

PRODUCT CLASS EFFECTS ON BRAND LOYALTY

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Dick and Basu (1994) postulated certain hypotheses concerning product class effects on brand loyalty. This paper contributes to the literature on brand loyalty by testing some of these hypotheses in a causal model. In addition, this paper considers the role of perceived risk in mediating some of the direct relationships suggested by Dick and Basu. Eighty-nine products, randomly chosen from the SIC Manual, are used as the units of analysis after aggregating consumer responses from two independent surveys. It is found that perceived differences between brands and perceived risk fully mediate the effect of the importance dimension of product involvement on brand loyalty but not of the hedonic dimension. The implications of these results are discussed.

INTRODUCTION

Brand loyalty is a concept whose importance has been recognized in the marketing literature for many years. Howard and Sheth (1969) pointed out that greater brand loyalty among consumers leads to greater sales of the brand (p. 232). Aaker (1996; 1991) discussed the role of brand loyalty in the brand equity process and he specifically noted that brand loyalty leads to certain marketing advantages such as reduced marketing costs and greater trade leverage. Additionally, Dick and Basu (1994) suggest other marketing advantages as a result of brand loyalty such as favorable word of mouth and greater resistance among loyal consumers to competitive strategies. Thus, brand loyalty is obviously an important element in creating greater brand equity and brand profits (Baldinger and Robinson 1996). To cite Arens (1996), "The major objective of all brand marketers is to produce brand loyalty" (p.118).

Yet, most studies of brand loyalty today emphasize only the behavioral outcomes of the concept such as repeat purchases of the brand. There is generally a need to understand in more detail its relationship

with other consumer level variables. What, for instance, is the relationship between brand loyalty in a product category and the level of product involvement (Laurent and Kapferer 1985; Zaichowsky 1985) in that product category? Is brand loyalty higher for products like automobiles and personal computers than for products like toilet tissues and chewing gum? There is very little evidence on the subject in spite of the obvious managerial implications in understanding the theoretical underpinnings of brand loyalty. Understanding, for instance, that brand loyalty may be more prevalent in high involvement product classes would suggest that brand managers in high involvement products should spend more on advertising and other brand loyalty enhancement strategies while brands in low involvement product categories should allocate more funds to sales promotion and similar strategies which encourage loyalty to price and not to the brand.

The skeletal evidence that does exist on the topic appears to be inconclusive. Traylor (1981) in a study of product involvement and brand commitment (similar to brand loyalty) examined twelve product categories among forty consumer households and found that results varied among product categories. He concluded that "... a positive relationship appears to be a product specific phenomenon rather than the general rule suggested in the literature. At the very least, the

relationship between product involvement and brand commitment is an ambiguous one" (p.55). Traylor (1981) also came to the conclusion that "... in highly ego-involving product-purchase decisions, many criteria come into play, only one of which may be the brand" (p.54).

Thus, there appear to be at least two important issues in studying the relationship of product class effects on brand loyalty. First, when using individuals as the unit of analysis, the relationship of product involvement and brand loyalty appears to be dependent on the nature of the product category involved. Accordingly, in the present study an aggregate analysis of consumers was conducted for 89 product categories, so that conclusions could be drawn at the level of *products* rather than at the level of individual respondents. Thus, the present study makes a relevant contribution to the literature by using products as the units of analysis, unlike other studies which use individuals as the units of analysis and, thus, limit their generalizations to only a few products. This type of "macro analysis" assumes that it is appropriate to allude to products as possessing "involvement" and other properties which are usually considered to exist at the individual level.

Therefore, constructs like product involvement and perceived risk can be conceived as an attribute of the product itself and they can be assessed in terms of the average user's response potential to the product. This "response potential" was harnessed in this study by averaging across the individual level responses provided by users of the product. This type of aggregate analysis has been conducted for products in some previous studies (see Holbrook 1986) and it replaces the idiosyncratic individual level variation in subjects' responses with a mean response that may be attributed to the average user of the product rather than to any individual user. Thus, generalizations can be made across products rather than across individuals. For instance, it may be ascertained from the results of this study, that *products* which are high in involvement are also high in brand loyalty, and so on.

