The effects of brand associations on three constructs

Michaël Korchia

Professeur

Bordeaux Ecole de Management

680 cours de la Libération

33405 Talence

Tél : 05.56.84.42.15.   Fax : 05.56.84.55.00.

Abstract:
The concept of brand associations stems from cognitive psychology theories. We created an experiment to test the effects of the characteristics of the associations on three constructs: brand-equity, subjective brand knowledge, and brand interest. As hypothesized, the characteristics of the associations have no effect on subjective knowledge, whereas unique and favorable associations allow the brand to create high brand-equity and brand interest.
Keywords: Brand associations, brand equity, subjective brand knowledge, brand interest.

The 1970s represent a major turning point in cognitive psychology with the development of new theories on memory. These theories were quite quickly implemented in marketing but it was not until the 1990s that they were more widely publicized, by Keller (1993) for example. One major concept based on these theories is brand associations. Following a review of brand associations' basis in psychology and marketing, we present an original research project aimed at achieving a better understanding of its effects on consumers. More specifically, we shall explore how consumers' brand associations may impact their perception of brand equity and subjective knowledge, as well as their interest in a particular brand.

BRAND ASSOCIATIONS

In 1983, Anderson proposed ACT*, a complex, comprehensive model of memory. In this model, nodes represent concepts stored in long-term memory. These nodes are interconnected by links of varying strength, depending on the proximity of the concepts to which they refer. For example, the Barilla brand is considered to be more closely linked to the concept of "pasta" than "tomato sauce". It includes the concept of spreading activation: when a node is stimulated, spreading activation takes place throughout the network and other nodes may be stimulated in turn. The level of activation reaching a node must exceed a certain threshold to trigger activation. For example, this spreading activation process may result in a person hearing the stimulus word "Barilla" thinking more readily of "pasta" than "tomato sauce", as the link between "Barilla" and "tomato sauce" is below the activation threshold.

The brand association concept is directly related to the model presented above, i.e. a brand association is a node linked to a particular brand. In fact, according to Keller (1993, p. 3), these brand associations constitute the consumers' image of this brand: *"brand image is defined as perceptions about a brand as reflected by the brand associations held in consumer memory"*. They may vary in many dimensions, including type, favorability, strength, uniqueness.

Keller (1993) suggests classifying the various types of brand associations in 9 dimensions, while Aaker (1991) put forward 11. Working with existing data that had not been tested empirically, Korchia (1999) demonstrated, however, that these typologies had certain weaknesses. This led him to establish 15 categories of associations: the company, other organizations, brand personality, celebrities and events, typical users, typical usage situations, product category, price, communication, distribution, product-related attributes, functional benefits, experiential benefits, symbolic benefits, and attitude.

In this research, we tested the effect of brand association characteristics on three recently developed constructs: brand equity, subjective knowledge, and brand interest. These constructs were chosen as we felt they were intimately linked with the concept of brand association, as we shall see later. Furthermore, they have only recently been operationalized, and we felt it was important to replicate this study with French-speaking subjects in order to understand the causal factors more clearly.

Following the presentation of these three concepts, we suggest hypotheses concerning the impact of certain characteristics of brand associations. We describe an experiment where we manipulated certain characteristics of brand associations and examined the effect on these three constructs. The brand association characteristics we chose to handle were favorability and uniqueness, as well as quantity.

This study does not aim to be exhaustive as brand associations are complex phenomena with countless effects on consumer behavior. Our objective was to pinpoint some of these effects by focusing on specific points rather than presenting a comprehensive model, which we feel would be unrealistic in view of the complexity of this issue.

BRAND EQUITY

Costumer-based brand equity was defined by Keller (1993, p. 2) as "*the differential effect of brand knowledge on consumer response to the marketing of the brand"*. This concept implies a comparison of the impact of marketing campaigns for an existing brand with those for a fictitious or unnamed brand. Consumers have a positive level of brand equity when they are familiar with a brand and it evokes strong, unique, favorable associations. The background to brand equity consists of consumers' prior experience of the brand, either as a result of marketing (advertising, etc.), or direct contact (using products with that brand, word-of-mouth, etc.) (Campbell & Keller, 2003; Krishnan, 1996). These experiences, or brand familiarity (Baker et al., 1986; Korchia, 2001), create brand associations in memory. These associations create, in turn, a level of brand equity. A high level of brand equity has considerable impact, particularly in terms of easier acceptance of brand extensions, increased preference for products with that brand, and enhanced loyalty. A consumer with a high level of brand equity will be inclined to consume more products with that brand, which increases familiarity and creates additional associations. This could be called the "virtuous circle" of brand equity. A summary of our discussion of the background and consequences of brand equity is shown in figure 1.

