

**PURSUING THE VALUE CONSCIOUS CONSUMER:
STORE BRANDS VERSUS NATIONAL BRAND PROMOTIONS**

By

Kusum L. Ailawadi*

Scott A. Neslin**

and

Karen Gedenk***

* Associate Professor of Business Administration
Amos Tuck School of Business Administration
Dartmouth College
Hanover, NH 03104
E-mail: Kusum.L.Ailawadi@Dartmouth.edu
Tel: (603) 646-2845.

** Albert Wesley Frey Professor of Marketing
Amos Tuck School of Business Administration
Dartmouth College
Hanover, NH 03104

*** Professor of Marketing
University of Frankfurt
Mertonstr. 17
D-60054 Frankfurt/Main
Germany

Acknowledgements: We thank Andrew Hayes for invaluable research computing support, and Soenke Albers, Punam Keller, Kevin Keller, Praveen Kopalle, Don Lehmann, Jeannie Newton, Jan-Benedict Steenkamp, and participants at the 1998 INFORMS Marketing Science Conference for their helpful comments. We gratefully acknowledge financial support from the Tuck Associates program and the German National Science Foundation (Deutsche Forschungsgemeinschaft) and thank Survey Research & Design Inc., especially Eva Ginsburg, for survey data collection.

TABLE 3
RELIABILITIES OF CONSTRUCTS

Construct	Relevant Literature for Scale Items	No. of items	Cronbach's alpha	Composite Reliability
Characteristics Associated With Economic/Utilitarian Benefits:				
Price consciousness	Darden & Perreault (1976)	3	0.790	0.826
Financial constraints	Urbany et al. (1996)	2	0.808	0.817
Quality consciousness		3	0.842	0.850
Characteristics Associated With Psychosocial/Hedonic Benefits:				
Shopping enjoyment	Urbany et al. (1996)	3	0.768	0.812
Shopping mavenism	Feick & Price (1987); Urbany et al. (1996)	3	0.852	0.876
Innovativeness	Darden & Perreault (1976)	3	0.808	0.810
Impulsiveness	Narasimhan et al. (1996)	2	0.854	0.856
Variety seeking		2	0.712	0.789
Motivation to conform	Bearden et al. (1989)	3	0.803	0.824
Characteristics Associated With Costs:				
Planner		2	0.610	0.616
Time pressure	Hawes & Lumpkin (1984)	3	0.861	0.870
Need for cognition	Cacioppo & Petty (1982)	3	0.878	0.882
Perceived storage space		2	0.921	0.933
Brand loyalty		3	0.864	0.865
Store loyalty		3	0.875	0.876
Dependent Behaviors:				
Store brand usage		3	0.905	0.906
In-store promotion usage		4	0.760	0.767
Out-of-store promotion usage		4	0.861	0.799

TABLE 4
FIT OF FOUR ALTERNATIVE MODEL SPECIFICATIONS

Fit Measure	Effect of Demographics on Store Brand Usage and Promotion Usage			
	None (Model A)	Direct only (Model B)	Indirect only (Model C)	Both (Model D)
χ^2 (df)	2809.64 (1427)	2758.76 (1397)	2974.41 (1523)	2921.708 (1493)
Robust Comparative Fit Index	0.891	0.893	0.883	0.886
Root Mean Squared Error of Approximation [90% CI]	0.055 [0.052, 0.058]	0.055 [0.052, 0.058]	0.055 [0.052, 0.058]	0.055 [0.052, 0.058]
Akaike Information Criterion	-44.359	-35.241	-71.593	-64.292
Corrected Akaike Information Criterion	-6844.286	-6692.212	-7328.979	-7178.72
Expected Cross Validation Index	11.754	11.782	11.668	11.691

