Does image of country-of-origin matter to brand equity?

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Abstract
Purpose – The purpose of this study is to explore the effects of brand's country-of-origin image on the formation of brand equity.
Design/methodology/approach – To accomplish this, the brand equity of household electrical appliances, particularly televisions, refrigerators and air-conditioners, in the Malaysian market is examined. A conceptual framework in which brand's country-of-origin image is postulated to influence the dimensions of brand equity, which is made up of brand loyalty, brand awareness, perceived quality, and brand associations. These dimensions, in turn, influence brand equity. Data were collected from consumers of household electrical appliances using probability sampling.
Findings – Factor analysis conducted on brand equity dimensions, produced three factors namely, brand distinctiveness, brand loyalty, and brand awareness/associations. The regression analysis results show that brand's country-of-origin image positively and significantly influences dimensions of brand equity. The results also show that brand's country-of-origin image influences brand equity, either directly or indirectly, through the mediating effects of brand distinctiveness, brand loyalty and brand awareness/associations.
Research limitations/implications – The study investigates brand equity of durable goods of three product categories namely television, refrigerator and air-conditioner. It only considers brand's country-of-origin image as one of the sources of brand equity. The conceptual framework does not take into consideration factors that moderate the influence of antecedent of brand equity on brand equity.
Practical implications – Producers of household electrical appliances should put greater emphasis in creating brand loyalty for their products. The good image of brand's original country should be highlighted in order to enhance the overall image of the brand. Favorable country image can also be capitalized in brand-naming strategy.
Originality/value – This is paper important in identifying the sources of brand equity.

Keywords Brand equity, Country of origin, Brand image, Brand loyalty, Brand awareness, Malaysia

Paper type Research paper

An executive summary for managers and executive readers can be found at the end of the article.

Introduction

Building strong brands has become a marketing priority for many organizations today because it yields a number of advantages. Strong brands help the firm establish an identity in the market place (Aaker, 1996), less vulnerability to competitive actions, larger margins, greater intermediary co-operation and support and brand extension opportunities (Delgado-Ballester and Munuera-Aleman, 2005). In measuring the overall value of a brand, marketing researchers and practitioners have begun to examine the concept of "brand equity" (Aaker, 1991; Baldinger, 1990; Keller, 1993) which has been referred to the tremendous value that the brand name brings to the producers, retailers and consumers of the brand.

The equity of a brand is the result of consumers' perception of it which is influenced by many factors. Brand equity cannot be fully understood without carefully examining its sources, that is, the contributing factors to the formation of brand equity in the consumers' mind. Most of the brand equity research focuses on the marketing mix variables such as advertising, distribution, price and product quality as the contributing factors (Cobb-Walgren *et al.*, 1995; Yoo *et al.*, 2000). However, not much attention is given to the non-marketing mix factors. In the process of buying, consumers are not only concern about the quality and price of a product but also other factors such as the brand's country-of-origin. Many consumers use country-of-origin stereotypes to evaluate products for example, "Japanese electronics are reliable", "German cars are excellent", "Italian pizza are superb". Many consumers believe that a "Made in . . ." label means a product is "superior" or "inferior" depending on their perception of the country. Brands from countries that have a favorable image generally find that their brands are readily accepted than those from countries with less favorable image. Since country of origin could be one of the influencing factors in determining consumers' choice, the purpose of this study is to explore the effects of brand's country-of-origin

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image on the formation of brand equity. To accomplish this goal, the brand equity of household electrical appliances particularly television, refrigerator and air-conditioner, in the Malaysian market is examined.

To address this objective, this paper is organized as follows. We begin by presenting the theoretical framework that depicts the linkages between the variables of interest. Consequently, we present a definition of the constructs under study, and discuss the manner in which brand's country-of-origin image contributes to the development of brand equity. Subsequently, the data collection procedures and variable measures are discussed. The study hypotheses are then presented based on the results of the exploratory factor analysis. Finally, we discuss the results of regression analysis and its implications for managerial practice and some suggestions for future research are given.

Theoretical framework

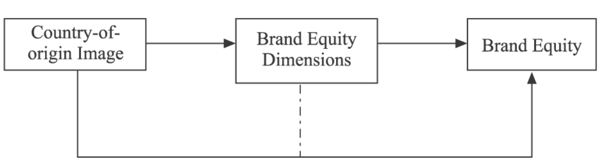
The conceptual framework of brand equity that guides this study appears in Figure 1. This framework is built upon the conceptual framework for brand equity presented by Yoo *et al.* (2000) by incorporating country-of-origin image as the antecedent of brand equity. In this model, the country-of-origin image is treated as the independent variable, the dimensions of brand equity as the mediating variables and brand equity as the dependent variable. The brand equity construct shows how individual dimensions of brand equity are related to the brand equity. The antecedent of brand equity is related to brand equity through the mediation of the dimensions of brand equity. Therefore, to create, to manage, and to exploit brand equity, the relationship between the dimensions of brand equity and brand equity, and the relationships between the antecedents and brand equity dimensions must be determined.

Brand equity

Brand equity refers to the tremendous value inherent in a well-known brand name. It appears when consumers willingly pay more for the same level of quality due to the attractiveness of the name attached to the product (Bello and Holbrook, 1995). In the marketing literature, brand equity is referred to the intangible brand properties. Brand equity arose from customer brand-name awareness, brand loyalty, perceived brand quality and favorable brand symbolisms and associations that provide a platform for a competitive advantage and future earning streams (Aaker, 1991). The equity that the strong brand possesses can give the company a loyal consumer franchise that could bring substantial returns to the firm. Similarly, the 1989 Marketing Science Institute defines brand equity as:

> … the value that is added by the name and rewarded in the market with better profit margins or market shares. It can be viewed by customers and channel members as both a financial asset and as a set of favorable associations and behaviors.

