
Does Gender Contribute Moderating Effect in Brand Equity Model?

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ABSTRACT

The objective of this study is to examine to what extent that gender serves as moderating variable in the context of consumer-based brand equity model. A total of 525 data was collected through non-probability sampling. Independent t-test was firstly employed. The invariance test was subsequently conducted to make certain whether the components of structural model is remained equivalent across two gender groups. The result indicated the baseline model was typically invariant across gender, except for the causal relationships between brand awareness and brand image, thus indicates gender serves as a moderating variable partially. Males have evaluated lower mean scores as compared to females, but higher value of causal effects in male model. The higher mean scores could be reasonably referred to greater sense towards brands; yet it does not indicate greater value of causal effects. Brand managers have to employ a diverse set of brand awareness strategies across gender for the purpose of enhancing their brand image. They should assign greater efforts of brand exposure programs among female community. However, similar set of branding strategy for perceived quality, brand image and brand loyalty can be implemented as there are invariant across gender.

Key words: Brand equity, Causal effect, Gender, Invariance test, Moderating effect, Malaysia.

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INTRODUCTION

Brand equity is viewed as an effective and efficient indicator to measure the success or failure of a product or brand (Gardner and Levy, 1955). Researchers such as Cobb-Walgren et al. (1995) and Keller (1993) stated brand equity contributes to customer value. Accordingly, the study of brand equity has received tremendous interest in conceptual developments and empirical researches (Aziz and Yasin, 2010; Henry et al., 2010; Pike et al., 2010; Rosa and Riquelme, 2008; Tong and Hawley, 2009; Xu and Andrew, 2009; Yasin et al., 2007; Yoo et al., 2000). Despite these interests, the existing literatures on exploring consumer-based brand equity model across gender are still scarce. Numerous consumer studies have shown that there are indeed differences in terms of cognitive processes as well as behaviors between the two genders (Fisher and Dubé, 2005; Meyers-Levy and Maheswaran, 1991). According to Moutinho and Goode (1995), who conducted a study on

the automobile industry, males were found to be more loyal towards the automobile brands when it comes to making purchases.

On the other hand, Meyers-Levy and Maheswaran (1991) revealed female consumers paid more detailed attention on brand information compared to their male counterparts, and thus resulting in different levels of brand awareness across gender, based on Selectivity Model (Darley and Smith, 1995; Handlin, 2007). In addition to this, males tend to prefer recognized, fun, and functional brands; whereas females are looking for symbolic benefit brands (Andrew, 2002). The arguments from the above statements lead to high possibility of different models across female and male consumers. This study intends to fill a unique gap in the branding literature by investigating to what extent that gender serves as moderating variable in the context of consumer-based brand equity model.

GENDER DIFFERENCES IN BRANDING

Studies on gender and gender-related behaviors have been widely used as a form of segmentation by marketers (Darley and Smith, 1995; Putrevu, 2001). In controlling consumers' evaluative judgments, Holbrook (1986) used gender as a main variable. Similarly, some researchers recommended the use of gender in segmenting the market, as it satisfies the requirements for successful implementation since the segments were easily identifiable, accessible and large enough to be profitable (Darley and Smith, 1995).

Brand Awareness

The Selectivity Model identifies the different levels of recognition and recall between males (schematic) and females (elaboration), which influences brand awareness (Handlin, 2007). Females use effortful and detailed elaboration strategies that result in higher brand awareness of brand alternatives (Meyers-Levy and Maheswaran, 1991), while males tend to engage in heuristic and schematic memory processing strategies (Meyers-Levy, 1989). Females have better recall on attractive brand logos, whereas logos that were more suitable to the males' taste which increased the recall memory better (O'Cass and Clarke, 2001). In addition, females prefer the hedonic benefits; a brand which can provide "excitement. while males prefer a brand which is convenient to them, emphasize on functional benefits (Seock and Bailey, 2008).

Perceived Quality

In a survey carried out by a German car manufacturer on consumer repurchase intentions; results indicated that males' repurchase intentions were based on product performance while females repurchase intentions were based on service performance (Homburg and Giering, 2001). Another study done by Gocek et al. (2007) on the textile industries discovered that male consumers prioritize more on product quality than service quality. In addition to that, a longitudinal study disclosed that over time, males displayed a higher consistency with their satisfaction responses which indicates loyalty. On the contrary, females experienced higher dissatisfaction responses over time (Bendall-Lyon and Powers, 2002). Besides, Oyewole (2007) found that females prefer "hygiene" and "reliability" but males emphasize on "availability".

Brand Image

In a study done by Hyllegard et al. (2005), one key aspect in establishing positive consumer perception is the ability to create the brand image among targeted consumers prior to market entry. The study also concluded that gender should be included as a consumer characteristic in the midst of creating a brand image. Cuneen and Clauseen (1999) found that it is more

difficult to promote and sell products to women in the male-dominated sports industry due to the gender image used. This strengthens the inequities among genders on brand images. According to a study done by Andrew (2002), which based on the benefits of brand image in brand selection for gifts among females and males, had showed differences arise in the selection criteria between both the genders. For instance, females prefer prestigious brands (symbolic benefit) and males prefer recognized brands when it came to selecting brands as gifts for their kin (Andrew, 2002).

Brand Loyalty

Given the same level of satisfaction, females have a stronger brand loyalty than males for repurchasing behavior (Mittal and Kamakura, 2001). However, Moutinho and Goode (1995) found that females repurchase intentions were influenced by their experience of the personal interaction while males possess greater repurchase intentions for automobiles purchases based on satisfaction of the product (Homburg and Giering, 2001). Some studies found out females do not show strong customer loyalty as compared to their male counterparts (Melnyk et al., 2009). On the other hand, Desmond and Alvin (2005) highlighted there was no significant difference of brand loyalty across gender in a culture value study, and thus it can be concluded that gender cannot be used to explain proneness to brand loyalty. Despite the unclear findings among across gender, the research objective of this study was to examine to what extent that gender serves as moderating variable in the context of consumer-based brand equity model.

