positive influences on association ($r=0.198$) and brand attitude ($r=0.273$); brand association ($r=0.266$) and subjective norm ($r=0.429$) have positive influence on brand attitude. Furthermore, brand association ($r=0.734$) also has positive influence on brand trust. All of the hypotheses have Q -values higher than Chi-square except for H2 and H5b but the difference is not big. It means that these hypotheses are significantly heterogeneous from the variance attributed to factors rather than from the sampling errors. Thus, H1 until H6 are supported.

Brand image positively influences brand personality. This result is in line with previous studies (e.g., Chen & Phou, 2013; Hosany et al., 2006). Brand personality can be built up by the image of the brand. Brand personality also positively influences brand associations (Freling & Forbes, 2005). When product information is given about the personality of the brand, it leads to the emergence of brand association. Furthermore, brand image, brand personality, brand associations, and subjective norm positively influence brand attitude (Faircloth et al., 2001; O'Cass & Grace, 2003; Guthrie et al., 2008; Lin, 2008; Zhan & He, 2012; Lee & Kang, 2013). A brand which has positive image and association in consumers' mind and has similar personality with consumers tends to lead to consumers' positive attitude toward the brand. Consumers also may choose a brand or evaluate a brand positively when the other people around them also have the same evaluation.

Second, for the antecedents of brand loyalty (H7-H12), the results show that brand awareness ($r=0.372$) and perceived quality ($r=0.689$) have positive influence on brand trust; brand awareness ($r=0.415$), brand trust ($r=0.597$), perceived quality ($r=0.218$), and perceived behavioral control ($r=0.169$) have positive influence on brand loyalty. All of the hypotheses have Q -values higher than Chi-square except for H12 but the difference is not big. It means that these hypotheses are significantly heterogeneous from the

Table 1: Studies alphabetically by source and codes for hypotheses tests a,b

Studies Alphabetically by Source and Codes for Hypotheses Tests ^{a,b}	
Anderson and Swaminathan, 2011 ¹ (T-L) Anuwichanont and Mechinda, 2009 ² (W-T, Q-T, W-L, T-L, Q-L) Atilgan et al., 2005 ³ (W-L, Q-L, L-E) Aydin, et al., 2005 ³ (T-L) Aydin and Ozer, 2005 ⁴ (T-L, Q-L) Bagozzi and Dholakia, 2006 ⁵ (N-A) Buil, et al., 2013 ⁶ (Q-L, L-E, E-B) Callarisa, et al., 2012 ⁷ (Q-L) Camarero, et al., 2010 ⁸ (Q-L, L-E) Chahal and Bala, 2012 ⁹ (Q-L, L-E) Chang et al., 2008 ¹⁰ (A-E) Chang and Liu, 2009 ¹¹ (A-E) Chen, et al., 2012 ¹² (E-B) Chen and Chang, 2008 ¹³ (E-B) Chen and Phou, 2013 ⁸ (I-P, T-L) Chen and Tseng, 2010 ¹⁴ (A-E) Dolbec and Chebat, 2013 ¹⁵ (I-A, A-E) Faircloth, et al., 2001 ¹ (I-A, A-E) Freling and Forbes, 2005 ¹⁶ (P-S) Guthrie, et al., 2008 ¹⁷ (P-A) Ha, 2009 ¹⁸ (Q-L, L-E) He and Li, 2011 ¹⁹ (Q-L) Horng, et al., 2012 ⁸ (W-L, Q-L) Hosany, et al., 2006 ²⁰ (I-P) Ismail and Spinelli, 2012 ¹⁷ (I-P) Jalilvand et al., 2012 ²¹ (I-A) Kayaman and Arasli, 2007 ²² (Q-L) Kim et al., 2012 ²⁰ (A-E) Kim and Ko, 2012 ²⁰ (E-B)	Kumar, et al., 2013 ³ (S-T, W-T, Q-T, W-L, T-L, Q-L, L-E) Lee, et al., 2009 ⁶ (C-L) Lee and Back, 2010 ⁸ (W-T, W-L, T-L) Lee and Kang, 2013 ²³ (P-A) Lin, 2008 ²⁴ (I-A) Liu, et al., 2012 ⁴ (P-A, A-L) Loureiro and Miranda, 2011 ²⁵ (W-T, Q-T, W-L, T-L, Q-L, L-E) Magnusson, et al., 2011 ²⁶ (S-A) Moon et al., 2010 ²⁷ (W-L, Q-L) Moradi and Zarei, 2011 ²⁸ (E-B) Moradi and Zarei, 2012 ²⁹ (W-L, Q-L, L-E) O'cass and Carlson, 2012 ³⁰ (Q-T, T-L, Q-L) O'cass and Grace, 2003 ³¹ (S-A) Olsen, 2007 ³² (C-L) Pappu, et al., 2005 ¹⁶ (W-L, Q-L) Phan and Ghantous, 2013 ³³ (S-T) Praxmarer and Griel, 2009 ²⁹ (S-A) Raimondo, et al., 2008 ³⁴ (T-L) Rios and Riquelme, 2008 ³ (W-T, T-L, L-E) Rios and Riquelme, 2010 ³⁵ (W-T, T-L, LE) Rodgers, et al., 2005 ³² (Q-L) Sanchez-Franco, et al., 2009 ³⁶ (T-L) Singh, et al., 2012 ¹⁹ (T-L) Suh and Yi, 2006 ³⁷ (A-L) Tarus and Rabach, 2013 ³⁸ (Q-L) Wong, 2013 ³⁹ (L-E) Wu and Lo, 2009 ²⁹ (I-A) Yoshida and Gordon, 2012 ⁴⁰ (E-B) Zhan and He, 2012 ²⁰ (N-A)