FIGURE 1
Antecedents and consequences of brand equity
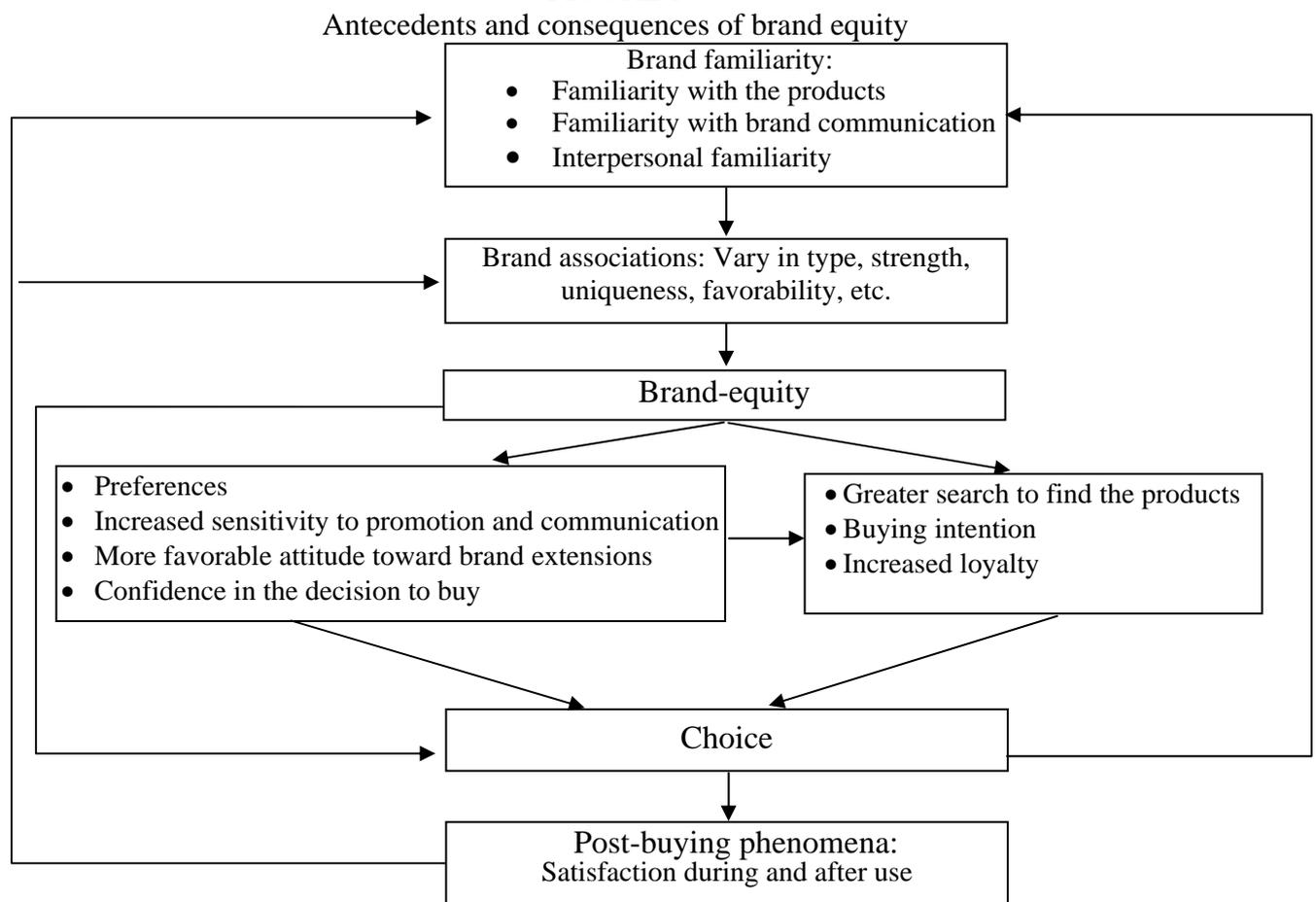
We used the measurements developed by Yoo & Donthu (2001) and Yoo, Donthu, & Lee (2000). An independent assessment of this scale was conducted by Washburn and Plank (2002); the results were satisfying.