Figure 1 A conceptual framework of brand equity



From these definitions, brand equity can be said as the value incrementality due to brand name. Although the classic definition of brand equity refers to the added value of the brand endowed by its name, recent writings about brand equity have expanded its definition to include a broad set of attributes that drive customer choice (e.g. Yoo *et al.*, 2000; Rust *et al.*, 2001).

Regardless of its definitions, brand equity actually represents a product's position in the minds of consumers in the marketplace. It is precisely the well-established representation and meaningfulness of the brand in the minds of consumers that provides equity for the brand name. Therefore, what the consumers think of a particular brand determines the value it has to its owner. As suggested by Kim (1990), a brand is the totality of thoughts, feelings, sensations, and associations it evokes. Therefore, a brand is said to have equity if it has the ability to influence the behavior of those who behold the brand, routinizing their preference, attitude and purchase behavior. Thus, for the purpose of this study brand equity is defined as the "consumers' favoritism towards the focal brand in terms of their preference, purchase intention and choice among brands in a product category, that offers the same level of product benefits as perceived by the consumers." The consumers' preference, intention to purchase, and brand choice to a brand indicate the consumers' favorable responses to the marketing mix elements of the brand in comparison with other brands. Since customer-based brand equity occurs when the consumer is familiar with the brand and holds some favorable, strong, unique brand associations in memory (Keller, 1993), preference, purchase intention and choice behavior of a brand indicates the existence of brand equity.

Brand equity dimensions and brand equity

The marketing literature contains empirical research on the linkages between each of the dimensions of brand equity (brand awareness, brand loyalty, perceived quality, brand associations) and brand equity. The value of a brand or brand equity is largely created by brand loyalty. Aaker (1996) has contemplated that to a greater extent, the equity of a brand depends on the number of people who purchase it regularly. The regular buyers have considerable value because they represent a revenue stream for the firm. Thus, the concept of brand loyalty is a vital component of brand equity. It has been found to have a positive and direct role in affecting brand equity (Atilgan *et al.*, 2005). If customers are loyal to a brand even in the face of competitor's brands with superior features, it means that the brand has a substantial value to the customers.

The equity of a brand is partly measured in terms of the awareness it evokes. The role of brand awareness in brand equity depends on the level of awareness that is achieved. The higher the level of awareness the more dominant is the brand, which will increase the probability of the brand being considered in many purchase situations. Therefore, raising the level of awareness increases the likelihood that the brand will be in the consideration set (Nedungadi, 1990) which will influence consumers' decision making. Past researches have shown that brand awareness is a dominant choice tactic among consumers (e.g. Cobb-Walgren *et al.*, 1995; D'Souza and Rao, 1995; Reynolds and Olson, 1995). If the awareness of brands is high among consumers, it means the brand is familiar and reputable. Studies show that consumers who recognize a brand name are more likely to buy that brand because familiar products are normally preferred to those that are less familiar (Hoyer, 1990; Macdonald and Sharp, 2000). Purchase decisions that are in favor of the brand helps in building brand equity.

Consumers' perceived quality of a brand is due to their perception process involved in the decision-making process. High perceived quality occurs when consumers recognize the differentiation and superiority of the brand relative to competitors' brands. This will influence their purchase decisions and would drive them to choose the brand rather than competitors' brands. This implies that high perceived quality would influence consumer's choice, which will consequently lead to an increase in brand equity. To the marketer, high perceived quality could support a premium price, which in turn can create a greater profit margin for the firm that can be reinvested in brand equity (Yoo *et al.*, 2000). Aaker (1991) also suggest that perceived quality is an association that is usually central to brand equity.

Brand equity is largely supported by the associations that consumers make with a brand, which contributes, to a specific brand image. Brand associations are complicated and connected to one another, and consist of multiple ideas, episodes, instances, and facts that establish a solid network of brand knowledge (Yoo *et al.*, 2000). It is formed as a result of the consumer's brand belief, which can be created by the marketer, formed by the consumer himself through direct experience with the product, and/or formed by the consumer through inferences based on existing associations (Aaker, 1991). Consumers' favorable brand beliefs will influence their purchase intentions and choice of the brand. These behavioral responses have implications on brand equity. In the context of products such as electrical appliances, brand associations would represent the functional and experiential attributes offered by the specific brand. The intangible qualities that consumers associate the brand with, such as innovativeness, distinctiveness, dynamism and prestige are also considered as brand associations. The combination of tangible and intangible attributes creates a brand identity, that is "a unique set of brand associations that the brand strategist aspires to create or maintain," which drives brand associations (Aaker, 1996). Therefore, the identity of the specific brand may impact brand associations and ultimately brand equity.

