What Drives Brand Equity? The Perspective of Malaysian Consumers

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ABSTRACT

Considering the importance of brand equity in brand management and the role played by brand equity in the success of the firm, this study examines the factors that influence the formation of brand equity particularly the equity of brands of household electrical appliances namely televisions, refrigerators and air-conditioners. In the conceptual model of brand equity, the dimensions of brand awareness, brand loyalty, perceived quality, and brand associations are postulated to affect the formation of brand equity. On the basis of an analysis of a survey data of 501 respondents taken from consumers of household electrical appliances in the state of Selangor and the Federal Territory of Kuala Lumpur, this study found that the dimensions of brand equity comprised of three elements, namely, brand distinctiveness, brand loyalty, and brand awareness/associations. These three elements were found to have positive and significant influences on the formation of brand equity of electrical goods.

ABSTRAK

Kajian ini meneliti faktor-faktor yang mempengaruhi pembentukan ekuiti jenama terutamanya ekuiti bagi jenama peralatan elektrik rumah seperti televisyen, peti sejuk dan penghawa dingin berdasarkan kepentingan ekuiti jenama dalam pengurusan jenama dan peranan yang dimainkan oleh ekuiti jenama dalam kejayaan sesebuah firma. Dalam model konseptual ekuiti jenama, dimensi-dimensi ekuti jenama iaitu kesedaran jenama, kesetiaan jenama, kualiti tertanggap, dan perhubungan jenama dijangka mempunyai kesan ke atas pembentukan ekuiti jenama. Berasaskan analisis data dari 501 responden yang terdiri daripada pengguna-pengguna peralatan elektrik rumah di Selangor dan Wilayah Persekutuan Kuala Lumpur, kajian ini mendapati dimensi ekuiti jenama terdiri daripada tiga elemen iaitu keterbezaan jenama, kesetiaan jenama, dan kesedaran/perhubungan jenama. Ketiga-tiga elemen ini didapati mempunyai pengaruh yang positif dan signifikan ke atas pembentukan ekuiti jenama barangan elektrik.

INTRODUCTION

The term brand equity has been referred the tremendous value that the brand name brings to the producers, retailers, and consumers of the brand. Brand equity appears when consumers are willing to pay more for the same level of quality due to the brand name. But why are consumers.

willing to pay more for brand names? This is simply because, brand names add value. The incremental capitalised earnings and cash flows achieved by linking a successful, established brand name to a product or service came to be labeled brand value (Murphy, 1987). In order to measure 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). In the marketing literature, brand equity is referred as the intangible brand properties. Brand equity arose from customer brand-name awareness, brand loyalty, perceived brand quality, and favourable 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. Therefore, it is not surprising that at present, there is a growing interest in the value of brand names.

Objective of Study

The primary goal of this study was to gain an understanding of what constitutes brand equity from the perspective of the consumer. To accomplish this goal, the brand equity of household electrical appliances in the Malaysian market was examined. The main objective of this study was to empirically test a conceptual model of brand equity that investigates the factors that influence the formation of brand equity based on the theory of brand equity as proposed by Aaker (1991) and further expanded by Yoo, Donthu and Lee (2000). Specifically, this study focuses on the following objectives:

1. To examine the influence of components of brand equity in the formation of brand equity.
2. To evaluate the equity of brands in the Malaysian market particularly brands of home electrical appliances.

REVIEW OF LITERATURE

Definition of Brand Equity

From the marketing perspective, Aaker (1991, p. 15) defined brand equity as "a set of brand assets and liabilities linked to a brand, its name and symbol, that add to or subtract from the value provided by a product or service to a firm or to that firm's customers". He interpreted brand assets and liabilities more generally (i.e., in non-financial terms) as strengths and weaknesses that add to or subtract from the value of a product or service.

There had also been a tendency to separate "brand" from product, as illustrated by the 1989 Marketing Science Institute definition of brand equity (Baldinger, 1990; Srivastava & Shocker, 1991): "The equity of a brand name is in 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". From this definition, brand equity can be defined as the favourable associations and behaviours of the brand's customers, channel members, and parent company that permits the brand to earn a greater sales volume or greater margin than it could without the brand name and that gives the brand a strong, sustainable, and differentiated competitive advantage. The term added values indicates the difference between a brand and a product. The added value forms the most important part of a brand and is the primary basis for distinguishing a brand from a product.

Following this definition, several studies have revealed numerous related definitions. A review of these definitions of brand equity consistently confirmed that brand equity is the value incrementality due to brand name. Some of these definitions are (a) "added value endowed by the brand to the product" (Farquhar, 1990, p.RC-7), (b) "the differential effect that brand knowledge has on consumer response to the marketing of the brand" (Keller, 1993, p. 2; 1998); (c) "... a chunk of information that may be used ... by consumers to simplify choice decisions" (Woon, Marshall, & Keller, 1999), in which this information builds up a picture of brand equity

from multiple dimensions of consumer perception, awareness and image; and (d) "the difference in consumer choice between the focal branded product and an unbranded product given the same level of product features" (Yoo, Donthu, & Lee, 2000, p. 196).

