

RESEARCH ARTICLE

# Exploring the Strategic Role of Brand Equity Towards Competitive Advantage in the Smartphone Industry

Sharizal Hashim\*, Elaine Liew Yi Ying, and Sheraz Ahmed

University of Malaysia, Sarawak

\*hsharizal@unimas.my

**Abstract:** This study intends to explore the strategic role of brand equity towards competitive advantage from the customer's perspective in the context of the smartphone market in Kuching, a city located in Sarawak, Malaysia. Based on the two competitive advantage strategies (cost advantage and differentiation), this study aims to investigate the extent these two strategies affects brand equity prediction towards customer satisfaction. By employing convenience sampling, self-administered questionnaires were distributed among smartphone users. A total of 417 respondents were involved in the process. The data collected were further evaluated using the Statistical Package for Social Sciences (SPSS). Pearson's correlation analysis, multiple regression analysis, and independent sampled t-test were used to perform statistical analysis. The results revealed that elements of Brand Equity (brand awareness, brand associations, perceived quality, and brand loyalty) have a positive relationship with customer's satisfaction. There is also a significant difference between the two competitive advantage strategies, that is, cost advantage and differentiation. Results showed that when the elements of brand equity increase, customer satisfaction level also increases and the level of increment among two samples of study is different. This study contributes in a twofold manner. Brands can be effective tools for the organizations to gain their competitive advantage, but specific advantage and segment need specific brand treatment.

**Keywords:** brand associations, brand awareness, brand equity, brand loyalty, perceived quality

The emergence of the Internet and handphones have boosted up the invention and continuation of smartphone production in the market, making it an interesting issue to be studied by marketers nowadays. The presence of these two technologies in the 21<sup>st</sup> century have shown considerable primary impact towards the economy of a country as they are offering more powerful computing systems with enhanced connectivity than an old, outmoded mobile phone (O'Leary & O'Leary, 2005). According to Statista (2017), there were 19.9 million smartphone users in

2017 in Malaysia, and now this figure projected to reached to 20.96 million in 2018 which is estimated to increase up to 21.76 million in 2019, forming a big industry. Based on a report by Newzoo (2018), the smartphone penetration rate of Malaysia has been ranked 11<sup>th</sup> in the Asia-Pacific region and 30<sup>th</sup> in the global ranking (i.e., 57.5%). The figures indicate that the Malaysian smartphone market is facing a challenging marketing environment with increasingly demanding consumers, strengthened competition, and rapidly growing market.

Recently, Malaysia's smartphone business environment is getting more and more competitive, and the rivalry between smartphone brands is getting tight with the increasing number of brands entering the market. Therefore, the brand operators are emphasizing on the brand establishment to survive and retain their competitive advantage in the market. Consequently, brand equity is viewed as an essential element in assisting smartphone managers to attain higher customer satisfaction toward their brands along with gaining competitive advantage and making wiser organizational decisions (Ahmad & Sherwani, 2015). Building strong brands has turned out to be an area of extreme importance, and numerous studies had been done to carefully identify and conceptualize the role and effects of branding because it brings along several advantages (Ahmad & Sherwani, 2015).

For the past two decades, the relationship between brand equity and customer satisfaction has been debated repeatedly, becoming a key area of research in business marketing. Aaker's (1991) conceptual framework of brand equity confirmed the fact that brand equity and customer satisfaction are interdependent. His proposed model was further studied and accepted by many more researchers (Ahmad & Sherwani, 2015; Kapferer, 2004; Keller, 1993; Yoo, Donthu, & Lee, 2000). Ahmad and Sherwani (2015) aimed to evaluate Aaker's brand equity framework in the context of mobile phone brands and confirmed that brand equity is positively influenced by the dimensions of brand equity which further results in increased customer satisfaction. This finding is consistent with that of Ryu, Han, and Jang (2010) that brand equity is a key measure of customer satisfaction in many instances.

Besides, evidence has proven that strong brand management impacts an organization by building a reputation and gaining competitive advantage (Anderson & Sullivan, 1993; Walsh, Dinnie, & Wiedmann, 2006; Matzler, Hinterhuber, Daxer, & Huber, 2005). Many studies emphasized the relationship of brand equity with competitive advantage (Ahmad & Sherwani, 2015; Delgado-Ballester & Munuera-Alemán, 2005; Hunt & Morgan, 1996), but there is still room to study the direct relation of the effects of brand equity on two different strategies of competitive advantage, that is, cost advantage and differentiation. Therefore, this study is conducted from the customers' perspective to examine the influence

of overall brand equity on competitive advantage (cost vs. differentiation competitive advantage) in the smartphone industry.

## Literature Review

### *Brand Equity*

The term "brand equity" has been proposed by various researchers from its early years of development. Different models were developed in different ways to measure brand equity for different purposes. According to Farquhar (1989), brand equity is the "value-added" to a product by a brand. The concept and the meaning of brand equity have been debated repeatedly. Numerous researches had been conducted to conceptualize and explore brand equity. 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" (p.27). Brand equity is considered among the most important and popular concepts of marketing, which is successful in gaining a lot of attention from practitioners and academicians in the past few decades. The main reason behind the popularity of this concept is its strategic role in achieving competitive advantage (Atilgan, Aksoy, & Akinci, 2005).

Keller (1993) demonstrated that the brands should be valued by their customers first to have a brand value of itself. He concluded that brand equity is positively connected with customers. Aaker (1991) and Keller (1993) agreed that brand equity is conceptualized by the customers of a brand providing advantages to the firm. Then in 1996, Aaker finally concluded that other than customers, brand equity has four main dimensions which are interrelated, that is, brand loyalty, brand awareness, perceived quality, and brand association (Aaker, 1996a). Yoo et al. (2000) explored the working theory of Aaker's brand equity model, and they agreed to what has been proposed by Aaker. Until then, almost all researchers who worked on the conceptualization of brand equity (Vazquez, Del Rio, & Iglesias, 2002; Washburn & Plank, 2002; Keller, 2003; Kapferer, 2004) agreed with Aaker's model of brand equity and his model has also been widely used by researchers today. Combining these definitions, brand equity can be concluded as the value a product or service earned from an increment of the customers' knowledge and awareness about the brand.

