Determination of Brand Personality Dimensions for a Laptop Computer Using Aaker's Brand Personality Scale

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ABSTRACT

This research was conducted to (i) identify brand personality dimensions of a laptop computer amongst computer science students; (ii) examine significant differences in the brand personality dimensions of the laptop according to the students' background of gender, brand owned, year of study and programs; and (iii) examine the relationship between perceived brand personality of the laptop and its quality rating. The measurement of brand personality was based on the Aaker's Brand Personality Scale. A total of 268 questionnaires were gathered from computer science students in a Malaysian public university using Stratified Random Sampling method. Confirmatory factor analysis was employed to validate the measurement. The findings revealed that sincerity was 'the human characteristic' that users of the laptop associated themselves with the brand. Ruggedness was a brand personality that non-users associated themselves with the laptop. Significant means differences were observed in the brand personality dimensions of the laptop according to the students' gender, present year of study and academic program. For users of the laptop, sincerity and modern of the brand personality dimensions were positively correlated with the brand quality rating. For non-users, a positive correlation existed between ruggedness, diligent and modern of the brand personality with the brand quality rating. Several implications were drawn based on the results of the research to enhance branding strategies of the laptop and for future researches.

Keywords: Brand Personality, Brand Personality Scale, Laptop Computer

1.0   INTRODUCTION

A number of researchers have examined the success and failure of a brand. However, one area of branding strategy that has been largely overlooked by researchers is brand personality.   When consumers view a brand as having human characteristics, the brand is said to have a personality. For instance, brands such as Harley Davidson (Ruggedness), Nike (Excitement), Hallmark (Sincerity), Wall Street Journal (Competence) and Tiffany (Sophistication) have all been found to have strong brand personalities. Yet, what kind of personality traits would a laptop computer brand have?

The laptop computer industry in Malaysia is facing competitive challenges among 30 different laptop computer brands from around the world such as Acer, Lenovo, Dell, HP, Compaq, Twin Head and such more. With the fast going researches and developments, this competition becomes trickier for laptop computer manufacturers where all of them try to create different identity as the reason to become outstanding in the market. This is vital because all strong laptop brands (e.g. Dell, Acer, and HP) possess outstanding quality, services and at the same time granting the promises they gave to the consumers. Brand personality becomes compulsory to create better communication with their customers through their identity. Due to the aggressive competition between laptop computer's company, brand personality helps them to build their own personality and image in order to become salient-kill in the eyes of the consumers. A well established brand personality will influence consumers' brand preference and patronage and develops stronger emotional ties, trust, and loyalty with the brand.

Thus, the purpose of this research is to determine the brand personality of a laptop computer among students of computer science in a public university in Malaysia. Specifically, in the first objective, we looked to see if this laptop computer brand have a brand personality and the second objective is to identify how this personality differs according to the demographic background of its users and users of other brands. Lastly, in the third objective we investigated the relationship between the laptop computer brand's perceived personality and its perceived quality ratings.

2.0   LITERATURE REVIEW

2.1   What is brand personality?

As defined by Aaker (1997), brand personality refers to the set of human characteristics associated with a brand. Aaker assumes that the brands are the same with the human personality or character, and the brand personality is created when a consumer attached his or her personality-like character to a specific brand. According to Hawkins, *et al* (2001), brand personality can be considered as "what type of person the brand would be if it were human and what it would do and like".

2.2   Brand as a person/symbolic use

As suggested by Aaker (1997), brand personality is created in the perspective of brand as a person. It has the same concept with Hawkins, Best, and Coney (2001) where they assume that the brand to be a human and every human has his own personality. Beyond such expectations, consumers often invest brands' identities with human personality attributes, and this in turn leads to the symbolic use of the brand (Hawkins *et al*., 2001). According to Aaker (1996), by assuming the brand as a person, it can create a self-expressive benefit that becomes a vehicle for the customer to express his or her own personality. For example, Apple notebook users might identify themselves as casual, young, anti-corporate and creative. Therefore, a brand have a personality when users value beyond its functional utility and consumers will use brands as symbolic devices to explain and express their own particular personality (de Chernatony and McWilliam, 1990).