Brand's country-of-origin image and brand equity

Information-processing theory posits that consumers use product cues to form beliefs and evaluations about a product, which in turn influence their purchase behaviors. Generally, the country-of-origin is considered as an extrinsic product cue (Bilkey and Nes, 1982; Cordell, 1992; Erickson *et al.*, 1984; Han and Terpstra, 1988; Hong and Wyer, 1989, 1990; Thorelli *et al.*, 1989). Consumers are known to develop stereotypical beliefs about products from particular countries and the attributes of those products. Therefore the country-of-origin image has the power to arouse importers' and consumers' belief about product attributes, and to influence evaluations of products and brands (Srikatanyoo and Gnoth, 2002). The country of origin denotes the home country for a company or the country that consumers infer from brand name (Han and Terpstra, 1988). One of the first conceptualizations of the country-of-origin phenomenon was that of Nagashima (1970). He defined the image that consumers associate with a given country-of-origin as:

> ... the picture, the reputation, the stereotype that businessmen and consumers attach to products of a specific country. This image is created by variables such as representative products, national characteristics, economic and political background, history, and traditions (Nagashima, 1970).

Some other researchers view country image as consumers' general perceptions about the quality of products made in a particular country (Han and Terpstra, 1988; Parameswaran and Yaprak, 1987) while some others view it as the "defined beliefs about a country's industrialization and national quality standard" (Srikatanyoo and Gnoth, 2002).

In the existing literature, there is a proliferation of studies to document country-of-origin perspectives. From these studies, marketers and consumer behavior researchers generally accept that a product's or brand's country-of-origin is an important influencing factor in consumer decision-making (Khachaturian and Morganosky, 1990; Knight, 1999; Piron, 2000). Most of the previous studies suggest that country-of-origin information which is indicated by the "Made in ..." label serves several purposes in consumer decision-making. It act as a salient attribute in consumer product evaluation (Johansson, 1989), stimulates consumer's interest in the product (Hong and Wyer, 1989), affect behavioral intentions through social norms (Fishbein and Ajzen, 1975) and influences buyer behavior through affective processes as in the case of consumer's patriotic feelings about their own country (Han and Terpstra, 1988). The overall evaluation of products is influenced by country stereotyping, that is, the image that consumers have about a certain country will influence their perceptions of products from that country (Bilkey and Nes, 1982). Since consumers' perception of a particular country-of-origin influence their evaluation of products from that country, this will influence their preference, purchase intention and choice of a particular brand. Obviously, this has implications on the brand's equity.

Method

Data collection

The data for this study were gathered through mail questionnaires that were distributed to a cross section of organizations located in the Klang Valley, in the state of Selangor, Malaysia, which include public and private sectors. The questionnaires were to be responded by the employees of the organizations irrespective of their positions. The respondents were real consumers who reported their consumption experience with one of the three different product categories: television, refrigerator and air-conditioner. The reason for choosing the household appliances is that major electrical appliances are generally expensive items that have a certain amount of risk associated with them. Therefore, it is reasonable to expect that consumers must have acquired some brand knowledge and develop choice criteria before making a purchase decision. Besides, consumers are familiar with these product categories and the brands that they are using are relevant to the research subjects resulting in high knowledge and experience. Relevance with the product categories and brands of their choice enables the respondents to provide more reliable and valid responses to the questionnaire. Respondents were assigned to one product and were asked which brands they used. Thus they answer questions pertaining to the brand that they mentioned. To obtain reliable answers, the sample unit was composed of those individuals that were active decision makers of the brand that they used.

The sample size for this study was determined using the table for determining the sample size from a given population with the desired accuracy as suggested by Reeves (1992). The samples in this study are restricted to adults of age 18 and above and employed. Two-stage probability cluster sampling was employed, where groups of heterogeneous members of the population were identified. To choose the sample for this study, probability random sampling was used. Since the respondents were captured at their workplaces, the organizations were randomly chosen from the telephone directory of business clients for the state of Selangor and Federal Territory issued by Telekom Malaysia. The study sample was then drawn from the selected organizations based on the listing of employees of the organization concerned. The data collection instrument is a structured questionnaire which contains three parts: Part I consists of statement items to measure variable country-of-origin image. Part II consists of items measuring dimensions of brand equity: brand loyalty, brand awareness, perceived quality and brand associations and dependent variable brand equity, and Part III includes some questions on demographic and socio-economic characteristics of the subjects. There are three versions of questionnaires which differ in only the product category being tested – television, refrigerator and air-conditioner. A respondent completes one questionnaire only.

Profile of respondents

The profile of respondents is shown in Table I. As mentioned earlier, the total respondents for this study are 501. The study sample comprises respondents who vary on such characteristics as gender, age, marital status, education level, job position, household income ethnicity and living area. Such a difference is a natural reflection of the true consumer population of Malaysia as shown in the "Population and Housing Census of Malaysia, 2000" issued by the Department of Statistics. Moreover, the samples were selected through cluster sampling method, a kind of probability sampling, where the whole elements in representative organizations were randomly selected.

The respondents comprise of working male and female adults. In terms of gender, the sample indicates a somewhat balance between the males and females. Majority of them (53.85) are above the age of 32 and married (72.9 percent) With respect to ethnic groups, majority are Malays, followed by Chinese and Indians. A total of 3.8 percent belong to other races which include Eurasian, Singhalese, the "bumiputras" of Malaysia such as Kadazan, Bajau, Bidayuh and Melanau. The breakdown of the study sample in terms of ethnic groups could be considered representative of the population of Malaysia since most of the ethnic groups are represented in the sample.