Brand equity is very important for every brand to generate higher revenues and profits. More specifically, the smartphone brands are increasingly getting attention, and competition among smartphone brands is now stiffer than ever. Bojei and Hoo (2012) explained the importance of brand equity in the context of smartphone markets in Malaysia and found that the dimensions of brand equity (i.e., brand association, brand awareness, brand loyalty, and perceived quality) positively influence the smartphone usage and its repurchase intention. Other studies relate brand equity with smartphone brands. A-Qader, Omar, and Rubel (2017) did a study on the relationship of brand equity and brand experience among the smartphone users in Malaysia and found that the brand equity of smartphone users is greatly influenced by the dimensions of effective brand experience. Furthermore, Huang and Shih (2017) explained the role of a perceived attribute of innovation as a new dimension of brand equity in the context of smartphone markets in Taiwan. According to Abid and Khattak (2017) brand equity of smartphone brands increases when, (1) the consumer's expectations are met, (2) brand is in congruence with the consumer's personality, and (3) brand is doing no immoral activities. It is evident from these studies that brand equity enhances the customer satisfaction of smartphone brands, which this study aims to prove.

### ***Dimensions of Brand Equity***

As shown previously, there are various definitions of brand equity by different authors, which results in diverse brand equity dimensions. Most of the studies defined brand equity based on four elements: brand awareness, brand association, perceived quality, and brand loyalty, as stated in Aaker's renowned conceptual model of brand equity.

### ***Brand Awareness***

Whether a brand is recognized, recalled by the consumers, or it is known to the consumers, is referred to as brand awareness. At one extreme, some brands are unknown to a majority of the people. On the other hand, some brands are known to almost everyone in the world (Ahmad & Sherwani, 2015) showing a high level of brand recognition. To develop and maintain a high level of brand awareness is among one of the primary focus of the brand managers because of the advantages that are brought to the firms through brand awareness (Jamil & Wong, 2012). Brand awareness

plays important roles in marketing, such as consumers tend to feel familiar, contemplate the "when" in their buying decision, and consequently start trusting brands (Keller, 1993). Brand awareness has been assessed empirically as an element of brand equity through a series of research studies (Yoo et al., 2000; Pappu & Quester, 2006; Tong & Hawley, 2009). In short, customers will only consider and purchase products or services from brands that they recognize.

According to Cobb-Walgren, Ruble, and Donthu (1995), the higher brand awareness among customers, the higher will be the purchase intentions. Cobb-Walgren et al. (1995) also found in their study that brand awareness is helpful only in directing customers towards purchase intentions, but they are useless in influencing repurchase intentions in the future. However, in a study on smartphone brands, Bojei and Hoo (2012) found that brand awareness plays a significant role in increasing smartphone usage and further encouraging customers towards the repurchase intention. Smartphones containing advanced features are of great help to consumers in day to day life and businesses; therefore, companies should increase brand awareness regarding updated features among consumers to increase overall brand equity (Huang & Shih, 2017). Once the brand awareness is successfully developed, it is not compulsory for smartphone brands to advertise based on advanced technologies to gain customer preferences because a customer blindly associates new technology to the brand values (Petruzzellis, 2010). It is emphasized by Keller (1993, 1998), Aaker (1997), and Berry (2000) that elements of brand knowledge, (i.e., brand image and brand awareness) are very important in building successful brands.

### ***Brand Association***

Brand association serves as a platform for building customer loyalty through repeat purchases (Aaker, 1991). Aaker (1996a) conceptualized brand association as a follow-up phenomenon of brand awareness, indicating that customers must first be aware and recognize the brand before a set of associations can be developed (Washburn & Plank, 2002). Aaker (1991) considered brand association as one of the magnitudes of brand equity. Belen del Río, Vazquez, and Iglesias (2001) further added that brand association provides a differential advantage to the brand. According to Keller (1993), the combination of attitudes, attributes, and

benefits can shape brand association. Low and Lamb (2000) suggested that brand associations have primary dimensions that include brand attitude, brand image, and perceived quality.

According to Cobb-Walgren et al. (1995), higher brand association leads to higher purchase intention. Furthermore, in a study on smartphones, Bojei and Hoo (2012) found that besides purchase intention, brand association also helps in enhancing repurchase intentions among the consumers of smartphones. Bojei and Hoo (2012) further added that brand association with reference to smartphones could be seen by the experiential and functional attributes that a specific brand offers. For example, consumers used to associate positive things with brands like innovativeness, distinctiveness, high technology, sophistication, and excellence. Thus, in the context of a smartphone, the distinctive features and functions offered by specific brand could signify brand associations. Aaker (1996b) asserted that brand associations are determined by the brand identity that has been created through the integration of intangible and tangible features. In short, users' perception toward the experiential and functional characteristics makes up the brand association.

### ***Perceived Quality***

Aaker (1991) defined perceived quality as "consumer's perception of the overall quality or superiority of a product or a service with respect to its intended purpose, relative to alternatives" (p. 52). Zeithaml (1988) revealed that perceived quality is the overall product quality and excellence that is judged by a consumer. Perceived quality is different from brand association because it plays a noteworthy part in differentiating a brand from others (Ha, Janda, & Muthaly, 2010). High perceived quality implies that consumers can identify and distinguish the superiority of a brand when they come by to have long term involvement with the brand. Perceived quality is being confirmed as one of the main elements of the brand equity model (Farquhar, 1989; Keller, 1993; Aaker, 1996b) as it provides value that differentiates the brand from its competitors. Basically, perceived quality can contribute towards the value of a brand in many ways; it can provide a good reason for purchasing the brand's product and empowers the brand to differentiate itself from the competitors (Aaker, 1991).

Furthermore, Aaker (1991) explained that perceived quality also allows the firms to charge premium prices

and give firms a strong opportunity for brand extension. Perceived quality also helps in maintaining brand image and therefore correlates with customer-based brand equity (Yoo & Donthu, 2001). Customers are likely to purchase from the brands that are perceived to offer superior quality (Cobb-Walgren et al., 1995). Bojei and Hoo (2012) supported this argument and found that the higher perceived quality of smartphone brands the higher is the purchase intention of the customers. Besides, a global smartphone brand that is being marketed in numerous countries and big cities is perceived to have a good quality, which further results in conducive and flattering consumer attitudes regarding the global brands (Pappu, Quester, & Cooksey, 2007; Roy & Chau, 2011). Thus, in short, perceived quality assures the prevalence of the chosen brand over others.