BASELINE MODEL OF CONSUMER-BASED BRAND EQUITY

Brand equity is a multidimensional concept comprising perceived quality, brand awareness, brand association, brand loyalty, and other related brand assets (Aaker, 1996). Grewal et al. (1998) concluded that brand awareness and perceived quality had a positive and significant relationship in a bicycle brand study. Therefore, there is positive correlation between perceived quality and brand awareness.

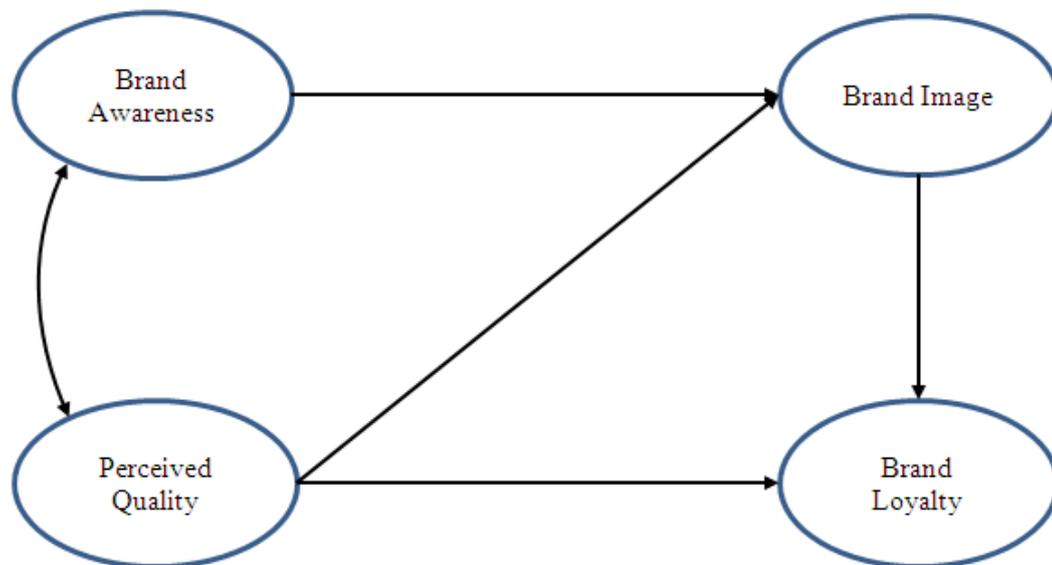
Consumer decision-making is affected by brand awareness in terms of the creation and intensity of brand associations on the brand image (Keller, 2003). Brand awareness generated differences in information processing, and these differences, were created by brand associations in the consumer's memory, which directly affected brand image (Hoyer and Brown, 1990). Hence, the presumption was that more exposed products and brand names could create a favorable brand image which in the long run led to brand loyalty as consumers have the tendency to purchase a certain product or brand which holds a favorable brand image (Angel and Manuel, 2005).

Customer service is part of a marketing instrument when it comes to the consumer goods market, but in the services market, customer service is considered as perceived quality (Bamert and Wehrli, 2005). Service quality, food quality and perceived value are indicated as important antecedents of customer satisfaction (Qin et al., 2010), where customer satisfaction is a determinant of brand equity with brand loyalty acting as a mediator (Aaker, 1996). According to Keller's (1993) study on brand knowledge, good evaluation of perceived quality increases brand association. For this reason, perceived quality has a significant and positive effect on perceived brand image (Malai and Spece, 2010) and product value (Choi et al., 2004), and this in turn contribute to company reputation and corporate image (Andreas, 2001).

Based on a cognitive-affective-behavioral hierarchical model (Chiou et al., 2002), perceived quality was considered as a cognitive construct which resulted in affective response towards the brand. Accordingly, this affective response had determined that the consumer behavior had led to product purchase and brand loyalty (Gil et al., 2007). Roberts et al. (2004) turned to stages of purchase-decision to explain the causal relationship between perceived quality and loyalty.

Dobni and Zinkhan (1990) generally defined brand image as a consumer's general evaluation of a specific brand through the influence of a consumer's reasoned or emotional perceptions. As a result, once consumers have favorable images towards a certain brand, then this process would have a positive influence on the consumer's trust and eventually reinforce their loyalty (Kandampully and Hu, 2007). From the extensive review of past literatures, the baseline model of consumer-based brand equity was presented in Figure 1.

Figure1. Baseline model of consumer-based brand equity



METHODOLOGY

This study took on six measurement items of brand loyalty, five items from Aaker (1991) and one item from Yoo et al. (2000). With respect to brand awareness, two items were adapted from Aaker (1991), another two items from Yoo et al. (2000), and one item from Gil et al. (2007). The measurement items of brand image were employed from Kim and Kim (2005) as their study was similarly based on restaurant chains. Nine performance-based items which emphasized on consumer perception rather than consumer expectation was used to measure perceived quality (Cronin and Taylor, 1992). In addition to that, this study employed two additional items which relates to recovery and knowledge from Olorunniwo et al. (2006). All variables were measured using six-point scales.