Strong, favorable, unique associations are considered necessary for a high level of brand equity (Keller, 1993). Krishnan (1996) and also Chen (2001) demonstrated, in part, the importance of positive, unique associations. We intend to test some of these hypotheses again.

> ***H1:*** *Favorable, unique brand associations contribute to a maximum level of brand equity. Low brand equity results from negative associations.*

SUBJECTIVE KNOWLEDGE

According to Alba and Hutchinson (1987, p. 411), consumer knowledge consists of two complementary concepts, familiarity and expertise. There is, however, another related concept: subjective knowledge, which represents a person's perceptions of his/her knowledge of this field (Cordell, 1997; Park et al., 1994; Selnes et al., 1985). In other words, brand expertise is what a person really knows, subjective knowledge is what they think they know, and familiarity measures their exposure to the brand. Thus, subjective knowledge is not always an accurate reflection of objective knowledge. Although these measurements are correlated, they are not interchangeable: factors relating to the situation or unit studied may affect one other of these measurements (Cole, Gaeth & Singh, 1986; Selnes et al., 1985). Subjective knowledge of a brand may affect, for example, the assessment of an alliance between two brands (Simonin & Ruth, 1998) or the memorization and effectiveness of advertising (see, for example Kent & Allen, 1994; Machleit & Wilson, 1988).

Some *ad hoc* measurements of subjective brand knowledge have been developed (Simonin & Ruth, 1998), but, to our knowledge, they have never been rigorously tested. We developed and tested a 4-item measurement of subjective brand knowledge. The four questions we used apparently had satisfactory psychometric qualities.

According to Park, Mothersbaugh, and Feick (1994, p. 72; see also Feick, Park, & Mothersbaugh;1992), who studied subjective knowledge of a product category, " *knowledge assessment is viewed as a judgment process in which individuals scan memory for clues that will help them evaluate their knowledge"*. These clues can be stored in long-term memory, or heuristics based on the number of experiences. Let us note, however, that these heuristics are probably based on associations stored in memory that represent a variety of experiences.

This scanning process takes a few seconds. It would be logical to think that an individual assessing his/her level of knowledge only scans the strongest associations, ignoring other characteristics, such as uniqueness or favorability. This discussion leads to two hypotheses:

> ***H2a:*** *The number of brand associations stored in memory has a positive impact on the level of subjective knowledge of the brand.*
> ***H2b:*** *The uniqueness and favorability of brand associations stored in memory have no impact on the level of subjective knowledge of the brand.*

BRAND INTEREST

The concept of brand interest was introduced by Machleit, Madden, and Allen in 1990 (p. 223; see also Machleit, Allen, & Madden, 1993). These authors observed that excessive familiarity with a brand may result in consumers becoming bored with it and being attracted to the competition. They defined brand interest as: "*the level of interest or intrigue the consumer has in the brand and the level of curiosity s/he has to inquire or learn more about the brand"*. Brand interest may be stimulated by diversifying consumer experience, in particular by communication activities (advertising, sponsorship, etc.). Machleit et al. (1990) showed that an evaluation of advertising and the positive emotions it evokes have an effect on brand interest. Furthermore, it has been suggested that a brand with an atypical image may evoke more curiosity than a more banal competitor.

A 4 item measurement scale was developed by Machleit et al. (1990), and then demonstrated to be valid and reliable for several different categories of products (see annex 1).

Hypotheses

4

> *H3a: The favorability of brand associations stored in memory has a positive impact on level of brand interest.*
>
> *H3b: A brand with unique associations evokes more brand interest than a brand with shared associations, perceived as banal.*

METHOD

Experimental set up

We set up experiments where we manipulated the favorability (positive or negative) and uniqueness (unique or shared/banal) of associations linked to a fictitious brand. There was also a control group, exposed to a smaller number of associations that were as neutral as possible, in terms of favorability and uniqueness. This gave a 5-cell grid: 2 (unique or banal associations) x 2 (favorable or unfavorable associations) + 1 control group (fewer associations, more neutral).