Second, it appears that other factors may also be involved in understanding the relationship of brand loyalty and product involvement. Two such additional constructs are included in the model of the relationship of product involvement and brand loyalty shown in the next section. These are the constructs of perceived differences between alternative brands and perceived risk in the product category. Both constructs are well established in the marketing literature, as will be discussed later.

In general then, the main research question and contribution of this study is to determine if perceived differences between brands and perceived risk mediate the effect of product involvement on brand loyalty *when products are the units of analysis*.

A MODEL OF PRODUCT INVOLVEMENT AND BRAND LOYALTY

Product involvement has generally been considered to be "the relevance of the product to the needs and values of the consumer" (Zaichkowsky 1985, p.342). Although there may be other ways in which a product may be relevant to a consumer, two aspects have been clearly identified and agreed upon in the involvement literature - the "importance" aspect and the "hedonic" aspect (Laurent and Kapferer 1985; McQuarrie and Munson 1987; Zaichkowsky 1985; 1987; 1994). These aspects also correspond to the archetypal constructs of emotion and reason with which people process information about their environment. Indeed, the marketing literature has previously identified "affective" and "cognitive" types of involvement (Park and Young 1986) and it has been observed that consumers assign both emotional and rational values to products (Zaichkowsky 1987).

Although they may each occur as aspects of the consumption experience, emotional and rational involvement are distinct constructs from perceived risk and perceived differences between brands. For instance, in their model of the antecedents and consequences of perceived risk Dowling and Staelin (1994) present both product involvement

and "prior knowledge" with the product category as separate determinants of overall perceived risk. Dowling and Staelin conceive of prior knowledge (perceived differences between brands in this study) to consist of information concerning the attributes (quality, price, etc.) of the product, based on consumers' past experiences. Such perceived differences may lead to perceived risk which is defined here as "the potential for loss in a product category as a result of choosing the wrong brand". Perceived risk, in turn, may increase consumer loyalty to a reliable and familiar brand in order to reduce the potential for loss. Accordingly, brand loyalty may be viewed as a risk reduction strategy used by consumers and is defined here as "a consumer's preference to buy a single brand in a product category".

The model in Figure 1 postulates that perceived differences between alternative brands and also perceived risk are intervening variables in the relationship of product involvement to brand loyalty. In other words, *perceived differences and perceived risk are the links between product involvement and brand loyalty*. These constructs explain *why* product involvement may be related to brand loyalty. Products that are high in involvement (both importance and hedonic dimensions) are also perceived as being high in differences between brands in the product category. In turn, perceptions of large differences between brands are perceived to present greater risk in brand choice in the product category. Greater perception of risk in choosing between brands in the product category, in turn, leads to greater loyalty to a particular brand. Television sets, for example, are high in both importance and hedonic involvement (Laurent and Kapferer 1985). This may motivate consumers to process information about brands resulting in knowledge about differences between brands of television sets. Such knowledge about significant differences between brands in the product category may generate perceptions of high risk in choosing the *wrong* brand of television. As a result, consumers restrict their brand choices to a single reliable brand, say Sony.

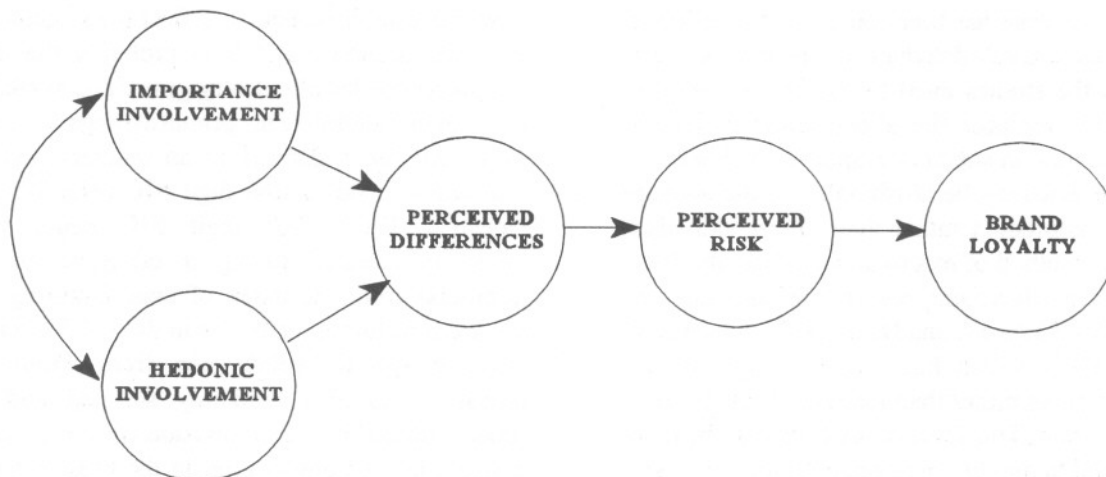
This mediated model of the effects of product class variables on brand loyalty is presented here as a fuller, more complete depiction of the *process* of brand loyalty. Each of the linkages in the model represents a hypothesis in the present study and this is discussed in the next section.