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. 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, p. 66), "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 behaviour of those who behold the brand, routinising their preference, attitude and purchase behaviour. Based on the recent definitions of brand equity, brand equity in this study is defined as *"consumers' favouritism towards a particular 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."*

Theory of Brand Equity
A few authors have proposed the theory of brand equity. Among the most prominent are Srivastava and Shocker (1991), Aaker (1991), and Keller (1993, 1998). Srivastava and Shocker (1991) conceptualised brand equity as comprising of two multi-dimensional concepts - brand strength and brand value. They suggested that brand value is the strength of the brand plus fit. According to them, brand strength, which is composed of performance-profits, longevity-vulnerability, extensibility and growth potential, is based upon perceptions and behaviours of consumers and distributors that allow the brand to enjoy

sustainable and differentiated competitive advantages.

According to Aaker (1991) brand equity is a multi-dimensional concept. It consists of five dimensions of the brand assets, which comprises brand loyalty, brand awareness, perceived quality, brand association, and other proprietary assets, such as patents, trademarks, and channel relationships. Aaker (1991) suggested that these five dimensions of brand equity could indirectly represent brand equity. Other researchers have also proposed similar dimensions. For example, Keller (1993) in his conceptual model of brand equity used the term *brand knowledge* which is defined in terms of brand awareness (i.e., brand recognition, brand recall) and brand image (i.e., a set of brand associations). He suggested brand knowledge as the determinant of brand equity. His conceptualisation of brand knowledge consists of brand awareness and brand associations, which are two of Aaker's five components. However, Keller (1993) conceptualised brand knowledge as a separate construct from brand equity. He also suggested that there is a positive relationship between brand knowledge and brand equity. On the other hand, Aaker (1991) conceptualised brand equity as a construct that is made up of five dimensions or components as mentioned earlier. Blackston (1995) employed the term *brand meaning* as the qualitative dimension of brand equity. He referred to brand meaning as the qualities of a brand that creates value and is measured in terms of brand awareness, brand associations, and brand personality.

RESEARCH MODEL AND HYPOTHESES

The conceptual framework of brand equity that guides this study is shown in Figure 1. The framework developed for this research is an adaptation and combination of the ideas proposed by Aaker (1991) and Keller (1993) and further developed by Yoo, Donthu and Lee (2000). They have expanded Aaker's model by placing brand equity as a separate construct from the dimensions of brand equity. The brand equity construct shows

how individual dimensions of brand equity are related to the overall brand equity. Although Aaker (1991) suggested that brand equity consists of five dimensions, in the present study only the first four dimensions are being considered. Based on Keller's (1993) conceptualisation of brand knowledge, the four dimensions of brand equity are treated separately from the brand equity construct and are postulated to influence the formation of brand equity.
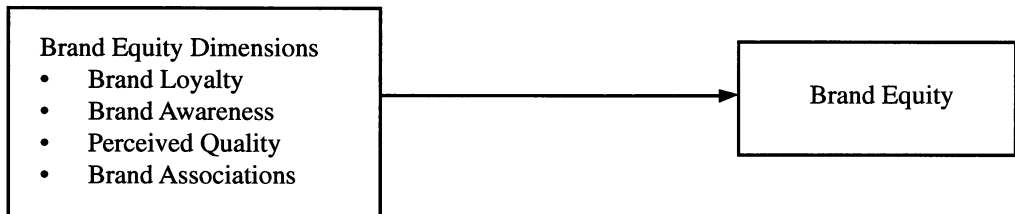
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┌─────────────────────────────┐                              ┌──────────────────────┐
│ Brand Equity Dimensions     │                              │                      │
│  • Brand Loyalty            │─────────────────────────────▶│    Brand Equity      │
│  • Brand Awareness          │                              │                      │
│  • Perceived Quality        │                              └──────────────────────┘
│  • Brand Associations       │
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Figure 1
A conceptual model of brand equity

Relationship Between Brand Equity Dimensions and Brand Equity

The marketing literature contains empirical research on the linkages between brand awareness, brand loyalty, perceived quality, brand associations, and brand equity. The following sections discuss the relationships between each of the brand equity dimensions and brand equity and review the extant literature that are relevant to it.

Link Between Brand Loyalty and Brand Equity

Brand loyalty has most frequently been defined as the consumer's repeat purchase probability of a particular brand. Brand loyalty in this study refers to the consumers' favourable attitude towards a particular brand that leads to the consistent purchase of that brand (Wilkie, 1994) irrespective of the product category. It is the result of the perceived quality of the brand and not its price. It is based on some dimensions, which include repeat purchase, willingness to pay a price premium, liking of the brand and commitment. Aaker (1991) stated that brand loyalty could produce brand equity outcomes such as price premiums for a brand. In addition, Aaker (1991) considered both brand associations and consumer loyalty as separate *assets* which underlie the formation of brand equity for a brand.

