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Evaluation of the Effective Factors on Retailer-Perceived Brand Equity

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ABSTRACT

The existing researches have studied the Brand equity from a consumer perspective, however, for too little attention has been paid to the retail view point. The retailers play the final role in the sales continuum and delivering product to the customers. Thus, they perform a considerable capability on penetrating the consumer's mass and affecting their purchase value.

Based on the existing studies, the Product-Country Image (PCI1), and the quest for marketing have a remarkable influence on the Brand equity. The aim of this study was to evaluate the effective factors which affect the retail value of the commercial brands. Based on the results, evaluating the research model, the advertising variables, the price based promotions and the Product- Country Image, have the largest effects on the Brand equity.

KEY WORDS: Product-Country Image - marketing – Retailer Brand equity –Fuzzy AHP.

1- INTRODUCTION

The Brand equity is the marginal utility or a value of a product, created under a brand name such as Coca-Cola. The Brand equity is an asset for a company that can increase the business cash flow (Simon & Sullivan,1993). The Brand equity is multi-dimensional concepts whose value can be strengthened by promoting its dimensions.

On the other hand, all marketing activities affect the Brand equity, and as the combined marketing ingredients are the controllable tools in the hands of the managers & decision makers, by bridging these ingredients with Brand equity and specifically its dimensions, they can easily decide how to use the combined marketing ingredients and maximizing the Brand equity and finally obtaining the sustainable profitability (Heidarzadeh, 2008).

2- LITERATURE REVIEW

The researchers indicated that the decision making regarding the marketing and the market condition affect the Brand equity (Yoo, Donthu and Lee, 2000).

For example, Simon & Sullivan2 (1993) have pointed out the marketing costs, sales staff, marketing research costs, commercial brand antiquity, advertising shares, market entering model, and production portfolio as the major resources of Brand equity According to Keller's statement (1993), the roles of integrated marketing communications on Brand equity can be specified in two sections. Firstly, establish the commercial brand in the customers' minds and linking strong association in a uniform manner.

Secondly, the marketers can create motivation, ability and opportunity for processing messages and reviewing information from the people's mind when a commercial brand is selected (Anantachart, 2005).

A Brand equity has a lot of benefits for the companies which own the trademarks. The Brand equity has a positive relationship with the loyalty of commercial brand. More exactly, a Brand equity increases the probability of selecting that Brand equity and creates the customer loyalty(Pitta and Katasanis, 1995).

When a commercial brand is compared with a new one, to develop these new commercial brands require lower advertising costs and more sales activities (Smith and Park,1992).

The development of successful commercial brand plays an important role in the higher Brand equity in the original brand (Dacin and Smith, 1994; Keller and Aaker, 1990), although developing a failed commercial brand can reduce the original Brand equity (Loken and John, 1993).

Aaker and Keller (1990) have developed a model to assess the consumers regarding the spread of the commercial brands, and a number of authors have tried to make this model public. (Barret et al., 1999; Bottomley and Doyle, 1996).

A Brand equity will increase the customer satisfaction to pay the premium prices, probability of licensing the commercial brands, marketing communication efficiency, department stores' satisfaction for the future participation and support for retail, consumers' tendency for lower price, and in the other hand, decreases the companies' vulnerabilities towards the competitive marketing activities and the crises (Barwise, 1993; Farquhar et al., 1989; Keller, 1993; Keller, 1998; Pitta and Katasanis, 1995).

In addition, a commercial brand plays a particular role in service companies; because the strong commercial brands have increased the confidence towards the intangible products (Berry, 2000) and enable the customers to evaluate a service before purchasing. Commercial brands decrease the security, social and monetary risks in purchasing the services

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that are the barriers to properly evaluate a service before any purchase. Also the higher level of public brand value increases the customer satisfaction, customers' loyalty and the intention of re-purchasing a product, (Kyung et al,2007). Other research in this area are include: Puppo and Quester's research (2006) related to satisfaction and Brand equity, Ross-Wooldridge, et al (2004) related to the Brand equity and the brand name (Kyung et al, 2007).

RESEARCH METHODOLOGY

Since the present researcher, by collecting the factors & alternatives has created the possibility of deciding over the effective factors on retail value of the commercial brands, though, this research, objective – wise is applicable. But methodology- wise, this research due to the description of the criteria and alternative decisions creates the possibility of subject's analysis and decision making, so it is considered as descriptive – analytic research.

In the first step of this research we identified the factors influencing the retail sales value of the commercial brand by using the library methodology and valid databases and relevant scientific scripts. The design of the questionnaires was based on the Delphi. The identified criterion was distributed within the Delphi questionnaire among the experts who were asked to comment on the factors' refusal or confirmation. They were also asked to consider adding up some other factors in the questionnaire besides the ones identified. After completing the questionnaire, the confirmed factors were selected by experts as the final ones which were compared with separate questionnaires in a couple style.

