Determinants of brand equity for credence goods: Consumers' preference for country origin, perceived value and food safety

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Abstract: Food safety is an important credence attribute that is increasingly being emphasized by the food industry, regulatory bodies and the consumers around the world. Consumers cannot predict *ex ante* performance of the product based on the credence attributes due to *information asymmetry*, and they need a signal that they can trust in purchasing a food product with high credence attributes. Consumers are likely to use a brand name as a surrogate of the quality and the safety guarantee in purchasing food products with credence attributes. An effective brand management appears to be a major prerequisite for the creation of superior customer value (i.e. brand equity) and successful positioning of credence goods. This study empirically validates four determinant conceptualization of brand equity for credence goods by utilizing the Latent Variable Structural Equation Modeling (LVSE). Findings support the four factor model of brand equity for credence goods. The main objective of this study is to illustrate how consumers place value on major product cues in making purchasing decision of credence products. The findings show that brand loyalty and attribute based components (i.e. perceived value) appears to have the dominant role in determining a brand's equity.

Key words: consumer preference, food safety, brand equity, branding

Food safety is an important credence attribute that is increasingly being emphasized by the food industry, regulatory bodies and the consumers around the world. Food-quality crises such as the bovine spongiforme enzephalopathie (BSE) and the foot and mouth disease (FMD) have sharpened the consumers' concerns about shopping, the experience and credence attributes of food products (Hanf and Kuhl 2005). These incidents have resulted in trade bans, price fluctuations, culling of animals, a decreased consumption of products, and the damage to the image of the particular industry perceived to be responsible for the incident, as well as to the image of the food industry more generally (Verbeke 2001). Food chains around the world are being redesigned to offer transparency regarding the product quality to consumers; and the major stakeholders in the food supply chain are adopting branding as a strategically important method to communicate the safety of food with the consumers.

Consumers are aware of the fact that food products consist of search, experience as well as credence attributes. Credence attributes include the product and service characteristics that cannot be detected under the ordinary circumstances by the buyer, either before or after the product use (Nelson 1970; Darby and Karni 1973; Brucks et al. 2000; Srinivasan and Till 2002). Thus, the consumers cannot predict *ex ante* the performance of the product based on the credence attributes due to the *information asymmetry* (i.e. consumers are not fully informed about the product quality unlike the sellers). Therefore, the consumers need a signal that they can trust in purchasing a food product with high credence attributes. A trademark or a brand name is such signal. Consumers are likely to use the brand name as a surrogate of the quality and the safety guarantee in purchasing food products with credence attributes. Lemon et al. (2001).note that the role of brand is critical for the credence goods, when it is difficult to evaluate the quality or safety prior to consumption. A brand helps to ease the buying decision by giving the information and catalyzing the information processing; they reduce search costs and can help to lower the risk of making a bad bargain (Hanf and Kuhl 2005).

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An effective brand management appears to be a major prerequisite for the creation of a superior customer value (i.e. brand equity) and a successful positioning of credence goods. Effective brand management requires the formation of the strategy and the determination of brand attributes, as well as the installation of the control mechanism. Developing broader perspectives on how to create brand equity for credence products is crucial in the globalized economy where the international trade of these credence products are rising and the consumer concern for these products is increasing.

Brand equity is the added value endowed by the brand to the product (Farquhar 1989; Keller 1993). It can be viewed as an intangible asset belonging to the company and therefore likely to reflect differentiated economic and financial results (Calderon et al. 1997). From this perspective, brand is an object that generates profit. An increase in the brand equity implies increases in the probability of the brand choice, willingness to pay premium prices, marketing communication effectiveness, and the decrease in vulnerability to the competitive marketing actions and an elastic response to price increases (Farquhar et al. 1991; Keller 1993; Yoo et al. 2000). Brand equity has become an important concept for marketers due to its core element status in the company strategy and management and to its financial significance when quantifying intangible assets (Calderon et al. 1997). Considerable research has examined the effectiveness of different elements of the marketing mix on the creation of brand equity (Keller and Lehmann 2006). However, despite the tremendous interest in marketing of the credence goods such as food safety, little conceptual development or empirical research has addressed which factors create the brand equity for credence goods. The purpose of this study is to provide comprehensive insights regarding the consumer information search behavior in purchasing branded food products with credence attributes, therefore, to suggest how the international branding strategies can be developed to generate the brand equity for credence goods.