In this research, brand loyalty is measured in terms of the overall attitudinal extent of being loyal to a specific brand and the behavioural aspect of being loyal such as the "probability of purchasing the same brand as the one previously owned" (Bayus, 1992, p. 28). Since major home appliances are generally expensive and have a certain amount of risk associated with them, it is reasonable to expect that a consumer will purchase the same brand as previously owned, assuming there was a positive experience and satisfaction with this brand. The length of time a particular brand is owned can act as a convenient way to assess the product's quality. The concept of brand loyalty is a vital component of brand equity. 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. Yoo et al. (2000) found that the level of brand equity is related positively to brand loyalty. This means that as brand loyalty increases, brand equity is likely to increase because brand loyalty, as indicated through repeat purchase, is directly translated into sales, which is linked to profits. This in turn will lead to an increase in the brand value. Based on the above discussion, the following hypothesis is developed:

H1: The formation of brand equity for household electrical appliances is related positively to the extent that brand loyalty is evident in the brand.

Link Between Brand Awareness and Brand Equity

Anything that causes the consumer to experience or to be exposed to the brand facilitates is brand awareness (Alba & Hutchinson, 1987). In the present study, brand awareness reflects the salience of the brand in the customers' mind. It relates to the likelihood that the brand can be recognised and can be recalled. Based on Aaker's (1991) and Keller's (1993) definitions, brand awareness in this study refers to the ability of the consumer to recognise and recall the brand. Thus, the operationalisation of brand awareness encompasses the ability to recognise and recall the specific brand. In other words, brand awareness requires the consumers to correctly generate and visualise the specific brand from memory.

The role of brand awareness in brand equity depends upon 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. Purchase decisions that are in favour of the brand helps in building brand equity. Past research had shown that brand awareness is a dominant choice tactic among consumers (Cobb-Walgren, Ruble & Donthu, 1995; D Souza & Rao, 1995). It seems to play an important part in explaining habitual choice decisions.

In making a purchase decision consumers normally buy familiar, well-established brands (Jacoby, Syzabillo & Busato-Schach, 1977). If the awareness of brands is high among consumers, it means the brand is familiar and reputable. Studies show that consumers who recognise a brand name are more likely to buy that brand because familiar products are normally preferred to those that are less familiar. In fact,

consumers who are aware of one brand in a choice set tend to choose the known brand even when it is lower in quality than other brands (Hoyer & Brown, 1990; Macdonald & Sharp, 2000). Besides, these consumers make their decision faster than those who are not aware of the brands (Macdonald & Sharp, 2000). This means that brand awareness has a considerable effect on the consumers' choice when facing a familiar repeat choice task and even when they are uncertain of the product quality. As such, it is hypothesised that:

H2: The formation of brand equity for household electrical appliances is related positively to the extent that brand awareness is evident in the brand.

Link Between Brand Associations and Brand Equity

Brand equity is largely supported by the associations that consumers make with a brand, which contribute to a specific brand image. Generally brand associations refer to the unique meanings that consumers associate with a brand name (Aaker, 1996). Based on the conceptualisation of brand associations by Aaker (1991) and Keller (1993), brand associations in this study is defined as *"anything positive and favourable that is linked to the brand in the consumers mind."* 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, p. 114). Therefore, the identity of the specific brand may impact brand associations and ultimately brand equity.

The set of associations that are unique to a brand – relative to other brands in the category – may be used to indicate brand equity. Therefore, a marketer can influence a consumer's brand belief by developing positive associations. High brand

equity implies that consumers have a lot of positive and strong associations. This suggests that brand associations are closely related to brand equity. As such, brand associations are posited to have a positive influence on brand equity:

H3: *The formation of brand equity for household electrical appliances is related positively to the extent that brand associations are evident in the brand.*

Link Between Perceived Quality and Brand Equity

Quality can be broadly defined as superiority or excellence. In the case of a product, it refers to the reliability and durability characteristics, which are usually unknown prior to purchase. Since this research is based on consumer perceptions, perceived quality is "the consumer's [subjective] judgment about a product's overall excellence or superiority" (Zeithaml, 1988, p.10). Therefore, in this study, perceived quality is based on consumers' or users' subjective (i.e., not objective or actual) evaluations on the products. It is the consumer's overall feelings about the brand. For consumer durables, such as electrical goods, which is the focus of this research, important underlying dimensions of quality include functionality, reliability, consistency, as well as overall characteristics of the physical product. Hence, operationally, perceived quality encompasses the overall quality in terms of functionality, reliability, and the physical appearance of the product.

Consumers' perceived quality of a brand is due to their perception process involved in the decision-making process. High perceived quality occurs when consumers recognise the differentiation and superiority of the brand relative to competitor brands. This will influence their purchase decisions and would drive them to choose the brand rather than competitor brands. This implies that high perceived quality would influence the consumer's choice, which will consequently lead to an increase in brand equity. According to Aaker (1991), perceived quality is an association that is usually central to brand equity. The consumer behaviour literature has also portrayed quality as a positive antecedent to behavioural or purchase intentions (e.g., Dodds, Monroe, & Grewal, 1991; Zeithaml, 1988).