TABLE 5
EFFECT OF DEMOGRAPHIC VARIABLES ON PSYCHOGRAPHIC
CHARACTERISTICS

Dependent Variable	Structural Parameters (Standardized)
Price Consciousness	0.094 Age - 0.044 Gender - 0.100 Educ - 0.172** PCIncome
Financial Constraints	-0.045 Age + 0.052 Gender - 0.317*** Educ - 0.202*** PCIncome
Quality Consciousness	0.070 Age + 0.032 Gender + 0.206*** Educ + 0.081 PCIncome
Shopping Enjoyment	-0.075 Age + 0.001 Gender - 0.135*** Educ
Innovativeness	0.064 Age + 0.106* Gender + 0.288*** Educ
Variety seeking	0.093 Age - 0.044 Gender - 0.068 Educ
Impulsiveness	-0.009 Age + 0.106* Gender + 0.079 Educ
Mavenism	0.139** Age + 0.192*** Gender + 0.041 Educ
Motivation to Conform	0.148** Age + 0.073 Gender - 0.002 Educ
Brand Loyalty	0.037 Age + 0.073 Gender + 0.066 Educ
Store Loyalty	0.080 Age + 0.133*** Gender - 0.024 Educ
Planning	0.035 Age + 0.137** Gender + 0.070 Educ
Time Pressure	-0.212*** Age + 0.073 Gender + 0.065 Educ + 0.039 Kids - 0.068 HomeMaker - 0.138** Student - 0.219*** PartTime - 0.103* Retired
NFC	0.071 Age - 0.105* Gender + 0.192*** Educ
Perceived Storage Space	0.100* Age + 0.017 Gender + 0.227*** Educ + 0.170*** House
*** p<0.01; ** p<0.05; * p<0.10	

TABLE 6
EFFECTS OF PSYCHOGRAPHIC CHARACTERISTICS
(STANDARDIZED COEFFICIENT ESTIMATES)

Psychographic Characteristic	Dependent Variable			χ^2 stat [#] (2 df)
	Store Brand Usage	In-Store Promotion Usage	Out-of-Store Promotion Usage	
<i>Economic Benefits:</i>				
Price Consciousness	0.211 ^{***} (3.01)	0.057 (0.68)	-0.098 (-1.30)	12.06 ^{***}
Financial Constraints	0.121 [*] (1.80)	0.358 ^{***} (3.94)	0.115 (1.56)	11.87 ^{***}
Quality Consciousness	-0.288 ^{***} (-3.36)	0.007 (0.07)	0.148 (1.58)	12.30 ^{***}
<i>Hedonic Benefits:</i>				
Shopping Enjoyment	0.008 (0.11)	0.173 [*] (1.91)	0.252 ^{***} (2.99)	2.41
Innovativeness	0.007 (0.10)	0.060 (0.72)	-0.024 (-0.33)	1.03
Variety Seeking	0.109 [*] (1.70)	-0.031 (-0.39)	0.095 (1.36)	2.97
Impulsiveness	-0.098 (-1.23)	0.363 ^{***} (3.47)	0.090 (1.02)	15.14 ^{***}
Mavenism	0.074 (1.13)	-0.109 (-1.31)	0.124 [*] (1.67)	7.89 ^{**}
Motivation to Conform	0.070 (1.19)	-0.081 (-1.11)	-0.169 ^{***} (-2.51)	5.95 [*]
<i>Costs:</i>				
Brand Loyalty	-0.093 (-1.28)	0.015 (0.17)	0.159 [*] (1.96)	5.73 [*]
Store Loyalty	0.148 ^{***} (2.41)	-0.123 (-1.62)	-0.124 [*] (-1.82)	10.02 ^{***}
Planning	-0.083 (-0.96)	0.492 ^{***} (3.86)	0.412 ^{***} (3.58)	14.99 ^{***}
Time Pressure	0.108 [*] (1.94)	0.041 (0.60)	-0.020 (-0.32)	3.66
NFC	0.097 [*] (1.65)	-0.017 (-0.24)	-0.208 ^{***} (-3.04)	12.09 ^{***}
Perceived Storage Space	-0.102 [*] (-1.84)	0.192 ^{***} (2.74)	0.214 ^{***} (3.30)	11.41 ^{***}
R ²	0.402	0.397	0.448	---
[#] Statistic for testing equality of coefficients across the three equations. ^{***} p<0.01; ^{**} p<0.05; [*] p<0.10. Note: t-statistics are in parentheses under coefficient estimates.				

**TABLE 7
CLUSTER ANALYSIS SUMMARY**

No. of Clusters	Store Brand Use		In-Store Promotion Use		Out-of-Store Promotion Use			Overall	
	R ²	Between/Within Variance	R ²	Between/Within Variance	R ²	Between/Within Variance	R ²	Between/Within Variance	F-stat
3	0.650	1.857	0.366	0.577	0.294	0.417	0.528	1.121	177.05
4	0.703	2.365	0.544	1.193	0.518	1.077	0.637	1.755	184.28
5	0.775	3.436	0.617	1.608	0.522	1.092	0.699	2.322	182.25
6	0.812	4.304	0.633	1.724	0.573	1.339	0.733	2.743	171.71

