STUDENTS' PERCEPTIONS OF BRAND EQUITY: THE MODERATING ROLE OF STUDENT SATISFACTION

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ABSTRACT

Building brand equity is an important strategy for higher education as the brand provides a signal or a promise to consumers about the quality education that will be delivered. The objective of this study is to investigate the key determinants that drive to brand equity, especially in its education industry. Data were collected from three private higher learning institutions in Sarawak using quantitative survey questionnaire. A total of 268 respondents from three different private higher learning institutions voluntarily participated in this survey. The WarpPLS (version 6.0) was used to perform the Partial Least Square – Structural Equation Modeling (PLS-SEM) estimation procedure to examine the six hypotheses developed. Interestingly, the results indicated that brand association and brand performance provided statistically significant contributions to the prediction of brand equity in higher learning institutions. Unexpectedly, brand loyalty was found no significant relationship with brand equity. In term of moderating impact, student satisfaction didn't moderate the relationship between brand performance, brand association, and brand loyalty and institution's brand equity. Theoretical and managerial implications of findings and some potential limitations of the study were highlighted. The research findings provide a substantial body of knowledge that enables higher learning providers to have a better understand and branding decisions. Besides, the results also provide insights into how brand loyalty, brand association, and brand performance may be better designed and delivered to enhance institution brand equity. Additionally, the findings of the study could help Sarawak government to develop new education policies to attract more local students to pursue their higher education in local. This study is one of very few studies which have investigates the perception of university brand equity among the students its dimensions that could guide the development of successful branding strategies for higher learning institutions in Sarawak.

Keywords: *Brand Association, Brand Performance, Brand Loyalty, Brand Equity.*

INTRODUCTION

A higher learning institution as a service organization with undifferentiated mass of people and process (Schultz, 2006), coupled with the unique characteristics of its services, the marketing challenge has been how to differentiate these organizations in the market place so that they will

be preferred by consumers (Berry, 2000). With the increasing number of higher learning institution in every nation as well as in Malaysia, a higher learning institution is no longer just an institution of higher learning but also a business (Azoury et al., 2014). In the early of 1990's., Malaysia has approximately 150 private institutions, and today there are about 500 higher learning institutions over Malaysia (Tierney, 2015). Statistically, approximately 45 private universities, 31 college university colleges, 9 foreign universities, and 397 colleges in Malaysia (MOHE, 2017). Building brand equity is an important strategic for higher education as the brand provides a signal or a promise to consumers about the quality education that will be delivered. Brand equity is a key point to attract new customers in competitive market.

Despite the growing importance of branding for the competitiveness of higher education, Hamsley-Brown and Goonawardana (2007) stated that the broader topic of international marketing of higher education has been a key topic of both empirical research and theoretical papers. A review of the literature reveals very few studies (Gray et. al., 2003; Pinar et.al. 2013) that concentrate on university branding. Prior research also indicates that much of the branding effort in higher education to be focused on promotion and brand identity elements such as logos, mottos, promotional materials, advertising, names and so on (Jevons, 2006).

The branding literature offers no prior research examining the issues and factors that are important for developing strong university brands and brand equity for the private universities in Sarawak. Nor have any prior studies developed a scale to measure university brands equity and its dimensions that could guide the development of successful branding strategies for higher learning institutions in Sarawak.

With above backdrop, this study intents to investigate the direct relationship between brand association, brand performance, and brand loyalty contribute to university brand equity building. Besides, this study also intends to test the moderating effect of student satisfaction on the university brand equity.

LITERATURE REVIEW

Brand Equity

The term brand equity is a set of assets (and liabilities) that linked to a brand's name and symbol that adds to (or subtracts from) the value provided by a product or service to a firm or that firm's customers (Aaker, 1991). As stated in the literature review, the real value of a strong brand is an ability to capture customer preference as well as customer loyalty (Pinar & Trapp, 2010). Besides, a strong brand equity can create a strong competitive advantage and also enhances the likelihood of brand choice (Kuikka & Laukkanen, 2012). It reflected how consumers think, feel, and act with respect to the brand, as well as prices, market share, and profitability the brand commands (Kotler & Keller, 2012).

Brand equity stems from desirable attributes of the brand towards the consumer and it stands as a foundation to build emotional bond with the consumer (Teas et. al., 1996). Erdem and Swait (1998) suggested that the content, clarity, and credibility of a brand as a signal of the product's position may increase perceived quality and decrease information costs and the risk perceived by consumers. As stated, consumer-based brand equity is defined as the value of a brand signal to consumers (Aderm et. al., 1998). Hence, this brand equity is all about consumer choice (Mourad, Ennew, & Kortam, 2010).

Underline Model

This paper adopts the idea of customer perspective of brand equity from Aaker (1991). The brand equity model provided by Aaker (1991) has dominated the literature on consumer perceptions. Aaker (1991) suggested that there are four dimensions of customer-based brand equity, all which are widely accepted by scholars (Keller, 1993; Kim, Kim, & An, 2003; Low & Lamb, 2000; Yoo & Donthu, 2000). The four dimensions comprises of brand awareness, perceive quality, brand association, and brand loyalty, each providing value to firm in numerous ways. For the purpose of this study, the research was only adopt brand loyalty and brand association.