Therefore, it is expected that products with high perceived quality will yield higher preference, purchase intentions, and purchase behaviour that are proxies for brand equity. From the above discussions, it is hypothesised that:

H4: *The formation of brand equity for household electrical appliances is related positively to the extent that perceived quality is evident in the brand.*

METHODOLOGY

Sample and Procedure

The data for this study was gathered through mail questionnaires that were distributed to a cross section of organisations located in the Klang Valley, which included public and private sectors. The questionnaires were to be responded by the employees of the organisations irrespective of their positions. The reason for distributing the questionnaires to organisations is because it is much easier to capture the consumers at their workplaces rather than at their own homes. Moreover, most adult members of a household nowadays are working and because of their purchasing power they are responsible in most purchase decisions of household items.

The samples in this study are restricted to adults of age 18 and above and currently employed. The selection of the sample for this study was by probability random sampling. Since the respondents were captured at their workplaces, the organisations were randomly chosen from the telephone directory of business clients for the state of Selangor and Federal Territory issued by Telekom Malaysia. The Klang Valley, which is located within the state of Selangor and Federal Territory, is chosen as the sampling area. Being the most modern and advanced region economically and socially, the Klang Valley is the most densely populated region in Malaysia. The Federal Territory of Kuala Lumpur, and its surrounding vicinity function as trade, administrative, and cultural centres for the country.

The data collection instrument is a structured questionnaire. The questionnaire contains two parts: Part I consists of items measuring dimensions of brand equity: brand

loyalty, brand awareness, perceived quality and brand associations, and the overall brand equity, and Part II includes some questions on demographic and socio-economic characteristics of the subjects. There are three versions of the questionnaire for three product categories and each version of the questionnaire differ in only the product category being tested. Each organisation was given ten sets of questionnaires with three versions pertaining to three product categories under study – television, refrigerator, and air-conditioner. A respondent completes one questionnaire only.

Variable Measures

This study utilises multiple measures for each construct in the conceptual model in Figure 1. 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 conceptualisation 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. Favourable 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 favourable associations and two of the items were adopted from Yoo *et al.* (2000). Yoo *et al.* (2000) had developed the Overall Brand Equity Scale

consisting of eighteen items 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 AND DISCUSSION

Response Bias Analysis

The data collection for this study involved two phases simply because data collected in the first phase was insufficient. To ensure that the sample is representative, an independent sample t-test and Chi-square test were conducted between two groups of respondents, the early and late respondents. All the study variables and demographic variables are considered as the test variables. Results of the t-test shows that the mean and standard deviations of all the study variables for the two groups of respondents are fairly close. The Levene's test for assumption of equality of variances indicates that all the study variables except *advertising effort* (p= 0.09) is non-significant (significant £ 0.05). This means that the variances of the two groups are generally equal. In the case of demographic variables, the Chi-square tests show that all the variables except for ethnicity (p= 0.000) and education (p= 0.015) are non-significant (p > 0.05). Since most of the variables in the t-test and Chi-square tests are non-significant, there is no need to analyse the data from the two groups separately.

The Respondents

The profile of respondents is shown in Table 1. The total respondents for this study was 501. The study sample comprised of respondents who vary on such characteristics such as gender, age, marital status, education level, job position, household income, ethnicity, and living area. Such differences are 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.

In terms of gender, the sample indicated a somewhat balanced distribution between the males and females. The majority of them (53.85%) were above the age of 32 and married (72.90%).

With respect to ethnic groups, the majority were Malays, followed by Chinese, and Indians. Nearly four percent of the total respondents belonged to other races which include Eurasian, Singhalese, the natives *bumiputras* of Sabah and Sarawak such as Kadazan, Bajau, Bidayuh and Melanau.

Table 1
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	RM1000 and below	26	5.2
	RM1001 to 3000	178	35.5
	RM3001 to 5000	154	30.7
	RM5001 to 7000	79	15.8
	RM7001 to 9000	31	6.2
	RM9001 to 11000	18	3.6
	RM11001 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

With regard to academic qualifications, more than half of the sample had tertiary education and obtained either a diploma, bachelor's degree, masters or PhD. The high educational achievement reported could be due to the sampling process whereby the samples were drawn from employees of big organisations and holding various positions. Therefore, it is expected that they are well educated. Because of their education level, most of the sample (54.1%) were holding positions in the managerial level and a small proportion of them are in the top management and professional group of employees. The rest of the sample were made up of the lower management group such as supervisors (13.60%), supporting staff such as clerical positions (30.30%) and other jobs such as businessmen (2.00%). With respect to household income, the monthly household incomes of the respondents indicated a wide dispersion ranging from below RM1000 to above RM11, 000. At the two extreme ends, the proportion was very small whereby those who earned RM1000 and below is 5.20% and those who earned RM11,000 or more was only 3.00%. Although questionnaires were distributed to organisations, respondents were also required to indicate the place they lived. The purpose was to have an idea of the distribution of respondents within the sampling area. The statistic showed that the respondents were scattered all over the sampling area, that is, the state of Selangor and the Federal Territory. However, a large portion of the sample (34.7%) lived in the Federal Territory. This was probably due to the facilities available and proximity to their workplaces.