^aCodes in parentheses: I= Brand Image; P= Brand Personality; S= Brand Association; W= Brand Awareness; T= Brand Trust; Q= Perceived Quality; N= Subjective Norm; A= Brand Attitude; L= Brand Loyalty; C= Perceived Behavioral Control; E= Brand Equity; B= Behavioral Intention.

^bJournals are footnoted in alphabetical order: (1)*Journal of Marketing Theory and Practice*, (2)*Journal of Business & Economic Research*, (3)*Marketing Intelligence & Planning*, (4)*European Journal of Marketing*, (5)*International Journal of Research in Marketing*, (6)*Journal of Consumer Marketing*, (7)*Tourism Management Perspectives*, (8)*Tourism Management*, (9)*International Journal of Health Care Quality Assurance*, (10)*Asia Pacific Management Review*, (11)*The Service Industries Journal*, (12)*Social Behavior and Personality*, (13)*Journal of Air Transport Management*, (14)*Transportation Journal*, (15)*Journal of Retailing*, (16)*Journal of Product & Brand Management*, (17)*Journal of Fashion Marketing and Management*, (18)*Seoul Journal of Business*, (19)*Journal of Business Ethics*, (20)*Journal of Business Research*, (21)*Journal of Destination Marketing & Management*, (22)*Managing Service Quality*, (23)*Academy of Marketing Studies Journal*, (24)*International Journal of Commerce & Management*, (25)*Journal of Service Science and Management*, (26)*International Marketing Review*, (27)*Journal of Global Academy of Marketing Science*, (28)*Australian Journal of Basic and Applied Sciences*, (29)*Asia Pacific Journal of Marketing and Logistics*, (30)*Australasian Marketing Journal*, (31)*Journal of Services Marketing*, (32)*Psychology and Marketing*, (33)*International Journal of Bank Marketing*, (34)*Journal of Service Research*, (35)*Journal of Research in Interactive Marketing*, (36)*Information & Management*, (37)*Journal of Consumer Psychology*, (38)*The TQM Journal*, (39)*International Journal of Hospitality Management*, (40)*Sport Management Review*.

variance attributed to factors rather than from the sampling errors. Therefore, H7 until H12 are supported.

Both of brand awareness and perceived quality positively influence brand trust. The results are in line with previous studies (e.g., Anuwichanont & Mechinda, 2009; Kumar et al., 2013). Moreover, brand awareness, brand trust, perceived

quality, and perceived behavioral control positively influence brand loyalty (Aydin et al., 2005; Pappu et al., 2005; Olsen, 2007; Lee et al., 2009; Kumar et al., 2013). Consumer with high awareness, high trust, high perceived quality of the brand, and high opportunity to be involved in purchase decision making will be more committed toward that brand.