Brand Association

Brand associations are the category of a brand's assets and liabilities that include anything "linked" in memory to a brand (Aaker, 1991) which played a role as an information collecting tool to execute brand differentiation and brand extension (Aaker, 1996). Brand association is viewed as "a sign of quality and commitment", leading customers to familiarize purchasers with a brand (Yoo & Donthu, 2000). As a whole, the potential value of a brand name is based upon specific associations and is related to its image. Brand associations influence a consumer's brand choices and purchases, increase the barriers through which competitors may need to break, and may also serve as the basis for brand extensions (Aaker, 1991, 1996; Keller, 1993). Hence, brand association is a dimension of brand equity and can be anything which links to the memory of a brand, thus is an element that helps a brand to be remembered and it enhances the memorable of a particular brand (Aaker, 1991, p.109). A survey study of James (2005) revealed that high effective association helps to boost brand and equity. In line with it, Chen (2001) also indicated that brand association has a significant relationship with brand equity. Kumar et al. (2013) and Yoo et. al (2000) also found the significant direct effect of brand association on brand equity. Based on the above backdrop of discussion, a strong positive brand association was found to imply that brand will have higher brand equity. Thus, the hypothesis has been developed as below:

H1: Brand association is positively related to university's brand equity.

Brand Performance

Brand performance, generally, is defined as the measurements of the success of a single brand in the market (O'Cass & Ngo, 2007; Wong & Merrilees, 2008). It can be seen from its brand achieving the organization's developed objectives (O'Cass & Ngo, 2007; O'Cass & Weerawardena, 2010). Moreover, it also relates to the ways how the product or service attempts to meet customers' expectations. Importantly, the basic concept of brand performance is being inherent in an organization's performance (such as, market sales growth, market share, profit, etc). As stated in literature review, brand performance is positively related to the brand equity (Yoo et.al. 2000). This finding is in line with the study done by Tsai, Cheung, and Lo (2010) found that better performing casino brands were associated with greater customer-based brand equity, which comprises brand loyalty, brand image and brand awareness. Furthermore, Jorge and Gordon (2008) established that the relation between consumer-based brand equity and brand performance varies across product categories, indicating that product differ with respect to their level of brand ability and suggesting way to measure it. Therefore, the following hypothesis is developed:

H2: Brand performance is positively related to university's brand equity.

Brand Loyalty

Brand loyalty, is generally as symbolizes a constructive mind set toward brand that leading to constant purchasing of the brand over time (Aaker, 1991; Shang, Chen, & Liao, 2006). It is referred to the degree of people who are committed to a given brand as shown both by their inner attitudes reflected in lasting biases toward a specific brand, as well as by externally exhibited behaviors such as repeat purchases of a certain brand among several alternatives (Odin, Odin, & Pierre, 2001). A credible brand signals a certain level of quality so that satisfied buyers can easily choose the product again. Brand loyalty provides predictability and security of demand for the firm, and it creates barriers to entry that restrict other firms to enter to the market.

Brand loyalty is the most important dimension of brand equity (Cho, 2011, Chow, Ling, Yen, & Hwang, 2016, Atilgan, Aksoy, & Akinci, 2005, Tong & Hawley, 2009) to secure a competitive advantage (Kotler, 2012). This is due to the fact that brand loyalty favors encouraging word-of-mouth and greater confrontation among the loyal customers (Dick & Basu, 1994). In turn, it is a powerful predictors to influence an individual customer to make their purchase decision (Yoo (2000). Khudri and Frajana (2016) found that brand awareness, brand loyalty, brand image, and perceived quality are the latent dimensions of brand equity for the beverage market in Bangladesh. In line with it, Alhaddad (2014) founds that brand loyalty have a positive effect on brand equity in the study on the effect of brand image and brand loyalty on brand equity of soft-drink industry in Syria. Mohebi and Khani (2014) study found that direct effect of brand loyalty, brand attachment and brand experience is positive and significant on brand equity. Subsequently, the following hypotheses are formulated:

H3: Brand Loyalty is positively related to university's brand equity.

Student Satisfaction

Higher education institutions are focusing on identifying and satisfying the needs and expectations of their students (Deshields, Kara, & Kaynak, 2005). Satisfaction is a state felt by a person who has experience performance or an outcome that fulfill his or her expectation (Koller & Clarke, 1987). Satisfaction is also perceived as the intentional performance which results in one's contentment (Malik & Usman, 2010). Previous researchers found that satisfied students may attract new students by engaging positive word-of-mouth communication to inform their friends and acquaintances, and they could go back to the university to further continue their study or take other courses (Helgesen & Nesset, 2007; Gruber et.al. 2010).

The extant literature has yet to establish conclusive linkages between customer satisfaction and brand equity (Rambocas & Pacheco, 2017). Some researchers promote customer satisfaction as a leading antecedent of brand equity (Pappu & Quester, 2006) while some view satisfaction as an outcome (Nam, Kim, & Send, 2011). Aaker (1992) acknowledged satisfaction as a possible outcome of brand equity given that brand equity uplifts the pleasures from consumption and increases a firm's value. Hence, there is a theoretical linkage between customer satisfaction and brand equity based on the differential advantages that elevate customer evaluations, enhanced awareness, perceived quality, and brand association. Based on above discussion, the following hypotheses have been outlined:

H4: Students' satisfaction moderate the relationship between brand association and university's brand equity.

H5: Students' satisfaction moderate the relationship between brand performance and University's brand equity.

H6: Students' satisfaction moderate the relationship between brand loyalty and University's brand equity.

METHODOLOGY

A quantitative research study was adopted in this study. Moreover, this study applied a non-probability – convenience sampling technique for data collection. Convenience sampling is the collection of information from members of the population who are conveniently available to provide it (Sekaran & Bougie, 2013). The population interest was the students who are from chosen private universities in Sarawak: Swinburne University of Technology, Curtin University of technology and University College of Technology Sarawak. In fact, these three chosen institution have huge amount of students comparing to other private institutions, University College of Technology Sarawak (1646 students), Curtin University of Technology (3000 students) and Swinburne University of Technology (4000 students). Hence, the population size of this study will be 8646 as shown in Table 1.