Table I Description of respondents

Item	Description	Frequency	Percentage
Gender	Male	222	44.3
	Female	279	55.7
Ethnicity	Malay	344	68.7
	Chinese	77	15.4
	Indian	61	12.2
	Others	19	3.8
Education	SPM/MCE	158	31.5
	STP/HSC	44	8.8
	Diploma	116	23.2
	Bachelor's degree	143	28.5
	Masters/PhD	33	6.6
	Others	7	1.4
Job position	Professional	19	3.8
	Top management	12	2.4
	Middle management	240	47.9
	Lower management	68	13.6
	Administrative and technical support	152	30.3
	Others	10	2.0
Household income (RM)	1,000 and below	26	5.2
	1,001 to 3,000	178	35.5
	3,001 to 5,000	154	30.7
	5,001 to 7,000	79	15.8
	7,001 to 9,000	31	6.2
	9,001 to 11,000	18	3.6
	11,001 and above	15	3.0
Marital status	Never married	136	27.1
	Married	365	72.9
Age	18 to 22 years	27	5.4
	23 to 27 years	101	20.2
	28 to 32 years	104	20.8
	33 to 37 years	89	17.8
	38 to 42 years	86	17.2
	43 and above	94	18.8

Measures

Country-of-origin image

This study utilizes multiple measures for each construct in the conceptual model in Figure 1. The country-of-origin scale measures the consumer's perception of the image of the country where the brand originates. To measure this construct the consumers are assumed that they have an idea of the originating country of the brand that they are now using. This variable is measured using seven items developed for this study.

Brand equity dimensions

Brand equity dimensions consist of four dimensions as suggested by Aaker (1991) that is, brand loyalty, brand awareness, perceived quality, and brand associations. To measure brand loyalty, two items were adopted from Yoo *et al.* (2000), two items from Chaudhuri (1995) and three items were developed for this study based on the conceptualization of brand loyalty as proposed by Aaker (1991). The brand awareness can be measured in two ways; brand recognition and brand recall. However, in this study, the scale was designed to measure simple brand awareness, in particular, brand recognition, rather than brand recall. Four items were adopted from Yoo *et al.* (2000), which were based on previous research by Alba and Hutchinson (1987) and Nedungadi (1990). Three more items to measure brand awareness were developed for this study. The perceived quality of brand scale measures consumers' subjective judgment about a brand's functionality and reliability. Three items were borrowed from Yoo *et al.* (2000), which were based on the works of Dodds *et al.* (1991) and one item was developed for this study. Favorable associations are measured in terms of "consumers' belief that the brand has attributes and benefits that satisfy their needs and wants such that overall brand attitude is formed" (Keller, 1993). Seven items were developed to measure favorable associations. Two items to measure strength of association were adopted from Yoo *et al.* (2000).

Brand equity

Yoo *et al.* (2000) have developed the Overall Brand Equity Scale and four items from this scale were adopted to measure the consumer-based brand equity. Three more items were developed for this study. This consumer-based method for measuring brand equity facilitates the definition of brand equity from the consumer perspective by comparing the brand that the consumer is now using with the other brands in the same product category.

Results

Exploratory factor analysis

Exploratory factor analysis was conducted separately on each of the three constructs, country-of-origin image (seven items), dimensions of brand equity (26 items) and the brand equity (seven items). The items for each variable were grouped separately and principal component factor analysis was carried out on each of this grouping. The KMO index for all the variables are found to be greater than 0.80, which indicates the presence of sufficient intercorrelations in the data matrix and appropriateness of factor analysis. The communalities or the estimates of the shared variance among seven items for country-of-origin reputation, 18 items for brand equity dimensions, and seven items for brand equity are shown to be greater than 0.5 (see Table II).

The factor analyses for the variables country-of-origin image produced only one factor with an Eigen value of 4.9 and contributed 70.02 percent to item variance. No items were deleted during the process. The factor analysis for the variable dimensions of brand equity produced four factors with Eigen values greater than 1 contributing 70.01 percent to item variance. Eight items were deleted during the process due to the existence of cross-loadings with values greater than 0.35. This is consistent with the works of past researchers such as Igbaria *et al.* (1995). The factors are labeled as brand distinctiveness, brand loyalty, brand awareness/associations, and brand attitude/perception respectively. Since the reliability coefficient for brand attitude/perception is below the acceptable level as suggested by Nunnally (1978), the variable is dropped from further analysis. The factor analysis for the brand equity construct produced only one factor with an Eigen value more than 1. This factor contributed 77.44 percent to total variance explained. Based on the results of the factor analyses the hypotheses were stated as follows:

H1. (a) Brand distinctiveness (b) Brand loyalty (c) Brand awareness/associations will have a positive relationship with brand equity.

H2. Brand's country-of-origin image will have a positive relationship with (a) brand distinctiveness (b) brand loyalty, and (c) brand awareness/associations.

H3. Brand country-of-origin image will have a positive relationship with brand equity through the mediating effects of (a) brand distinctiveness (b) brand loyalty, and (c) brand awareness/associations.

Hypothesis testing

The regression analysis was employed to test the relationships posited in the model. Based on the conceptual model, the brand equity dimensions, which are treated as intervening variables in the model, are posited to influence brand equity. The dependent variable brand equity was regressed on all these variables – brand distinctiveness, brand loyalty and brand awareness/associations. The results are shown in Table III.

The model is significant at $p(0.01$ indicating 99 percent confidence in explaining the dependent variable. All the three variables – brand distinctiveness, brand loyalty and brand awareness/associations are found to have a significant and positive influence on brand equity at a significant level of 0.000. The R square of 0.713 indicates that 71.3 percent of the variance in brand equity was explained by the variations in brand distinctiveness, brand loyalty and brand awareness/associations. The standardized beta weights are in the hypothesized direction. These findings substantively support *H1(a)*, *H1(b)* and *H1(c)*. Looking at the beta coefficients of the dimensions of brand equity on brand equity, brand loyalty has the highest contribution towards brand equity, followed by brand distinctiveness and brand awareness/associations.