3-1- Introduction to FAHP:

3-1-1- Fuzzy numbers:

Fuzzy numbers are in fact natural generalizations of ordinary numbers. An ordinary number like $\ddot{a}$ can be shown with the following membership function:

$$\mu_{\ddot{a}}(x) = \begin{cases} 1 & ; if\ x = a \\ 0 & ; if\ x \neq a \end{cases}$$

Therefore, any real number can be stated as a fuzzy number. The simplest fuzzy numbers are triangular fuzzy Numbers (Jafari Samimi et al, 2010).

We define a fuzzy number M on R to be a triangular fuzzy number if its membership function $\mu_{\ddot{a}}(x): R \to [0\ ,1]$ is equal to:

$$\mu_{\ddot{a}}(x) = \begin{cases} \dfrac{x}{m-l} - \dfrac{l}{m-l}, & x \in [l, m] \\ \dfrac{x}{m-u} - \dfrac{u}{m-u}, & x \in [m, u] \\ 0 & otherwise \end{cases} ,$$

The Triangular fuzzy numbers can be expressed by (l,m,u). The parameters l, m, and u respectively, indicate the smallest possible value, the most promising value, and the largest possible value that describe a fuzzy event (Ertug rul & Karakas oglu, 2009).

There are various operations on triangular fuzzy numbers.But here, two important operations used in this study are illustrated. If we define, two positive triangular fuzzy numbers (l_1 ,m_1 ,u_1) and (l_2 ,m_2 ,u_2) then:

$$(l_1, m_1, u_1) \cdot (l_2, m_2, u_2) = (l_1 . l_2, m_1 . m_2, u_1 . u_2)$$

$$(l_1, m_1, u_1)^{-1} \approx \left(\frac{1}{u_1}, \frac{1}{m_1}, \frac{1}{l_1}\right)$$

3-1-2- Fuzzy AHP:

AHP is one of the well-known multivariate decision making method invented by Saaty in 1970s. Indices may be qualitative or quantitative. AHP is based on pairwise comparisons. In this method, decision-maker forms a hierarchical decision tree and determines its indices and options. Then, s/he makes some pairwise comparisons and determines the weight of each factor in comparison with rival ones (saaty, 1980).

The traditional AHP method is problematic in that it uses an exact value to express the decision maker's opinion in a comparison of alternatives (Wang & Chen, 2007). And AHP method is often criticized due to its use of unbalanced scale of judgments and its inability to adequately handle the inherent uncertainty and imprecision in the pair-wise comparison process (Deng, 1999). To overcome all these shortcomings, FAHP was developed for solving the hierarchical problems. Decision makers usually find that it is more confident to give interval judgments than fixed value judgments (Kahraman et al., 2003).

In this study the extent FAHP is utilized, which was originally introduced by Chang (1996). According to the method of Chang's extent analysis, each object is taken and extent analysis for each goal is performed respectively[1].

4- Data analysis:

After the conversion of linguistic variables (qualitative) to triangular fuzzy numbers, the average of collected data was obtained from three sample companies that were calculated to the combined fuzzy data.

Table1: Preliminary Matrix factors' comparison in pair after the data integration.

Factors	PRO	SPI	PL	PD	PCI
PRO	(1,1,1)	(1.67,2.33,3)	(2.67,3.67,4.67)	(3.42,4.11,4.83)	(3.38,4.05,4.72)
SPI	(0.5,0.55,0.67)	(1,1,1)	(1.08,1.44,1.83)	(1.43,1.78,2.14)	(0.81,1.18,1.58)
PL	(0.22,0.29,0.42)	(1.08,1.44,1.83)	(1,1,1)	(0.76,3.34,4.42)	(1.42,1.76,2.11)
PD	(2.29,1.11,1.47)	(3.39,4.07,4.75)	(3.42,4.11,4.83)	(1,1,1)	(2,3,4)
PCI	(2.1,2.45,2.81)	(2.08,2.78,3.5)	(4.06,4.73,5.42)	(0.25,0.33,0.5)	(1,1,1)

Whose data provide:
PRO: Promotion activities
SPI: Supplier's Image
PL: Price level
PD: Price deals
PCI: Product-Country Image
In the next step, the Si vector is calculated:
Such vector is the multiplication product of two vectors which is calculated as follows: To obtain the first vector, we gather together the components of fuzzy numbers in each row.
In the second vector, the total sum of the existing triangular numbers in the above matrix turned to their reverse form. This vector is the same in all Si calculations.

$$S_1 = (12.14,15.16,18.22) \otimes (\frac{1}{64.5},\frac{1}{53.52},\frac{1}{43.03}) = (0.19,0.28,0.42)$$

$$S_2 = (4.82,5.95,7.22) \otimes (\frac{1}{64.5},\frac{1}{53.52},\frac{1}{43.03}) = (0.07,0.11,0.17)$$

$$S_3 = (4.48,7.83,9.78) \otimes (\frac{1}{64.5},\frac{1}{53.52},\frac{1}{43.03}) = (0.07,0.15,0.23)$$

$$S_4 = (12.1,13.29,16.05) \otimes (\frac{1}{64.5},\frac{1}{53.52},\frac{1}{43.03}) = (0.19,0.25,0.37)$$

$$S_5 = (9.49,11.29,13.23) \otimes (\frac{1}{64.5},\frac{1}{53.52},\frac{1}{43.03}) = (0.15,0.21,0.31)$$