Table 1: Sample Population

No.	Higher Learning Institution	Population
1	University College of Technology Sarawak	1646
2	Curtin University of Technology	3000
3	Swinburne University of Technology	4000
	Total	**8646**

Resource: Official Portal of Sarawak Government

A close-ended questionnaire was designed consists of two section. Section A consists of multiple items to measure the proposed research model, namely brand association, brand performance, brand loyalty, student satisfaction and brand equity, whereas Section B is to collect demographic information of the respondents. A total of 25 items were selected and developed using a seven-point rating scale from '1' strongly disagree to '7' strongly agree. The indicators of brand equity were adapted from Pinar et al. (2013). Next, the dimensions of brand association were abstracted from the study of Severi and Kwek (2013) and Chow et. al. (2016). The brand performance dimensions were generated predominately from the studies conducted by Pinar et al. (2013), Keller (2001), and Baldauf et al. (2003). The independence variable brand loyalty was adapted from Yoo et. al. (2000) and He and Li (2010). The next predictor was student satisfaction, which acted as the moderator in the study, and was adapted from Gruber et al. (2010) and He and Li (2010).

G*Power (v3.1.9.2) software was employed to calculate the minimum sample size with a significant level of 0.05, 7predictors and the power of 0.95 for this study is 153. A total of 300 questionnaires were distributed to the respondents. In total, 268 usable questionnaires were returned and used for analysis, accounting for approximately 89.3 percent for its surveyed. This response rate is far more exceed the minimum response rate as suggested by Nulty (2008) of over 70% is free from response error. The WarpPLS (version 6.0) (Kock & Hadaya, 2018) was used to perform the Partial Least Square – Structural Equation Modeling (PLS-SEM) estimation procedure to examine the six hypotheses developed. The researchers decided to proceed with PLS-SEM analysis because of the data collected are non-normal distributed and small sample size. Table 2 shows the pattern of responses for skewness and kurtosis of +-1 which is representing non-normal (Hair, Hult, Ringle, & Sarstedt, 2017).

Table 2: The Skewness and Excess Kurtosis

	Brand Association	Brand Performance	Brand Loyalty	Brand Equity	Student's Satisfaction
Skewness	-0.746	-0.663	-0.389	-0.660	3.368
Kurtosis	1.102	0.843	0.337	0.404	0.302

RESULTS

Respondent Profile

The researcher utilized descriptive statistics to obtain the general information of the respondents. A total of 300 questionnaires sets were distributed to the targeted students which yielded 270 respondents. Out of 270 returned questionnaires, 268 questionnaires were suitably completed with valid information and each of these was screened for errors. This represents a valid response rate of 89.3 percent. A complete demographic profile of the respondents is presented in Table 3.

Of the 268 respondents, males recorded 144 (53.7%) and females stood at 124 (46.3%). As for respondents age, the majority were 21 to 25 years old (n=229, 85.4%), 13.4 percent (n=36) of respondents were 20 years old and below, and 1.1 percent (n=3) were 30 years old. Academically, most of respondents were from undergraduate, 220 (82.1%) followed by Foundation, 36 respondents. As for ethnic compositions, Chinese were the largest group of respondents in this study, represented by 203 samples (75.7%), others were 16.8 percent (n=45) followed by 6.7 percent of Malays. Next, the majority of respondents were 155 samples (57.7&), Swinburne recorded 90 followed by Curtin University (n=23, 8.6%). In terms of year of study, 26.1 percent respondents were categorised as two to three years. They are predominately made up of university students. The second largest groups was those students who are from two to five years (n=62, 23.1%). From the findings, majority of studied respondents (students) are from Business and Management (n=113, 42.2%). The second largest group of respondents was from Engineering and Technology program, recorded 45 samples (16.8%).

Assessment of the measurement model

First, confirmatory factor analysis (CFA) was conducted to test the item reliability, convergent validity, and discriminant validity of the measurement scales. As shown in Table 4, all the items loading exceeded the minimum cut off point of 0.50 (Bagozzi, Yi, & Philipps, 1991), thus, the internal consistency was achieved. Moreover, to determine if the items loaded on the other construct, cross-loadings were computed. In terms of convergent validity, it is referred to the items of construct be at least moderately correlated. The present findings confirmed that all the composite reliability (CR) values were above the minimum cut off point of 0.7 (Chin, 2010) and all the average variance extracted (AVE) values met the minimum criteria of 0.50 (Hair et al., 2014). For discriminant validity, both the Fornell and Larcker criterion was reported. Based on the Fornell and Larcker (1981) criterion (see Table 5), the value of AVE was square rooted and testified against the inter-correlation of the construct with other constructs in the research model and all the values noted as greater than each of the constructs' correlation (Chin, 2010). Hence, the measurement model was satisfactory and provided enough evidences in terms of reliability, convergent validity, and discriminant validity.

Assessment of the Structural Model

Next, Figure 2 and Table 6 display the results of testing the proposed conceptual model. The researcher used the bootstrapping technique to determine the significant t-statistics. Fornell and Larcker (1981) stated that bootstrapping examined the stability of estimates (Chin, 2010). In this study, bootstrapping was utilized to generate t-value for each of the hypothesized and the potential impact of covariates. The researcher used the bootstrapping approach with 500 samples, with 0 cases per sample to test the path coefficient (β) and proposed hypotheses. The statistical results showed that two out of six hypotheses proposed and tested were supported.

The results revealed that brand association (β = 0.294, t-value = 5.046) and brand performance (β = 0.486, t-value = 8.618) were positively significant in relation to brand equity. However, brand loyalty (β = 0.051, t-value = 0.839) was not significantly related to brand equity. For the moderating effect, the results should that student satisfaction was found to have no moderating relationship exist between brand association, brand performance, and brand loyalty to brand equity of higher learning institution. All the three proposed moderating hypotheses were rejected. The interaction effect was plotted to see how the moderator changes the relationship between brand association, brand performance, and brand loyalty and brand equity which the result is shown in Figure 2(a), 2(b), and 2(c). To summarize, H1 and H2 were supported, whereas H3, H4, H5, and H6 were rejected.