### ***Brand Loyalty***

Brand loyalty is a significant phenomenon to be studied in the context of marketing strategy. Assael (1998) and Deighton, Henderson, and Neslin (1994) conceptualized brand loyalty as the repurchase behavior of consumers that are delighted with their previous buying experience for the same brand. Oliver (1999) defined brand loyalty as "a deeply held commitment to buy or patronize a preferred product or service consistently in the future, thereby causing repetitive same-brand or same-brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior" (p. 41). Travis (2000) continued to claim that brand loyalty is the ultimate objective and connotation of brand equity, adding that brand loyalty is brand equity. Brand loyalty results from loyalty-based buying decisions that might become an everlasting habit (Solomon, 2013).

Besides, brand loyalty could support the organization as a chance to respond and handle the competition. Loyal customers of a brand are always satisfied and inclined to remain with their favorite brand, making them less sensitive to price increase due to the product's ability to satisfy their needs (Rundle-Thiele & Bennett, 2001). Cobb-Walgren et al. (1995) are of the view that purchase intention among consumers is high when brand loyalty is high. Consistent with the findings of Cobb-Walgren et al. (1995), Bojei and Hoo (2012) also found brand loyalty to be linked positively with the repurchase intentions for smartphones in Malaysian markets. In the category of electronic accessories like

smartphones, it is not essential for brands that have brand loyalty to gain customer preferences through the push of new technologies; rather, loyal customer associate new technologies with the brands themselves (Petruzzellis, 2010).

### ***Customer Satisfaction***

To gain customer satisfaction is the primary goal of companies in both service and product industry. Customer loyalty and customer retention, which are considered very important and helps in high turnovers and increased profits, are connected with customer satisfaction (McQuitty, Fin & Wiley 2000). Oliver (1981) stated that satisfaction is “the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with prior feelings about the consumer experience” (p. 24). Customer satisfaction is viewed as a vital approach for a company to achieve long term business success and gain a competitive advantage (Pappu & Quester, 2006). This is also vital in terms of a firm’s economic performance. Furthermore, customer satisfaction affects consumer purchase intentions (Cronin & Taylor, 1992), making repeat purchase behavior possible and help produce strong brands with a strong competitive advantage (LaBarbera & Mazursky, 1983). Past literature shows that customer satisfaction has strong links with different dimensions of brands (Grace & O’Cass, 2001). Various dimensions of brand equity effects satisfaction directly, such as employee service, servicescape (Berry, 2000), core service, and emotions that instigate while encountering services (Babin & Babin, 2001).

The relation between overall brand equity and customer satisfaction has become a major concern in marketing research for the past two decades. Today, customer satisfaction is seen as a primary strategy by marketers to gain customer loyalty, improve customers’ willingness to pay more, and enhance customer lifetime value (Hogan, Lemon, & Rust, 2002; Keller & Lehmann, 2006). It is recognized that delighted customers become less price-sensitive and more loyal to the firm for a longer period when compared with dissatisfied customers (Dimitriadis, 2006). Although there has been an abundance of surveys conducted to investigate the connection between brand equity and customer satisfaction (Ahmad & Sherwani, 2015; Bilal & Malik, 2014; Nam, Ekinci, & Whyatt, 2011; Torres & Tribo, 2011) and relationship between customer

satisfaction and competitive advantage (Miles, Miles, & Cannon, 2012), studies which directly relate and compare competitive advantage with effects of brand equity have been neglected in the past. For the success of smartphone brands, customer satisfaction is very crucial as customers who find a particular smartphone brand up to the desired level of expectations tend to recommend that brand to others (Martensen, 2007). Various scholars have emphasized that smartphone companies should consider the preferences of the customers and their desired features of smartphones so that they can be satisfied and make repeat purchases (Martensen, 2007; Petruzzellis, 2010; Bojei & Hoo, 2012; Huang & Shih, 2017).

### ***Competitive Advantage***

Porter (1985) introduced the term “competitive advantage” as the sustainable superior performance in the firm’s products or services relative to competitors in the same industry or towards industry average. Barney (1995) viewed competitive advantage as the strength that a firm gains through its successful implementation of the marketing mix that is valued by customers. On the other hand, Murray (2014) defined competitive advantage as “a characteristic, feature or an opportunity that an organization possesses which makes it more attractive than its competitors” (p. 189). Almost everything can be well-thought-out as a competitive edge, from either a higher profit margin or greater return to other valuable possessions available in the company (Jurevicius, 2013). Strategic managers and researchers have long been concerned about understanding the foundations of competitive advantage for firms (Rumelt, 1984; Barney, 1995). The concept of competitive advantage results from the rivalry among companies in the same industry and great importance is given to this concept because the competition is being viewed as the focus of a company’s success or failure (Murray, 2014). “Competition determines the appropriateness of a firm’s activities that can contribute to its performance, such as innovations, a cohesive culture or good implementation” (Porter, 1985, p. 1).

Competitive advantage can be further described through cost and differentiation advantages. Be it a cost advantage or differentiation, it is concerned with the value chain of the company (Porter & Millar, 1985). Porter and Millar (1985) further explained that certain cost drivers are associated with every single value activity, which controls the cost and leads to

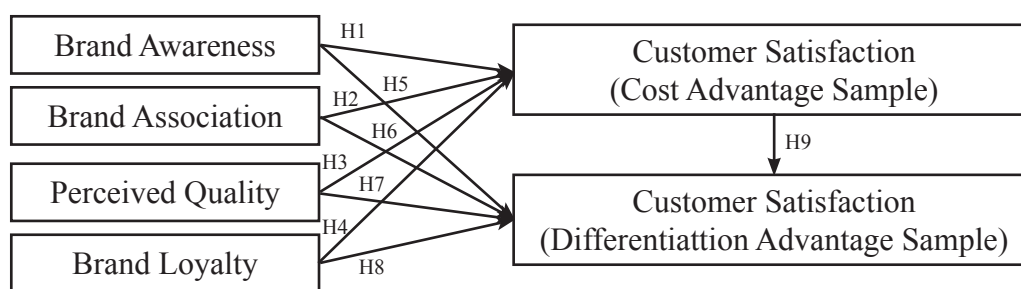
cost advantage. Similarly, the efficient working of each value activity makes the company able to differentiate itself from rivals not only in selling products or services but also in other activities like logistics and after-sales services. According to Porter and Millar (1995), if the collective costs of all the activities being performed in a company are less than the costs encountered by the competitors, then the company is considered to have a cost advantage. However, a differentiation strategy is achieved by outperforming in the related industry and having uniqueness in some aspects that are valued by the customers (Porter & Millar, 1995). Considering these two important competitive advantages, this study incorporated samples from each of the two advantages to find the differences.