The Equity of Brands of Televisions, Refrigerators and Air-Conditioners in Malaysia

For the purpose of this study, brand equity is measured in terms of consumers' preference, purchase intention and choice of the brand. In other words, a brand that consumers are in favour of and choose to purchase is the brand that has equity. From a survey of household consumers of television sets, refrigerators and air-conditioners, in the state of Selangor and Federal Territory of Kuala Lumpur, the equity of various brands of these products can be determined. Out of the 501 respondents in the study sample, 35.1% responded as television users, 33.7% responded as refrigerator users and 31.1% responded as air-conditioner users. In determining the equity of brands, the usage rate of consumers, which reflect their preference, and choice of the brand, is being considered as an indication of brand equity. From the descriptive statistics, among the brands of televisions, the brand that has the highest equity is Sony. For refrigerators and air-conditioners, the brand with the highest equity is National. Overall, for all the three product categories, the highest equity brand is National, followed by Sharp, Sony, Toshiba, Singer, Hitachi, Phillips, Samsung, Sanyo and Elba.

Table 2
Distribution of Users for Television Brands

Brand Names	Percentage of Users (n = 176)	Rank
Sony	34.1	1
National	20.5	2
Sharp	19.3	3
Toshiba	8.5	4
Phillips	5.7	5
Aiwa	2.8	6
Sanyo	2.3	7
Singer	2.3	7
Hitachi	1.1	8

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Brand Names	Percentage of Users (n = 176)	Rank
Samsung	1.1	8
JVC	1.1	8
NEC	0.6	9
Kenwood	0.6	9
	Total = 100%	

Table 3

Distribution of Users for Refrigerator Brands

Brand Names	Percentage of Users (n = 169)	Rank
National	47.3	1
Sharp	15.4	2
Toshiba	7.7	3
Singer	7.1	4
Elba	4.7	5
Samsung	3.6	6
LG	3.0	7
Sanyo	2.4	8
GEC	1.8	9
Boss	1.2	10
Hitachi	0.6	11
Goldstar	0.6	11
Kelvinator	0.6	11
Ariston	0.6	11
MEC	0.6	11

Table 4

Distribution of Users for Air-conditioner Brands

Brand Names	Percentage of Users (n = 156)	Rank
National	39.7	1
Sharp	15.4	2
Hitachi	7.7	3
Toshiba	7.7	3
Singer	5.8	4
York	5.8	4

(continued)

Brand Names	Percentage of Users (n = 156)	Rank
I	3.8	5
Carrier	3.2	6
Acson	3.2	6
Samsung	1.9	7
Sanyo	1.3	8
Fujitsu	1.3	8
Phillip	0.6	9
Elba	0.6	9
LG	0.6	9
Aiwa	0.6	9
Goldstar	0.6	9
Total = 100%		

Exploratory Factor Analysis

Exploratory factor analysis was conducted separately on each of the two variables, dimensions of brand equity (26 items) and brand equity (7 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 18 items for brand equity dimensions, and 7 items for brand equity are shown to be greater than 0.5.

Table 5
Factor Analysis on Brand Equity Dimensions

No.	Items	Factor 1	Factor 2	Factor 3	Factor 4
	Factor 1: Brand Distinctiveness				
1.	I associate X with dynamism.	0.83	.23	.22	.11
2.	I associate X with high technology	0.83	.23	.19	.05
3.	I associate X with innovativeness	0.82	.22	.23	.07
4.	I associate X with sophistication	0.81	.20	.27	.05
5.	I associate X with distinctiveness	0.81	.22	.25	.06
6.	I associate X with excellence	0.76	.27	.26	.08
7.	I associate X with prestige.	0.75	.29	.27	.12
	Factor 2: Brand Loyalty				
1.	If I am going to buy other electrical goods other than air-conditioner/ refrigerator / television (either one), I will choose brand X.	.22	0.78	.09	.05

(continued)