HYPOTHESES

Dick and Basu (1994) postulated certain hypotheses concerning product class effects on brand loyalty. Specifically, they envisaged that product involvement, positive emotional experiences and perceived differences between alternatives would be positively related to brand loyalty. Robertson (1976) also theorized that brand commitment (similar to brand loyalty) is greater under conditions of high perceived differences between brands. However, as discussed, it is hypothesized in this study that the relationship of product involvement (both importance and hedonic dimensions) and perceived differences to brand loyalty is *not* direct. Perceived risk is hypothesized to mediate the effect of product involvement and perceived differences between alternatives on brand loyalty. Further, perceived differences is seen to mediate the effect of product involvement on perceived risk. In other words, perceived differences and perceived risk *explain why* there may be a relationship between product involvement and loyalty.

It is also expected that the importance and hedonic dimensions of product involvement will increase the extent of perceived differences between brands, i.e., there will be a positive relationship between these variables. Similarly, there will be a positive relationship between perceived differences and perceived risk. The relationship of perceived risk and brand loyalty is also expected to be positive, i.e., higher perceived risk in the product category leads to higher brand loyalty. Brand loyalty is the result of perceived risk and perceived risk is the result of perceived differences. Perceived differences, in turn, are the result of product involvement.

FIGURE 1
A Model of Product Involvement
and Brand Loyalty



Past studies have confirmed these linkages which are also depicted in the model in Figure 1. Bowen and Chaffee (1974) considered involvement with a product to increase with the "number of pertinent distinctions" (p.615) between brands. Zaichkowsky (1985) also found a positive relationship between perceived differences between brands and the level of involvement. Chaudhuri (1993) found that hedonic value and perceived differences in the quality of brands were strongly related. Bettman (1973) postulated that such perceived differences are related to perceived risk and Cunningham (1967) showed that perceived risk is a determinant of brand loyalty. Assael (1995) also deals with brand loyalty as a risk reduction strategy used by consumers. Although most of these studies have been at the level of individual consumers, it is expected that the same relationships will hold at the aggregate level of the present study. Thus, the following hypotheses are formulated with regard to the model in Figure 1.

H₁: The importance dimension of product involvement will be positively related to perceived differences between alternatives.

H₂: The hedonic dimension of product involvement will be positively related to perceived differences between alternatives.

H₃: Perceived differences between alternatives will be positively related to perceived risk.

H₄: Perceived risk will be positively related to brand loyalty.

METHOD

The Units of Observation

Products were used as the units of observation in this study. This level of analysis is appropriate in order to make generalizations at the level of product categories and not at the individual level. For instance, we might be able to arrive at a conclusion that products that are high in involvement are also high in perceived differences and perceived risk and, consequently, also high in the degree of loyalty.

Accordingly, in this study, knowledge about the differences between individuals in responding to the product is sacrificed for the ability to make generalizations across a wide range of products rather than to individual consumers. This type of aggregate analysis has been conducted for products in previous research (Havlena and Holbrook 1986; see also the studies cited by Holbrook 1986) as well and it replaces the idiosyncratic individual level variation in subjects' responses with a mean response that may be attributable to the average user of the product rather than to any individual user. This method of macro analysis has also been in vogue in advertising research (Chaudhuri and Buck 1995; Holbrook and Batra 1987; Stewart and Furse 1986), which has recently begun to use advertisements rather than individuals as the units of observation. This level of analysis may be more meaningful to practitioners since "macro analysis" looks at consumption experiences *across* products rather than at the experience of a single product. To cite Holbrook (1986), "This macroview looks for general patterns of consumption behavior and thereby extends beyond the typical but somewhat parochial preoccupation with a single brand in some product category." (pp.43).