2.3   Aaker's Brand Personality Scale

In order to measure brand personality, Aaker (1997) had established a 42-item scale by eliminating redundancy from trait list optioned from three sources - personality scales from psychologists, personality scales used by marketers (academics and practitioners), and original qualitative researches. Aaker (1997) proposed a Brand Personality Scale (BPS) to describe and measure the "personality" of a brand in five core dimensions; each of them is divided into a set of facets. Her findings suggest that although the relationship between brand and human personality is not exactly symmetric, many consumers are likely to associate themselves with a product by closely matching the brand personality with their own. As suggested by Aaker (1997), the BPS explains nearly all (93 percent) of the observed differences between the brands. The BPS study also measured the degree of positive or negative attitude toward each brand in comparison to other brands in the product category. Figure 1 summarizes Aaker's (1997) brand personality dimension and its facets.

Figure 1 – Dimension of Brand Personality (Aaker, 1997, pg. 353)
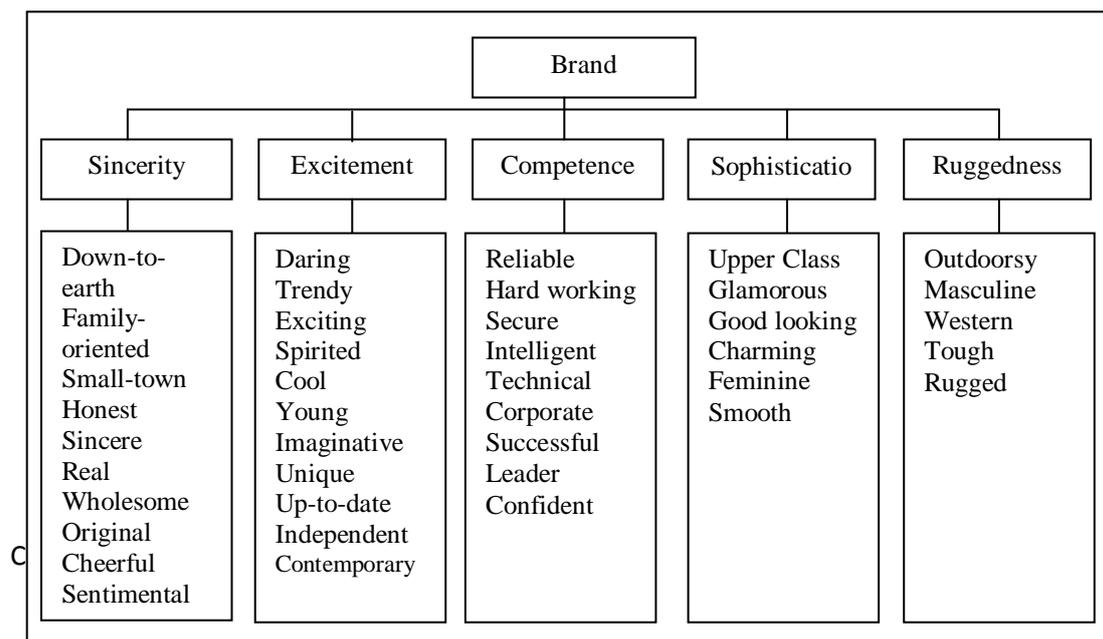
2.4   Brand Quality

Perceived quality also becomes one of element that takes the impact on the implementation of the personality of the brand. According to Keller (2003), perceived quality has been defined as customers' perception of the overall quality or superiority of a product or service relative to relevant alternatives and with respect to its intended purpose. The quality of a brand becomes the main factor to build a good perception and trust on the product or services because through perception it will lead to their brand judgment on perceived quality. When perceived quality of the customers improved, so generally the other elements of customers' perception will improve as well (Aaker, 1996).