Table 3: Demographic Profile of Respondents

Demographic Variables	Category	Frequency	Percentage (%)
Gender	Male	144	53.7
	Female	124	46.3
Age Category	20 years old and below	36	13.4
	21-25 years old	229	85.4
	30 years old and above	3	1.1
Ethnicity	Malay	18	6.7
	Chinese	203	75.7
	Indian	2	0.7
	Others	45	16.8
University	UCTS	155	57.8
	Swinburne	90	33.6
	Curtin	23	8.6
Education Level	Foundation	36	13.4
	Diploma	5	1.9
	Undergraduate	220	82.1
	Postgraduate	7	2.6
Faculty	Foundation	33	12.3
	Business and Management	113	42.2
	Computing	34	12.7
	Engineering and Technology	45	16.8
	Built Environment	27	10.1
	Others	16	6.0
Years of Study	Less than one year	16	6.0
	One to two years	58	21.6
	Two to three years	70	26.1
	Three to four years	60	22.4
	Four to five years	62	23.1
	Five years and more	2	0.7
Hostel	Yes	84	31.3
	No	184	68.7

To conduct Common Method Bias (CMS), Harman's single factor analysis had been utilised. CMS is a phenomenon which is caused by the measurement method used in SEM study (Kock, 2015). In CMS analysis, the researcher has to ensure that all the measures are inserted into an exploratory factor analysis with the assumption that the first factor loading should not exceed 50% (Aulakh & Gencturk, 2000). The findings indicated that the first factor loading only accounted for 30.7%, which is not exceeding 50%, thus it is deemed that free from method biases problem.

Table 4: Results of Measurement Model

Construct	Items	Loadings	CR	AVE
Brand Association	BrandAssoc_01	0.740	0.837	0.511
	BrandAssoc_02	0.740		
	BrandAssoc_03	0.802		
	BrandAssoc_04	0.747		
	BrandAssoc_05	0.510		
Brand Performance	BrandPerfor_01	0.774	0.924	0.709
	BrandPerfor_02	0.839		
	BrandPerfor_03	0.871		
	BrandPerfor_04	0.853		
	BrandPerfor_05	0.868		
Brand Loyalty	BrandLoyal_01	0.832	0.924	0.709
	BrandLoyal_02	0.868		
	BrandLoyal_03	0.864		
	BrandLoyal_04	0.839		
	BrandLoyal_05	0.803		
Brand Equity	BrandEquity_01	0.815	0.906	0.660
	BrandEquity_02	0.856		
	BrandEquity_03	0.821		
	BrandEquity_04	0.796		
	BrandEquity_05	0.769		
Student's Satisfaction	StuSatis_01	0.840	0.952	0.800
	StuSatis_02	0.897		
	StuSatis_03	0.904		
	StuSatis_04	0.922		
	StuSatis_05	0.908		

*Note: [a] Composite Reliability (**CR**) = (square of the summation of the factor loadings)/{(square of the summation of the factor loadings) + (square of the summation of the error variances)}*
*[b] Average Variance Extracted (**AVE**) = (summation of the square of the factor loadings)/{(summation of the square of the factor loadings) + (summation of the error variances)}*
* Motiv_5 and Org_Com4 were deleted due to low loading.

Table 5: Discriminant Validity of Constructs (Fornell-Larcker Criterion)

	1	2	3	4	5
1. Brand Association	**0.715**				
2. Brand Performance	0.633	**0.842**			
3. Brand Loyalty	0.610	0.692	**0.842**		
4. Brand Equity	0.692	0.735	0.606	**0.812**	
5. Student's Satisfaction	0.632	0.664	0.707	0.673	**0.895**

Note: Diagonals represent the square root of the average variance extracted (AVE) while the other entries represent the correlations.

Despite generating path coefficients, PLS also generated R^2 value. According to Chin (2010), R^2 can be assessed to obtain the predictive power of the structural model. The thumb of rule of R^2 endogenous LVs was 0.67 (substantial), 0.33 (moderate), followed by 0.19 (weak) (Chin, 1998). For this study, the R^2 for brand equity is 0.640 for brand equity, which explained 64 percent of

the construct. After calculating the R², the researcher now to access Q², based on the blindfolding method in PLS statistical analysis. Specifically, Q2 can be assessed through cross-validated communality and cross-validated redundancy. As recommended by Chin (1998), if a cross-validated redundancy reaches Q² > 0 or the cut-off value of Q² > 0.5, it implies that the model of study has predictive relevance, whereas, if Q² < 0, then it means that it is a lack of predictive relevance (Barroso, Carrión, & Roldán, 2010). The results of Q² with the value of 0.616 was recorded, which is more than zero value. This study obtained a highly predictive model. In terms of goodness of fir (GoF), it is generally used to determine the overall prediction power of a complex model by looking at the performance of measurement and structural parameters (Akter et al., 2011a). The recommended value of *GoF small* = 0.1, *GoF medium* = 0.25, and *GoF large* = 0.36 (Akter, D'Ambra, & Ray, 2011). In this study, GoF value for brand equity was 0.5199 (R²=0.64, AVE= 0.660). This figure confirmed that the proposed PLS model in this study was sufficient. The formula for calculating GoF is shown below:

$$GoF = \sqrt{AVE \; x \; \overline{R^2}}$$

To estimate the size of the indirect effect or total effect, the researcher has used the variance accounted for (VAF) value that represents the ratio of indirect effects to the total effect (Helm, Eggert, & Garnefeld, 2010). In this research study, the highest VAF value was 0.58 followed by the lowest one, 0.28. This indicated that 58 percent and 28 percent of the total effect of brand performance and brand loyalty on brand equity were explainable. Next, the variation inflation factor (VIF) values were also reported in Table 6. The VIF values range from 2.470 to 4.092, which is less than 10 (Bock, Zmud, Kim, & Lee, 2005). The results indicated that no multicollinearity exists among the constructs.
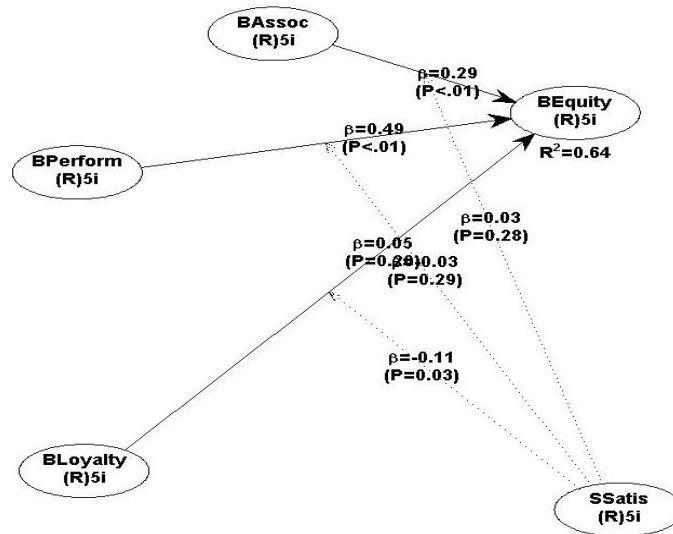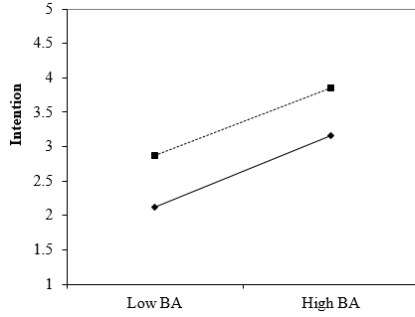

Figure 1: Structural Model
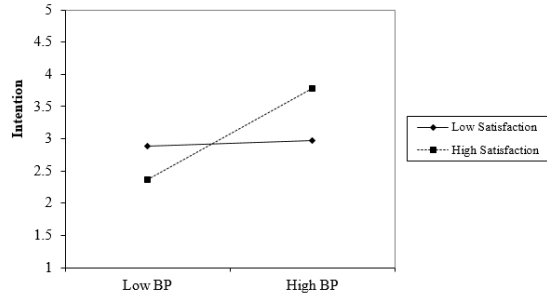
Figure 2 (a): Moderating plot for BA
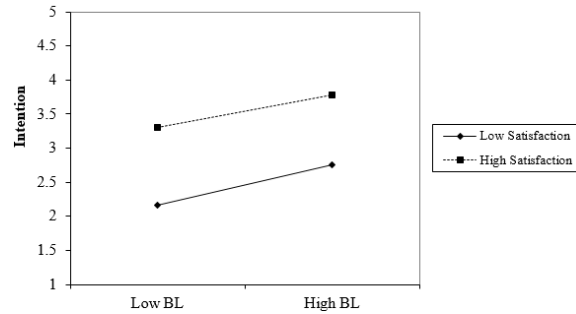

Figure 2 (b): Moderating plot for BP

Figure 2 (c): Moderating plot for brand loyalty

Table 6: Path Coefficients and Hypothesis Testing

Hypothesis	Relationship	Standard Beta	P-value	t-value	Decision	VIF	f²
H1	Brand Association → Brand Equity	0.294	<0.001	5.046**	Supported	2.627	0.204
H2	Brand Performance → Brand Equity	0.486	<0.001	8.618**	Supported	2.505	0.360
H3	Brand Loyalty → Brand Equity	0.051	0.201	0.839	Not Supported	2.731	0.031
H4	Student's Satisfaction Moderates Brand Association → Brand Equity	0.035	0.284	0.572	Not Supported	4.092	0.015
H5	Student's Satisfaction Moderates Brand Performance → Brand Equity	–0.033	0.292	–0.549	Not Supported	2.470	0.013
H6	Student's Satisfaction Moderates Brand Loyalty → Brand Equity	–0.114	0.030	–1.894*	Not Supported	2.673	0.045

Note: *t-value >2.58 (P<0.01**), t-value >1.96 (p<0.05*)*

DISCUSSION

In this study, brand performance and brand association are found to be significant determinants in explaining the university's brand equity. As expected, brand association and brand equity are strongly interrelated to each other because brand association is an element that helps a brand to

be remembered and it enhances the memorable of a particular brand (Aaker, 1991). The present findings also in line with the past research findings that brand association has a significant relationship with brand equity (Chen, 2001, James, 2005, Kumar et. al., 2013, Rio, Vazquez, & Iglesias, 2001, Yoo et. al., 2000). This is due to the fact that it able to improve the product attributes with positive perception and memory (Biel, 1992). Higher learning institutions are facing an increasingly competitive environment in which they must find ways to differentiate their institution. As brand association is viewed as "a sign of quality and commitment" (Yoo et.al. 2000), it is important for higher learning institutions to manage the relationship with the students as it will affect students' attitudes and feeling towards a brand. This is due to the stronger the relationship, the better the positive perception and memory. Even after graduation, perhaps students still keep the university life in mind and that become a strong brand association when they think of their university.