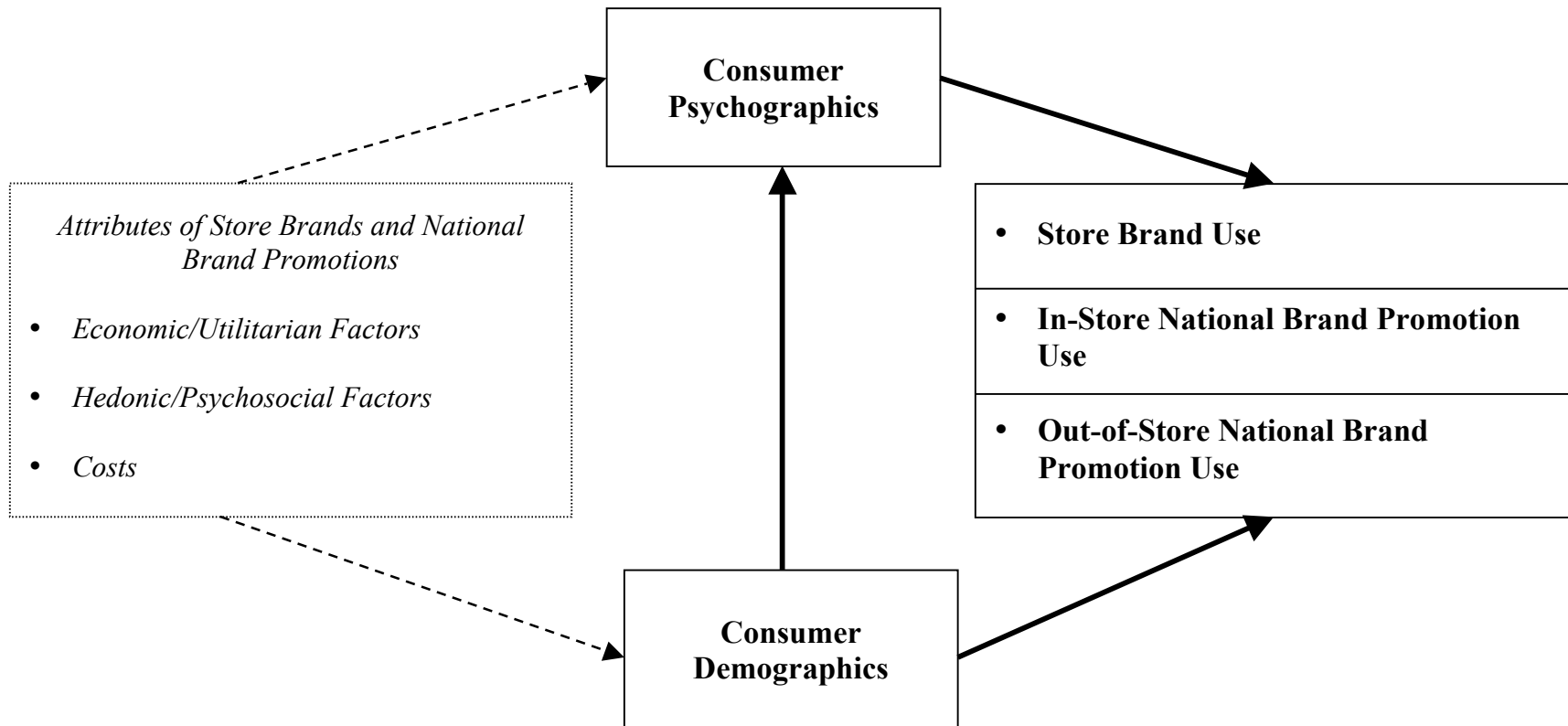
**TABLE 8
DESCRIPTION OF FOUR CLUSTERS**

Cluster Number	Mean Factor Score for			No. of Observations
	Store Brand Use	In-Store Promotion Use	Out-of-Store Promotion Use	
1	-0.958	0.440	0.443	51
2	0.987	-0.340	-0.305	68
3	0.393	0.412	0.242	97
4	-0.547	-0.382	-0.246	103