The paper is presented in the following manner. First, we present a conceptual framework of the brand equity model that explains the structural relationship between the identified determinants and the brand equity. We then review the literature relevant to the determinants that influence the consumers' choice behavior for branded credence products, and propose the research hypotheses. In the following section, we explain the research method and report the results of empirical testing. The final section includes discussions of the findings and marketing implications of the results.

RESEARCH PROPOSITIONS

Conceptual background

Researchers suggest alternative methods to evaluate the brand equity. Several researchers discuss the brand equity based on consumer perception and consumer behavior. Keller (1993) viewed the brand equity as the consumers' behavior toward a brand, suggesting the consumers' brand knowledge, brand awareness and brand image as relevant constructs of brand equity. Rangaswamy et al. (1993) used the conjoint analysis to assess three sources of the consumer utility affecting the brand value such as the physical attributes of the product, the presence of the brand and the interaction between the brand and product attributes. This approach analyzes the consumers' choice for trade-off between the brand and price to obtain a monetary value of a brand name. Park and Srinivasan (1994) propose using the hierarchical integration of information. This method evaluates the influence of brand and its components on the consumer preference simultaneously. Their framework show how the consumers integrate the information on the attributes to certain constructs and use these construct to form their impression of different alternatives. Aaker (1996) measured the brand equity with multiple dimensions such as price premium, loyalty, perceived quality, and brand associations. He suggests that the consumer perception toward these constructs translates into the brand equity. They use market research techniques (survey and panel) to investigate the percentage of consumers who express a preference, a favorable attitude, a purchase intention, behavior or repeat purchase of a brand as approximation of the brand loyalty and project brand equity as the marginal value of extra sales or revenue which the brand generates.

Past studies suggest that the brand equity can be identified as a multidimensional construct consisting of brand loyalty, brand awareness, brand knowledge, perceived equity and other propriety assets (Aaker 1991, 1996). However, not many studies have examined the structure of the brand equity specifically for credence products. The conceptual model of this study is developed specifically to address the critical role of the credence attribute in the consumer purchase decision for brand products. Our research model assembles four constructs: *Brand origin, Perceived value, Risk concern* and *Brand loyalty,* and assesses their comparative and interactive effects on the consumers' brand equity formation for the credence products (Figure 1).

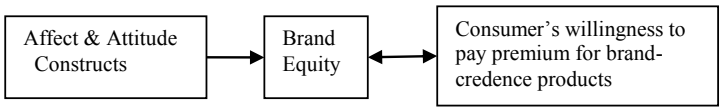

Figure 1. A conceptual framework for the effect of Brand equity for credence products

In our study, *Brand origin*, *Perceived value* and *Risk concern* are considered as three 'attitudinal' constructs which are used in the consumers' evaluation of the quality, safety and the performance of a credence product. The attitude construct can be defined as a summarized evaluative judgment, based on cognitive beliefs and its evaluative aspect (Agarwal and Malhotra 2005). *Brand loyalty* is an 'affect' construct, which can be defined as a holistic construct- indicating the consumers' affective responses to stimulus. *Brand loyalty* may be formed due to the consumers' positive experience or the positive *ex ante* stereotype toward brand. In order to test the relative importance of these four constructs of brand equity and to determine the brand equity structure, the multi-attribute model is applied as a conceptual framework. The multi-attribute model, which is originated from the Fishbein and Ajzen study (1975), has been well recognized as an established framework for explaining the attitude, intention, and choice. Agarwal and Malhotra (2005) developed an integrated model of the attitude and affect to address the interaction effect between the affect and cognition, which is found to have a significantly better predictive validity compared to other nested models of the multi-attribute model. Our study follows the Agarwal and Malhotra's conceptual framework for the empirical investigation. In the following section, the literature is reviewed to assess the relevance of the identified determinants of the proposed model and to establish main hypotheses. The relational paths among the constructs are presented in Figure 2.