Beside brand association, the present study also found that brand performance led to university's brand equity. The results also consistent with previous findings (Jorge et.al. 2008; Tong et.al. 2009; Tsai, Cheung, & Lo, 2010; Yoo et. al., 2000) that brand performance has a positive effect on brand equity. This is perhaps brand performance relates to the ways in which the service or product attempts to meet consumers' needs. Perhaps not only meet their needs but to meet their expectations. Students usually enter a university with some expectation that they has been promised based on the external promotional strategies such as advertising. But an effective brand management strategy can be maximized only if the brand carries a promise. Therefore, it is up most important that every member of the academic community committed to perform well and not to disappoint their students. University should boost the performance in every aspect, both academic and administrative in order to build strong brand equity. It is the success of a university when its brand provides a signal or a promise to consumers about the quality education that will be delivered.

Unfortunately, the current results indicated that brand loyalty didn't contribute to university's brand equity. This is perhaps students in higher learning institution had different perception in identifying the brand equity. Additionally, most of the researches on loyalty have focused on frequent purchases made by consumers (Miller et. al., 2006), therefore, it is quite different for the education sector where student usually enrol only once without repeat the purchase. Due to the high shifting cost, not only the high tuition fees but also the delay on the graduation, students usually stay until graduation when they enrol with a higher learning institution despite of loyalty.

In term of moderating effect, all three moderation hypotheses were not support in the study. The moderating plot of Figure (3a), 3(b), and 3(c) confirmed that the existence of student satisfaction (as moderator) were not strengthen the relationship between chosen Independence variables and brand equity. This is perhaps the weightage of level of student satisfaction yet to reach "high intention" for student to create institution's brand equity. In fact, the loyal customer (students) can only lead to positive repeat behaviour (Anderson & Srinivasan, 2003), high commitment (Bressolles & Durrieu, 2010) and exhibit re-patronizing intentions (Luarn & Lin, 2003).

LIMITATIONS

This research study suffers from several limitations. The first limitation is regarding the study sample. The study population of this study were active students in the chosen higher learning institutions. There are other stakeholder such as parent, staff or alumni point of view may be different with the existing student.

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Secondly, the study is limited to only three private university (Swinburne, Curtin, and UCTS) in Sarawak. Therefore, the results obtained may not be representative enough to be generalized as to the perception of the overall. The last constraint concerns the nature of the study. The current research model explained 64 percent of the variance in university's brand equity. The remaining 36 percent for university's brand equity remain unexplained.

CONCLUSION

The findings steer us to draw conclusions that brand association and brand performance are important elements in order to generate strong brand equity of higher learning institution in Sarawak. These results confirm that the brand concepts in the present study that brand association and brand performance is contributed to brand equity except brand loyalty. The research also found that student satisfaction didn't moderate the relationship between brand performance, brand association, and brand loyalty and institution's brand equity.

For those who involved in higher learning institution marketing service brand, this study suggested them to look into brand association to differentiate position, create positive attitudes and feelings towards brands in order to build a stronger brand equity of higher learning institution. Consumer in the other hand, use brand associations to process, organize, and retrieve information in memory and to help them in making purchase decisions (Aaker, 1991).

Brand performance relates to the ways in which the product or service attempts to meet customers' more functional needs. Often, the strongest brand equity involves performance advantages of some kind. Thus, it is not surprise as the study found that brand performance is the most significant related to brand equity. Hence, management of the higher learning institution could consider increasing quality of the services provided by the institution such as training better staff in order to be more efficient and effective to improve the performance. Marketing staff must be very proficient in the information related with the institution and make sure they are able to communicate the quality well to the public in order to increase institution's brand equity.

It is hoping that more empirical studies to be done on the dimensions of the brand equity construct in future study. Different dimensions of brand equity are likely to have interactive effects. Studies can be done to investigate other factors that create brand equity such as brand image, brand awareness and so on in order to gain better insights as to which particular aspect could be focused on in order to increase brand equity of higher learning institutions in Sarawak.

REFERENCES

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

Aaker, D. (1996). Measuring brand equity across products and markets. *California Management Review, 38*(3), 102-120.

Akter, S., D'Ambra, J., & Ray, P. (2011a). An Evaluation of Based Complex Models: the Roles of Power Analysis, Predictive Relevance, and GoF Index. *In the Proceedings of the Seventeenth Americas Conference on Information Systems, Detroit, Michigan August 4th -7th 2011.*

Aldrige, S. & Rowley, J. (1998). Measuring customer satisfaction in higher education. *Quality Assurance in Education, 6*(4):197-204.

Alhaddad, A. (2014). The effect of brand image and brand loyalty on brand equity. *International Journal of Business and Management Invention*, 3(5), 28-32.

Anderson, R.E. & Srinivawa, S.S. (2003). E-satisfaction and e-loyalty: a contingency framework. *Psychology & Marketing*, 20(2): 123-138.

Atilgan, E., Aksoy, S., & Akinci, S. (2005). Determinants of the brand equity: A verification approach in the beverage industry in Turkey. *Marketing Intelligence & Planning*, 23(3), 237-248.

Aulakh, P.S. & Gencturk, E.F. (2000). International principal-agent relationships: control, governance, and performance. *Industrial Marketing Management*, 29, 251-538.

Azoury, N., Daou, L., & Khoury, C.E. (2014). University image and its relationship to student satisfaction-case of the Middle Eastern private business schools, 1-8.

Bagozzi, R.R., Yi, Y., & Philipps, L.W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, 36, 421-458.

Baldauf, A., Cravens, K.S., & Binder, G. (2003). Performance consequences of brand equity management: Evidence from organizations in the value chain. *Journal of Product & Brand management*, 12 (4), 220-236.

Barroso, C., Carrión, G.C., & Roldán, J.L. (2010). Applying Maximum Likelihood and PLS On Different Sample Sizes: Studies on SERVQUAL Model and Employee Behavior Model. In *Handbook of Partial Least Squares: Concept, Methods and Applications* by Esposito, V., et al., (Eds). P. 427-447.