Thus, the "individual" level responses of consumers was replaced in this study by an "aggregate" level response (aggregated across groups of consumers) which may be attributed to the product rather than to the individual. More specifically, in the first phase of data collection, in order to collect data on the two dimensions of product involvement and perceived differences between alternatives, 30 users for each of 146 products were surveyed and the mean of the 30 responses was accepted as the aggregate "score" for each variable for a particular product. In the second phase of data collection, in order to collect data on perceived risk and brand loyalty, the same procedure was employed for a total of 89 products from the original set and an aggregate data set was, thus, compiled in which products were the units of analysis.

Selection of Sample

A sample of 150 products was randomly selected for analysis from the *Standard Industrial Classification Manual* (1987).¹ The *Manual* classifies establishments to reflect the structure of the U.S. economy and it is probably the most comprehensive list of industry groupings available. A group of establishments primarily engaged in the same activity is defined as an industry and the *Manual* provides a four digit SIC code for each industry. These four digit SIC codes were randomly selected (using a table of random numbers) from the index of manufacturing and non-manufacturing industries in the 1987 *Manual*. Next, a specific subdivision from within the industry was also randomly selected and the product offered by the subdivision was accepted as a single unit of observation in the present study. Only commonly used consumer products were accepted into the sample. Also, the name of the product was sometimes simplified for ease of identification by the survey respondents. For instance, "pneumatic mattresses" was changed to "air mattresses". Four of the selected products (ski resorts, backpacks, beer and men's formal jackets) were dropped from the final analysis since the surveys on these were improperly conducted. Appendix 1 lists the 146 products.

Data Collection

Data collection took place in two phases.

Phase One. In the first phase, a field survey of 30 actual users was conducted for data on the two dimensions of product involvement and perceived differences between alternatives for each of the 146 products. None of the users were used for more than one product and, thus, a total of 4380 respondents (mean age = 32.2) were surveyed. Respondents were asked, first, if they were users of the product. If they replied in the affirmative, they were then asked to participate in a "non profit study on (product)". If they agreed, they were shown the survey and asked to complete it. Reasons for non participation were mostly either non-usage of the product or a lack of time to

complete the survey. A total of 11,139 approaches were made in 89 judgementally determined locations in northeastern U.S., mostly in the states of Massachusetts, Connecticut, New York and New Jersey.

Surveys were conducted, as far as possible, at places where the product was consumed or purchased in order to obtain the most immediate and direct feedback on product involvement. For instance, the surveys for botanical gardens were conducted at the Beardsley Park Zoo, CT; embroidery kits and sewing thread at a craft and art supply store; hair tonics at a hair styling salon; potato chips at a grocery store; blood donor stations at a Red Cross blood drive; dance studios at a dance studio; electric fans at the appliances section of a department store; and so forth. Where this was not at all possible (e.g., mail order magazines), surveys were conducted in a centralized location such as a shopping mall.

Phase Two. In the second phase, the variables of perceived risk and brand loyalty were measured by a phone survey. Once again, an aggregate level of analysis was used and 92 of the sample of 146 products and services from study one were selected for analysis. These 92 products were chosen on the basis that they offered a diversity of branded alternatives since the measures of perceived risk and brand loyalty used in this study are specific to branded products. Of the 92 products, 30 completed user surveys could not be obtained for cigarettes, smoking tobacco and cruise ships in spite of repeated approaches on the phone. Thus, only 89 products were used and these are marked by an asterisk in Appendix 1. As in the first phase, the mean of the responses of 30 users for each product was accepted as the aggregate score for a variable and, thus, a second aggregate data set was compiled for the 89 products in the second phase. The aggregate data set from the first phase was then merged into the data set from the second phase in order to obtain a complete aggregate data set for all the variables of interest in the study.