A total of 50 surveys were gathered from a non-probability sample of undergraduate students in Multimedia University, Malaysia. By considering feedbacks obtained from the pilot study, adjustments to the questionnaire items were made. The Cronbach's alpha for each of the constructs were greater than 0.70, which indicated a sufficient result (Nunnally, 1978). The main study was carried out in five major shopping complexes in Klang Valley, Malaysia, from August 2010 to October 2010. A total of 525 data was collected through non-probability sampling among young adults where respondents were asked to complete a self-administered

questionnaire. Respondents were required to choose one of the most familiar brands from the seven restaurant chains, such as McDonalds', KFC, Pizza Hut, Secret Recipe, Starbucks, Sushi King or OldTown White Coffee to complete the survey.

All items were assessed through the respondents' perceptual evaluations and the recall of their experiences. Instructions stating that "there is no right or wrong answers; only your personal opinions matter" were given to minimize possible response bias (Aronson et al., 1990). Out of 525 respondents, 50 were excluded due to incomplete responses. Thus, 475 questionnaires were used for further analysis. The sample was composed by 49.9 % of men and 50.1 % of women. With respect to ethnic groups, 51.8 % were Malays, followed by Chinese (34.9 %), others (6.8 %), and Indian (6.6 %). The breakdown of the study sample in term of gender and ethics groups could be considered representative of the population of Malaysia (Indexmundi, 2011; U.S. State Department, 2010).

RESULTS

Comparison of Mean between Female and Male

Independent t-test was employed to determine whether respondents' opinions differed between females and males with respect to the measurement items. The advantage of this approach is to obtain the reliability of the respondents' answers from preceding various experiences between genders.

Comparing the two groups, females are likely to have higher mean score for most of the items, except for BA2 and PQ8, which showed negative t values. Table 1 showed that most of the items of brand loyalty and brand image demonstrated significant mean different between female and male groups, such as BL1, BL2, BL3, BL4, BI1, BI2, BI3, BI5, BI7 and BI8. In regards to brand awareness, only BA4 and BA5 showed significant mean different. On the other hand, only PQ9 was indicated to have significant mean difference in perceived quality across females and males samples. In this study, females are likely to have higher mean score, and both groups were expected to have significant mean different for most of the observed variables of brand image and brand loyalty.

Table1. Mean differences of items between female and male

Items	Female (n=238)		Male (n=237)		t value	
	M	SD	M	SD		
Brand Loyalty						
BL1	I will suggest X to other consumers.	4.31	1.14	4.08	1.05	2.34*
BL2	I would love to recommend X to my friends.	4.32	1.12	4.12	1.12	2.00*
BL3	I regularly visit X.	3.94	1.29	3.70	1.25	2.10*
BL4	I intend to visit X again.	4.29	1.17	4.04	1.21	2.23*
BL5	I am satisfied with X in every visit.	4.18	1.19	4.06	1.10	1.11
BL6	X would be my first choice.	3.81	1.39	3.70	1.30	0.89
Brand Image						
BI1	X offer low prices.	3.51	1.28	3.28	1.20	2.05*
BI2	X taste good compared with price.	4.03	1.10	3.81	1.09	2.09*
BI3	X have cheerful and enchanting atmosphere.	4.24	0.90	4.06	0.99	2.08*
BI4	X are crowded.	4.04	1.21	3.98	1.16	0.54
BI5	I feel comfortable visiting X alone.	4.03	1.28	3.79	1.29	2.04*

BI6	I can quickly recall the symbol or logo of X.	4.64	1.18	4.45	1.37	1.67
BI7	The dining areas of X are frequently occupied.	4.35	0.99	4.17	1.02	2.00*
BI8	The price of X is reasonable.	3.92	1.15	3.71	1.19	1.97*
Brand Awareness						
BA1	I can recognize X among other competing brands.	4.64	1.13	4.64	1.06	0.06
BA2	I am aware of X.	4.64	1.14	4.65	1.13	-0.07
BA3	I know X.	5.11	1.06	5.00	1.08	1.20
BA4	I am familiar with X.	4.94	1.06	4.73	1.17	2.06*
BA5	When I think about this food category, X is the first brand that comes to my mind.	4.24	1.33	3.92	1.41	2.47**
Perceived Quality						
PQ1	Employees of X are appropriately dressed, clean and neat.	4.44	0.95	4.39	0.97	0.55
PQ2	Physical facilities (E.g. building, tables, chairs, washroom/ area, and lighting) of X are visually appealing.	4.29	0.95	4.12	1.05	1.87
PQ3	Employees of X are never too busy to respond to customers.	3.86	1.11	3.85	1.12	0.09
PQ4	Employees of X are always willing to help customers.	4.08	1.06	4.05	1.00	0.31
PQ5	Employees of X handle customers' requests promptly.	4.14	0.99	4.11	0.92	0.33
PQ6	X have operating hours convenient to all their customers.	4.47	1.04	4.43	1.17	0.48
PQ7	Employees of X behavior instill confidence in customers.	4.24	0.93	4.09	0.94	1.71
PQ8	X insist on error-free services.	3.91	1.09	3.96	1.09	-0.55
PQ9	Employees of X serve meals at promised time.	4.11	1.08	3.89	1.07	2.13*
PQ10	Employees of X handle complaints of customers effectively.	3.89	1.03	3.88	1.09	0.13
PQ11	Employees of X can provide adequate information about meals offered. (E.g. Ingredients and preparation methods.)	4.08	1.02	3.91	1.14	1.70

*p < 0.05 **p < 0.01.

Note. M = Mean, SD = Standard Deviation

Baseline Model Testing for Female and Male Samples

Confirmatory factor analyses (CFA) were employed to identify the convergent and discriminant validity of the constructs (Anderson and Gerbing, 1988). Concerning convergent validity criteria, items with standardized loading lower than 0.50 were removed (Hair et al., 2010). Specifically, BI4, BI5, and PQ6 were eliminated. To purify the measures and to improve the fit of the model, we had deleted BI7, BA5, BI6, PQ1, PQ2, PQ8, and PQ11 as there were significant cross-loadings concerns (Byrne, 2010).