We used a fictitious brand. The use of an existing brand would have caused problems due to the potential variation in networks of associations in the minds of interviewees with different levels of familiarity (Till & Shimp, 1998; Low & Lamb, 2000). The use of a fictitious brand made it possible to control the number of brand associations and their characteristics. Following a preliminary test, the category "ready-to-wear" and the brand "Manic" were chosen.

Choice of scenario and administration procedure

Five scenarios were created. The protocol was as follows: the interviewee started by reading a short message explaining that the study was part of research being carried out for non-commercial purposes, and that he/she would be asked to read a text and answer about twenty questions. The interviewee then read one of the 5 scenarios (chosen at random) at his/her own speed, answered an open control question ("Can you describe the brand "Manic" in a few words?"), then answered a set of twenty questions. Every scenario started with the heading: "Manic in 10 points", in bold type and in a larger font than the text, except for the control scenario, which started with: "Manic in 7 points". Every scenario was designed to present a "biased" portrait of Manic in terms of the favorability and uniqueness of associations. For example, the two favorable scenarios presented a flattering portrait of Manic, but one focused on the originality of the company while the other accentuated its conventional side. No product photos were included as, although this would have made the study more credible and created stronger associations (Mooy & Robben, 1998), the results would have been skewed by varying reactions to the clothes themselves. The questionnaire was pre-tested on about one hundred students. The E-experiment software allocated one of the 5 scenarios at random to each interviewee. It also changed the order of the questions in a random manner, only keeping the open question in the same position, i.e. first. Approximately 30 persons did not answer the entire questionnaire and 7 others stated they had guessed Manic was a fictitious brand. These results were withdrawn from the statistics, leaving a total of 297 interviewees.

Manipulation check

An open question was asked after the text was read to check that the manipulation was effective. The answers were divided into semantic units (Kassarjian, 1977), then labeled according to favorability (positive, negative, or neutral). Finally, a code was allocated to indicate whether the interviewee considered Manic to be an original or banal brand. The manipulation was apparently effective (contact the author for details).

TESTING THE HYPOTHESES

The three constructs were apparently one-dimensional and different from each other (discriminant validity) and reliable. The means of the 4 items measuring each construct were then calculated and subjected to variance analyses to test the hypotheses.

The brand equity levels for each scenario are shown in table 1. The main impact was very strong, with marginally significant interaction. A Duncan test at 5% also confirmed H1.

As the control scenario contained less information than the others, the interviewees who read it could be assumed to have a lower level of subjective knowledge than those who read the other scenarios. An ANOVA with one independent variable (control/non-control) confirmed this assumption: the level of subjective knowledge was 2.42 for persons who read the control scenario, as compared to 2.77 for the others ($F_{1,295}=3.80$, p=5.2%). This difference may seem very small but these low knowledge levels are normal as the interviewees had very little exposure to information on the Manic brand. Hypothesis H2b suggests that the level of subjective knowledge did not vary according to the favorability and uniqueness of the associations. The non-significant ANOVA shown in table 2 is in agreement with this finding as the 4 means are very similar. H2a and H2b are thus confirmed.

The level of interest depended on the favorability of associations: the mean interest level of interviewees who read "favorable" scenarios was 3.79, compared to 2.96 for the others ($F_{1,239}=16.13$, p<0.01%). Similarly, unique associations had a positive impact on brand interest, although the results were less marked ($F_{1,239}=3.12$, p=7.9%). Hypotheses H3a and H3b are therefore confirmed.

TABLE 1
Means of the constructs

independent var. / dependant var.	Hypothesis	Positive/ unique scenario	positive/ banal scenario	negative/ unique scenario	negative/ banal scenario	Significativity[1]		
						F	U	F*U
Brand-equity	H1	3.59	2.89	2.60	2.43	<.1%	<.1%	9.5%
Subjective knowledge	H2b	2.79	2.75	2.86	2.68	97%	49%	69%
Brand interest		4.16	3.40	2.94	2.99	Effects not tested simultaneously		

DISCUSSION AND CONCLUSION

Our hypotheses have, therefore, been validated, or at least, cannot be rejected. In certain cases, however, we had to set the significance level at 10% rather than 5%.