In testing the relationship between country-of-origin image and each of the dimensions of brand equity, results of the regression is shown on Table IV.

The significant F value for the three regressions is < 0.01, which indicates that the three regression models have 99 percent confidence in the ability to explain the dependent variables. From Table IV it is evident country-of-origin image, has a positive and significant influence on brand distinctiveness, brand loyalty and brand awareness at a significant level of $p < 0.01$. Therefore, *H2(a)*, *H2(b)*, and *H2(c)* are supported. Based on the R^2 values, country-of-origin image contributed 54.2 percent of the total variance in brand distinctiveness, 19.6 percent in brand loyalty, and 29.9 percent in brand awareness/associations.

In testing the mediating effects of the dimensions of brand equity in the country-of-origin image image – brand equity linkage, Baron and Kenny (1986) is consulted. They suggest that three requirements must be fulfilled:

1. significant relationship between the independent and mediating variable;
2. significant relationship between the independent and dependent variable; and
3. significant relationship between the independent and dependent variable in the presence of the mediator.

To demonstrate mediation, Baron and Kenny (1986) further suggest that the effect of the independent variable on the dependent variable is reduced or even disappears in the case of full mediation.

The first requirement is fulfilled by the results shown in Table IV. To fulfill the second requirement of the test of mediation, the relationship between country-of-origin image and brand equity is analyzed and the regression result proves to be significant and positive as shown in Table V.

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Table II Exploratory factor analysis and scale reliability

Items	Loading	TVE	MSA	Signif.	Reliability
Country-of-origin image					
The country from which brand *X* originates is a country that is innovative in manufacturing	0.89				
The country from which brand *X* originates is a country that has high level of technological advance	0.88				
The country from which brand *X* originates is a country that is good in designing	0.87				
The country from which brand *X* originates is a country that is creative in its workmanship	0.87				
The country from which brand *X* originates is a country that has high quality in its workmanship	0.86				
The country from which brand *X* originates is a country that is prestigious	0.79				
X originates from a country that has an image of advanced country	0.68	70.02	0.90	0.00	0.93
Brand distinctiveness					
I associate *X* with dynamism	0.83				
I associate *X* with high technology	0.83				
I associate *X* with innovativeness	0.82				
I associate *X* with sophistication	0.81				
I associate *X* with distinctiveness	0.81				
I associate *X* with excellence	0.76				
I associate *X* with prestige	0.75				0.95
Brand loyalty					
If I am going to buy other electrical goods other than air-conditioner/refrigerator/television (either one), I will choose brand *X*	0.78				
Compared to other brands that have similar features, I am willing to pay a premium (higher) price for *X*	0.77				
I will not buy other brands if *X* is available at the store	0.76				
I will think twice to buy another brand if it is almost the same with *X*	0.69				
I make my purchase selection of air-conditioner (or refrigerator or television) according to my favorite brand name, regardless of price	0.69				0.86
Brand awareness/associations					
I know how the symbol of brand *X* looks like	0.78				
I have no difficulties in imagining *X* in my mind	0.76				
I can quickly recall the symbol or logo of *X*	0.75				
I have an opinion about this brand	0.58	70.01	0.94	0.00	0.82
Brand equity					
Even if another brand has same features as *X*, I would prefer to buy *X*	0.92				
If I have to choose among brands of air-conditioner/refrigerator/television, *X* is definitely my choice	0.90				
If I have to buy an/a air-conditioner/refrigerator/television I plan to buy *X* even though there other brands as good as *X*	0.89				
Even if another brand has the same price as *X*, I would still buy *X*	0.89				
If there is another brand as good as *X*, I prefer to buy *X*	0.88				
If another brand is not different from *X* in any way, it seems smarter to purchase *X*	0.87				
It makes sense to buy *X* instead of any other brands, even if they are the same	0.80	77.44	0.93	0.00	0.95

Notes: TVE = Total variance explained; MSA = Measure of sampling adequacy

Table III The effect of dimensions of brand equity on brand equity

Independent variables	Standardized beta	T	Sig. (p-value)
Brand distinctiveness	0.234	6.728	0.000
Brand loyalty	0.525	16.638	0.000
Brand awareness/associations	0.212	6.260	0.000

Notes: $R^2 = 0.713$, Sig. $F = 0.000$

Mediating effects of brand distinctiveness, brand loyalty and brand awareness/association

Three regression analyses were conducted separately to test the mediating effects of brand distinctiveness, brand loyalty and brand awareness/associations on the country-of-origin image – brand equity linkage. The results are shown in Table VI. Model 1 shows the relationship between country-of-origin image and brand equity. Model 2 is the mediated regression that shows the relationship between country-of-origin image and brand equity with the inclusion of the mediating variable (either brand distinctiveness, brand loyalty or brand awareness/associations). For mediating effect to exist, the beta coefficients in Model 2 should be less than in Model 1

From the results shown above, country-of-origin image is found to be significant in the regressions mediated by brand loyalty and brand awareness/associations, with a decrease in the beta coefficients. This indicates that brand loyalty and

Table IV The effect of country-of-origin image on brand distinctiveness, brand loyalty and brand awareness/associations

Dependent variable	Standardized beta	*t*-value	Significance	R^2	Sign. *F*
Brand distinctiveness	0.736	24.091	0.000	0.542	0.000
Brand loyalty	0.443	11.014	0.000	0.196	0.000
Brand awareness/associations	0.547	14.550	0.000	0.299	0.000

Table V The effect of country-of-origin image on brand equity

Independent variables	Standardized beta	*T*	Sig. (*p*-value)
Country-of-origin image	0.523	13.626	0.000

Notes: $R^2 = 0.274$, Sig. $F = 0.000$

brand awareness/associations have partial mediating effects on the linkages between country-of-origin image and brand equity. In the regression mediated by brand distinctiveness, country-of-origin image is insignificant which indicates that brand distinctiveness fully mediates the relationship between country-of-origin image and brand equity.