As suggested by Richardson, Dick & Jain (1994), consumers are more likely to rate a brand with a stronger brand identity as having better quality. This has been proven by Beldona & Wysong (2007) where in their research, they have discovered that brand personality of a brand is correlated positively with quality rating. Beldona & Wysong (2007) also suggests that consumers will have better perception on the brand and at the same time this will enable them to assume the brand to have higher quality.

3.0   METHODOLOGY

3.1   Instrument Development and Sampling Procedure

The instrument used to determine brand personality of a laptop in this study was the Brand Personality Scale (BPS), developed by Aaker (1997). All respondents were given a self-administered questionnaire with the following instructions, which was read aloud by the survey administrator.

*The following adjectives are mostly used to describe characteristics of people in daily life. However, some of them can be used to describe products and services. This may sound unusual, but we would like you to assume **X laptop computer brand** to be a person. Think of the set of human characteristics associated to this brand. We are interested in finding out which personality traits or human characteristics come to your mind when you think of **This Laptop Computer Brand**.*

These instructions were adopted from Aaker's (1997) research in which she developed the BPS that was found to be robust and generalizable across a large number of subjects and brands. The questionnaire in this study comprised of three sections. In Section A, respondents were asked to indicate the extent to which of the personality traits, as proposed by Aaker (1997), to describe a laptop computer brand personality. Split across the five dimensions of brand personality, 42-items of brand personality traits were included together with the questionnaire. Using a five-point Likert scale (1 = Extremely Not Descriptive to 5 = Extremely Descriptive), respondents were asked to rate the brand on 42 different brand personality traits.   In Section B of the survey, respondents were asked to rate the quality of the laptop

computer brand on the scales of 0 to 200 (with 200 the highest quality rating and 100 the average of all brands). This methodology was used by Sethuraman and Cole (1999) and seems to be a relatively easy way for respondents to quantify quality.   In Section C of the survey, the respondents were asked to indicate their present year of study, academic program, gender, ethnic origin and brand of laptop they owned as an effort to collect some basic descriptive information of the respondents.

As recommended by Krejcie and Morgan (1970), a total of 280 questionnaires were distributed to the computer science undergraduate students of a public university in Malaysia. The Stratified Random Sampling technique was used in order to increase the accuracy of the data and the representativeness of the population of the study. In this research, the undergraduate students were divided according to the strata's of year of study which is - year one, year two and year three.

4.0   FINDINGS

4.1   Validity and Reliability of the Instrument

Out of 280 copies of returned questionnaires, only 268 copies were fully completed by the respondents and can be used for further analyses. The result of *Kaiser-Meyer-Olkin* Measure of Sampling Adequacy analysis indicated that the KMO is more than 0.6 (KMO = 0.606) and *Barlett's Test of Sphericity* is significant (Bartlett's Test of Sphericity = 16266.267, Sig = 0.000).   The result indicated that the data was appropriate for factor analysis. Principle Component Factor analysis with Varimax Rotation was used to analyse on 42 variables of brand personality. Dimensions with eigenvalues greater than 1.0 and factor loadings that are equal to or greater than 0.50 were retained. Based on Table 1, only 35 out of 42 variables were loaded into six dimensions of the brand personality. Seven personality traits (Down-to-earth, spirited, confident, smooth, small-town, original and corporate) were neglected or below 0.50 factor loading.

Based on the new research dimensions that were extracted from the factor analysis, four of the research dimensions were retained under the original dimensions which were 'sincerity', 'excitement', 'competence' and 'ruggedness'.   Two new two dimensions have been discovered which were 'diligent' and 'modern'. The varimax rotation procedures produced six dimensions that explained 71% of the variance. The total Variance Explained for each dimension of brand personality was presented in Table 2. On the other hand, the Reliability Test of this study, as shown in Table 2, was high. Thus, the validity and reliability of the instrument used in this study were ensured.