Our findings confirmed Keller's statement (1993): a brand with positive and unique associations has a high level of brand equity. The impact of the interaction favorability*uniqueness was interesting from this point of view, as it was marginally significant ($F_{1,237}=2.801$; p=9.5%). A simple visual inspection of the mean values also confirmed this statement: the level of brand equity was clearly higher when there were both unique and positive associations[2]. It is clearly not sufficient to emphasize the functional, experiential, or symbolic advantages of a product to improve brand equity. It is essential to distinguish the product from its competitors, demonstrating, if possible, its unique aspects. With this in mind, it would be interesting to test which benefits are most associated with a high level of brand equity. Certain types of associations, and their associated benefits, may have a greater impact than others on brand equity. Note than in certain markets, especially mature ones, it is more relevant to create unique symbolic associations, as functional associations are usually shared by the dominant brands.

Brand interest depends on associations in a similar way to brand equity: once again, maximum levels are attributable to favorable and unique associations. As brand interest is mainly manipulated by communication policy (Machleit et al., 1993), it is, once again, vital to stand out from competing brands.

Subjective knowledge is the only one of the three constructs studied here where the favorability and uniqueness of associations had no impact. A more comprehensive background study is necessary. Its relations with the other knowledge measurements, i.e. brand familiarity and expertise, also require further study. Unlike brand equity, subjective knowledge does not usually have a direct impact on consumer behavior, but rather moderates some attitudinal relationships.

Our research contributes to achieving a better understanding of the influence of brand associations on consumer behavior. Experiments using a fictitious brand made it possible for us to control the interviewees associations stored in memory and measure the consequences of these manipulations on three constructs. Our research, however, has certain limitations. The first is temporal: a network of associations specific to a brand is usually built up over a period of several weeks, months, or even years. In our case, this process only lasted a few minutes. It is possible that the strength of certain relationships was reduced as a result.

The use of an unknown brand may restrict the external validity of the study, particularly for the interviewees who realized the brand was invented (Lynch, 1982 and 1999). This observation may easily be generalized to cover new or little-known brands, for which consumers start out with poorly-developed cognitive structures. The only difference, in our opinion, is that the survey only lasted a few minutes rather than several hours or days, which may be considered unrealistic. The type of experiment used in this study provides almost perfect control of the information stored in memory by consumers. This would not have been the case for an existing brand, for which consumers were likely to have extensive, varied knowledge. We are, therefore, relatively confident in the external validity of this study.

Now that the impact of brand associations on the three constructs studied in our research is better known, we feel it is important to continue in this vein. In particular, it would be interesting to try an integrated approach by positioning and testing each of these constructs in a more general experiment, taking background and consequences into account. The results presented here confirm what marketing experts have felt for some time, i.e. that brands can no longer be content with simply presenting their advantages but must, at the same time, emphasize their differences.

BIBLIOGRAPHIE

Aaker D. A. (1991), *Managing Brand Equity*, New York: The Free Press

Alba, J. W. and Hutchinson, J. W. (1987), Dimensions of Consumer Expertise, *Journal of Consumer Research*, 13, 411-454

Anderson J. R.. (1983), A Spreading Activation Theory of Memory, *Journal of Verbal Learning and Verbal Behaviou*r, 22, 261-295

Baker, W., Hutchinson, J. W., Moore, D. and Nedungadi, P. (1986), Brand Familiarity and Advertising : Effects on the Evoked Set and Brand Preference, *Advances In Consumer Research*, 13, 637-642

Brucks M. (1985), The Effects of Product Class Knowledge on Information Search Behavior, *Journal of Consumer Research*, 12 (June), 1-15

Campbell, M. C. and K. L. Keller (2003), Brand Familiarity and Advertising Repetition Effects, *Journal of Consumer Research,* 30(September), 292-303.

Chen, A. C.-H. (2001). Using free association to examine the relationship between the characteristics of brand associations and brand equity, *Journal of Product & Brand Management* 10 (7), 439-451.