Discussion

This study examines the effects of country-of-origin image on the development of brand equity of household electrical appliances particularly television, refrigerator and air-conditioner. It is found that the brand equity of electrical appliances is made up of three dimensions, namely brand distinctiveness, brand loyalty and brand awareness/associations. These three dimensions have a significant impact on brand equity as hypothesized. This indicates that the three dimensions of brand equity actually form the brand assets in which the evaluation of the brand's added value or equity is based upon. The formation of brand equity, therefore, is rooted in these dimensions. In other words, the extent of awareness and consumer loyalty as well as the distinctiveness of the brands of household electrical appliances indicates the existence of brand equity. Since the relationships of the three dimensions of brand equity to brand equity are positive, we can say that, the more distinctive the brand is, the higher the brand equity. Similarly, a high degree of brand loyalty and brand awareness leads to a high level of brand equity. In terms of the effect size, brand loyalty seems to contribute the most (beta = 0.525) to the formation of brand equity. This is in line with the works of Yoo *et al.* (2000) that found brand loyalty as the key construct in explaining brand equity.

The effects of country-of-origin image on each of the dimensions of brand equity are also analyzed. First, country-of-origin image is found to influence brand distinctiveness positively and significantly. Country-of-origin image plays an important role in consumer purchase decision, particularly for electrical goods. Consumers develop their interest and preference for a brand on the basis of their perception of the country-of-origin and the available information pertaining to the brand. As such, favorable information about the country helps creates positive attitude toward the brand, which leads to favorable image of the brand. Jacoby *et al.* (1971) suggested that brand image has a strong effect upon quality perception. Since brand distinctiveness in this study refers to favorable and positive aspects that are associated to the brand, such as quality, this suggests that favorable country image leads to favorable brand image, which in turn influences brand distinctiveness. This explains the positive and significant relationship between country image and brand distinctiveness.

The test of relationship between country image and brand loyalty supports the hypothesis that there is a positive relationship. This implies that good image of the country-of-origin leads to a high degree of customer loyalty. A plausible explanation for this expected relationship is that Malaysian consumers perceive countries with good image as technologically advanced countries and brands that originate from these countries are reliable and high quality. Although consumers are faced with many alternative brands in the market, which they perceive as equally good in terms of product attributes and functionality, information about the country is an added advantage. Consumers' perception towards country-of-origin is often transferred to the brands originate from that country due to carry-over effect. These consumers feel that brands from countries with good image are more reliable than brands produced by countries with less favorable image. As a result, these brands are preferred and often chosen during purchase decision-making. If repeat purchases occurs, eventually consumers may develop loyalty towards these brands. This explains why country image is related to brand loyalty.

Country image is also found to have a significant effect on brand awareness/associations. A possible explanation for this relationship is that in the purchase of electrical goods, consumers often associate the quality of a brand with the image of the origin country. Since consumers today are mostly

Table VI Relationship between country-of-origin image and brand equity mediated by dimensions of brand equity

Independent variable	Mediating variable (dimensions of brand equity)	Model 1 (IV and DV) Std. beta	Model 2 (IV and DV with MV) Std. beta
Country-of-origin image	Brand distinctiveness	0.523*	0.056
Country-of-origin image	Brand loyalty	0.523*	0.181*
Country-of-origin image	Brand awareness/associations	0.523*	0.180*

Note: * $p < 0.001$

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well educated, as indicated by the education level of the study sample (98.6 percent), it can be expected that they are well informed about the original country of their selected brands. Countries with good image are often familiar to the consumers and often perceived as producers of quality brands. As such relationship exists between country image and brand awareness/associations.

As mentioned earlier, the focus of this study is to examine the relationship between country-of-origin image and brand equity, which is mediated by the brand equity dimensions. From the previous section, it is found that relationships exist between country-of-origin image and the dimensions of brand equity. This study also found that country-of-origin image has a positive and significant impact on brand equity. However, the results suggest that country-of-origin image has both direct and indirect relationship with brand equity. Indirect relationship here indicates that country-of-origin image is related to brand equity through the mediators. In the country-of-origin image – brand equity linkage, brand distinctiveness fully mediates the relationship while brand loyalty and brand awareness/associations act as partial mediators. Figure 2 illustrates these relationships.

Conclusion and implications

The image of a country that consumers perceive is one of the factors that consumers consider in making their purchase decision particularly in the purchase of consumer durables such as household electrical appliances. As such, country-of-origin image would have an impact on the equity of such goods. This study investigates the relationships between country-of-origin image and brand equity of electrical appliances, which includes televisions, refrigerators and air-conditioners. Viewing the results of the study, the findings suggest two things. First, country-of-origin image has a significant impact on brand equity dimensions and brand equity. Secondly, the brand equity dimensions namely brand distinctiveness, brand loyalty and brand awareness/associations have significant influence on the formation of brand equity of electrical appliances. Among these three dimensions brand loyalty has the greatest contribution to the development of brand equity. This implies that producers of household electrical appliances should put greater emphasis in creating brand loyalty for their products. To ensure loyal customers, producers and retailers need to build long-term relationship with their customers, offer and maintain high quality products, and provide good services, including delivery and installation as well as after sales services such as maintenance and repair.