No.	Items	Factor 1	Factor 2	Factor 3	Factor 4
2.	Compared to other brands that have similar features, I am willing to pay a premium (higher) price for X.	.26	0.77	.23	.09
3.	I will not buy other brands if X is available at the store.	.26	0.76	.18	.11
4.	I will think twice to buy another brand if it is almost the same with X.	.23	0.69	.22	.08
5.	I make my purchase selection of air-conditioner (or refrigerator or television) according to my favorite brand name, regardless of price.	.19	0.69	.25	-.07
	Factor 3: Brand Awareness/Associations				
1.	I know how the symbol of brand X looks like.	.26	.24	0.78	-.08
2.	I have no difficulties in imagining X in my mind.	.26	.18	0.76	.17
3.	I can quickly recall the symbol or logo of X.	.28	.26	0.75	.15
4.	I have an opinion about this brand.	.27	.19	0.58	.02
	Factor 4: Brand Attitude/Perception				
1.	I like to change brands often for the sake of novelty. (R)	-.02	.24	-.09	0.81
2.	X appears to be of very poor quality (R)	.28	-.10	.15	0.75
	Eigen Value	12.66	1.97	1.64	1.27
	% of Variance	48.71	7.59	6.32	4.90
	Reliability coefficient	0.95	0.86	0.82	0.43
	Total variance explained			70.01	
	Measure of Sampling Adequacy (MSA)			.94	
	Bartlett's test of sphericity			5595.94	
	Significant			.00	

The factor analysis for the variable dimensions of brand equity produced four factors with eigenvalues greater than 1 contributing 70.01% 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, Livari, and Maragahh (1995). The factor loadings for the items in the four factors lie in the range of 0.58 and 0.83. The factors are labeled as Brand Distinctiveness, Brand Loyalty, Brand Awareness/Associations, and Brand Attitude/perception respectively. These factors were tested for reliability. Except for variable brand attitude/perception, the reliability coefficients are above 0.7, the acceptable level as suggested by Nunnaly (1978). Since the reliability coefficient for brand attitude/perception is very low, the variable is dropped from further analysis. The factor analysis for the brand equity construct produced only one factor with an eigenvalue more than 1. This factor contributed 77.44 % to total variance explained. The factor loadings for all items in this construct are between 0.53 and 0.92.

Table 6

Factor Analysis on Brand Equity

No	Items	Factor Loading
1.	Even if another brand has same features as X, I would prefer to buy X.	0.92
2.	If I have to choose among brands of air-conditioner / refrigerator / television, X is definitely my choice.	0.90
3.	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
4.	Even if another brand has the same price as X, I would still buy X.	0.89
5.	If there is another brand as good as X, I prefer to buy X.	0.88
6.	If another brand is not different from X in any way, it seems smarter to purchase X.	0.87
7.	It makes sense to buy X instead of any other brands, even if they are the same.	0.80
	Reliability coefficeint	0.95
	Eigen Values	5.42
	Total Variance Explained	77.44
	Measure of Sampling Adequacy	.93
	Bartlett's test of sphericity	3389.03
	Significant	.00

Based on the results of the factor analyses the hypotheses were restated as follows, according to the new variables created.

H1: *The formation of brand equity is related positively to the extent that brand distinctiveness is evident in the brand.*

H2: *The formation of brand equity is related positively to the extent that brand loyalty is evident in the brand.*

H3: *The formation of brand equity is related positively to the extent that brand awareness/associations are evident in the brand.*

Descriptive Statistics

Mean and standard deviations, were obtained for all the variables as shown in Table 7.

Table 7

Mean and Standard Deviation for Variables in the Study

Variables	Mean	Standard Deviation
Brand Distinctiveness	3.70	0.73
Brand Loyalty	3.08	0.89
Brand Awareness/Associations	3.58	0.73
Brand Equity	3.41	0.86

Correlation Analysis

The pearson correlation was performed to obtain an understanding of the relationship between all the variables in the study. The values of the correlation coefficients shown in Table 8 reflect the degree of association between each of these variables. From Table 8, it is evident that there is a strong, significant and positive correlation between brand distinctiveness and brand equity (r = 0.66) at a significant level of 0.01. There is also a significant and positive correlation between brand awareness/association and brand equity (r = 0.62) at a significant level of 0.01. Correlation is also significant and positive (r = 0.76) at a significant level of 0.01 for brand loyalty and brand equity. The correlations among the independent variables are found to be positive, and significant. The correlation coefficient between brand distinctiveness and brand loyalty is 0.58, between brand distinctiveness and brand awareness/associations is 0.63 and between brand loyalty and brand awareness/associations is 0.56.

Table 8
Pearson Correlation

	1	2	3	4
Brand Distinctiveness	1.00			
Brand Loyalty	0.58**	1.00		
Brand Awareness/Associations	0.63**	0.56**	1.00	
Brand Equity	0.66**	0.76**	0.62**	1.00

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

Testing of Hypotheses

Multiple regression had been conducted on the variables in the study. Since the data in this study were made up of three product categories, two of the product categories were treated as dummy variables (D1 and D2) representing groups 1 and 2 (television and refrigerator) with group 3 (air-conditioner) as the reference category (Hair, Anderson, Tatham & Black, 1998). The product category was controlled in order to determine whether it contributes to item variance. The interpretation of the regression analysis is based on the standardised coefficient beta (b) and R square (R^2) which provide evidence whether to support or not to support the hypotheses stated earlier. The R square (and not adjusted R square) is used because the sample size of this study is large (i.e., >150).