As stated, a telephone survey of 30 actual users was conducted for each of the 89 products in the

second phase. A total of 2670 respondents (mean age = 42.6) were surveyed. 7,729 total phone approaches were randomly made from 61 different phone directories in northeastern U.S., mostly from the states of Massachusetts, Connecticut, New York and New Jersey. Respondents were asked, first, to participate in a "non profit study on (product)". If they agreed, they were then asked if they were users of the product and if they replied in the affirmative the survey was then undertaken. Callbacks were selectively made to verify the authenticity of the interviews and the reasons for non-participation. The major reason given for non-participation was a lack of time to answer the survey.

Measures

Product Involvement. McQuarrie and Munson (1987) have validated a product involvement scale which incorporates both the unidimensional (Zaichkowsky 1985) and multidimensional (Laurent and Kapferer 1985) aspects of the construct. This semantic differential scale was utilized to measure product involvement. Principal components analysis of the scale items in the aggregate data produced a three factor solution in keeping with the three subscales proposed by McQuarrie and Munson (1987). The three factor structure explained 77.8 percent of the variance in the items and all the factors had eigenvalues above 1. Coefficient alpha for the "importance" subscale was .95. Coefficient alpha was .92 for the "hedonic" subscale and .67 for the "risk" subscale. The items for the importance and hedonic factors were summed and the summated scales were used in further analysis. The "risk" subscale was not used in subsequent analysis because of its obviously tautological connection with perceived risk.

Differences Between Alternatives. This aspect of product class characteristics was assessed by some common attributes of products namely: quality, value, convenience, efficiency, reliability, economy, dependability and price. A seven point scale with "not at all" and "a lot" as the endpoints was used. The form of the question was "Do you think that

there are differences between alternative (product or service) in terms of: _____". Coefficient alpha for this set of items in the final, aggregate study was .92. Accordingly, these items were summed and the summated scale was used in further analysis.

Perceived Risk. The perceived risk scale by Jacoby and Kaplan (1972) was used. This scale deals with five components of perceived risk: financial, performance, physical, psychological and social. Additionally, a sixth item in the scale also deals with "overall" risk. All six items were used in study two and coefficient alpha for this set of items was .87. Accordingly, these items were summed and the summated scale was used in further analysis. Appendix 2 provides the items in the scale.

Brand Loyalty. Brand loyalty was operationalized by the following four items in a seven point Agree/Disagree scale: "I am loyal to one brand in this product", "I have one most preferred brand of this product", "I have a favorite brand choice in this product" and "I always use the same brand of this product". Coefficient alpha for this set of items in the aggregate study was .97. Accordingly, these items were summed and the summated scale was used in further analysis.

RESULTS

Covariance structure analysis (using Lisrel8) was employed to test the model in Figure 1. Estimation of the proposed model resulted in the following fit statistics: Chi square [5 d.f.] = 6.12, $p = .29$, GFI = .97, AGFI = .92, RMR = .05, Normed Fit Index = .95, Non-Normed Fit Index = .98, CFI = .99, IFI = .99. Thus, the model fits the data very well as indicated by the non-significant Chi square and the other indices of fit.

All but one of the paths in the model (Hedonic-->Perceived Differences) were statistically significant ($p < .05$). The importance dimension of involvement was positively and significantly related to perceived differences. Perceived differences was positively and significantly related to perceived

risk. And, perceived risk was positively and significantly related to brand loyalty. However, there was *no* relationship between hedonic involvement and perceived differences. Thus, H1, H3 and H4 were supported and H2 was rejected. Table 1 gives the structural coefficients for all the specified paths in the model. Note that the two dimensions of product involvement were significantly related ($p < .05$) with a correlation of .48.