According to Delgado-Ballester and Munuera-Alema'n (2005), brand equity has the features which help in creating a competitive advantage that is sustainable to the firms and increase value in the minds of customers. Hunt and Morgan (1996) were also among those who emphasized the relationship of brand equity with a competitive advantage and stated that trust and loyalty together form brand equity, which further creates a competitive advantage. Combining all the definitions above, competitive advantage can be defined as a strategy providing the company with unique capabilities that makes the company proficient for outperforming its competitors while sustaining their customers and reputation. Considering the smartphone market globally, there is immense competition among

smartphone brands and a single minimal feature can be a source of competitive advantage in this technology-driven industry, so firm's innovation capabilities are essential to create competitive advantage (Lew & Sinkovics, 2013). It is noted in previous studies that competitive advantage through product innovation affects the reputation of the company and its influence on consumers in a positive way (Henard & Dacin, 2010). Therefore, it is concluded that the smartphone market is increasingly competitive, and smartphone brands must keep striving for product innovation for the sake of gaining a competitive advantage.

## Hypothesis

This research is conducted primarily using Aaker's conceptual brand equity model that consists of four basic elements—brand awareness, perceived quality, brand association, and brand loyalty. The model of brand equity is being used as an independent model to test the level of customer satisfaction among two samples of the population, one focusing on the cost advantage sample and the other focusing on differentiation sample. These four elements of brand equity are used as the independent variables in this study, and any changes among the four elements will affect the dependent variable, which is customer satisfaction. The conceptual model is shown in Figure 1.



**Figure 1.** Conceptual framework.

*H<sub>1</sub> and H<sub>5</sub>: Brand awareness has a positive relationship with customer satisfaction.*

*H<sub>2</sub> and H<sub>6</sub>: Brand association has a positive relationship with customer satisfaction.*

*H<sub>3</sub> and H<sub>7</sub>: Perceived quality has a positive relationship with customer satisfaction.*

*H<sub>4</sub> and H<sub>8</sub>: Brand loyalty has a positive relationship with customer satisfaction.*

*H<sub>9</sub>: There is a significant difference between customer satisfaction level in cost advantage and differentiation sample.*

## Methods

The focus of this study is the smartphone market in Kuching, Sarawak. According to Department of Statistics Malaysia (2010), the population of Kuching is 705,546. Based on convenience sampling, the required data was collected primarily through a quantitative method by distributing 417 questionnaires. The questionnaire contained measurement items that require respondents to indicate their agreement level towards brand equity elements that includes brand awareness, brand association, perceived quality and brand loyalty, and customer satisfaction. To facilitate this study, five-point Likert scale, (ranging from 1=strongly disagree to 5=strongly agree) has been used. A sample of 10 respondents was selected to perform the pre-test to figure out respondents' understanding of the questions used in the instrument. After the preliminary test, a pilot, or a feasibility test was conducted with 30 respondents to further confirm the validity of the administrated questionnaire prior to a larger study. Based on the results and opinions from the 10 and 30 respondents from preliminary and pilot test, respectively, the instrument became understandable, and the language used is simple and readable. Therefore, there is no amendment needed for the instrument.

## Results

A total of 217 questionnaires for the cost-advantage sample were successfully collected. Table 1 shows the descriptive statistics of respondents' demographic profile of cost advantage sample. There are five dimensions in the respondent profile—respondent's gender, age group, ethnic group, educational level, and income level. Among the 217 respondents, 42.4% of them were male. Age of more than half of the respondents (77%) was in the range of 21 to 30 years, followed by respondents aged 20 years and below (13.8%), and the least with just 0.9% which were 51 years old and above. The study revealed that among the 217 respondents, there were 42 Malays, 148 Chinese, 2 Indians, and 25 respondents that belonged to ethnic groups other than three major ethnic groups in Malaysia mentioned above. Besides, among all the respondents of the cost-advantage sample in Kuching, 74.7% of them were degree holders where 186 (85.7%) of them

were being paid with a monthly salary of RM 2000 and below.

On the other hand, a total of 200 questionnaires for the differentiation sample were successfully collected. Table 1 shows the descriptive statistics of respondents' demographic profile of the differentiation sample. Among 200 respondents, 40% of them were male and the rest were females. Majority of the respondents (37.5%) were in the age group of 31 to 40 years, followed by respondents aged 21 to 30 years (32.5%), and the least with just 6.5% were 51 years old and above. The study revealed that among 200 respondents, there were 39 Malays, 60 Chinese, 30 Indians, and 71 respondents that belong to ethnic groups other than three major ethnic groups in Malaysia mentioned earlier. Among all the respondents of differentiation sample in Kuching, 33% of them were degree holders where 76 (38%) of them have a monthly income of RM 2000 and below.

The data obtained were analyzed using SPSS 23. Reliability test has been conducted to show the consistency and stability of the instrument used in this study. The Cronbach's alphas for the factors were found to be 0.85, 0.85, 0.905, 0.894, and 0.858 for brand awareness, brand association, perceived quality, brand loyalty, and customer satisfaction, respectively. These values are all reliable as they are above the recommended threshold value of 0.7 (Nunnally, 1988). The results of reliability analysis using the Cronbach's alpha approach is provided in Table 2.

### *Multiple Regression Analysis in Cost Advantage Sample*

Multiple regression analysis was conducted to test the eight hypotheses to examine the relationships among brand equity elements (brand awareness, brand association, perceived quality, and brand loyalty) and customer satisfaction in the two different samples. A total of 217 responses from the cost advantage sample who view cost as a priority in their consideration of choosing smartphone brands were being collected and analyzed. Referring to Table 3, the  $R^2$  value (0.512) indicates that there is 51.2% explained variation in customer satisfaction due to brand awareness, brand association, perceived quality, and brand loyalty. The percentage of Adjusted  $R^2$  shows the percentage of change after adjustment of standard errors in the data. The value of adjusted  $R^2$  (0.503) shows that after adjustment of standard error, there is still 50.3%