The final results of the construct reliability and validity analysis were displayed in Table 2. All constructs were exceeded the cut-off value of Cronbach's Alpha 0.70 (Nunnally, 1978), composite reliability 0.70 (Hair et al., 2010) and average variance extracted (AVE) 0.50 (Fornell and Larcker, 1981). Discriminant validity for the relationships was tested. The AVE for each constructs was greater than the squared inter-construct correlations between constructs, indicated all the constructs were to be modeled as disaggregated multi-components measure (Fornell and Larcker, 1981). Both measurement models consisted of 20 observed variables equally, the number of observations for female and male groups were 238 and 237 respectively. As referred to Hair et al.'s (2010) characteristics of different fit indices demonstrating Goodness-of-Fit across different model situation, all fit statistic values appeared to be adequate and were above the recommended value; indicated two measurement models demonstrated perfect results for the degree of uni-dimensionality; female sample ($\chi^2/df = 1.652$, $p = 0.001$, RMSEA = 0.052, SRMR = 0.043, GFI = 0.905, CFI = 0.962 and TLI = 0.954), and male sample ($\chi^2/df = 1.623$ $p = 0.001$, RMSEA = 0.051, SRMR = 0.054, GFI = 0.905, CFI = 0.964 and TLI = 0.955).

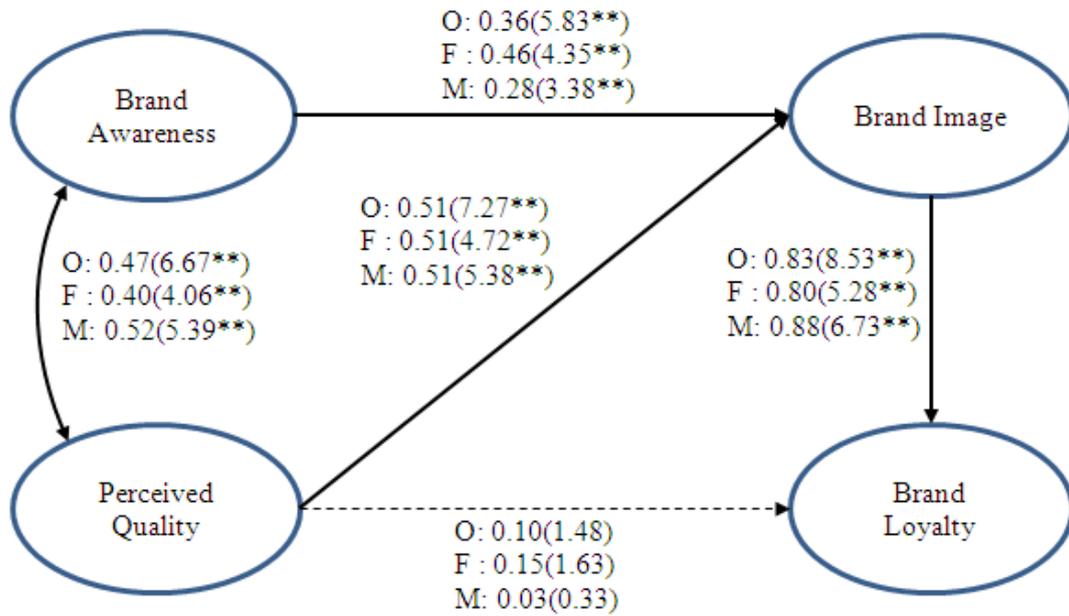
Table2. Final results of the analysis of construct reliability and validity

	Construct reliability		Validity	
	CA	CR	AVE	SC
Female				
Brand awareness	0.81	0.83	0.50	0.11-0.23
Perceived quality	0.86	0.86	0.53	0.11-0.38
Brand image	0.78	0.78	0.50	0.17-0.42
Brand loyalty	0.92	0.80	0.64	0.23-0.42
Male				
Brand awareness	0.87	0.91	0.60	0.14-0.21
Perceived quality	0.86	0.86	0.53	0.21-0.31
Brand image	0.81	0.78	0.51	0.14-0.49
Brand loyalty	0.91	0.80	0.61	0.19-0.49

Note. CA (Coefficient Alpha), CR (Composite reliability), AVE (Average Variance Extracted), SC (Squared Correlation)

The result of structural models for both female (F) and male (M) samples presented perfect good fit; F sample ($\chi^2/df = 1.671$, $p = 0.001$, RMSEA = 0.053, SRMR = 0.043, GFI = 0.903, CFI = 0.961 and TLI = 0.953), and M sample ($\chi^2/df = 1.640$, $p = 0.001$, RMSEA = 0.052, SRMR = 0.055, GFI = 0.902, CFI = 0.962 and TLI = 0.954). The result showed equivalent significant numbers of causal relationships across the two gender models. Fascinatingly, perceived quality has no significant effect on brand loyalty in both models, failed to meet the rule of 1.65 t value as critical value at the 0.05 significance level in the directional hypotheses (Yoo et al., 2001){F sample ($\beta = 0.15$, $t = 1.63$, $p > 0.05$), M sample ($\beta = 0.03$, $t = 0.33$, $p > 0.05$)}. Significant pathways were presented by heavy lines in Figure 2.

Figure2.Results of consumer-based brand equity models



- a. The standardized estimates are shown. (*,**) Estimate is significant at a confidence level of $p < 0.001$ ** . () is t-value.
- b. O = Female and Male, F = Female, M = Male.