TABLE 9
PSYCHOGRAPHIC CORRELATES OF SEGMENTS

Variable	Standardized Coefficient in Regression for Proximity to			
	Cluster 1 Deal-focused	Cluster 2 Store Brand-focused	Cluster 3 Use-all	Cluster 4 Use-none
Price Consciousness	-0.119**	0.224***	0.028	-0.178***
Financial Constraints	0.055	-0.101*	0.190***	-0.104*
Quality Consciousness	0.270***	-0.229***	-0.148*	0.103
Shopping Enjoyment	0.097**	-0.103*	0.123*	-0.095
Innovativeness	0.018	0.028	-0.069	0.001
Variety seeking	-0.084*	0.066	0.108**	-0.081
Impulsiveness	0.138**	-0.168***	0.166**	-0.096
Mavenism	-0.034	0.157***	0.007	-0.175***
Motivation to Conform	-0.167***	0.135***	0.120**	-0.081
Brand Loyalty	0.123**	-0.120**	-0.048	0.050
Store Loyalty	-0.129***	0.150***	-0.004	-0.037
Planning	0.178***	-0.252***	0.233***	-0.096
Time Pressure	-0.075*	0.049	0.152***	-0.109**
NFC	-0.109**	0.064	0.003	0.046
Perceived Storage Space	0.179***	-0.145***	0.062	-0.084
Adjusted R ²	0.309	0.291	0.140	0.168
*** p<0.01; ** p<0.05; * p<0.10				

FIGURE 1
CONCEPTUAL FRAMEWORK



PURSUING THE VALUE CONSCIOUS CONSUMER: STORE BRANDS VERSUS NATIONAL BRAND PROMOTIONS

EXECUTIVE SUMMARY

The objective of this paper is to determine whether national brand promotions and store brands attract the same "value-conscious" consumer, thus aggravating the tug-of-war between packaged goods manufacturers and retailers. We identify psychographic and demographic traits that potentially drive usage of store brands and national brand promotions by considering the economic benefits, hedonic benefits, and costs of partaking in these behaviors. We then use a structural equation model to study the association between these traits and the use of store brands, in-store promotions for national brands and out-of-store promotions for national brands. We find that while demographics do not appear to affect these behaviors directly, they have significant associations with psychographic characteristics and are therefore useful in segmentation, targeting, and communication. We find that the psychographic drivers of store brand usage are quite different from those of either in-store or out-of-store promotion usage, while in-store and out-of-store promotion usage share several similar drivers. Economic benefit and cost related characteristics are the strongest correlates of store brand usage while hedonic benefit and cost related characteristics are the strongest correlates of out-of-store promotion usage. These differences in drivers result in four well-defined and identifiable consumer segments: deal focused, store brand focused, deal and store brand users (use-all), and non-users of both store brands and deals (use-none). Thus, manufacturers and retailers have the opportunity either to avoid each other or compete head-to-head, depending on which segment they target. Our results also show why promotions may be only partially effective for national brands

wishing to combat private labels. This is because the store brand focused segment has different psychographic traits than the consumers who use national brand promotions. Consumers in the store-brand segment are not impulsive, not planners, and not stockpilers, which are key characteristics of promotion users. Our results also suggest why EDLP might be effective for private labels where HI-LO may be more desirable for national brands. Customers in the store brand focused segment do not plan, stockpile, or enjoy shopping, so EDLP is attractive to them. On the other hand, national brands can use a HI-LO strategy both to price discriminate and to compete with store brands for the use-all segment.

1. INTRODUCTION

Sales promotions accounted for 74% of the marketing budget of US packaged goods firms in 1997 (Cox Direct 1998), up from 65% in 1984 (Donnelley Marketing Inc. 1995). During this time, the market share of store brands increased in several product categories, accounting for 20% of sales overall in 1998 (Dunne and Narasimhan 1999). Although there are many reasons why manufacturers and retailers engage in these activities, one common motivation is to provide value to the consumer. The average store brand sells for about 30% less than national brands and national brand promotions typically deliver discounts of 20%-30% (IRI Marketing Fact Book 1998; Sethuraman 1992). Given this common motivation for national brand promotions and store brands, the natural question is whether these offerings attract the same consumer. If yes, there is a tug of war between manufacturers and retailers for the same market segment, whereas if not, the partitioning of market segments could reduce competition between them (e.g., Moorthy 1988).

The answer to this question is not readily apparent. The common emphasis on delivering value would suggest that store brands and national brand promotions attract the same consumers. In fact, some researchers have argued that national brand promotions are an effective way to combat the growth of store brands (e.g., Lal 1990; Quelch and Harding 1996). However, national brand promotions and store brands may satisfy different consumer needs, and consumers may incur different costs in utilizing them. For instance, promotions provide not only economic but hedonic benefits such as exploration and self-expression (Chandon, Wansink, and Laurent 2000) whereas store brands may not provide hedonic benefits to the same extent. Similarly, making use

of promotions can require consumers to plan their shopping or shop at different stores, while buying store brands may not entail these costs.