**Table 1***Descriptive Statistics of Respondents (Cost and Differentiation Advantage Sample)*

	Detail	Cost Advantage Sample		Differentiation Sample	
		Frequency	Percentage	Frequency	Percentage
Sex	Male	92	42.4	80	40
	Female	125	57.6	120	60
Age group	20 and below	30	13.8	17	8.5
	21-30	167	77	65	32.5
	31-40	4	1.8	75	37.5
	41-50	14	6.5	30	15
Ethnic group	51 and above	2	0.9	13	6.5
	Malay	42	19.4	39	19.5
	Chinese	148	68.2	60	30
	Indian	2	0.9	30	15
Educational level	Others	25	11.5	71	35.5
	No formal education	0	0	8	4
	PMR/SRP/PT3	4	1.8	34	17
	SPM	15	6.9	41	20.5
	STPM/A Level	14	6.5	22	11
	Diploma	17	7.8	20	10
	Degree	162	74.7	66	33
	Master	1	0.5	4	2
	PhD	0	0	1	0.5
	Others	4	1.8	4	2
Income level (RM)	2000 and below	186	85.7	76	38
	2001-3000	10	4.6	16	8
	3001-4000	6	2.8	34	17
	4001-5000	7	3.2	43	21.5
	5001 and above	8	3.7	31	15.5

**Table 2***Reliability Analysis*

Dimension	No. of items	Cronbach's Alpha ( $\alpha$ )
Brand Awareness	7	0.850
Brand Association	5	0.850
Perceived Quality	7	0.905
Brand Loyalty	6	0.894
Customer Satisfaction	5	0.858



variation in customer satisfaction explained by the predictors, that is, brand awareness, brand association, perceived quality, and brand loyalty. It is revealed that there are medium positive relationships between the elements of brand equity and customer satisfaction level in cost advantage sample.

Pertaining to the strengths, direction, and coefficients value of multiple regression analysis in cost advantage sample, the results showed that there are positive relationships of brand awareness, brand association, perceived quality, and brand loyalty with customer satisfaction with  $\beta$ -value of 0.145, 0.081, 0.254, and 0.363, respectively. Among the four independent variables, brand loyalty indicates the strongest relationship with customer satisfaction whereas brand association shows the weakest. These positive relationship supports the formulated hypotheses. It implies that when there is an increase in brand awareness, brand association, perceived quality, and brand loyalty, customer satisfaction also increases. From the significance value column in Table 3, it could be statistically proved that the relationships between all the independent variables (brand awareness, brand association, perceived quality, and brand loyalty) and dependent variable (customer satisfaction) are all significant with  $P < 0.05$ . Therefore, hypotheses  $H_1$ ,  $H_2$ ,  $H_3$ , and  $H_4$  are accepted.

### ***Multiple Regression Analysis in Differentiation Sample***

A total of 200 responses from the respondents who considered differentiation or different features in choosing smartphone brands were being collected and analyzed for this regression analysis. Referring to Table 3, the  $R^2$  value (0.788) indicates that there is 78.8% variation in customer satisfaction explained due to brand awareness, brand association, perceived quality, and brand loyalty in differentiation sample. The value of adjusted  $R^2$  (0.784) shows that after adjustment of standard error, there is still 78.4% variation in customer satisfaction that could be explained by the predictors of brand equity, that is, brand awareness, brand association, perceived quality, and brand loyalty. It shows that differentiation sample has strong positive relationships between elements of brand equity and customer satisfaction level.

In regards to the strengths, direction, and coefficient values of multiple regression analysis in differentiation advantage sample, the results showed that there are positive relationships of all independent variables (brand awareness, brand association, perceived quality, and brand loyalty) with the dependent variable (customer satisfaction) having  $\beta$ -value of 0.665, 0.793, 0.753, and 0.778, respectively. From the sig. value column in Table 3, it is statistically proven that the

**Table 3**

*Hypothesis Testing Summary (Differentiation vs Cost Advantage)*

Details	Customer Satisfaction					
	Cost Advantage			Differentiation Advantage		
Brand Awareness	0.436**	t = 2.171;	0.031 sig. (H1)	0.755**	t = 2.986;	0.003 sig. (H5)
Brand Association	0.438**	t = 1.114;	0.027 sig. (H2)	0.830**	t = 4.420;	0.000 sig. (H6)
Perceived Quality	0.639**	t = 4.011;	0.000 Sig. (H3)	0.810**	t = 4.111;	0.000 sig. (H7)
Brand Loyalty	0.647**	t = 5.128;	0.000 sig. (H4)	0.772**	t = 5.552;	0.000 sig. (H8)
N	217			200		
Mean Satisfaction	3.6968			4.009		
Std. Deviation	0.57571			0.69724		
$R^2$	0.512			0.788		

\*\* . Correlation is significant at the 0.01 level (2-tailed).

relationships between all the independent variables and dependent variable are all significant with  $P < 0.05$ . Therefore, hypotheses  $H_5$ ,  $H_6$ ,  $H_7$ , and  $H_8$  are accepted.

### *Independent Sampled T-test*

Independent sampled t-test has been conducted in this research to test the extent and the strength of the relationship between two samples of the study, which are cost advantage sample and differentiation sample. The t-test enables researchers to examine the difference between two distinct populations using the data gathered from two different samples. Table 4 showed the statistical results of the two samples. There are 217 respondents for cost advantage sample and 200 respondents for differentiation sample. Also, there is a difference between cost advantage sample and differentiation sample with a mean value of 3.6968 and 4.0090, respectively.

The results reveal that there is a significant difference between the customer satisfaction level among both samples, that is, sample who valued cost and sample who valued differences/uniqueness at  $F = 0.884$ ,  $p = 0.026$ . Based on the F-value of 0.884 and the significance level at 0.026 ( $p < 0.05$ ), it is concluded that the effect of brand equity elements towards customer satisfaction level is different among cost advantage and differentiation sample.

Overall, smartphone users in differentiation sample are more satisfied (mean value = 4.0090) with their smartphone brand choices when compared to smartphone users among cost advantage sample who valued cost as their consideration for smartphone brands (mean value = 3.6968). Therefore, this study supports  $H_9$ , and we conclude that the effect of brand equity model in influencing customer satisfaction level

is different among cost advantage and differentiation sample in Kuching smartphone market.