Berry, L.L. (2000), Cultivating service brand equity, *Journal of the Academy of Marketing Science*, 28 (1), 128-37.

Biel, A.L. (1992). How brand image drives brand equity? *Journal of Advertising Research*, 32(6), 6-12.

Bock, G.W., Zmud, R.W., Kim, Y.G. & Lee, J.N. (2005), Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate, *MIS Quarterly*, 29(1), 87–111.

Bressolles, G. & Durrieu, F. (2010). Impact of e-service quality on satisfaction and loyalty intentions: differences between buyers and visitors. BEM Management School-Bordeaux (France).

Chen, C.H. (2001). Using free association to examine the relationship between the characteristics of brand associations and brand equity. *Journal of Product and Brand Management*, 10(7), 439-451.

Chin, W. (1998). Issues and Opinions on Structural Equation Modeling. *MIS Quarterly*, 22(1): 7-16.

Chin, W.W. (2010). *How to write up and report PLS analyses*. In V. Esposito Vinzi, W.W. Chin, J. Henseler, & H. Wang (Eds.), Handbook of partial least squares: Concepts, methods and application. New York: Springer, 645-689.

Cho, E. (2011). Development of a brand image scale and the impact of lovemarks on brand equity. *Unpublished Work*, 1–198.

Chow, H.W., Ling, G.J., Yen, I.Y., & Hwang, K.P. (2016) Building brand equity through industrial tourism. *Asia Pasific Management Review*, (22), 70-79.

Dick, A.S. & Basu, K. (1994). Customer loyalty: toward an integrated conceptual framework. *Journal of the Academy of Marketing Science*, 22(2), 99-113.

Erdem, T. & Swait, J. (1998). Brand Equity as a Signalling Phenomenon. *Journal of Consumer Psychology*, 7(2), 131-157.

Fornell, C.G. & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.

Jorge, O.M. & Gordon, F.R. (2008). *Consumer-based brand equity and brand performance.*

Gold, A.H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: an organizational capabilities perspective. *Journal of Management Information Systems*, 18(1), 185–214.

Gray, B.J., Fam, K.S. & Llanes, V.A. (2003). Branding universities in Asian markets. *Journal of Product & Brand Management*, 12*(2)*, 108 – 120.

Gruber, T., Fub, S., Voss, R, & Zikuda, M.G. (2010). Examining student satisfaction with higher education services: using a new measurement tool. *International Journal of Public Sector Management*, 23(2), 105-123.

Hair, J.F., Hult, G.T.M., Ringle, C.M., & Sarstedt, M. (2014). A primer on partial least squares structural equation modeling (PLS-SEM). Los Angeles: Sage Publication.

He, H.W. & Li, Y. (2010). CSR and service brand: The mediating effect of brand identification and moderating effect of service quality. *Journal of Business Ethics*, (100), 673-688.

Helgesen, O. & Nesset, E. (2007). What accounts for students' loyalty? Some field study evidence. *International Journal of Educational Management*, 21(2), 126-143.

Helm, S., Eggert, A., & Garnefeld, I. (2010). *Modeling the Impact of Corporate Reputation on Customer Satisfaction and Loyalty Using Partial Least Squares*. In Vinzi, V.E., Chin, W.W., Henseler, J., Wang, H. (Eds), Handbook of Partial Least Squares: Concepts, Methods and Applications. Berlin: Springer.

James, D. (2005), Guilty through association: brand association transfer to brand alliances. *Journal of Consumer Marketing*, 22(1), 14-24.

Jevons, C. (2006), Universities: a prime example of branding gone wrong, *Journal of Product & Brand Management*, 15(7), 466-467.

Jorge, O.M. & Gordon, F.R. (2008). *Consumer-based brand equity and brand performance.*

Keller, K. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *The Journal of Marketing*, 57(1), 1-22.

Keller, K. (2001). *Building customer-based brand equity: A blueprint for creating strong brands.* Marketing Science Institute.

Khudri, M.M. & Farjana, N. (2016). Identifying the key dimensions of consumer-based brand equity model: A multivariate approach. *Asian Journal of Marketing*, *11*, 13-20.

Kim, H.B., Kim, W.G., & An, J.A. (2003). The effect of consumer-based brand equity on firms' financial performance. *Journal of Consumer Marketing*, 20(4), 335-351.

Kline, R.B. (2011). *Principles and practice of structural equation modelling.* New York: Guilford Press.

Kock, N. (2015). Common method bias in PLS-SEM: a full collinearity assessment approach. International Journal of e-Collaboration, 11(4), 1-10.

Kock, N. & Hadaya, P. (2018). Minimum sample size estimation in PLS-SEM: the inverse root and gamma-exponential methods. *Info Systems Journal*, 28, 227-261.

Kolter, P. & Clarke, R.N. (1987). *Marketing for health care organizations.* Englewood Cliffs, N.J.: Prentice Hall, 1987.

Kolter, P. & Keller, K. (2012). *Marketing Management.* Upper Saddle River, N.J.: Prentice Hall.

Kuikka, A. & Laukkanen, T. (2012). Brand loyalty and the role of hedonic value. *Journal of Product and Brand Management*, 21(7), 529-537.

Kumar, R.S., Dash, S., & Purwar, P.C. (2013). The nature and antecedents of brand equity and its dimensions. *Marketing Intelligence & Planning*, 31(2), 141-159.

Low, G.S. & Lamb, C.W. (2000). The measurement and dimensionality of brand associations. *Journal of Product & Brand Management*, 9(6), 350-370.

Luarn, P. & Lin, H.H. (2003). A customer loyalty model for e-service context. *Journal of electronic Commerce Research*, 4(4): 126-167.