The determinants of Brand equity for credence products

In this section, we describe the relevance of four determinants affecting the generation of brand equity for credence products, which were drawn from a literature review of past research.

Perceived risk construct

Consumers face risk when a decision or action produces social and economic consequences that cannot be estimated with certainty (Zinkhan et al. 1987). This is particularly imminent when the consumers make a purchase decisions for a product with credence attributes. When the consumers consider purchasing a credence good, they are faced with a purchase condition that results in a significant level

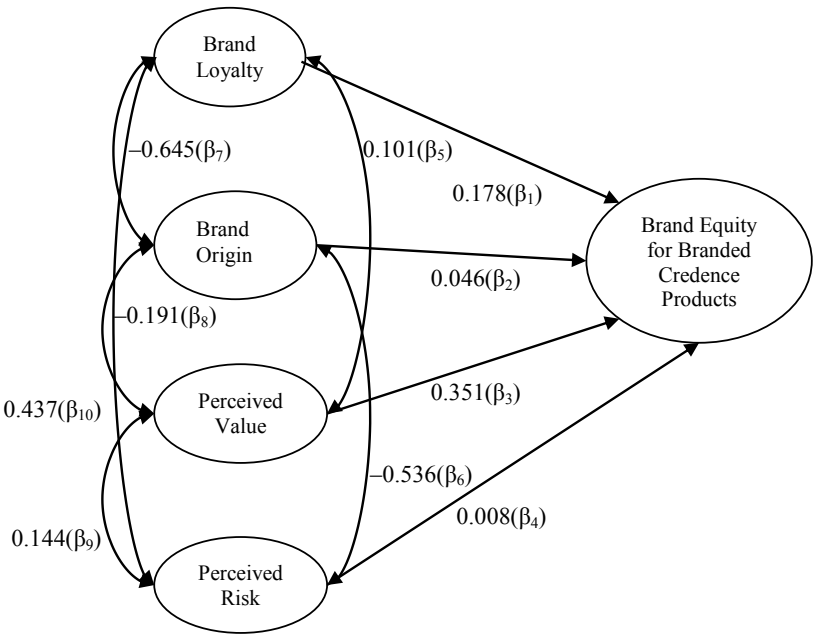

Figure 2. Structural path coefficients (standardized value)

of uncertainty. The uncertainty of the credence goods translates to the consumers' perception of the potential risk related to the product. *Perceived Risk* is the nature and amount of uncertainty perceived by the consumers in contemplating a particular purchase decision (Cox and Rich 1964). Consumer's *Perceived Risk* can be viewed as the consumers' subjective expectation of a loss (Stone and Gronhaug 1993); the amount of stake in a purchase (Block and Richins 1983). With the *Perceived Risk* for the credence goods, consumers are likely to search for the potentially risk reducing information to aid the purchase decision making; information search, therefore, serves as an input to the perceived risk assessment (Agarwal and Teas 2001). This information search can be classified into search for the intrinsic cues and extrinsic cues. Extrinsic cues represent the external information or the market information about the choice alternatives (e.g. product origin and product brand), while the intrinsic cues refer to the attributes embedded in the products.

Brand name can serve as a signal of an unobservable quality (Rao et al. 1999), and as a predictive cue about the product performance (Erdem and Swait 1998; Keller 1993). Thus, the consumers often use the brand cue as a risk reducing option as a brand suggests an implied guarantee of the quality consistency (Cox 1967; Roselius 1971; Wernerfelt 1988). Owning to the lack of familiarity and the high level of uncertainty, the ability of a brand to reduce risk is particularly relevant when the consumers consider the purchase of an unknown product (DelVecchio 2000). Thus, the consumers' *Perceived Risk* associated with the credence products is a significant determinant underlying the consumers' motivation to purchase a branded product and create their willingness to pay premium for a known brand name. The more consumers perceive risk in the credence product, the higher premium the consumers are willing to pay for a branded product.

Hypothesis 1: The level of the brand equity is positively related to the extent consumers are concerned with the potential risk in purchasing and consuming a credence product.