Table3.Results of the multiple-group invariance test across gender

	χ^2	df	NFI	CFI	RMSEA (90% CI)	ΔX^2	Δdf
Initial test							
Model ^a	519.828	314	0.909	0.961	.037 (.031-.043)	-	-
Step 1	543.412	330	0.905	0.960	.037 (.031-.042)	23.584	16
Step 2	554.507	334	0.903	0.959	.037 (.032-.043)	11.095*	4
Step 3	557.748	337	0.902	0.959	.037 (.032-.043)	3.241	3
Step 4	562.785	339	0.901	0.958	.039 (.032-.043)	5.037	2
Step 5	626.804	367	0.890	0.951	.039 (.033-.044)	64.019*	28
Subsequent test							
Model ^a	519.828	314	0.909	0.961	.037 (.031-.043)	-	-
Step 6	548.459	333	0.904	0.960	.037 (.031-.042)	5.047	3
Step 7	557.748	337	0.902	0.959	.037 (.032-.043)	9.289	4
Step 8	562.785	339	0.901	0.958	.039 (.032-.043)	5.037	2
Step 9	626.804	367	0.890	0.951	.039 (.033-.044)	64.019*	28

^a Baseline model: No equality constraints. Step 1 (equal all factor loadings), Step 2 (Step 1 + equal all structural paths), Step 3 (Step 2 + equal all structural covariance) Step 4 (Step 3 + equal all factor residual variances), Step 5 (Step 4 + equal all measurement error variances), Step 6 (Step 1 + equal structural path: PQ to BI & BL, BI to BL), Step 7 (Step 6+ equal all structural covariance), Step 8 (Step 7 + equal all factor residual variances), Step 9 (Step 8 + equal all measurement error variances)

* $p < 0.05$

Note. BA (Brand awareness), PQ (Perceived quality), BI (Brand image), BL (Brand loyalty)

Invariance Test

Prior to the examination of invariance test, a consideration of the fit baseline model was tested. The investigation of overall measurement and structural model of the total sample ($n = 475$) supported good fit {Measurement model ($\chi^2/df = 2.033$, $p = 0.001$, $RMSEA = 0.047$, $SRMR = 0.040$, $GFI = 0.937$, $CFI = 0.970$ and $TLI = 0.963$), and structural model ($\chi^2/df = 2.057$, $p = 0.001$, $RMSEA = 0.047$, $SRMR = 0.042$, $GFI = 0.935$, $CFI = 0.968$ and $TLI = 0.962$)}. Also, the causal relationships of baseline model were found to be corresponded with preceding analysis on female and male samples (see Figure 2).

The invariance test endeavored to make certain whether the components of structural model is remained equivalent across two gender groups by adapting the application in multiple-group analyses of Byrne (2010). The best-fit model for the female (F) sample and male (M) sample was selected as a baseline model for invariance test (i.e., Model^a in Table 3). Subsequently, more stringent constraints are placed on each sequential step by specifying the parameters of interest to be constrained across samples in a stepwise fashion. In the constrained model at each step, estimates from the F sample are fixed parameters in the M sample. To determine whether the coefficients connecting the latent constructs to the observed indicators were the same across F and M, Step 1 imposed equals all factor loadings. There was no χ^2 difference between the baseline model and Step 1, indicated that the factor loadings were invariant across F and M. Next, the structural paths were constrained across the samples to determine whether there were significant differences between F and M in terms of the causal relationships. Significant χ^2 difference was found in Step 2, which highlighted there was non-invariance of structural weight existed among F and M sample. In order to account for non-significance path coefficient, we gradually placed addition of equality constraints on structure weight (refer to the subsequent test in Table 3). Non-significant χ^2 difference was found in Step 6, thus we can concluded there was non-equivalent structural weight from brand awareness on brand image. This implied that female and male demonstrated systematic bias on causal relationship between brand awareness and brand image constructs due to differences in responses to the latent variables.

The analyses were further followed by the equality constraints on structural covariance (Step 7), latent residual variances (Step 8), and error measurement variances (Step 9). The result postulated there was non-significant χ^2 difference in Step 7 and Step 8, showed that structural covariance and residual of the latent factors were completely invariant across two gender groups. Step 9 reported significant χ^2 differences, yet, measurement error variances were infrequently constrained equal across groups as this parameterization is considered to be an exceptionally rigorous test of multi-group invariance (Byrne, 2010).

DISCUSSION, CONCLUSIONS AND IMPLICATIONS

The results have led to conclusion that the baseline model was typically invariant across female and male samples, except for the causal effect of brand awareness on brand image, and indicates gender serves as a moderating variable partially. As a result, brand managers have to employ a diverse set of brand awareness strategies across gender for the purpose of enhancing their restaurants brand image. They should assign greater efforts of brand exposure programs among female community, such as advertising, events sponsorship, creative packaging, road shows, samples, contests, sweepstakes, and publicity. This is because brand awareness will contribute greater impact to brand image among females. However, similar set of branding strategy for perceived quality, brand image and brand loyalty can be implemented as there are invariant across gender.