Table 2: Meta-analysis results

H.	Variables		k Studies	Total N	Effect Size & 95% Confidence Interval			Heterogeneity			
	Independent	Dependent			r	LCI	UCI	p-value	Chi-square	Q-value	I-squared
1	Brand Image	Brand Personality	3	826	0.491	0.437	0.541	0.000	13.816	21.293	90.607
2	Brand Personality	Brand Association	5	960	0.198	0.136	0.258	0.901	1.064	1.056	0.000
3	Brand Image	Brand Attitude	8	1772	0.349	0.307	0.389	0.000	24.322	70.276	90.039
4	Brand Personality	Brand Attitude	21	5099	0.273	0.247	0.299	0.000	45.315	282.278	92.915
5a	Brand Associations	Brand Attitude	4	1293	0.266	0.215	0.316	0.003	12.838	14.299	79.019
5b	Brand Association	Brand Trust	4	2573	0.734	0.715	0.751	0.316	3.66	3.538	15.194
6	Subjective Norm	Brand Attitude	3	768	0.429	0.369	0.485	0.000	13.816	83.478	97.604
7	Brand Awareness	Brand Trust	7	3304	0.372	0.342	0.401	0.000	22.458	246.585	97.567
8	Perceived Quality	Brand Trust	4	2247	0.689	0.666	0.710	0.000	16.266	121.450	97.530
9	Brand Awareness	Brand Loyalty	15	5423	0.415	0.392	0.437	0.000	36.123	249.363	94.386
10	Brand Trust	Brand Loyalty	20	19027	0.597	0.588	0.606	0.000	43.820	3028.47	99.373
11	Perceived Quality	Brand Loyalty	31	58586	0.218	0.210	0.226	0.000	59.703	3650.69	99.178
12	PBC	Brand Loyalty	4	1533	0.169	0.119	0.217	0.951	0.352	0.346	0.000
13	Brand Attitude	Brand Loyalty	4	2468	0.495	0.464	0.524	0.000	16.266	46.402	93.535
14	Brand Attitude	Brand Equity	12	1740	0.458	0.419	0.494	0.000	26.757	261.759	95.798
15	Brand Loyalty	Brand Equity	13	5254	0.598	0.579	0.616	0.000	28.300	389.661	97.177
16	Brand Equity	Behavioral Intention	8	3279	0.409	0.380	0.437	0.000	20.278	334.162	97.905

Third, brand attitude has a positive influence on brand loyalty ($r=0.495$) and brand equity ($r=0.458$); while brand loyalty has a positive influence on brand equity ($r=0.598$). All of the hypotheses have Q-values higher than Chi-square. It means that these hypotheses are significantly heterogeneous from the variance attributed to factors rather than from the sampling errors. Thus, H13, H14, and H15 are supported.

Brand attitude positively influences brand loyalty. This results in line with Suh and Yi (2006) and Liu, et al. (2012). Consumers with more positive attitude towards a brand tend to be more loyal. Both brand attitude and brand loyalty positively influence brand equity (Faircloth et al., 2001; Atilgan et al., 2005; Kim et al., 2012; Buil et al., 2013) Consumer's self-reported brand value is driven by her/his

attitude toward the brand and loyal consumers show more favorable response to a brand which further leads to greater brand equity.

Finally, brand equity has a positive influence on behavioral intention ($r=0.409$). Its Q-value is higher than Chi-square. It means that these hypotheses are significantly heterogeneous from the variance attributed to factors rather than from the sampling errors. Therefore, H16 is supported. The result is in line with previous studies (Chen & Chang, 2008; Moradi & Zarei, 2011; Chen et al., 2012; Kim & Ko, 2012; Yoshida & Gordon, 2012; Buil et al., 2013). Consumers who perceive a higher value in a brand are more likely to buy it (Aaker, 1991). Consumers are more willing to purchase a product at a higher price which implies greater brand equity for the brand (Chen et al., 2012). It indicates stronger purchase intention in consumer's mind.