4.2   Profile of the Respondents

The profile of the respondents involved in the study indicated that:

- 46.3% respondents were male and the rest were female respondents (53.7%);

- Year 1 students constituted 31%, 34.3% students are in Year 2 and 34.7% are in Year 3;
- 24.3% students are pursuing their degree in Computer Network & Security, Computer Science (23.1%), Database Systems (11.9%), Graphic & Multimedia Software (14.6%), Industrial Computing (16.4%) and Software Engineering (9.7%);

Table 1: The New Research Dimensions for the Factors Extracted from Factor Analysis

Original Dimensions based on Aaker's Brand Personality Scale			New Research Dimensions based on results of Factor Analysis		
Dimensions	**Original Personality Traits**	**Total Traits**	**Dimensions**	**New Personality Traits**	**Total Traits**
Sincerity	Down-to-earth Family-oriented Small-town Honest Sincere Real Wholesome Original Cheerful Sentimental Friendly	11	Sincerity	Honest Sincere Wholesome Cheerful Sentimental Friendly	6
Excitement	Daring Trendy Exciting Spirited Cool Young Imaginative Unique Up-to-date Independent Contemporary	11	Excitement	Trendy Exciting Young Imaginative Good Looking Charming Feminine	7
			Competence	Reliable Intelligent Technical Successful Leader Family Oriented Real Cool	8
			Ruggedness	Outdoorsy Masculine Western Tough Rugged Upper Class Glamorous	7
Competence	Reliable Hard working Secure Intelligent Technical Corporate Successful Leader Confident	9	Diligent	Daring Unique Hardworking Secure	4
			Modern	Uptodate Independent Contemporary	3

Sophistication	Upper Class Glamorous Good looking Charming Feminine Smooth	6				
Ruggedness	Outdoorsy Masculine Western Tough Rugged	5				

- 42.7% of the respondents are users of X Brand of the laptop computer whilst the others are non-users of this brand; and

- In term of brand quality rating, the respondents rated the brand as follows:

  - 0-20 (1.9%), 21-40 (4.1%), 41-60 (11.6%), 61-80 (16.8%), 81-100 (36.6%); and
  - 101-120 (18.7%), 121-140 (3.4%), 141-160 (5.2%), 161-180 (1.1%) and 181-200 (0.7%).

Table 2: Total Variance Explained & Reliability Test

Brand Personality Dimensions	Eigenvalues	% of Variance	Cumulative %	Cronbach's Alpha
Sincerity	21.352	50.839	50.839	0.909
Excitement	2.356	5.610	56.449	0.918
Competence	1.765	4.203	60.653	0.927
Ruggedness	1.689	4.020	64.673	0.901
Diligent	1.587	3.778	68.451	0.873
Modern	1.357	3.232	71.683	0.862
				Brand Personality: 0.942

4.3 Determination of Brand Personality Dimension for a Laptop Computer

The difference of mean scores toward the brand personality traits was discussed according to the brand of the laptop that the respondents owned. This is to show which of the brand personality dimensions were strongly associated with the X brand of the laptop computer according to two different perceptions (X-brand users & other brand users). As shown in the table 3, the results indicated that the X Brand of laptop users associated the brand as Sincerity (Mean, 3.26; Std. Deviation, 0.688). On the other hand, the users of other brands indicated that the brand is associated to Ruggedness dimension (Mean, 2.98; Std. Deviation, 0.776) compared to the other dimensions

Table 3 – the overall analysis of Brand Personality of a Laptop Computer

Brand Personality	Brand of Laptop Owned	Mean	Standard Deviation	Descriptive Level
Sincerity	X Brand	3.26	0.688	Somewhat Descriptive
	Other Brands	2.85	0.842	Somewhat Descriptive
Excitement	X Brand	2.83	0.915	Somewhat Descriptive
	Other Brands	2.81	0.886	Somewhat Descriptive
Competence	X Brand	3.18	0.749	Somewhat Descriptive
	Other Brands	2.80	0.801	Somewhat Descriptive
Ruggedness	X Brand	2.71	0.770	Somewhat Descriptive
	Other Brands	2.98	0.776	Somewhat Descriptive
Diligent	X Brand	2.87	0.821	Somewhat Descriptive
	Other Brands	2.66	0.968	Somewhat Descriptive
Modern	X Brand	3.16	0.831	Somewhat Descriptive
	Other Brands	2.73	0.781	Somewhat Descriptive