Another factor that makes it difficult to determine whether the same consumers use both national brand promotions and store brands is that previous research has mainly focused on one behavior or the other, but rarely on both in the same study. Blattberg and Neslin (1990, Chapter 3) summarize several studies that characterize the deal-prone consumer in terms of demographics and/or psychographics. Other studies do the same for store-brand prone consumers (e.g., Cunningham, Hardy, and Imperia 1982; Richardson, Jain, and Dick 1996; Baltas and Doyle 1998). However, there is little work that studies both behaviors. Doing so would provide the common basis for comparison, both in terms of the characteristics studied and the method employed, that is necessary for making a definitive judgment on this issue.

The objective of this paper is to determine whether deals and store brands attract the same consumer by studying the demographic and psychographic factors that drive usage of these offerings. Our analysis proceeds in three stages. First we develop a structural equation model to study the fundamental relationships of psychographics and demographics with deal and store brand usage.¹ Next we perform a cluster analysis to uncover the usage segments that emerge due to these relationships. Third, we develop a predictive model to classify consumers into these segments. The result is a deeper understanding of the drivers of deal and store brand usage, insight on whether deal and store brand users belong to the same market segment, and guidance for how to target the various segments.

This paper is unique in three ways. First, it unifies and complements previous work that has examined deal use and store brand use separately. Second, we consider two types of promotion -- in-store and out-of-store. The first type includes displays, in-store specials etc. that are encountered in the store and used "opportunistically" or "passively", while the second type includes coupons, features in store flyers etc. that are actively considered before the consumer goes shopping (Bucklin and Lattin 1991; Schneider and Currim 1991). Third, we examine both psychographic and demographic characteristics and investigate whether demographics work by determining deal and store brand usage directly, or whether they work indirectly through their impact on psychographics (see Mittal 1994; Urbany, Dickson, and Kalapurakal 1996).

We find that national brand promotion usage and store brand usage are distinct behaviors, driven by different psychographics. Store brand users are characterized by psychographics linked largely to economic benefits and costs, while out-of-store promotion users are characterized by psychographics linked mainly to hedonic benefits and costs. In-store promotion users differ from out-of-store promotion users on some hedonic benefits and cost-related psychographics. However, users of these two types of promotions also have a lot in common. These findings result in a clearly defined store brand user segment, a national brand promotion segment (combining in-store and out-of-store promotions), and two other segments, one partaking in both store brands or national brand promotions, and one partaking in neither. We also find that demographics influence these behaviors primarily through their effect on psychographics, rather than directly.

The rest of the paper is organized as follows. We present our conceptual framework, structural model, and data in Section 2. We describe the results of the structural model in Section 3 and the segmentation analysis in Section 4. Section 5 concludes with a summary of findings and their implications for researchers and managers.

2. CONCEPTUAL FRAMEWORK AND MODEL

2.1 Overview of Conceptual Framework

Figure 1 provides an overview of our conceptual framework. The solid lines represent the structural equation model to be estimated. Although our overall purpose is to distinguish between store brand and deal users, previous research suggests that deal usage may not be a homogeneous construct (Henderson 1984; Lichtenstein, Netemeyer, and Burton 1995). We therefore build on Schneider and Currim's (1991) distinction between active and passive promotions, and Bucklin and Lattin's (1991) distinction between planned and opportunistic shopping behavior, and divide deal usage into in-store and out-of-store promotions. Thus, the three behaviors we wish to characterize are store brand use, in-store national brand promotion use and out-of-store national brand promotion use.

Insert Figure 1 About Here

The figure proposes that these three behaviors are influenced by consumer psychographic and demographic characteristics. Demographics influence these behaviors not only directly, but also indirectly through their effect on psychographics. The motivation for considering this indirect effect is that neither deal proneness nor store brand proneness research has had much success in

obtaining consistent and strong associations with demographics. In addition, Mittal's (1994) and Urbany, Dickson, and Kalapurakal's (1996) findings suggest that demographics may be better predictors of psychographics than of deal proneness or store brand proneness per se.

Another important element of our framework is that the consumer's decision of whether to use store brands or promotions is driven by economic benefits, hedonic benefits, and costs. This typology has a well-established tradition in the literature on shopping behavior. Researchers like Blattberg et al. (1978), Narasimhan (1984), and Bawa and Shoemaker (1987) have used economic benefits and costs to characterize the deal prone consumer while others like Shimp and Kavas (1984), Price, Feick, and Guskey-Federouch (1988) and Schindler (1989) have focused attention on hedonic benefits. Recent research brings together the economic and hedonic attributes in evaluating deals (e.g., Chandon, Wansink, and Laurent 2000) or studying other aspects of shopping (Mittal 1994; Urbany, Dickson, and Kalapurakal 1996).