Remarkably, even though male sample had lower mean scores as compared to female sample, but there are significant t values of causal effects between perceived quality, brand image and brand loyalty in model. This can be further explained by assuming brand is a construal residing in the consumer's thoughts, and behind the framework is the information-processing theory of consumer choice (Heding *et al.*, 2009). In general, males reportedly rate higher in terms of independence, confidence, competitiveness and risk-taking behaviors, and are less susceptible to perceived product risk compared to their female counterpart (Darley and Smith, 1995). Past cognitive researches on information search behavior in visual-spatial and verbal abilities across genders have found that males do not consider existing information made available to them when forming a basis for judgment (Meyers-Levy, 1988). Instead, they relied heavily on their own opinions. Therefore, males focused on material and unbiased signs such as form and physical characteristics. Males are more likely to engage to the overall message themes or schemas whereas females focused on the thorough expansion of the message content (Meyer-Levy and Sternthal, 1991). Specifically, males are considered to be more discerning when it comes to information processing. Instead, males seem to rely on various heuristics in place of detailed message elaboration. These heuristics are readily available cues that are significant and provide a particular interpretation. This suggests that males base their evaluations only on a certain selected set of all information made available to them. As a result, males are shown to be more analytical and logical in their processing orientation (Hass, 1979). Thus possess quicker decision-making skills than females, and only rely on readily available information of the brand. In other words, males hold greater brand relationships due to less complicated information-processing as compared to females.

On the contrary, females considered information obtained from numerous sources of information before deriving on a decision. They process information more thoroughly; and resort to information from external sources, rather than relying on their own judgments. Rosenthal and DePaulo (1979) discovered that when samples were given adequate amount of time to process information, females exhibited higher stimulus elaboration than males. Females are said to be more thorough and detailed when it comes to information processing (Kim *et al.*, 2007). They integrate all available information before deriving a judgment. Consequently, females are easier to convince than males (Eagly and Carli, 1981; Everhart *et al.*, 2001). Therefore, the causal relationships among brand constructs were slightly lower as compared to the male model. Particularly, the higher mean scores among female could be reasonably referred to greater sense towards brands, but it does not indicate greater causal effects.

The results in the models indicated that there was no positive relationship between perceived quality and brand loyalty in the restaurant context. This supported Gil *et al.* (2007) in highlighting that having high quality only does not guarantee the creation of brand loyalty among female or male consumers. These results also correspond with earlier studies (Swait *et al.*, 1993; Tong and Hawley, 2009). The most common trap of all is the product-attribute fixation trap (Aaker, 1996), whereby brand management focuses only on product features. Undeniably, we cannot compromise the quality of the product, yet brand extends beyond a product (Aaker, 1996). Therefore, brand manager must be able to identify which attributes consumers were looking for in regard to brand quality (Tan *et al.*, 2011). Furthermore, the experience of the consumer through coordination and stimulation from the brand should be emphasized, which directly leads to the creation of brand image in terms of mentality (Bullmore, 1984).

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

The product simulated in this study was restaurant chains, a low involvement product. The result might be biased as compared to high involvement products. According to Lockshin and Spawton (2001), when making high involvement purchases, consumers tend to engage in external searches, are more aware of the source channel and are more sensitive to information on brands. As a consequence, high involvement products lead to higher brand equity than low involvement products (Radder and Huang 2008). Consumers might response dramatically different towards brand across gender due to different levels of perceived risk (Bloch and Richins, 1983). Besides, there were significant causal relationships between brand awareness and perceived quality on brand image, yet academicians and practitioners have to take caution on these findings. As referred to observed variables of brand image that analyzed in structural model, three out of four items were focus on the non-product-related of brand image attribute (Keller, 1993), for instance "X offer low prices", "X taste good compared with price" and "The price of X is reasonable". In terms of brand knowledge, Keller (1993, 1998) highlighted that brand image is the combination of the favorability, strength, and uniqueness of brand associations, which play important roles in producing different consumer responses to branded products. For this reason, a good brand image is created in the event that there are intense preference and differentiation associations with the brand. Such consideration should be included in future research design as brand image comprises of multidimensional structure (Park *et al.*, 1986), related to self-image or self-concept, lifestyle, and trustworthiness (Neal and Bathe, 1997).

REFERENCE

1. Aaker, D.A. (1991) Managing brand equity. Free Press, New York.
2. Aaker, D.A. (1996) Measuring brand equity across products and markets. Free Press, New York.
3. Anderson, J.C. and Gerbing, D.W. (1988) Structural equation modeling in practice: A review and recommend two-step approach. *Psychological Bulletin* 103: 411-423.
4. Andreas H.Z. (2001) Relative attitudes and commitment in customer loyalty models: some experiences in the commercial airline industry. *International Journal of Service Industry Management* 12(3): 269-294.
5. Andrew G.P. (2002) Brand choice in gift-giving: Recipient influence. *Journal of Product and Brand Management* 11(4): 237-249.
6. Angel, F.V.-R. and Manuel, J.S.-F. (2005) The impact of marketing communication and price promotion on brand equity. *The Journal of Brand Management* 12(6): 431-444.
7. Aronson, E., Ellsworth, P.C., Carismith, J.M. and Gonzales, M.H. (1990), *Methods of research in social psychology*, 2nd edition. McGraw-Hill, New York.
8. Aziz, N.A. and Yasin, N.M. (2010) Analyzing the brand equity and resonance of banking services: Malaysian consumer perspective. *International Journal of Marketing Studies* 2(2): 180-189.
9. Bamert, T. and Wehrli, H.P. (2005) Service quality as an important dimension of brand equity in Swiss services industries. *Managing Service Quality* 15(2): 132-141.
10. Bendall-Lyon, D. and L. Powers, T.L. (2002) The impact of gender differences on change in satisfaction over time. *Journal of Consumer Marketing* 19 (1): 12-21.
11. Bloch, P.H. and Richins, M.L. (1983) A Theoretical Model for the Study or Product Importance Perceptions. *Journal of Marketing* 47(3): 69.
12. Bullmore, J. (1984) The brand and its image revisited. *International Journal of Advertising* 1(3): 235-238.