TABLE 1
Standardized Structural Coefficients

Importance--> Perceived Differences	.65
Hedonic--> Perceived Differences	.00*
Perceived Differences--> Perceived Risk	.53
Perceived Risk--> Brand Loyalty	.32
* denotes a non-significant parameter (t-value < 1.96; $p > .05$)	

Note also that none of the Beta modification indices were above 4, indicating that additional paths were not significant and did not need to be introduced in the model. In fact, testing of the just identified model, in which all constructs were related to all other constructs, confirmed this as well. Thus, product importance was directly related to perceived differences between alternatives but *not* directly related to perceived risk or brand loyalty. Similarly, perceived differences was directly related to perceived risk but *not* directly related to brand loyalty. These non-significant paths are important since they indicate that there is *no* direct path between product importance and brand loyalty. *The relationship of the importance dimension of product involvement with brand loyalty is mediated or routed through the constructs of perceived differences and perceived risk.*

DISCUSSION

The relationship between product involvement and brand loyalty has eluded clear definition in the marketing literature. Traylor (1981) reviewed the literature on the topic and postulated a positive relationship between the constructs since high involvement should lead to a narrow latitude of

acceptance for most brands in the product category and, thus, to a smaller evoked set of brands. However, after conducting a study of consumer households, Traylor was not able to establish a clear linkage between the constructs. He concluded that the relationship was an ambiguous one.

Indeed, it could be argued that product involvement leads to variety seeking and a *lack* of brand loyalty. Consider, for example, a connoisseur of wine who is very involved in the product. It would appear that this consumer would try many different brands of wine instead of a single brand. The same would appear to hold for products like gourmet foods, fashion clothing and other products where the hedonic or pleasure value is prominent.

The results of this study confirm this since there was no direct or indirect relationship between the hedonic dimension of product involvement and brand loyalty. However, the results of the present study also strongly suggest an alternative explanation for the relationship of product involvement and brand loyalty. Products that are high in the importance dimension of product involvement are also high in perceived differences between brands and high in perceived risk in the product category. This, in turn, leads to high brand loyalty. Thus, the importance or relevance of the product motivates consumers' processing of differences between alternative brands. Knowledge of high perceived differences, in turn, leads to heightened perceptions of risk in choosing the wrong brand in the product category. This leads to consumer loyalty to a single reliable brand in order to reduce the risk in a product, say, headache remedies. There is no direct relationship between product involvement and brand loyalty, as suggested elsewhere (Dick and Basu 1994). The results of this study show that the linkage between the constructs is indirect and only through the intervention of the constructs of perceived differences and perceived risk.

IMPLICATIONS FOR MANAGERS

This indirect relationship has important implications for managers. First, evidence of any

relationship between product importance and brand loyalty implies that managers who wish to create brand loyalty should attempt to determine the level of importance that consumers place on the product category. The importance subscale of the product involvement scale (McQuarrie and Munson 1987) can be used for this purpose. If product importance is high, brand loyalty building strategies such as advertising should be emphasized. If product importance is low, consumers may not be brand loyal in the product category. In this case, strategies such as sales promotions which cater to price loyalty may be emphasized over long term efforts at creating brand loyalty.

Second, the findings have important implications for the message strategies used in the advertising of brands in high importance product categories. Since the relationship of product importance and brand loyalty is *indirectly* routed through perceived differences and perceived risk, it is recommended that the advertising of brands in high importance product categories should specifically incorporate message strategies that deal with the differences between brands and consequent risk of choosing the wrong brand in the product category. In other words, advertising copy should convey that all brands are not the same in the product category and that only the advertised brand has the potential to overcome the risk in the product category. A good example of such copy might be the "Right Suit" campaign by Hart, Schaffner & Marx which declared that "the wrong suit could certainly slow you down" from reaching the top of the corporate ladder. The ad then presented the advertised brand as the "right suit".

Advertising messages of this nature can incorporate "risk" at different levels - financial, performance, social, psychological and physical. The social and psychological dimensions of perceived risk, in particular, may be specially relevant in our present day environment of "parity" products in which very few brands can command technological superiority in the long run, in terms of tangible product features.

CONCLUSION

This study has tried to show the mechanisms that underlie the relationship of product class effects on brand loyalty. A causal model has been empirically validated in this regard and the attempt has been to show *why* product involvement may be related to brand loyalty. The linkages established by the model in the study have been shown to be specially relevant for practitioners who are interested in the *process* of creating brand loyalty.