Based on the conceptual model, the brand equity dimensions, which are treated as independent variables in the model, were posited to influence brand equity. The dependent variable brand equity was regressed on all these variables – brand distinctiveness, brand loyalty and brand awareness/associations. Table 9 shows the regression output.

The model is significant at $p < .01$ indicating 99% confidence in explaining the dependent variable. All the three variables - brand distinctiveness, brand loyalty, and brand awareness/associations were found to have a significant and positive influence on brand equity at a significant level of 0.000. The standardised beta weights are in the hypothesised direction. Thus, all three hypotheses are well supported.

DISCUSSION AND IMPLICATIONS

From the results of the study, it is evident that most of the high equity brands of electrical goods in Malaysia are Japanese brands. A plausible

Table 9

The Influence of Dimensions of Brand Equity on Brand Equity

Independent Variables	Standardized Beta	T	Sig. (p-value)
D1	0.019	0.662	.509
D2	0.006	0.216	.829
Brand Distinctiveness	0.234	6.728	.000
Brand Loyalty	0.525	16.638	.000
Brand Awareness / Associations	0.212	6.260	.000

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

explanation for the favouritism of Malaysian consumers towards brands originating from Japan is because of the image of the country in terms of its economic development and technological advancement. Besides, the good reputation of Japanese electrical goods in terms of the product performance and the abundance of these products in the marketplace contribute to the consumers' favouritism.

The three dimensions of brand equity, brand distinctiveness, brand loyalty, and brand awareness/associations were found to have a significant impact on brand equity formation as hypothesised. Thus, brand distinctiveness, brand awareness/associations, and brand loyalty are dimensions of brand equity that strongly and significantly influence brand equity. The positive relationship of brand loyalty to brand equity and the positive relationship of brand awareness/ associations to brand equity found in this study are consistent with previous findings of Yoo *et al.* (2000). The other dimension of brand equity that emerged from this study, brand distinctiveness, was also found to be related positively to brand equity. The positive relationships were expected and supported by the findings. The relationships of brand distinctiveness (b=0.234, t value = 6.728) and brand awareness/associations (b=0.212, t value = 6.260) to brand equity was weaker than the relationship of brand loyalty to brand equity (b=0.525, t value = 16.638). This finding is consistent with the finding of Yoo *et al.* (2000), whom found that the relationships of perceived quality and associations to brand equity were

much weaker than the relationship of brand loyalty to brand equity. As such, they suggested that "brand loyalty is a more holistic construct, closer to brand equity, whereas quality and associations are specific evaluative constructs" (Yoo *et al.*, 2000, p. 204). In terms of correlations of the dimensions and brand equity, this study found that the correlation between brand loyalty and brand equity (r = 0.76) was stronger than the correlation between brand distinctiveness and brand equity (r = 0.66), and between brand awareness/ association and brand equity (0.62). Hence, this study confirms that brand loyalty is a closer construct and a stronger determinant of brand equity. This is consistent with Aaker (1991) who wrote, "The brand loyalty of the customer base is often the core of a brand's equity".

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. As such, strong and positive relationships exist between the dimensions of brand equity and brand equity. This was evidenced by the high correlation coefficients as shown in Table 8. The formation of brand equity, therefore, is rooted in these dimensions. In other words, the existence of brand awareness, distinctiveness, and consumer loyalty in a particular brand indicates the existence of brand equity. Since brand equity is rooted in these three dimensions, and these dimensions are positively related to brand equity, brand management strategies should focus on improving the strength of these dimensions in order to increase the level of brand equity. The

results of this study imply that firms of electrical appliances should seriously consider brand distinctiveness, brand loyalty, and brand awareness/associations when attempting to establish definite brand equity from the customers' viewpoint. 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. This explains why the R square for this model is quite high, that is, 0.713 which indicates 71.3 % variations in brand equity were explained by the three dimensions of brand equity. Thus, it is true to say that brand distinctiveness, brand loyalty and brand awareness/associations contribute to the explanation of brand equity.

The formation of brand equity requires consumers' cognitive, affective, and behavioural involvement in the brand. The consumers must correctly generate the brand in memory, have favourable, strong and unique brand associations in memory as well as demonstrating long term behavioural commitment towards the brand. In other words, to create brand equity, a brand has to be familiar to the consumers. Also, the brand must be associated with something positive, such as high quality and attractive design, in order to be included in the consumers' choice set. In addition, a brand has to be outstanding or distinctive in the eyes of the consumers, in comparison to other brands. In other words, a brand has to be perceived positively, in any way, in order to be differentiated from others. Under these circumstances, a brand would most likely be purchased and if the performance of the brand is beyond or as expected by the consumer, he or she would develop loyalty towards the brand when he or she perceives the brand as having extra value. This extra value that results from being distinctive, familiar, and positively associated which leads to loyalty form the basis of brand equity. Therefore, brand equity is influenced by the degree of consumers' perception of the distinctiveness of the brand, degree of consumers' loyalty to the brand, and the degree of consumers' familiarity with the brand, and favourability of the brand associations in their memory. Thus, in creating brand equity for

household electrical appliances, marketers need to focus their efforts in designing products with distinctive features, advertising frequently and highlighting the value propositions.