To compare the Si vectors in algorithm of fuzzy hierarchical analysis use the following formula:

$$V(S_1 \geq S_2) = 1 \text{.....} if S_1 \geq S_2$$

$$V(S_1 \geq S_2) = \frac{l_2 - u_1}{(m_1 - u_1) - (m_2 - u_2)} \text{.....} if S_2 \geq S_1$$

Where:

$$S_1 = (l_1, m_1, u_1)$$

$$S_2 = (l_2, m_2, u_2)$$

Thus the comparison of vectors S1 to S5 of the above formula will be as follows:

$$V(S_1 \geq S_2) = 1$$

$$V(S_1 \geq S_3) = 1$$

$$V(S_1 \geq S_4) = 1$$

$$V(S_1 \geq S_5) = 1$$

[1] For more information see: "".

$$V(S_2 \geq S1) = \frac{0.19 - 0.17}{(0.11 - 0.17) - (0.28 - 0.19)} = 0.13$$

$$V(S_2 \geq S_3) = \frac{0.07 - 0.17}{(0.11 - 0.17) - (0.15 - 0.07)} = 0.71$$

$$V(S_2 \geq S_4) = \frac{0.19 - 0.17}{(0.11 - 0.17) - (0.25 - 0.19)} = 0.17$$

$$V(S_2 \geq S_5) = \frac{0.15 - 0.17}{(0.11 - 0.17) - (0.21 - 0.15)} = 0.17$$

$$V(S_3 \geq S_1) = \frac{0.19 - 0.23}{(0.15 - 0.23) - (0.28 - 0.19)} = 0.23$$

$$V(S_3 \geq S_2) = 1$$

$$V(S_3 \geq S_4) = \frac{0.19 - 0.23}{(0.15 - 0.23) - (0.25 - 0.19)} = 0.29$$

$$V(S_3 \geq S_5) = \frac{0.15 - 0.23}{(0.15 - 0.23) - (0.21 - 0.15)} = 0.57$$

$$V(S_4 \geq S_1) = \frac{0.19 - 0.37}{(0.25 - 0.37) - (0.28 - 0.19)} = 0.86$$

$$V(S_4 \geq S_2) = 1$$

$$V(S_4 \geq S_S) = 1$$

$$V(S_4 \geq S_5) = 1$$

$$V(S_5 \geq S_1) = \frac{0.19 - 0.31}{(0.21 - 0.31) - (0.028 - 0.19)}$$

$$V(S_5 \geq S_2) = 1$$

$$V(S_5 \geq S_3) = 1$$

$$V(S_5 \geq S_4) = \frac{0.19 - 0.31}{(0.21 - 0.31) - (0.25 - 0.15)}$$

The next step will establish the d (I) values as follows:

$$d'(I1) = MIN(S_1 \geq S_2, S_3, S_4, S_5) = MIN(1,1,1,1) = 1$$

$$d'(I2) = MIN(S_2 \geq S_1, S_3, S_4, S_5) = MIN(0.13,0.71,0.17,0.17) = 0.13$$

$$d'(I3) = MIN(S \geq S, S, S, S) = MIN(0.23,1,0.29,0.57) = 0.23$$

$$d'(I4) = MIN(S \geq S, S, S, S) = MIN(0,86,1,1,1) = 0.86$$

$$d'(I5) = MIN(S \geq S, S, S, S) = MIN(0.63,1,1,0.75) = 0.63$$

d (I) values constitute our final matrix:

$$W' = (1,0.13,0.23,0.86,0.63)^T$$

$$W = (0.35,0.05,0.08,0.30,0.22)$$

Thus, FAHP method priorities the following criteria:

Table (2) final prioritizing the effective factors on the Retailer-Perceived Brand equity based on the Fuzzy AHP

Factors	Weight of factors
PRO	0.35
PD	0.30
PCI	0.22
SPI	0.05
PL	0.08

5- Conclusion

Thus, based on the fuzzy AHP Technique, the priority of the effective factors on Retailer-Perceived Brand equity is as follows:
PRO: Promotion activities
PD: Price deals
PCI: Product-Country Image
SPI: Supplier's Image
PL: Price level

Based on the drawn results, Promotion activities, Price deals and Product-Country Image, respectively, have the major effect on the Retailer-Perceived Brand equity.

Advertising effectiveness comparison is implemented with the particular Brand equity on commercial brand next to the Lee & Stalin research (1994), Maxwell (1989), Lindsey (1984), Johnson (1984), Yu (2000) and Heidarzadeh (1386).

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