4.2. Structural Equation Model

Figure 2 shows the results of path coefficients of SEM. Goodness of fit index shows that the proposed model is fit with previous meta-analysis statistics. GFI=0.980, AGFI=0.959, SRMR=0.0315, and $\chi^2(38) = 293.84$, $p < 0.001$.

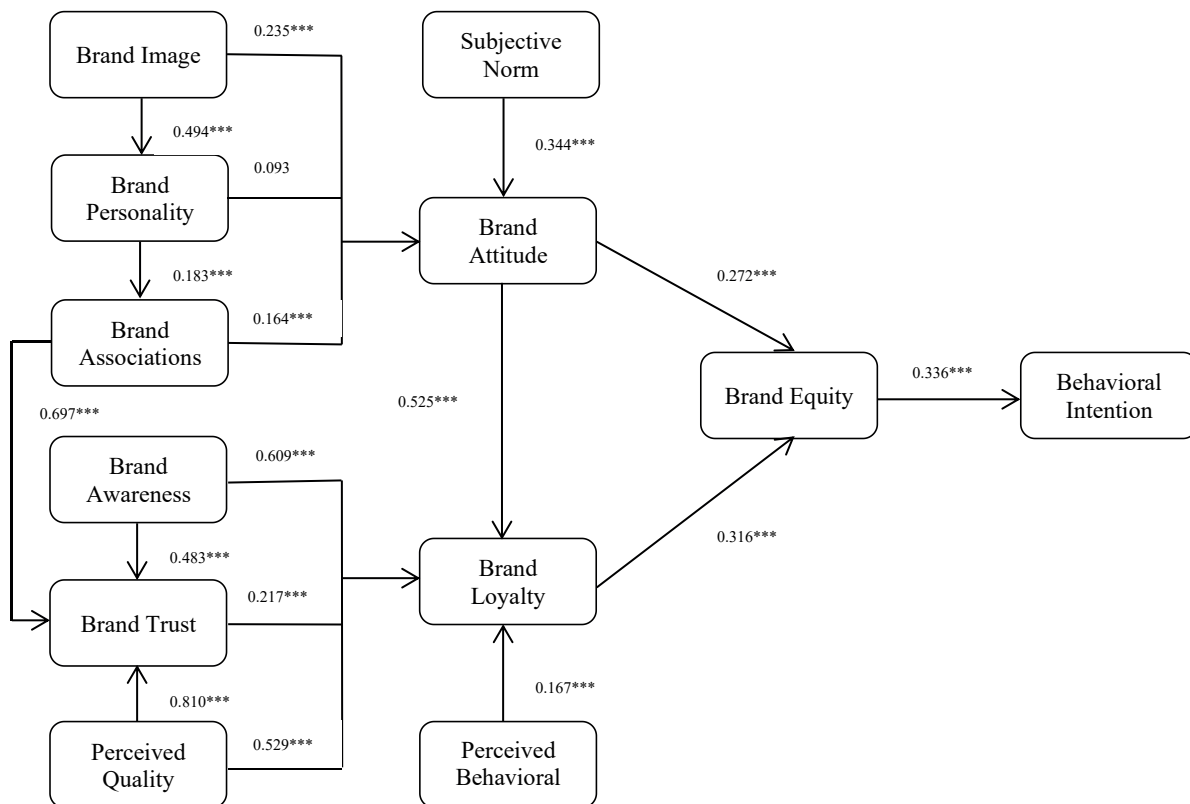


Figure 2: Structural Equation Modelling Estimation

All the results are consistent with meta-analysis results which are positive significant except for H4 (brand personality-brand attitude) which shows non-significant result. The non-significant result for the effect of brand personality on brand attitude may be due to the divergence of previous findings. Liu, et al. (2012) also found that brand personality has no effect on brand attitude.

Brand loyalty shows stronger effect on brand equity ($\beta=0.316$) than brand attitude ($\beta=0.272$). This result is also shown in meta-analysis result. Brand loyalty has higher r value (0.458) than brand attitude (0.598). It is consistent with previous studies that brand loyalty is the strongest predictor of brand equity (Atilgan et al., 2005).