Figure 1 also proposes that the benefits and costs of using store brands and promotions create associations between psychographics or demographics and these behaviors. The reason is that particular psychographic or demographic groups will be attracted to particular costs and benefits. This suggests an approach for generating the particular psychographics and demographics we will study. First, we will generate a more specific list of benefits and costs. Then we will generate the psychographic and demographic characteristics of consumers that would make them most attracted to these benefits and costs. We do this in Figure 2.

Insert Figure 2 About Here

The specific benefits and costs we consider are listed on the left side of Figure 2. The economic benefits are savings and product quality (Chandon, Wansink, and Laurent 2000). The hedonic benefits are entertainment, exploration, and self-expression (Bellizzi et al. 1981; Schindler 1989; Chandon, Wansink, and Laurent 2000). And, the costs are switching, search, thinking, and inventory holding costs (Blattberg et al. 1978; Bawa and Shoemaker 1987; Urbany, Dickson, and Kalapurakal 1996).²

The right side of Figure 2 shows the psychographic and demographic characteristics that are particularly suggested by each benefit and cost. We discuss these links below and use prior theoretical and empirical research to hypothesize how consumers with each psychographic characteristic will vary in their usage of store brands or national brand promotions. As we have noted earlier, most prior research examines either promotion use or store brand use, but not both. As a result, there are a few variables for which we can specify directional hypotheses with respect to one behavior but not the other. There are also a few variables for which there is strong theoretical support for some role in deal or store brand usage but where evidence from prior research is mixed with respect to the direction of association. Given the integrative nature of our research, we discuss the evidence to date and include these variables in our empirical model even when prior research does not allow us to state unambiguous, directional hypotheses. We do note, however, that results for such hypotheses are in that sense exploratory, and it would be valuable for future research to examine the convergent validity of our findings on these variables.

2.2 The Role of Psychographics

Economic Benefits and Their Associated Psychographics:

Savings: Price savings are relevant to consumers who are price conscious and perceive themselves as having financial constraints. Since both store brands and national brand promotions offer price savings, we expect price consciousness and financial constraints to be positively related to all three behaviors.

Product Quality: Product quality is relevant by definition to quality conscious consumers. Quality consciousness should deter consumers from using store brands, since such brands are perceived to be inferior in quality (Cunningham, Hardy, and Imperia 1982; Richardson, Dick, and Jain 1994). Quality consciousness should not particularly influence use of in-store or out-of-store promotions for national brands, because the consumer can obtain the quality that these brands deliver without being deal prone.

Hedonic Benefits and Their Associated Psychographics:

Entertainment: Entertainment is relevant to people who enjoy shopping. Consumers who enjoy shopping have been found to be heavier users of feature advertising and coupons (Kolodinsky 1990), perhaps because they enjoy making use of marketing information. We therefore expect a positive relationship between shopping enjoyment and out-of-store promotion use, as well as with in-store promotion use. The in-store relationship may not be as strong, but in-store promotions also provide marketing information that shopping enthusiasts would enjoy processing. There is no evidence to suggest that using store brands is related to the quest for

shopping enjoyment. For instance, Bellizzi et al. (1981) found that store brand buyers are not more likely to enjoy shopping than other consumers.

Exploration: Exploration evokes characteristics such as innovative, variety seeking, and impulsive. Innovativeness and variety seeking should be positively associated with deal usage since deals encourage product trial (e.g., Montgomery 1971). We cannot make a clear prediction for the relationship of innovativeness with store brand use. It will be positive if innovative consumers view store brands as new and untried (Granzin 1981), or negative if they view them as run-of-the-mill. Variety seekers should be less apt to use store brands, because regular use of store brands does not provide variety. Impulsiveness should be positively associated with in-store deal use but not with out-of-store deal use since out-of-store deals require preparation before the shopping trip. We also see little reason to expect a relationship between impulsiveness and store brand usage. Store brands can be bought on impulse, but, unlike in-store promotions, we don't see store brands as being especially conducive to impulse behavior.

Self Expression: Self expression is salient to shopping mavens. Mavens are particularly attentive to media as a basis for their expertise (Higie, Feick, and Price 1987). They are more likely to read direct mail and local advertising (Higie, Feick, and Price 1987) and are heavier users of coupons (Price, Feick, and Guskey-Federouch 1988). We therefore expect mavens to be heavier users of out-of-store promotions. They should not be especially apt to use in-store promotions, which require less effort and therefore are less reflective of individual shopping expertise. Mavens attach extra importance to both quality and price (Williams and Slama 1995). Depending

on which is stronger there could be a positive or negative relationship between mavenism and store brand usage.