13. Byrne, B.M. (2010), *Structural equation modeling with AMOS: Basic concepts, applications, and programming*, Second Edition, Lawrence Erlbaum Associates, Inc Mahwah, New Jersey.
14. Chiou, J.S., Droge, C. and Hanvanich, S. (2002) Does customer knowledge affect how loyalty is formed? *Journal of Services Research* 5(2): 113-25.
15. Choi, B., Lee, C., Lee, H., and Subramani, M. (2004) Effects of web retail service quality and product categories on consumer behavior: A research model and empirical exploration. in *proceedings of the 37th Hawaii International Conference on System Sciences (HICSS '04)*, January 2004.
16. Cobb-Walgren, C.J., Beal, C., and Donthu, N. (1995) Brand equity, brand preferences, and purchase intent. *Journal of Advertising* 24(3): 25-40.
17. Cronin, J.J. and Taylor, S.A. (1992) Measuring service quality: A reexamination and extension. *Journal of Marketing* 56(3): 55-68.
18. Cuneen, J. and Claussen, C. (1999) Gender portrayals in sports-product point-of-purchase advertising. *Women in Sport and Physical Activity Journal* 8(2).
19. Darley, W.K. and Smith, R.E. (1995) Gender differences in information processing strategies: An empirical test of the selectivity model in advertising response. *Journal of Advertising* 24(1): 41-56.
20. Desmond, C.S.L. and Alvin, Y.C.L. (2005) The influence of cultural values on brand loyalty. in *Consumer Behaviour in 2005 proceedings of the ANZMAC*.
21. Dobni, D. and Zinkhan, G.M. (1990) In search of brand image: A foundation analysis. *Advances in Consumer Research* 17(1): 110-119.
22. Dodds, W.B., Monroe, K.B., and Grewal, D. (1991) Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research* 28(3): 307-319.
23. Eagly, A.H., and Carli, L. (1981) Sex of researchers and sex-typed communications as determinants of sex differences on influenceability: A meta-analysis of social influence studies. *Psychological Bulletin* 90(1): 1-20.
24. Everhart, D.E., Shucard, J.L., Quatrin, T., and Shucard, D.W. (2001) Sex-related differences in event-related potentials, face recognition, and facial affect processing in prepubertal children. *Neuropsychology* 15(3): 329-341.
25. Fisher, R. and Dubé, L. (2005) Gender Differences in Responses to Emotional Advertising: A Social Desirability Perspective. *Journal of Consumer Research* 31 (March): 850-58.
26. Fornell, C. and Larcker, D. (1981) Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 18(1): 39-50.
27. Gardner, B.B. and Levy, S.J. (1955) The product and the brand. *Harvard Business Review* 33 (March/April): 33-39.
28. Gil, R.B., Andrés, E.F. and Salinas, E.M. (2007) Family as a source of consumer-based brand equity. *Journal of Product and Brand Management* 16(3): 188-199.
29. Gocek, I., Kursun, S. and Beceren, I. (2007) The perception of customer satisfaction in the textile industry according to gender in Turkey. in *proceeding of World Academy of Science, Engineering and Technology* 24: 79-82.
30. Grewal, D., Krishnan, R., Baker, J., and Borin, N. (1998) The effect of store name, brand name, and price discounts on consumer's evaluations and purchase intentions. *Journal of Retailing* 74(3): 331-352.
31. Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010), *Multivariate data analysis: A global perspective*, Seventh Edition, Prentice Hall, Upper Saddle River, NJ.

32. Handlin, A. (2007) Gender opportunities to enhance direct-to-consumer advertising of gender-neutral pharmaceutical brands: Factors arising from information processing, message content and demographic change. *The Business Review Cambridge* 7(1): 33-37.
33. Hass, A. (1979) Male and female spoken language differences; Stereotypes and evidence. *Psychological Bulletin* 86: 616–626.
34. Heding, T., Knudtzen, C.F. and Bjerre, M. (2009), *Brand management: Research, theory and practice*, Routledge, New York.
35. Henry, T., Catherine, C. and Ada, L. (2010) An exploratory study of the relationship between customer-based casino brand equity and firm performance. *International Journal of Hospitality Management* 29: 754-757.
36. Holbrook, M.B. (1986) Aims, concepts, and methods for the presentation of individual differences to design features. *Journal of Consumer Research* 13: 337-347.
37. Homburg, C. and Giering, A. (2001) Personal characteristics as moderators of the relationship between customer satisfaction and loyalty. *Psychology and Marketing* 18(1): 43-66.
38. Hoyer, W.D. and Brown, S.P. (1990) Effects of brand awareness on choice for a common, repeat-purchase product. *Journal of Consumer Research* 17(2): 141-8.
39. Hyllegard, K., Eckman, M., Descals, A.M. and Borja, M.A.G. (2005) Spanish consumers' perception of US apparel specialty retailers' product and services. *Journal of Consumer Behaviour* 4(5): 345-362.
40. Indexamundi (2011) Malaysia sex ratio. available at: http://www.indexamundi.com/malaysia/sex_ratio.html (accessed 23 March 2011)
41. Kandampully, J. and Hu, H. (2007) Do hoteliers need to manage image to retain loyal customer? *International Journal of Contemporary Hospitality Management* 19(6): 435-443.
42. Keller, K.L. (1993) Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing* 57(1): 1-22.
43. Keller, K.L. (1998), *Strategic brand management: Building, measuring, and managing brand equity*, Prentice Hall, NJ.
44. Keller, K.L. (2003) Brand synthesis: The multidimensionality of brand knowledge. *Journal of Consumer Research* 29(4): 595-600.
45. Kim, D.-Y., Lehto, X.Y., Morrison, A.M. (2007) Gender differences in online travel information search: Implications for marketing communications on the internet. *Tourism Management* 28: 423-433.
46. Kim, H. and Kim, W.G. (2005) The relationship between brand equity and firms' performance in luxury hotels and chain restaurants. *Tourism Management* 26: 549-560.
47. Lockshin, L. and Spawton, T. (2001) Using involvement and brand equity to develop a wine tourism strategy. *International Journal of Wine Marketing* 13(1): 72-82.
48. Malai, V. and Speece, M. (2010) Perceived customer value relationships and cultural impacts on its. available at: <http://smib.vuw.ac.nz:8081/WWW/ANZMAC2004/CDsite/papers/Malai1.PDF> (accessed 18 January 2011)
49. Melnyk, V., Van Osselaer, S.M.J. and Bijmolt, T.H.A. (2009) Are women more loyal customers than men? Gender differences in loyalty to firms and individual service providers. *Journal of Marketing* 73(4): 82-96.
50. Meyers-Levy, J. (1988) The influence of sex roles on judgment. *Journal of Consumer Research* 14 (March): 522–30.
51. Meyers-Levy, J. (1989) Gender differences in information processing: A selectivity interpretation. in Patricia C. and Alice M. T. (Ed.), *Cognitive and affective responses to advertising*, Lexington Press, Lexington, MA: 219-260.