4.3.1   Gender

Independent t-test was used to make a comparison of means between male and female students in term of how they attach themselves to the six dimensions of brand personality. Table 4 shows that the mean scores between male and female respondents did not have significant differences for the dimensions of competence (t = -1.852; Sig. = 0.065) and diligent (t = -1.189; Sig. = 0.235).   However, significant means differences were observed in the aspect of sincerity (t = -5.272. = 0.000), excitement (t = -2.509; Sig. = 0.010), ruggedness (t = -3.180; Sig. = 0.002) and modern (t = -2.133; Sig. = 0.038) of the brand personality.

Table 4: Independent t-test result based on respondents' gender

Brand Personality	Gender	Mean scores	t-value	Sig.
Sincerity	Male	2.76	-5.272	0.000
	Female	3.25		
Excitement	Male	2.68	-2.509	0.010
	Female	2.95		
Competence	Male	2.86	-1.852	0.065
	Female	3.04		
Ruggedness	Male	2.57	-3.180	0.002
	Female	2.86		
Diligent	Male	2.68	-1.189	0.235
	Female	2.81		
Modern	Male	2.84	-2.133	0.038
	Female	3.15		

4.3.2   Brand Owned

Independent t-test was used to make a comparison of means between X brand (users of the laptop) and other brands (users of other brands) with the six dimensions of brand personality. Table 5 shows that the means between the X brand users and other brands users of the laptop did not have significant differences for the dimensions of

excitement (t = 0.207; Sig. = 0.499), ruggedness (t = -0.229; Sig. = 0.819) and modern (t = 1.736; Sig. = 0.084). However, significant means differences were observed in the dimensions of sincerity (t = 4.233; Sig. = 0.000), competence (t = 4.029; Sig. = 0.000) and diligent (t = 1.990; Sig. = 0.048) of the brand personality.

Table 5: Independent t-test result based on brand owned

Brand Personality	Brand of Laptop Owned	Mean scores	t-value	Sig.
Sincerity	X Brand	3.26	4.233	0.000
	Other Brands	2.85		
Excitement	X Brand	2.83	0.207	0.499
	Other Brands	2.81		
Competence	X Brand	3.18	4.029	0.000
	Other Brands	2.80		
Ruggedness	X Brand	2.71	-0.229	0.819
	Other Brands	2.73		
Diligent	X Brand	2.87	1.990	0.048
	Other Brands	2.66		
Modern	X Brand	3.26	1.736	0.084
	Other Brands	2.85		

4.3.3   Present Year of Study

According to Table 6, the ANOVA results revealed that students' year of study had significant impact on the dimensions of ruggedness (F = 6.361; Sig. = 0.002) and diligent (F = 3.376; Sig. = 0.036). However, the other dimensions of brand personality were found to have no significant differences according to the respondents' present year of study.

Table 6: One-Way ANOVA result based on respondents' year of study

Brand Personality	Brand of Laptop Owned	Mean scores	F-value	Sig.
Sincerity	Year 1	3.09	2.102	0.124
	Year 2	2.89		
	Year 3	3.11		
Excitement	Year 1	2.97	1.798	0.168
	Year 2	2.73		
	Year 3	2.79		
Competence	Year 1	2.89	2.194	0.113
	Year 2	2.88		
	Year 3	3.10		
Ruggedness	Year 1	2.84	6.361	0.002
	Year 2	2.50		
	Year 3	2.85		
Diligent	Year 1	2.81	3.376	0.036
	Year 2	2.55		
	Year 3	2.89		
Modern	Year 1	3.06	0.030	0.971
	Year 2	3.04		
	Year 3	3.06		

The result of LSD test performed, as presented in Table 7, shows that the 2nd year students had significantly lower mean score in the ruggedness dimension of the brand personality compared to 1st year and 3rd year students. On the other hand, the 3rd year students had significantly higher mean score in the diligent dimension than the other students.