### **Discussion**

This study is conducted to investigate the relationship between four elements of brand equity (brand awareness, brand association, perceived quality, and brand loyalty) and competitive advantage through customers' perspective, that is, customer satisfaction towards smartphone brands in Kuching. Also, it is conducted to explore the differences between the level of customer satisfaction among Kuching smartphone users in cost advantage and differentiation samples. This study reveals that the four elements of brand equity have a positive relationship with the customer satisfaction level. Previous studies showed that the brand equity model (Aaker, 1991) had been described as the determinant of customer satisfaction in most of the cases (Ryu et al., 2010). Based on recent studies, it can be concluded that customer satisfaction signifies a major element in generating value and advantage for companies in a competitive environment (Bilal & Malik, 2014; Ahmad & Sherwani, 2015).

Out of four elements of brand equity, results showed that in cost advantage sample, brand loyalty has the strongest relationship with customer satisfaction level, which is consistent with the research conducted by Ahmad and Sherwani (2015). This indicates the criticality of brand loyalty development among all the elements of brand equity to leverage the customer satisfaction level among smartphone users who valued cost as their primary consideration of selecting a smartphone brand.

**Table 4**

#### *Independent Sample Test*

Analysis	Levene's Test for Equality of Variances		t-test for Equality of Means	
	F	Sig.	Sig. (2-tailed)	Mean Difference
DV Equal variances assumed	0.884	0.038	0.025	0.42967
Equal variances not assumed			0.026	0.43114

DV = satisfaction (Cost vs differentiation Advantage)

In differentiation sample results, brand association has the most dominant effect on customer satisfaction level. This means that customers who valued uniqueness and differences in considering their smartphone brands would most probably be satisfied when they are well associated with the brand. Bridges, Keller, and Sood (2000) asserted that a strong brand association strengthens brand equity and consequently leads to increased satisfaction. Overall, smartphone users in the differentiation sample are more satisfied with their smartphone brand choices when compared to smartphone users among the cost advantage sample who valued cost as their consideration for buying smartphone brands. This reveals that there is a significant difference between those who value cost and those who value uniqueness/differences in selecting their smartphone brands.

Three implications can be derived from the findings of this study. First, smartphone brands who practice cost leadership strategy (i.e., they primarily aimed to market their smartphone at a penetration price while keeping their production cost low) should focus their efforts on building brand loyalty. Brand loyalty is the repurchase behavior of customers that may lead the firm to gain market share with more satisfied customers, which reduces marketing cost because customers are already loyal to the product and will repurchase without thinking much about the advertising efforts by other brands. Consequently, it results in strengthening the brand towards competitive threats.

Secondly, for those companies who pursue differentiation strategy, they should first ensure that their target customers are well associated with their brand. The results of the current study show that brand association has the most dominant effect on customer satisfaction level. Connecting their customers with good feelings and great perceptions can assist the brands to obtain higher customer satisfaction level. This study concludes that brand association is the predicting variable of customer satisfaction towards customers that value uniqueness when purchasing smartphones.

## Conclusion

This research aims to measure brand equity of smartphone brands only in Kuching, Malaysia. This is to ensure that there is a scope to study the perceptions of the consumers and their behaviors. The cross-sectional

data obtained is only able to disclose the effect of the predictor variable towards a criterion variable within a specific timeframe. Additionally, the limitation of using convenience sampling techniques has denoted that the outcomes of this research will be more specific and cannot be generalized. Secondly, marketing managers should also take the inter-correlations among all the four elements of Aaker's brand equity model into consideration. Customer satisfaction level can be increased if the brand's image and its superiority are recognized by the customers.

As a conclusion, the cost leadership strategy that primarily adopts the price penetration tactics should focus on how to keep their price competitive. Organizations can realign their marketing efforts that focus more on product design and efficient distribution system to keep the price low as part of their competitive advantage strategy. For the organizations that pursue differentiation strategy, it must be ensured that their target customers are well associated with their brand because brand associations can lead to customer satisfaction. Therefore, brands can be effective tools for the organizations to gain their competitive advantage, but specific advantage and segment need specific brand treatment.

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## References

- Aaker, D. A. (1991). *Managing brand equity: Capitalizing on the value of a brand name*. New York, USA: The Free Press.