Perceived value construct

Perceived value is the consumers' overall assessment of the utility of a product based on perceptions of what is received and what is given, and the value represents a tradeoff of the salient give and gets components (Zeithaml 1988). Consumer willingness to buy is affected by the perceived value, and the perceived value is affected by the perceived monetary sacrifice (Dodds and Monroe 1984). From the consumers' perspective, price is what is given up or sacrificed to obtain a product (Ahtola 1984; Chapman 1986; Zeithaml 1988). Thus, consumers undergo a cognitive or rational model of decision making to arrive at the perceived value of a product. When consumers consider purchase of the credence products, they may be conditioned to assess the trade-off between the cost of making the monetary sacrifice for the branded products versus the benefit of ensuring the product quality and the certainty of the performance of a brand. Zeithaml (1988) noted that when quality is difficult to evaluate (i.e. credence goods), consumers are likely to depend on extrinsic attributes such as the brand name as it indicates the "value signals", and a higher perceived value of a brand product would drive a consumer to choose the brand rather than other competing products. Therefore, to the degree that the brand value is perceived by consumers, the consumers' willingness to pay premium and brand equity may increase.

Hypothesis 2: the greater the consumers' perceived value of branded credence goods, the greater is their wilingness to pay a premium for brand products, reflecting higher brand equity.

Brand origin construct

Brand origin (BR) is defined as the place, region or country to which the brand is perceived to belong by its target consumers; the BR refers to the integration of origin cues within the brand image (Thakor and Kohli 1996). Recent studies have shown that the brand origin could be a more influential cue in determining the consumer purchasing behavior (Lim and O'Cass 2001). Country origin information is communicated principally and potently through the brand cues, thus by assessing the effect of the country origin cues which omits the brand cue entirely may limit the generalizability of analysis (Thakor and Kohli 1996). Brand origin cue has become particularly important with the increasing trend toward the free trade and the high pace of globalization. Consumers around the world are increasingly faced with a choice between the local brands and newer foreign brands; and the food industry is actively using branding as a risk communication strategy in marketing products with the credence attributes such as food safety. A well-established brand for a credence product may be considered as a quality guarantee by the concerned consumers. Because

of consumers' inability to detect the true quality in newer foreign brand products due to the lack of familiarity, they may turn to the brand's country origin image to infer the quality of an unknown product. When consumers make the choice decision for unfamiliar foreign brand products that have credence attributes, their tendency to rely on the origin cue as the quality reference is likely to increase and their preference for the familiar brand origin is likely to be more salient. This may result in their willingness to pay a different level of premium associated with a different brand origin.

Hypothesis 3: Brand origin will significantly affect the level of brand equity for a credence product.

Brand Loyalty construct

Brand loyalty exists when customers have a high relative attitude toward a brand which is then exhibited through the repurchase behavior (Dick and Basu 1994); and the customers are willing to pay higher prices for this particular brand. Brand loyalty makes consumers to purchase a particular brand routinely and to resist switching to another brand, thus to the extent that consumers are loyal to the brand, and the brand equity will increase (Yoo et al. 2000). This type of consumer loyalty can be a great asset to a firm as it creates the brand equity or the price premium for the brand products and it may cost less to serve customers, and it can bring new customers to the firm (Reichheld and Sasser 1990). Brand loyalty is found to be one of the major dimensions that contribute to the brand equity as loyal customers show more favorable responses to a brand than the non-loyal or switching consumers do, hence the consumers' brand loyalty will increase the brand equity (Aaker 1996; Yoo et al. 2000).

The consumers' brand loyalty may be particularly more salient in the case of the credence product choice as consumers are more likely to be loyal to a known brand when purchasing a product with credence nature. Consumers may incorporate their knowledge of the known brand in their purchase decision process, showing the brand loyalty which may translate to the brand equity creation.

Hypothesis 4: The level of the brand equity is related positively to the extent consumers show the brand loyalty toward a credence product.