5. Conclusions and Limitations

5.1. Conclusions

The objectives of this study are (1) to review previous studies in the context of brand management in consumer behaviors which using CBBE and TPB as the basic foundation of the study, and (2) to develop a comprehensive research model by integrating CBBE and TPB. Through the

meta-analysis study, this study reviewed 173 studies in total from 58 published papers during 1991-2014 and developed a comprehensive framework with 16 hypotheses. The research framework was tested using the mean values of correlations between dependent and independent variables out of the results of 173 previous studies.

The results from meta-analysis show that all 16 hypotheses were supported. These results further suggested that the extension of CBBE model to include variables from TPB (such as brand attitude, subjective norms, and perceived behavioral control), brand personality, and brand association seems to explain more variance on consumer's brand choice behavior. Furthermore, to test the proposed model fitness, this study applied structural equation modelling. From 17 paths of relationship, 1 path is not significant at the 0.05 level.

For academic implication, the research model as developed in this study integrated consumer-based brand equity (CBBE) model and theory of planned behavior (TPB) model and additional constructs. As previous studies have examined those two theories separately, this study contributes to the marketing literature, especially to the brand management research context, with a development of a more comprehensive research model related to consumer behavior. From the research framework, it can be seen that brand equity is one of the factors that can enhance consumers repurchase intention.

This study attempts to fill in the research gap by integrating more research variables into CBBE model, particularly to include the influence of social context on consumer behavior through TPB. As mentioned earlier, CBBE focuses on brand-related constructs on brand equity without considering the influences of social contexts which are one of the important determinants in consumer's choice of a brand. This study added several constructs such as subjective norm, perceived behavioral control, brand personality, brand trust, and brand attitude to demonstrate the complexity of brand choice. For example, positive attitude toward a brand will contribute to building up strong brand equity. Consumer's positive attitude arises because of that brand itself (i.e., has good image in consumers' mind) or because the influence of people around them. Moreover, consumer's perceived behavioral control can enhance brand loyalty which further contributes to strong brand equity.

Although a plenty of previous studies have investigated the influence of specific antecedents on brand equity, nearly none of them have integrated above constructs into a more comprehensive framework (Gambetti et al., 2012). This study follows Zhang, et al. (2012) who argued that "inevitable problem of inconsistent empirical findings on essentially the same question need to be integrated and presented as a general conclusion" (p.1909). Therefore, the extended CBBE model as adopted in this study contributes to the academic field by

integrating 173 studies into a comprehensive research model which a subject to further empirical validation.

For managerial implication, one of the most important things to do for brand managers is that to design an effective brand management (e.g., leverage brand equity) in order to increase brand value. It is important because strong brand equity significantly enhances the positive evaluation of the brand and the repeated purchasing. Marketers engage in projects to understand and improve the authenticity their brands provide for their customers (Tran et al., 2020). Brand managers should pay more attention not solely on brand-related constructs, but also from social context. It is recommended that brand-related constructs will not be the only secret weapon to achieve competitive advantages. Managers need to carefully consider the elements like subjective norms and perceived behavioral control that may relate more to consumers. Marketing activities should be more focused on creating brand personality for the brand. Building up strong loyal consumers is important because once consumers are loyal to a particular brand they are likely to give positive information about that brand to another people (positive word-of mouth).

5.2. Limitations and Future Research

This study has several limitations. First, the comprehensive research model as developed in this study is subject to further empirical validation. Therefore, future research can verify this research model through in-depth interviews, case studies, or questionnaire surveys. Second, to increase the capacity of explanation, the comprehensive research model may subject to be modified by integrating more theories and constructs into the model. Third, each of the reviewed paper may have different measurement and data collection methods. Future research may have to evaluate the measurement scales and collection methods in order to get more solid results in terms of measurement. Second, the reviewed papers in this study were limited to the papers that published in journal publication written in English. Future research may review more papers which related with CBBE and TPB in unpublished papers (e.g., dissertation, conference paper) and papers written in other languages.

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