Malik, M.E. Danish, R.Q., & Usman, A. (2010). The impact of service quality on students' satisfaction in higher education institutes of Punjab. *Journal of Management Research*, *2(2)*, 10.

Supornpraditchai, T., Miller, K.E., Lings, I.N., & Jonmundsson, B. (2007). Employee-basedbrand equity: antecedents and consequences. AMZMAC, Conference Proceedings, University of Otago, Dunedin, New Zealand, 3-5 December.

Mohebi, M.M. & Khani, N. (2014). Structural Pattern of Relationship between Brand Awareness, Brand Attachment, Brand Experience, Brand Loyalty, Brand Equity, Brand Preference and Intention to Purchase. *Applied Mathematics in Engineering, Management and Technology*, 2(5), 288-299.

Mourad, M., Ennew, C., & Kortam, W. (2011). Brand equity in higher education. *Marketing Intelligence & Planning*, 29(4), 403-420.

Nulty, D.D. (2008). The adequacy of response rates to online and paper survey: What can be done?". *Assessment and Evaluation in Higher Education*, 33(3), 301-314.

O'Cass, A. & Ngo, L. (2007). Market external adaptation and internal effectiveness: achieving better brand performance. *Journal of Business Research*, 60(1), 11-20.

O'Cass, A. & Weerawardena, J. (2010). The effects of perceived industry competitive intensity and marketing-related capabilities: drivers of superior brand performance. *Industrial Marketing Management*, 39: 571-581.

Odin, Y., Odin, N., & Valette-Florence, P. (2001). Conceptual and operational aspects of brand loyalty: An empirical investigation. *Journal of Business Research*, 53, 75-84.

Oliver, R. (1999). Where consumer loyalty? *Journal of Marketing*, 63, 33-44.

Olorunniwo, F., Hsu, M.K., & Udo, G.J. (2006). Service quality, customer satisfaction, and behavioural intensions in the service factory. *Journal of Services Marketing*, 20(1), 59-72.

Pappu, R. & Quester, P. (2006). Does customer satisfaction lead to improved brand equity? An empirical examination of two categories or retail brands. *Journal of Product & Brand Management*, 15(1), 4-14.

Pinar, M., Trapp, P., Girard, T., & Boyt, T. (2014). University brand equity: an empirical investigation of its dimensions. *International Journal of Educational management*, 28(6), 616-634.

Rambocas, M. & Pacheco, B.G. (2018). Online sentiment analysis in marketing research: a review. *Journal of Research in Interactive Marketing*, 12(2), 146-163.

Ramayah, T., Yeap, J.A.L., & Ignatius, J. (2013). An empirical inquiry on knowledge sharing among academicians in higher learning institutions. *Minerva: A Review of Science, Learning and Policy*, 51(2), 131-154.

Richins, M.L. (1987). A Multivariate Analysis of Responses to Dissatisfaction. *Journal of Academy of Marketing Science*, 15(3), 24–31.

Ringle, C., Wende, S., & Becker, J. (2015). *SmartPLS 3 (Version 3.2.3)*. Boenningstedt: SmartPLS GmbH.

Rio, A.B.D., Vázquez, R., & Iglesias, V. (2001). The effects of brand associations on consumer response. *Journal of Consumer Marketing*, 18*(5)*, 410 − 425.

Ryu, K., Lee, H.R., & Kim, W.G. (2012). The influence of the quality of the physical environment, food, and service on restaurant image, customer perceived value, customer satisfaction, and behavior intensions. *International Journal of Contemporary Hospitality Management*, 24(2), 200-223.

Samen, A., Akroush, M.N., & Lail, B.N. (2010). Mobile SERVQUAL. *International Journal of Quality & Reliability Management*, 30(4), 403-425.

Schultz, D.E. (2006), "Learning by doing", MM, November/ December, pp.12-13.

Severi, E. & Kwek, C. (2013). The Mediating Effects of Brand Association, Brand Loyalty, Brand Image and Perceived Quality on Brand Equity.

Shang, R.A., Chen, Y.C., & Liao, H.J. (2006). The value of participation in virtual consumer communities on brand loyalty. Internet Research, 16(4), 398-418.

Singh, J. (1988). Consumer complaint intentions and behaviour: Definition and Taxonomical Issues. *Journal of Marketing*, 52(1), 93-107.

Singh, J. & Wilkes, R.E. (1996). When Consumer Complain: A Path Analysis of the key antecedents of consumer complaint. Response Estimates. *Journal of the Academy of Marketing Science*, 24(4), 350-365.

Teas K. & Grapentine T. (1996). Demystifying Brand Equity. *Marketing Research*, 8(2), 24-30.

Tierney, W.G., & Lanford, M. (2015). An investigation of the impact of international brand campuses on organizational culture. *The Palgrave Handbook of Asia Pacific Higher Education*, 157-142.

Tsai, H., Cheung, C., & Lo, A. (2010). An exploratory study of the relationship between customer-based casino brand equity and firm performance.

Tong, X. & Hawley, J.M. (2009). Measuring customer-based brand equity: Empirical evidence from the sportswear market in China. *Journal of Product and Brand Management*, 18(4), 262-271.

Velázquez, B.M., Blasco, M. F., Saura, I.G., & Contri, G.B. (2007). Causes of complaining behaviour intentions: The moderator effect of previous customer experience of the restaurant. *Journal of Service Marketing*, 24(7), 532-545.

Wong, H.Y. & Merrilees, B. (2008). The performance benefits of being brand-oriented. Journal of Product & Brand Management, 17(6), 372-383.

Yoo, B. & Donthu, N. (2001). Developing and validating a multidimensional consumer-based brand equity scale. *Journal of Business Research*, 52, 1-14.