Brand equity construct

The value of the brand equity for a firm can be estimated by calculating the difference between the expected revenue of the branded product and the expected revenue of the unbranded product. Brand equity can be captured as the price premium associated with the branded product. Keller (1993) suggests that a positive brand image should enable the brand to command larger margins and to have more inelastic responses to price increases. Consumers with a strong, favorable brand preference should be more willing to pay premium prices for the brand (Starr and Rubinson 1978). In this study, the brand equity is approximated to be the difference in the consumers' willingness to pay for an unbranded product and branded product, assuming the similarity between these two products in all other aspects (i.e. attributes) except the brand name (Figure 1). Consumers are willing to pay grand price premiums to insure the product quality (Rao and Bergen 1992).

RESEARCH METHOD

Sample – use of real consumers

Many studies used student samples for the empirical analysis and the validity and generalizability of student samples have been questioned as the student population does not represent the general population or "real people" (Yoo et al. 2000). Ideal participants for a research examining the cues that affect the consumer pre-purchase perceptions and purchase decision behavior are active shoppers close to the final purchase decision (Sweeny et al. 1999). This study uses a sample data that elicits consumers who make the real purchase-decision in retailing shopping environment.

Data collection

In total, 1260 surveys were distributed to respondents in four sub- sample markets in Japan, and 728 surveys were completed and returned, yielding a 58% response rate. After consultation with the Japan industry experts, four sub-samples below were chosen based the market research goals and availability of respondents[1]. These samples include shoppers who actively purchase or

[1]The housewife (i.e. mother) is the primary purchaser of pork in Japan. The housewife tends to make most purchase decisions in Japan, and to oversee the family finances, while children tend to live at home with parents until they are married. Families with children who are under 25 years are heavy pork consumers and a major target market for pork consumption in Japan.

shop for a specific product and are able to identify it by brand, price, and origin. Overall, the sample tended to be married urbanites with one or two children who have an average education level. This profile reflects a typical middle class family in Japan.

Scale development and reliability analysis

Two methods (Cronbach's reliability analysis, exploratory factor analysis) are used to select and assess the final items which are then included in the model for hypothesis testing.

Step 1 Item Analysis. The Cronbach's measure reliability coefficient is used to assess the reliability of the items in each construct. The cutoff levels of 0.07 is recommended for the theory testing research (Nun-nally and Berstein 1994), and in total 13 items are included for five constructs. Each item in the constructs was measured using 5 point Likert scales ranging from 1 (*strongly disagree* or *unlikely*) to 5 (*strongly agree* or *likely*).

Step 2 Exploratory factor analysis is conducted to investigate whether the items produce the proposed factors and whether the individual items are loaded on their appropriate factors as intended. All 13 items

Table 1. Operational measures and scale reliability values

Item	Standardized loading	*t*-value
Brand Loyalty (ρ_c = 0.635)		
BL 1 Branding is important in buying branded credence goods	0.77	11.15
BL 2 I usually buy a specific brand product	0.61	***
BL 3 I prefer to buy a brand product	–0.15	–3.09
Brand Origin (ρ_c = 0.588)		
CO 1 Domestic origin is important in buying branded credence goods	0.88	10.26
CO 2 Country origin is important in buying branded credence goods	0.50	***
CO 3 I am willing to buy foreign-branded credence goods	–0.54	–9.15
Perceived Value (ρ_c = 0.446)		
PV 1 Product appearance (i.e. color) is important	–0.46	–1.83
PV 2 Quality standard (i.e. Grade) is important	–0.52	–1.84
PV 3 Price is important in buying credence goods	0.10	***
PV 4 Special discount is important in my purchase decision	0.24	1.73
Perceived Risk (ρ_c = 0.303)		
PR 1 Safety-certification is important for risk management of credence goods	0.66	3.74
PR 2 I am aware of and concerned about potential risk associated with credence goods	0.30	***
Overall Brand Equity[2,3] (ρ_c = 0.696)		
OBE 1 I am willing to pay premium for a domestic brand product[4]	0.88	7.70
OBE 2 I am willing to pay premium for a foreign brand product[5]	0.42	***
OBE 3 I am willing to pay premium for a domestic Premium brand product[6]	0.71	8.76