Table 7: LSD Test result of brand personality according to respondents' present year of study

Brand Personality	(I) Present Year of Study	(J) Present Year of Study	Mean Difference (I-J)	Sig.
Ruggedness	2nd year	1st year	-0.33993*	0.003
		3rd year	-0.35407*	0.002
Diligent	3rd year	1st year	0.07954	0.561
		2nd year	0.33272*	0.013

4.3.4   Academic Program

The result of One-Way ANOVA test for the brand personality of the laptop according to the academic program of the respondents indicated that all dimensions of the brand personality had significant mean differences. Specifically, sincerity with F = 6.175; Sig. = 0.000, excitement (F = 2.648; Sig. = 0.023) competence (F = 3.501; Sig. = 0.004), ruggedness (F = 5.204; Sig. = 0.000) diligent (F = 10.022; Sig. = 0.000) and modern (F = 3.178; Sig. = 0.008).

The LSD test for the brand personality of the laptop based on respondents' academic program was performed. The result indicated that:

- Students of industrial computing program had significantly lower mean scores in the dimensions of sincerity (2.66) and modern (2.77).
- Students of database systems program had significantly highest mean scores in the dimensions of excitement (3.23) and competence (3.44).

4.4   The relationship between brand personality of a laptop computer and its quality rating

In order to identify the relationship between brand personality dimensions of the laptop and its brand quality rating, Pearson's correlation of coefficient analysis was performed. The result is presented in the Table 8. It shows that for the X brand users, two dimensions of the brand personality – sincerity (0.758) and modern (0.599) - were positively correlated with the brand quality rating. For other brands users, three dimensions of the brand personality - ruggedness (0.686), diligent (0.685) and modern (0.757 - were positively correlated with the brand quality rating.

Table 8: Result of the correlations between brand personality and brand quality ratings

Brand Personality	Brand Quality Rating		Sig.	
	X Brand	Other Brands	X Brand	Other Brands
Sincerity	0.758(**)	0.123	0.000	0.129
Excitement	0.088	0.087	0.353	0.282
Competence	0.157	0.095	0.095	0.242
Ruggedness	0.093	0.686(**)	0.327	0.000
Diligent	0.159	0.685(**)	0.091	0.000
Modern	0.599(**)	0.757(**)	0.000	0.000
Note: ** correlation are significant at the 0.01 level (2-tail)				

5.0   DISCUSSION

Result of factor analysis indicated that 35 different personality traits were loaded into six dimensions (Sincerity, Excitement, Competence, Ruggedness, Diligent and Modern). The result validated that Aaker's BPS can be used to determine brand personality that users and non-users associated themselves with laptop computers. Four dimensions of brand personality, in this study, - Sincerity, Excitement, Competence, and Ruggedness – remained identical with what being proposed in the BPS. However, some modification of the personality traits is required to determine the brand personality of laptop computer brands.

In this research, the result showed that differences existed in perceived brand personality associated with a laptop between users and users of other brands. Users of the laptop computer associated themselves with sincerity character of human personality. However, users of other brands see this brand of laptop is having characteristics of ruggedness. This implies that consumers' perception of brand personality of a brand will certainly differ and this could be influenced by their direct involvement with the brand.

The results indicated that some of the brand personality dimensions were positively correlated with brand quality rating. Users of the laptop indicated that 'sincerity' and 'modern' of the brand personality were highly correlated with the brand quality rating. This indicated that when a laptop brand has this sort of identity (personality), the brand will be rated, in term of consumers' perceived quality, higher. In contrast, consumers' may rate quality of a brand as low if they feel the personality-like character that they want to attach themselves with the brand is missing. As suggested by Richardson et al (1994), consumers are more likely to rate a brand with a stronger brand identity (personality) as having better quality.

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