Self expression is also related to consumers' motivation to conform to peer expectations. There is a strong theoretical and empirical basis for including motivation to conform. For instance, Shimp and Kavas (1984) and Chandon, Wansink, and Laurent (2000) discuss the role of social recognition and conformity in deal usage, while Dick, Jain, and Richardson (1995) discuss the role of social approval in store brand usage. However, it is difficult to formulate directional hypotheses because it is unclear what relevant others think of deal and store brand use. Both deal and store brand use have become common and peers may consider them "smart," so they may be positively related to motivation to conform. On the other hand, peers may look down upon these behaviors as being "cheap," leading to a negative relationship.

Costs and Their Associated Psychographics:

Switching Costs: Switching costs are high for brand loyal or store loyal consumers. We expect a negative relationship between in-store deal use and national brand loyalty because in-store deals often require the consumer to switch brands (Webster 1965; Bawa and Shoemaker 1987).

However, brand loyal consumers can seek out coupons and specials for their favorite brands. Thus, out-of-store deal use may be less negatively, or even positively related to national brand loyalty. Finally, national brand loyal consumers will by definition be less likely to use store brands.³

Store loyalty should be negatively related with out-of-store deals because these deals often require store switching (Bawa and Shoemaker 1987). There should also be a relationship between store loyalty and in-store promotions but we are unable to specify the sign. Perceptions of retailer promotion activity have been found to correlate with store loyalty (Sirohi, McLaughlan, and Wittink 1998), suggesting a positive relationship. However, there is evidence that store loyal people are less price sensitive (Kim, Srinivasan, and Wilcox 1999), suggesting a negative relationship. In contrast, store loyalty should clearly be positively associated with store brand use since store loyal consumers trust their chosen store and become familiar with its store brands (Dick, Jain, and Richardson 1995; Richardson, Jain, and Dick 1996). The ability to buy a single brand across a wide range of product categories also facilitates shopping (Steenkamp and Dekimpe 1997; Baltas and Doyle 1998).

Search Costs: Search costs are related to consumer planning and time pressure. Consumers who plan their shopping will be more apt to consider out-of-store promotions because these promotions encourage planning. In fact, there is evidence that consumers use out-of-store promotions to plan their shopping (Progressive Grocer 1975; Henderson 1985; NCH NuWorld 1999, p. 25). We therefore hypothesize a positive relationship between planning and out-of-store promotion use. We also hypothesize a positive relationship, although not as strong, between planning and in-store promotion. One way to take advantage of in-store promotions is for consumers to be highly conscious both of promotion schedules (Krishna, Currim, and Shoemaker 1991) and of their inventory levels so they know how much to buy to last until the next deal. Planners should be highly conscious of their inventory and this should facilitate “deal-to-deal” buying. Planning may also play a role in store brand use but previous research does not point to a

clear direction. Omar (1996) finds a positive association, but Cobb and Hoyer (1986) find an ambiguous relationship, with more extensive planners having less favorable attitudes toward store brands than less extensive planners.

Consumers under time pressure should be deterred from using out-of-store promotions. Bawa and Shoemaker (1987) emphasize that coupons require high effort, and it is likely that scanning and making use of weekly flyers requires the same. But time-pressured consumers may use in-store promotions and store brands to save time, as both provide easily recognizable cues for simplifying the buying process. Store brands provide additional convenience and time saving by facilitating shopping across several categories (Steenkamp and Dekimpe 1997; Baltas and Doyle 1998). Therefore, we expect time pressure to be negatively related with out-of-store promotion use and positively related to in-store promotion use and store brand use.

Thinking Costs: Thinking costs are related to need-for-cognition (NFC). High NFC has been found to be associated with more extensive information processing in a variety of contexts (Inman, McAlister and Hoyer 1990; Zhang 1996; Mantel and Kardes 1999). We expect NFC to be positively associated with out-of-store promotion use since such deals require significant cognitive effort, e.g., in selecting, clipping, and organizing coupons. We expect a negative relationship between NFC and in-store deal use because low NFC people respond to both signal-only promotions like displays and price-off promotions like store specials, while high NFC people respond only to price-off promotions (Inman, McAlister, and Hoyer 1990). The relationship between NFC and store brand use is not clear. It would depend upon whether low NFC people use the store brand label as a cue for good value or as a cue for low quality.

Inventory Holding Costs: Inventory costs are related to the perceived availability of storage space. Having sufficient storage space makes it easier for consumers to use both in- and out-of-store national brand deals, since they can stock up on the product (Blattberg et al. 1978). On the other hand, consumers who perceive storage space constraints may buy store brands since they are always available at a low price and therefore need not be stockpiled. Thus, perceived storage space should have a positive association with the use of both types of national brand promotions and a negative association with store brand use.