[1]Goodness-of-fit statistics of the measurement model of 16 indicators for five constructs are as follows: $\chi^2_{(566)} = 271.0$, Root Mean Square Error of Approximation (RMSEA) = 0.065, Standardized Root mean Square Residual (SRMR) = 0.060, Goodness-of-Fit Index (GFI) = 0.936, Adjusted Goodness-of-Fit (AGFI) = 0.904, Normed Fit Index (NFI) = 0.820, Comparative Fit Index (CFI) = 0.863, and Incremental Fit Index (IFI) = 0.866

[2]In the survey, specific brand names were presented when the respondents were asked to answer their willingness to pay for OBE

[3]In the survey, respondents' willingness to pay premium for a particular brand was asked relative to an unbranded product

[4]Domestic brand product was specified as Japanese *Signature* product

[5] Foreign brand product was specified as Canadian *Maple Leaf* product

[6]Domestic premium product was specified as Japanese *BlackPork* product

were loaded reasonably high on their corresponding factors, supporting the independence of the constructs, providing the empirical evidence of their validity.

RESULTS

The measurement coefficients are presented in Table 1, and the structural coefficients are reported in Figure 2. The perceived value (Hypothesis 2) and brand loyalty (Hypothesis 4) were two dominant constructs of the brand equity which were statistically significant. The brand origin and the perceived risk had a relatively smaller influence on the brand equity. All four constructs were positively related to the brand equity. This finding shows that brand attributes (perceived value of product) and brand loyalty are the two main dimensions of the brand equity, while the perceived risks and the brand origin contributes less significantly to the brand equity. The brand loyalty and brand origin constructs had the highest degree of correlations, and the brand origin and the perceived risk constructs also show a high degree of correlation. Thus, the brand origin might affect the brand equity through the brand loyalty and the perceived risk, although it has a weaker direct effect on the brand equity.

CONCLUSIONS AND IMPLICATIONS

The main objective of this study is to illustrate how the consumers place value on the major product cues in making the purchasing decision of credence products. The findings show that the brand loyalty and the attribute based components (i.e. the perceived value) appear to have a dominant role in determining the brand's equity. As consumers are increasingly loyal to branded products and show a higher level of the perceived value associated with branded products, their willingness to pay premium for the product is likely to increase and to lead to an increased brand equity. On the other hand, the brand origin and the perceived risks appear to have less impact to the brand equity, although these have a positive effect on the brand equity. This result implies that Japanese consumers pay more attention to the brand performance which is reflected in the perceived value of a product, rather than to the brand origin which is more relevant to image of a branded product. The proposed model had 'perceived risk' construct which is more relevant to the brand image and this construct was found to be the weakest in determining the consumer's brand equity.

The findings show that Japanese consumers pay much attention to branding when they purchase meat products, and consider the domestic origin of the product to be an important factor in their purchasing decision. On the other hand, Japanese consumers were less willing to buy imported meat products as illustrated in negative coefficients (Table 1). Regarding the perceived value of a meat product, Japanese consumers respond to a special discount of a product. Japanese consumers consider safety and quality assurance of a meat product is an important factor to consider. Overall, they show the strongest preference for Japanese premium brand products, while showing a weaker preference for the Canadian brand products (Table 1).

The covariance analysis results show that Japanese consumers connect the brand name with the country of origin and prefer to purchase the domestic branded products, while they connect the imported product with safety concerns and quality assurance problems. Findings from this study suggest valuable insights for foreign marketers who are interested in penetrating the highly differentiated Japanese meat market where they have a wide range of price and product bases. Apparently, the Japanese meat market is segmented between the domestic origin and the imported origin for the high-end and low-end segments and within each segment, there is some variance and differentiation of products and price range. If foreign marketers attempted to enter the high-end segment in which mainly domestic products are competing, they need to prioritize their marketing strategies. As the results suggest, the perceived value of a product appears to be a deterministic factor of the Japanese consumers' purchasing decision. Thus, the marketers need to effectively communicate high quality standards of the imported products and to provide a detailed information on the grade and value of their products to consumers. Concurrently, foreign marketers may need to invest substantially in building their brand awareness among Japanese consumers as the result suggests that the consumers consider branding as an essential element in their purchasing decision. Brand loyalty overrides the effect of country origin in Japanese consumers' perception, thus by developing a solid brand with a high level of awareness and a distinctive image, foreign marketers can overcome the bias of imported products.

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