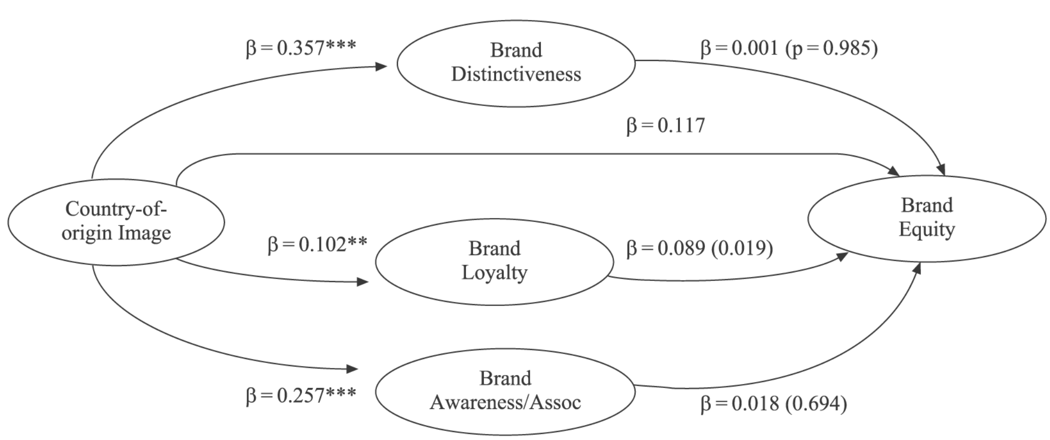
Apart from that, producers of household electrical appliances should always try to enhance and promote the good image of their brand's original country in order to enhance the overall image of the brand in all their marketing practices particularly advertising and personal selling. Brands from well-established or good image countries generally are easier to sell than brands from countries with unfavorable image. Producers of brands from countries with favorable image can also capitalize the good image in their brand-naming strategy. Besides, marketers who want to benefit from favorable country image should highlight the brands of superior quality that originate from the same country. This emphasis may help consumers to generalize product information over the country's brands. For example, Sharp could emphasize that its television sets are "as good as Sony's." Although different manufacturers produce these two brands, the brand originates from the same country, that is, Japan.

Suggestions for future research

The antecedents of brand equity of the non-marketing mix nature in this study only consider one variables i.e. brand's country-of-origin image. Many other factors exist as suggested by the literature, such as order of entry (Simon and Sullivan, 1993), brand alliance (Shocker *et al.*, 1994) that contributes to brand equity. Future research should attempt to examine the influence of such factors on brand equity. In addition, the conceptual framework of the present study does not take into considerations factors that moderate the influence of antecedent of brand equity on brand equity. Thus, future research should expand the present model by incorporating moderating factors such as culture and consumer demographics, which may have significant influence on consumers' perception.

Since this study investigates brand equity of durable goods of three product categories namely television, refrigerator and

Figure 2 Mediating effects of dimensions of brand equity on brand's country-of-origin image – brand equity relationship



Notes: **denotes p < 0.05; ***denotes p < 0.01

air-conditioner, replication of the study with different product categories in different industries would be beneficial in understanding the extent of the model's usefulness. The brand equity concept can also be applied to services as well as other durables such as automobiles. Whether the theories of the present study hold for these products should be examined.

References

Aaker, D.A. (1991), *Managing Brand Equity*, Macmillan, New York, NY.

Aaker, D.A. (1996), *Building Strong Brands*, The Free Press, New York, NY.

Alba, J.W. and Hutchinson, W. (1987), "Dimensions of consumer expertise", *Journal of the Consumer Research*, Vol. 13, pp. 411-5.

Atilgan, E., Aksoy, S. and Akinci, S. (2005), "Determinants of the brand equity: a verification approach in the beverage industry in Turkey", *Marketing Intelligence & Planning*, Vol. 23 No. 3, pp. 237-48.

Baldinger, A.L. (1990), "Defining and applying the brand equity concept: why the researcher should care", *Journal of Advertising Research*, June/July, pp. RC2-RC5.

Baron, R.M. and Kenny, D.A. (1986), "The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations", *Journal of Personality and Social Psychology*, Vol. 51 No. 6, pp. 1173-82.

Bello, D.C. and Holbrook, M.B. (1995), "Does an absence of brand equity generalize across product classes?", *Journal of Business Research*, Vol. 34 No. 2, pp. 125-31.

Bilkey, W.J. and Nes, E. (1982), "Country-of-origin effects on product evaluations", *Journal of International Business Studies*, Vol. 13, Spring, pp. 131-41.

Chaudhuri, A. (1995), "Brand equity or double jeopardy?", *Journal of Product & Brand Management*, Vol. 4 No. 1, pp. 26-32.

Cobb-Walgren, C.J., Ruble, C.A. and Donthu, N. (1995), "Brand equity, brand preference, and purchase intent", *Journal of Advertising*, Vol. 24, Fall, pp. 25-40.

Cordell, V.V. (1992), "Effects of consumer preferences for foreign sourced products", *Journal of International Business Studies*, Vol. 23 No. 2, pp. 251-69.