LIMITATIONS AND FUTURE RESEARCH

Since this study investigates brand equity of durable goods of three product categories namely televisions, refrigerators and air-conditioners, 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 true for these products should be examined. Another implication of this study is that more attention is needed in examining the international brand equity issues. Many brands have gone international and become global brands. As such a brand may have different levels of brand equity at different countries. Future research is necessary to examine the differences in brand equity formation process and relationships of brand equity to other research constructs. Comparative studies can be made on the brand equity of a particular brand marketed in different countries. In addition, future studies could focus on culture as a contingency factor relevant to brand equity formation.

CONCLUSION

This study examined an area in marketing that has received great attention, that is, brand equity. It provides a conceptual framework for understanding brand equity of durable goods, particularly, household electrical appliances. Brand equity in this study was evaluated based on the consumers' perception since it was suggested that "consumers ultimately control the creation of brand equity" (Blackston, 1995, p. RC-2). Armed with the knowledge based on the results of this study, brand managers can begin to make

decisions with respect to managing a brand successfully. Since brand equity is rooted in three dimensions, namely, brand distinctiveness, brand loyalty and brand awareness/associations, and these dimensions are positively related to brand equity, brand management strategies should focus on improving the strength of these dimensions in order to increase the level of brand equity. The results of this study imply that firms of electrical appliances should seriously consider brand distinctiveness, brand loyalty, and brand awareness/associations when attempting to establish definite brand equity from the customers' viewpoint.

REFERENCES

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

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

Alba, J. W., & Hutchinson, W. (1987). Dimensions of consumer expertise. *Journal of Consumer Research, 13.* 411-453.

Bayus, B. L. (1992). Brand loyalty and marketing strategy: an application to home appliances. *Marketing Science, 11,* 21-38.

Baldinger, A. L. (1990). Defining and applying the brand equity concept: Why the researcher should care. *Journal of Advertising Research,* RC2 – RC5.

Blackston, M. (1995). The qualitative dimension of brand equity. *Journal of Advertising Research,* RC2- RC7.

Chaudhuri, A. (1995). Brand equity or double jeopardy? *Journal of Product & Brand Management, 4,* 26-32.

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

Dodds, W. B. Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research, 28,* 307-19.

D. Souza, G., & Rao, R. C. (1995). Can repeating an advertisement more frequently than the competition affect brand preference in a mature market? *Journal of Marketing, 59,* 32–47.

Hair, J. F. Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate Data Analysis,* Fifth Edition, Upper Saddle River, New Jersey, U.S.A: Prentice-Hall International Inc.

Hoyer, W. D. & Brown, S. P. (1990). The effects of brand awareness on choice for a common, repeat-purchase product. *Journal of Consumer Research, 17,* 141-148.

Igbaria, M., Livari, J., & Maragahh, H. (1995). Why do individuals use computer technology? a Finnish case study. *Information and Management, 29,* 227-238.

Jacoby, J., Szybillo, G. J., & Busato-Schach, J. (1977). Information acquisition behavior in brand choice situations. *Journal of Consumer Research, 3,* 209-216.

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

Keller, K. L. (1998). *Strategic Brand Management: Building, Measuring, and Managing Brand Equity.* Upper Saddle River, New Jersey: Prentice Hall.

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Kim, P. (1990). A perspective on brands. *The Journal of Consumer Marketing, 7,* 63-67.

Macdonald, E. K., & Sharp, B. M. (2000). Brand awareness effects on consumer decision making for a common, repeat purchase product: a replication. *Journal of Business Research, 48,* 5-15.

Murphy, J. M. (1987). *Branding: A Key Marketing Tool.* London: Macmillan.

Nedungadi, P. (1990). Recall and consumer consideration sets: influencing choice without altering brand evaluations. *Journal of Consumer Research, 17,* 263-76.

Nunnaly, J. C. (1978). *Psychometric Theory.* (2ed.) Edition. New York: McGraw-Hill.

Population and Housing Census of Malaysia, 2000. *Preliminary Count Report,* Department of Statistics, October.

Srivastava, R., & Shocker, A. D. (1991). Brand equity: a perspective on its meaning and measurement. *Marketing Science Institute Working Paper Series.* Report No. 91-124. Cambridge, MA: Marketing Science Institute.

Woon, B. N, Marshall, R., & Keller, K. L. (1999). Measuring brand power. *The Journal of Product & Brand Management, 8.*

Wilkie, W. L. (1994). *Consumer Behavior.* New York. NY: John Wiley and Sons.

Yoo, B., Donthu, N., & Lee, S. (2000). An examination of selected marketing mix elements and brand equity. *Journal of the Academy of Marketing Science, 28,* 195-211.

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of Marketing, 52,* 2-22