Further, and most importantly, the study has been conducted at the level of products and, thus, the findings of the study are directly relevant for managers of many branded products. This is unlike other studies in which findings can be generalized to a few products at best. As always, further studies are needed that replicate the findings at both the individual and aggregate levels.

At the same time, the findings of the present study are expected to be particularly robust due to the rigor in the data collection process². Collecting the responses for perceived risk and brand loyalty separately in a different questionnaire (from that which measured the variables of product involvement and perceived differences) ensures that the linkages between the dependent and independent variables are not an artifact of asking the same respondents to provide both sets of answers in a single questionnaire. The use of two separate samples at the aggregate level of product categories removes this kind of response bias and provides a strong test of the relationship of product involvement with brand loyalty.

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¹ From 1997, SIC has been replaced by NAICS (North American Industrial Classification System) which covers Mexico, Canada and the U.S.A.

² For similar applications of this technique see Holbrook and Batra (1987) and Smith and Park (1992).

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APPENDIX 1

Products and Services in the Study

botanical gardens	motor vehicle oil filters*	smoking tobacco
embroidery kits	coats*	cooking ranges*
sewing thread*	erasers*	telephone service*
hair tonics*	hosiery*	perfumes*
potato chips*	bath tubs	cruise ships
blood donor stations	laundry soap*	flowers*
dance studios	self service laundry	women's underwear*
electric fans*	greeting cards*	light bulbs*
brake repair service	canned soft drinks*	gasoline*
auto battery service	atlases	seeds and bulbs*
high schools	pianos	swimming pools
sunglasses*	newspapers*	air mattresses*
frozen meat pies*	locks*	windshield wipers
bacon*	macaroni*	youth centers
condo associations	sherbet/ices*	suntan lotion*
children's wear*	cameras*	child daycare
wedding dresses	ketchup*	computer games*
lodging houses	russian dressing*	veterinary service
analgesics*	freeze dried coffee*	personal computers*
spices*	granola bars*	mail order magazines
encyclopedias	kitchen utensils*	record albums
billiard & pool cues	flashlights*	candy*
fever remedies*	refined salt*	cotton towels*
margarines*	office furniture*	tampons*
food trucks	pillowcases	razor blades*
political organizations	blankets*	hair shampoo*
christmas trees	amusement parks	synthetic sweeteners*
halloween lanterns	barbecue grills*	women's handbags*
eyeglasses*	museums	shopping centers
microwave ovens*	sports protectors	air passenger carriers*
room air conditioners*	time clocks*	boys/mens slacks*
income tax prep service	football equipment	universities
laxatives*	ball point pens*	golf equipment*
frying pans*	bars	classical music
continuing education	burglar alarms	nightclubs
pocket knives*	trucks*	carpets*
potatoes*	service apparel	women's slips*
cigarettes	baby strollers	novelty stores
guns	men's belts*	chewing gum*
household poisons*	stuffed animals*	ice cubes
canned fruits*	house slippers*	earthenware
beauticians	cigarette lighters*	household brushes*
medical laboratories	motion picture theaters	cigars
automotive tire dealers*	cottage cheese*	zippers
veg. cooking oil*	domestic services	creamers*
bottled iced tea*	doctors' offices	couches
frozen french toast*	corn flakes*	
women's negligees*	work gloves*	
fitness salons*	canned seafood*	
bingo parlors	talcum powder*	

* only these products were included in the final data set

APPENDIX 2
Perceived Risk

These questions were taken from Jacoby and Kaplan (1972) and presented to subjects in a nine point scale anchored from "very low chances" to "very high chances".

1. What are the chances that you stand to lose money if you try an unfamiliar brand of _____, either because it won't work at all, or because it costs more than it should to keep it in good shape ?
2. What are the chances that there will be something wrong with an unfamiliar brand of _____ or that it will not work properly ?
3. What are the chances that an unfamiliar brand of _____ may not be safe; that is, it may be harmful or injurious to your health ?
4. What are the chances that an unfamiliar brand of _____ will not fit in well with your self image or self concept or the way you think about yourself ?
5. What are the chances an unfamiliar brand of _____ will affect the way others think of you ?
6. On the whole, considering all sorts of factors combined, about how risky would you say it was to buy an unfamiliar brand of _____ ?