Delgado-Ballester, E. and Munuera-Aleman, J. (2005), "Does brand trust matter to brand equity?", *Journal of Product & Brand Management*, Vol. 14 No. 3, pp. 187-96.

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*, Vol. 28 No. 3, pp. 307-19.

D'Souza, G. and Rao, R.C. (1995), "Can repeating an advertisement more frequently than the competition affect brand preference in a mature market?", *Journal of Marketing*, Vol. 59 No. 2, pp. 32-47.

Erickson, G.M., Johansson, J.K. and Chao, P. (1984), "Image variables in multi-attribute product evaluations: country-of-origin effects", *Journal of Consumer Research*, Vol. 11 No. 2, pp. 694-9.

Fishbein, M. and Ajzen, I. (1975), *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*, Addison-Wesley Publishing, Reading, MA.

Han, C.M. and Terpstra, V. (1988), "Country-of-origin effects for uni-national and bi-national products", *Journal of International Business Studies*, Summer, pp. 235-55.

Hong, S.T. and Wyer, R.S. (1989), "Effects of country-of-origin and product attribute information on product evaluation: an information processing perspective", *Journal of Consumer Research*, Vol. 16 No. 2, pp. 175-87.

Hong, S.T. and Wyer, R.S. (1990), "Determinants of product evaluation: effects of the time interval between knowledge of a product's country-of-origin and information about its specific values", *Journal of the Consumer Research*, Vol. 17, December, pp. 277-88.

Hoyer, W.D. (1990), "The effects of brand awareness on choice for a common, repeat-purchase product", *Journal of Consumer Research*, Vol. 17 No. 2, pp. 141-8.

Igbaria, M., Livari, J. and Maragahh, H. (1995), "Why do individuals use computer technology? A Finnish case study", *Information and Management*, Vol. 29 No. 5, pp. 227-38.

Jacoby, J., Olson, J.C. and Haddock, R.A. (1971), "Price, brand name and product composition characteristics as determinants of perceived quality", *Journal of Applied Psychology*, Vol. 55 No. 6, pp. 570-9.

Johansson, J. (1989), "Determinants and effects of the use of 'made in' labels", *International Marketing Review*, Vol. 6, pp. 47-58.

Keller, K.L. (1993), "Conceptualizing, measuring, and managing customer-based brand equity", *Journal of Marketing*, Vol. 57, January, pp. 1-22.

Khachaturian, J.L. and Morganosky, M.A. (1990), "Quality perceptions by country-of-origin", *International Journal of Retail & Distribution Management*, Vol. 18 No. 5, pp. 21-30.

Kim, P. (1990), "A perspective on brands", *The Journal of Consumer Marketing*, Vol. 7 No. 4, pp. 63-7.

Knight, G.A. (1999), "Consumer preferences for foreign and domestic products", *Journal of Consumer Marketing*, Vol. 16 No. 2, pp. 1-11.

Macdonald, E.K. and Sharp, B.M. (2000), "Brand awareness effects on consumer decision making for a common, repeat purchase product: a replication", *Journal of Business Research*, Vol. 48 No. 1, pp. 5-15.

Nagashima, A. (1970), "A comparison of Japanese and US attitudes toward foreign products", *Journal of Marketing*, Vol. 34 No. 1, pp. 68-74.

Nedungadi, P. (1990), "Recall and consumer consideration sets: influencing choice without altering brand evaluations", *Journal of Consumer Research*, Vol. 17 No. 3, pp. 263-76.

Nunnally, J.C. (1978), *Psychometric Theory*, 2nd ed., McGraw-Hill, New York, NY.

Parameswaran, R. and Yaprak, A. (1987), "A Cross-national comparison of consumer research measures", *Journal of International Business Studies*, Vol. 18, pp. 35-49.

Piron, F. (2000), "Consumers' perceptions of the country-of-origin effect on purchasing intentions of (in)conspicuous products", *Journal of Consumer Marketing*, Vol. 17 No. 4, pp. 308-21.

Reeves, C.C. (1992), *Quantitative Research for the Behavior Sciences*, John Wiley & Sons, New York, NY.

Reynolds, T. and Olson, J. (1995), *Identifying a Brand's Key Equities*, Report No. 95-111, Marketing Science Institute Working Paper Series, Marketing Science Institute, Cambridge, MA, September.

Rust, R.T., Lemon, K.N. and Zeithalm, V.A. (2001), *Driving Customer Equity: Linking Customer Lifetime Value to Strategic Marketing Decisions*, Report No. 01-108, Marketing Science Institute Working Paper Series, Marketing Science Institute, Cambridge, MA.

Shocker, A.D., Srivastava, R.K. and Ruekert, R.W. (1994), "Challenges and opportunities facing brand management: an introduction to the special issue", *Journal of Marketing Research*, Vol. 31, pp. 149-58.

Simon, C.J. and Sullivan, C.J. (1993), "The measurement and determinants of brand equity: a financial approach", *Marketing Science*, Vol. 12, pp. 28-52.

Srikatanyoo, N. and Gnoth, J. (2002), "Country image and international tertiary education", *Journal of Brand Management*, Vol. 10 No. 2, pp. 139-48.

Thorelli, H.B., Lim, J. and Ye, J.S. (1989), "Relative importance of country of origin, warranty and store image on product evaluations", *International Marketing Review*, Vol. 6 No. 1, pp. 35-46.

Yoo, B., Donthu, N. and Lee, S. (2000), "An examination of selected marketing mix elements and brand equity", *Journal of the Academy of Marketing Science*, Vol. 28 No. 2, pp. 195-211.