- Aaker, D. A. (1996a). Measuring brand equity across products and markets. *California Management Review*, 38(3) 102–120. Retrieved from [https://s3.amazonaws.com/academia.edu.documents/33893776/Aaker\\_1996\\_Measuring\\_Brand\\_Equity\\_Across\\_Products\\_and\\_Markets](https://s3.amazonaws.com/academia.edu.documents/33893776/Aaker_1996_Measuring_Brand_Equity_Across_Products_and_Markets).
- Aaker, D. A. (1996b). *Building Strong Brands*. New York, USA: The Free Press.
- Aaker, J. L. (1997). Dimensions of brand personality. *Journal of Marketing Research*, 34(3) 347–356. doi: 10.2307/3151897
- Abid, R., & Khattak, A. (2017). Brand avoidance motivators stimulate to brand equity in the mediating role of brand hate: A case of smartphone industry of Pakistan. *Journal of Accounting and Marketing*, 6(3), 250. doi: 10.4172/2168-9601.1000250.
- Ahmad, F., & Sherwani, N. U. (2015). An empirical study on the effect of brand equity of mobile phones on customer satisfaction. *International Journal of Marketing Studies*, 7(2), 59–69. doi:10.5539/ijms.v7n2p59
- Anderson, E. W., & Sullivan, M. W. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing Science*, 12(2), 125–143. <https://doi.org/10.1287/mks.c.12.2.125>
- A-Qader, I. K., Omar, A. B., & Rubel, M. R. B. (2017). The influence of affective brand experience dimension on brand equity of the smartphone millennial users in Malaysia. *Management*, 5(1), 25–37. doi: 10.17265/2328-2185/2017.01.003
- Assael, H. (1998). *Customer behavior and marketing action*. Cincinnati, Ohio: South-Western College Publication.
- Atilgan, E., Aksoy, Ş., & Akinci, S. (2005). Determinants of the brand equity: A verification approach in the beverage industry in Turkey. *Marketing Intelligence & Planning*, 23(3), 237–248. <https://doi.org/10.1108/02634500510597283>
- Babin, B. J., & Babin, L. (2001). Seeking something different? A model of schema typicality, consumer affect, purchase intentions and perceived shopping value. *Journal of Business Research*, 54(2), 89–96. [https://doi.org/10.1016/S0148-2963\(99\)00095-8](https://doi.org/10.1016/S0148-2963(99)00095-8)
- Barney, J. B. (1995). Looking inside for competitive advantage. *The Academy of Management Executive*, 9(4), 49–61. <https://doi.org/10.5465/ame.1995.9512032192>
- Belén del Río, A., Vazquez, R. & Iglesias, V. (2001). The effects of brand associations on consumer response. *Journal of Consumer Marketing*, 18(5), 410-425. <https://doi.org/10.1108/07363760110398808>
- Berry, L. L. (2000). Cultivating service brand equity. *Journal of the Academy of Marketing Science*, 28(1), 128–137. <https://doi.org/10.1177/0092070300281012>
- Bilal, A., & Malik, F. (2014). Impact of brand equity and brand awareness on customer's satisfaction. *International Journal of Modern Management & Foresight*, 1(10), 287–303. Retrieved from <http://ijmmf.com/wp-content/uploads/2016/07/VOL.1-NO.10.-287-303.pdf>
- Bojei, J., & Hoo, W. C. (2012). Brand equity and current use as the new horizon for repurchase intention of smartphone. *International Journal of Business and Society*, 13(1), 33–48. Retrieved from [http://www.ijbs.unimas.my/repository/pdf/Vol13No1\(paper3\).pdf](http://www.ijbs.unimas.my/repository/pdf/Vol13No1(paper3).pdf)
- Bridges, S., Keller, K. L., & Sood, S. (2000). Communication strategies for brand extensions: Enhancing perceived fit by establishing explanatory links. *Journal of Advertising*, 29(4), 1–11. <https://doi.org/10.1080/00913367.2000.10673620>
- Cobb-Walgreen, C. J., Ruble, C. A., & Donthu, N. (1995). Brand equity, brand preference, and purchase intent. *Journal of Advertising*, 24(3), 25-40. <https://doi.org/10.1080/00913367.1995.10673481>
- Cronin Jr, J.J. & Taylor, S.A. (1992). Measuring service quality: a reexamination and extension. *The Journal of Marketing*, 56(3), 55–68. <http://dx.doi.org/10.1108/01409170610717817>
- Deighton, J., Henderson, C. M., & Neslin, S. A. (1994). The effects of advertising on brand switching and repeat purchasing. *Journal of Marketing Research*, 31(1), 28–43. doi: 10.2307/3151944
- Delgado-Ballester, E., & Luis Munuera-Alemán, J. L. (2005). Does brand trust matter to brand equity? *Journal of Product & Brand Management*, 14(3), 187–196. <https://doi.org/10.1108/10610420510601058>
- Department of Statistics Malaysia. (2010). *Population distribution and basic demographic characteristics*. Retrieved from [https://www.sarawak.gov.my/web/home/article\\_view/240/175/](https://www.sarawak.gov.my/web/home/article_view/240/175/)
- Dimitriadis, Z. S. (2006). Customer satisfaction, loyalty and commitment in service organizations: Some evidence from Greece. *Management Research News*, 29(12), 782-800. <https://doi.org/10.1108/01409170610717817>
- Farquhar, P. (1989). Managing brand equity. *Marketing Research*, 1(3), 24–33.
- Grace, D. & O’Cass, A. (2001). Attributions of service switching: a study of consumers’ and providers’ perceptions of child-care service delivery. *Journal of Services Marketing*, 15(4), 300-321. <https://doi.org/10.1108/EU M0000000005508>
- Ha, H. Y., Janda, S. & Muthaly, S. (2010). Development of brand equity: evaluation of four alternative models. *The Service Industries Journal*, 30(6), 911-928. doi: <http://dx.doi.org/10.1080/02642060802320253>
- Henard, D. H. & Dacin, P. A. (2010). Reputation for product innovation: Its impact on consumers. *Journal of Product Innovation Management*, 27(3), 321-335. <https://doi.org/10.1111/j.1540-5885.2010.00719.x>
- Hogan, J. E., Lemon, K. N. & Rust, R. T. (2002). Customer equity management: Charting new directions for the