52. Meyers-Levy, J. and Maheswaran D. (1991) Exploring differences in males' and females' processing strategies. *Journal of Consumer Research* 18(1): 63-70.
53. Mittal, V. and Kamakura, W. (2001) Satisfaction, repurchase intent, and repurchase behavior: Investigating the moderating effects of customer characteristics. *Journal of Marketing Research* 38(1): 131-142.
54. Moutinho, L. and Goode, M. (1995), Gender effects to the formation of overall product satisfaction: A multivariate approach. *Journal of International Consumer Marketing* 8(1): 71-91.
55. Neal, W.D. and Bathe, S. (1997) Using the value equation to evaluate campaign effectiveness. *Journal of Advertising Research* 37(3): 80-85.
56. Nunnally, J.C. (1978), *Psychometric Theory*, McGraw-Hill, New York.
57. O' Cass, A., and Clarke, P. (2001) Dear Santa, do you have my brand? A study of the brand request styles at Christmas time. *Journal of Consumer Behaviour* 2(1): 37-53.
58. Olorunniwo, F., Hsu, M.K. and Udo, G.J. (2006) Service quality, customer satisfaction, and behavioral intentions in the service factory. *Journal of Services Marketing* 20(1): 59-72.
59. Oyewole, P. (2007) Fast food marketing and the African American consumers: The impact of socio-economic and demographic characteristic. *Journal of International Consumer Marketing* 19(4): 75-108.
60. Park, C.W., Jaworski, B.J. and MacInnis, D.J. (1986) Strategic brand concept-image management. *Journal of Marketing* 50: 135-145.
61. Pike, S., Bianchi, C., Kerr, G. and Patti, C. (2010) Consumer-based brand equity for Australia as a long-haul tourism destination in an emerging market. *International Marketing Review* 27(4): 434-449.
62. Putrevu, S. (2001) Exploring the origins and information processing differences between men and women: Implications for advertisers. *Academy of Marketing Science Review*, Vol 10, available at: <http://www.amsreview.org/articles/putrevu10-2001.pdf> (accessed 20 October 2011)
63. Qin, H., Victor R. Prybutok and Zhao, Q. (2010) Perceived service quality in fast-food restaurants: empirical evidence from China. *International Journal of Quality and Reliability Management* 27(4): 424-437.
64. Radder, L. and Huang W. (2008) High-involvement and low-involvement products: A comparison of brand awareness among students at a South African university. *Journal of Fashion Marketing and Management* 12(2): 232-243.
65. Roberts, J., Morrison, P., Chandrashekar, M. and Gordon, A. (2004) Measuring sources and outcomes of brand equity. in proceedings of the Communication in Australian and New Zealand Marketing Conference.
66. Rosa, R.E. and Riquelme, H.E. (2008) Brand equity for online companies. *Marketing Intelligence and Planning* 26(7): 719-742.
67. Rosenthal, R., and DePaulo, B.M. (1979), *Skill in nonverbal communication*, Oelgeschlager, Gunn and Hain, Cambridge, MA.
68. Seock, Y.-K. and Bailey L.R. (2008) The influence of college students' shopping orientation and gender differences on online information searches and purchase behaviours. *International Journal of Consumer Studies* 32(2): 113-121.
69. Swait, J., Erdem, T., Louviere, J. and Dubelaar, C. (1993) The equalization price: A measure of consumer-perceived brand equity. *International Journal of Research in Marketing* 10(1): 23-45.
70. Tan, T. M., Hishamuddin I. and Devinaga, R. (2011) Hierarchical chain of consumer-based brand equity: Review from the fast food industry. *International Business and Economics Research Journal* 10(9): 67-80.

71. Tong, X. and 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.
72. U.S. State Department (2010) Background note: Malaysia. available at: <http://www.state.gov/r/pa/ei/bgn/2777.htm> (accessed 23 March 2011)
73. Xu, J.B. and Andrew, C. (2009) A conceptual framework of hotel experience and customer-based brand equity. Some research questions and implications. *International Journal of Contemporary Hospitality Management* 22(2): 174-193.
74. Yasin, N.M., Noor, M.N. and Mohamad, O. (2007) Does image of country-of-origin matter to brand equity?. *Journal of Product and Brand Management* 6(1): 38-48.
75. Yoo, B., Donthu, N. and Lee, S. (2000) An examination of selected marketing mix elements and brand equity. *Academy of Marketing Science* 28(2): 195-212.