Cobb-Walgren, C. J., Beal, C. and Donthu, N. (1995), Brand Equity, Brand Preferences, and Purchase Intent, *Journal of Advertising*, 24 (3), 25-40

Cole, C. A. Gaeth, G. and Singh S. N. (1986), Measuring Prior Knowledge, *Advances In Consumer Research*, 13, 64-67

Cordell, V.V. (1997), Consumer Knowledge Measures as Predictors in Product Evaluation, *Psychology and Marketing*, 14. 241-260

DeRosia, E. (2000), e-Experiment (v2.1) Documentation: Software for Creating True Experiments on the Web, *Working Paper 99-021*, University of Michigan Business School. Ann Arbor, MI

Feick L., Park C. W. and Mothersbaugh, D. L. (1992), Knowledge and Knowledge of Knowledge : What We Know, What We Think We Know, and Why the Difference Makes a Difference, *Advances in Consumer Research*, 19, 190-192

Kassarjian, H. H. 1977. Content Analysis in Consumer Research. *Journal of Consumer Research*, 4 (June), 8-18

Keller K. L. (1993), Conceptualizing, Measuring, and Managing Customer-Based Brand Equity, *Journal of Marketing Research*, 29, 1-22

Kent, R. J. and Allen, C. T. (1994), Competitive Interference Effects in Consumer Memory for Advertising: The Role of Brand Familiarity, *Journal of Marketing*, 58 (July), 97-105

Korchia, M. (1999), A New Typology of Brand Image, *European Advances in Consumer Research,* 4, 147-154

Korchia, M. (2001). The Dimensions of Brand Familiarity, *Proceedings of the 30th EMAC Conference*, Bergen, Norway.

Low, G. S. and C. W. Lamb (2000), The Measurement and Dimensionality of Brand Associations, *Journal of Product and Brand Management,* 9(6): 350-368

Lynch, J. G. (1982), On The External Validity of Experiments in Consumer Research, *Journal of Consumer Research*, 9, 225-239

Lynch, J. G. (1999), Theory and External Validity, *Journal of the Academy of Marketing Sciences*, Vol. 27, N° 3, 9, 225-239

Machleit K. A., Allen C. T. and Madden, T. J. (1993), The Mature Brand and Brand Interest : An Alternative Consequence of Ad-Evoked Affect, *Journal of Marketing*, 57, 72-82

Machleit, K. A., Madden, T. J. and Allen, Chris T (1990), Measuring and Modeling Brand Interest as an Alternative Aad Effect with Familiar Brands, *Advances in Consumer Research*, 17, 223-229

Machleit, K. A., Wilson, R. D. (1988), Emotional Feelings and Attitude Toward the Advertisement: The Roles of Brand Familiarity and Repetition, *Journal of Advertising*, 17 (3), 27-35

Mooy, S. C. and Robben, H. S. J. (1998), How Consumers Learn From and About Products: The Impact of Direct Experience, *Advances in Consumer Research*, 25, 318-323

Park C. W., Mothersbaugh, D. L. and Feick L. (1994), Consumer Knowledge Assessment, *Journal of Consumer Research*, 21 (June), 71-82

Selnes F. and Grønhaug K. (1986), Subjective and Objective Measures of Product Knowledge Contrasted, *Advances In Consumer Research*, 13, 67-71

Simonin, B. L., Ruth, J. A. (1998), Is a Company Known by the Company It Keeps? Assessing the Spillover Effects of Brand Alliances on Consumer Brand Attitude, *Journal of Marketing Research*, 35, 30-42

Tiberghien, G. (1997), La mémoire humaine: Connaître ou se souvenir ? [Human memory : to know or to remember ?], Gordon, M.B., & Paugam-Moisy, H. (Eds.). *Sciences cognitives: Diversité des approches* (p. 139-152). Paris: Hermès.

Till B. D. and Shimp T. A. (1998), Endorsers in Advertising: The Case of Negative Information, *Journal of Advertising*, 27, 1, 67-82

Yi, Y. (1989), An Investigation of the Structure of Expectancy-value Attitude and Its Implications*, International Journal of Research in Marketing*, 6, 71-83

Yoo, B. and Donthu, N. (2001), Developing and Validating a Multidimensional Consumer-Based Brand Equity Scale, *Journal of Business Research*, 52 (April), 1-14

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*, 28 (April), 195-211

Washburn, J.H. and Plank, R.E. (2002) Measuring brand equity: an evaluation of a consumer-based brand equity scale, *Journal of Marketing Theory and Practice*, Winter, pp. 46-62.

Zaichkowsky J.L. (1985), Measuring the Involvement Construct**, *Journal of Consumer Research*, 12, pp.341-352

---

[1] F : Favorability, U : Uniqueness, F*U : interaction.

[2] A Duncan's test ($p < 1\%$) confirmed that the mean score for this scenario was much higher than those of the others.