- future of marketing. *Journal of Service Research*, 5(1), 4-12. <https://doi.org/10.1177/1094670502005001002>
- Huang, Y. T. & Shih, K. H. (2017). Customer-based brand equity of smartphone in the emerging market. *International Journal of Mobile Communications*, 15(5), 467-490. <https://doi.org/10.1504/IJMC.2017.086364>
- Hunt, S. D. & Morgan, R. M. (1996). The resource-advantage theory of competition: dynamics, path dependencies, and evolutionary dimensions. *The Journal of Marketing*, 60(4), 107-114. doi: 10.2307/1251905.
- Jamil, B. & Wong, C. H. (2012). Brand Equity and Current Use as the New Horizon for Repurchase Intention of Smartphone. *International Journal of Business and Society*, 13, 33-48.
- Jurevicius, O. (2013, September 26). Competitive advantage. Available from Strategic Management Insight: Retrieved from <https://www.strategicmanagementinsight.com/topics/competitive-advantage.html>
- Kapferer, K. L. (2004). *The new strategic brand management*. New Delhi, India: Kogan.
- Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *The Journal of Marketing*, 57(1), 1-22. <http://dx.doi.org/10.2307/1252054>.
- Keller, K. L. (1998). *Strategic brand management*. Upper Saddle River, NJ, USA: Prentice-Hall.
- Keller, K. L. (2003). *Strategic brand management: building, measuring, and managing brand equity*. (2nd ed.). New Jersey, USA: Prentice-Hall.
- Keller, K., & Lehmann, D. (2006). Brands and branding: research findings and future priorities. *Marketing Science*, 25(6), 740-759. <https://doi.org/10.1287/mksc.1050.0153>
- LaBarbera, P., & Mazursky, D. (1983). Alongitudinal assessment of customer satisfaction, dissatisfaction: the dynamic aspect of cognitive process. *Journal of Marketing Research*, 20(4), 393-404. doi: 10.2307/3151443
- Lew, Y. K., & Sinkovics, R. R. (2013). Crossing borders and industry sectors: behavioral governance in strategic alliances and product innovation for competitive advantage. *Long Range Planning*, 46(1), 13-38. <https://doi.org/10.1016/j.lrp.2012.09.006>
- Low, G., & Lamb, C. (2000). The measurement and dimensionality of brand associations. *Journal of Product and Brand Management*, 9(6), 350-370. <https://doi.org/10.1108/10610420010356966>
- Martensen, A. (2007). Tweens' satisfaction and brand loyalty in the mobile phone market. *Young Consumers*, 8(2), 108-116. <https://doi.org/10.1108/17473610710757464>
- Matzler, K., Hinterhuber, H., Daxer, C., & Huber, M. (2005). The relationship between customer satisfaction and shareholder value. *Total Quality Management & Business Excellence*, 16(5), 671-680. <https://doi.org/10.1080/14783360500077674>
- McQuitty, S., Finn, A., & Wiley, J. B. (2000). Systematically varying consumer satisfaction and its implications for product choice. *Academy of Marketing Science Review*, 10(1), 231-254. Retrieved from <https://search.proquest.com/docview/200800408?accountid=40705>
- Miles, P., Miles, G., & Cannon, A., (2012). Linking servicescape to customer satisfaction: exploring the role of competitive strategy. *International Journal of Operations & Production Management*, 32(7), 772-795. <https://doi.org/10.1108/01443571211250077>
- Murray, P. (2014). *The nature and sources of competitive advantage*. Queensland, Australia: John Wiley & Sons Ltd.
- Nam, J., Ekinici, Y., & Whyatt, G., (2011). Brand equity, brand loyalty, and customer satisfaction. *Annals of Tourism Research*, 38(3), 1009-1030. <https://doi.org/10.1016/j.annals.2011.01.015>
- Newzoo. (2018). *Newzoo global mobile market report 2018*. Retrieved from <https://newzoo.com/insights/trend-reports/newzoo-global-mobile-market-report-2018-light-version/>
- Nunnally, J. (1988). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.
- O'Leary, T., & O'Leary, L. (2005). *Computing essentials*. Singapore: McGraw-Hill.
- Oliver, R. L. (1981). Measurement and evaluation of satisfaction processes in retail settings. *Journal of Retailing*, 57(Fall), 25-48.
- Pappu, R., & Quester, P. (2006). Does customer satisfaction lead to improved brand equity? An empirical examination of two categories of retail brands. *Journal of Product & Brand Management*, 15(1), 4-14. Retrieved from <http://dx.doi.org/10.1108/10610420610650837>
- Pappu, R., Quester, P. G., & Cooksey, R. W. (2007). County image and consumer-based brand equity: Relationships and implications for intentional marketing. *Journal of International Business Studies*, 38(5), 726-745. <https://doi.org/10.1057/palgrave.jibs.8400293>
- Petrzellis, L. (2010). Mobile phone choice: technology versus marketing. The brand effect in the Italian market. *European Journal of Marketing*, 44(5), 610-634. <https://doi.org/10.1108/03090561011032298>
- Porter, M. (1985). *The competitive advantage: creating and sustaining superior performance*. New York, USA: Free Press.
- Porter, M. E., & Millar, V. E. (1985). How information gives you competitive advantage. *Harvard Business Review*, 63(4), 149-160. Retrieved from [http://www.go.spi.ft/IMG/pdf/how\\_information\\_gives\\_you\\_competitive\\_advantage-porter-hbr-1985.pdf](http://www.go.spi.ft/IMG/pdf/how_information_gives_you_competitive_advantage-porter-hbr-1985.pdf)
- Roy, R., & Chau, R. (2011). Consumer-based brand equity and status-seeking motivation for a global versus local brand. *Asia Pacific Journal of Marketing and Logistics*,

- 23(3), 270–284. <https://doi.org/10.1108/1355585111143213>
- Rumelt, R.P. (1984). Towards a strategic theory of the firm. In R. Lamb, (Ed.), *Competitive strategic management* (pp. 556-570). New Jersey: Prentice-Hall
- Rundle-Thiele, S., & Bennett, R. (2001). A brand for all seasons? A discussion of brand loyalty approaches and their applicability for different markets. *Journal of Product and Brand Management*, 10(1), 25–37. Retrieved from <http://dx.doi.org/10.1108/10610420110382803>
- Ryu, K., Han, H., & Jang, S. (2010). Relationships among hedonic and utilitarian values, satisfaction and behavioral intentions in the fast-casual restaurant industry. *International Journal of Contemporary Hospitality Management*, 22(3), 416–432. <https://doi.org/10.1108/09596111011035981>
- Solomon, M. (2013). *Consumer Behavior: Buying, Having and Being* (10th ed.). New Delhi, India: PHI Learning.
- Statista. (2017). *Number of smartphone users in Malaysia from 2015 to 2021*. Retrieved from <https://www.statista.com/statistics/494587/smartphone-users-in-malaysia/>
- Tong, X., & Hawley, J. M. (2009). Measuring customer-based brand equity: Empirical evidence from the sports wear market in China. *Journal of Product and Brand Management*, 18(4), 262–271. doi: <http://dx.doi.org/10.1108/10610420910972783>
- Torres, A., & Tribo, J. A. (2011). Customer satisfaction and brand equity. *Journal of Business Research*, 64(10), 1089–1096. <https://doi.org/10.1016/j.jbusres.2010.12.001>
- Travis, D. (2000). *Emotional branding: How successful brands gain the irrational edge*. USA: Crown Publishing Group.
- Vazquez, R., Del Rio, A., & Iglesias, V. (2002). Consumer-based brand equity: Development and validation of a measurement instrument. *Journal of Marketing Management*, 18(1-2), 27–48. Retrieved from: doi: <http://dx.doi.org/10.1362/0267257022775882>
- Walsh, G., Dinnie, K., & Wiedmann, K. P. (2006). How do corporate reputation and customer satisfaction impact customer defection? A study of private energy customers in Germany. *Journal of Service Marketing*, 20(6), 412–420. <https://doi.org/10.1108/08876040610691301>
- Washburn, J., & Plank, R. (2002). Measuring brand equity: an evaluation of consumer-based brand equity scale. *Journal of Marketing Theory and Practice*, 10(1), 46–62. <https://doi.org/10.1080/10696679.2002.11501909>
- Yoo, B., & Donthu, N. (2001). Developing and validating a multidimensional consumer-based brand equity scale. *Journal of Business Research*, 52(1), 1–14. [https://doi.org/10.1016/S0148-2963\(99\)00098-3](https://doi.org/10.1016/S0148-2963(99)00098-3)
- Yoo, B., Donthu, N., & Lee, S. (2000). An examination of selected marketing mix elements and brand equity. *Journal of the Academy of Marketing Science*, 28(2), 195–211. doi: <http://dx.doi.org/10.1177/0092070300282002>
- Zeithaml, V. (1988). Consumer perceptions of price, quality and value: a means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2–22. doi: 10.2307/1251446