Insert Table 1 About Here

Table 1 summarizes our hypotheses about the relationship between psychographic characteristics and the three behaviors of interest. Viewed holistically, these individual hypotheses allow us to generate expectations about the fundamental question in our research, i.e., are these distinct behaviors or is there a lot of overlap between them. Table 1 suggests substantial overlap between users of in-store and out-of-store promotions. But, even these two groups should be distinguishable on the basis of hedonic characteristics like impulsiveness and mavenism, and cost-related characteristics like time pressure and NFC. In contrast, Table 1 suggests much less overlap between store brand use and promotion use (in-store and out-of-store promotions taken collectively). Promotion users and store brand users should be clearly distinguishable on the basis of quality consciousness and several of the hedonic and cost related characteristics.

2.3 The Role of Demographic Characteristics

Identification of Demographic Characteristics:

The benefits and costs of store brand and deal use suggest seven demographic characteristics: income, employment status, children in the household, type of residence, age, gender, and education. Income is linked to savings benefits; employment status and children in the household relate to search costs; and type of residence is related to inventory holding costs. The remaining three demographics link to multiple benefits and/or costs. Education links to thinking costs, but also to product quality, exploration, and search costs (e.g., Raju 1980; Narasimhan 1984; Urbany, Dickson, and Kalapurakal 1996). Age links to entertainment, but also to exploration, self expression and search costs (e.g., Raju 1980; Urbany, Dickson and Kalapurakal 1996). And, gender links to self expression but also to exploration and search costs (e.g., Feick and Price 1987; Schindler 1989). Since the purpose of Figure 2 is simply to identify the relevant consumer characteristics we keep it simple by showing only one major link.

Relationship with Store Brand and Deal Usage:

Much research has hypothesized direct relationships between demographics and store brand or deal proneness. However, these hypotheses often rely on the association between demographics and psychographics for theoretical support. For instance, income is expected to be negatively related to deal use because higher income households are less price conscious. Similarly, full time employment is expected to be negatively associated with deal use because people who work full time are more pressed for time (e.g., Blattberg et al. 1978). And, dwelling in a home rather than an apartment is expected to be positively associated with deal use, because homeowners have more storage space for stockpiling products. As a result, it is unclear what the direct

relationship of demographic variables is with store brand or deal usage, once one has accounted for the indirect influence through psychographics. Therefore, we do not propose *a priori* hypotheses about the direct relationship between demographics and these behaviors.

Relationship with Psychographics:

We can propose hypotheses about the relationship of some demographic variables with specific psychographics. First, we expect income to have a negative relationship with price consciousness and financial constraints. Second, we expect full time employment and presence of children to have positive relationships with time pressure. Third, we expect living in a house rather than an apartment or townhouse to have a positive relationship with storage space.

The remaining three demographic variables, i.e., age, education, and gender, can be related to several of the psychographic characteristics in Figure 2. For instance, older people may be more likely to enjoy shopping and be mavens (Urbany, Dickson, and Kalapurakal 1996), but they may be less likely to seek variety (Raju 1980) or be pressured for time. More educated people may be less likely to be mavens (Feick and Price 1987), more pressured for time (Narasimhan 1984), and more likely to seek variety (Raju 1980). Women may be more likely to be shopping mavens and planners (Feick and Price 1987). In addition, one can conceive of relationships of these three demographic variables with other psychographics as well. For instance, education may be related to quality consciousness or NFC, age may be related to the motivation to conform to the expectations of others or NFC, gender may be related to shopping enjoyment, innovativeness, impulsiveness, or time pressure. Therefore, we examine the relationship of these three demographic variables with all fifteen psychographic variables.

2.4 Structural Model

We first specify Model A, where use of store brands (“*sbuse*”), use of in-store promotions on national brands (“*inuse*”), and use of out-of-store promotions on national brands (“*outuse*”) are each influenced by the fifteen psychographic characteristics. The error terms for the three equations are allowed to covary because we expect that, like the included variables, some of the unobserved variables that influence one behavior may also influence the other behaviors:

$$\begin{aligned}
 sbuse_i &= \gamma_{1,0} + \gamma_{1,1}pricecon_i + \gamma_{1,2}finconst_i + \dots + \gamma_{1,15}storage_i + \varepsilon_{1i} \\
 inuse_i &= \gamma_{2,0} + \gamma_{2,1}pricecon_i + \gamma_{2,2}finconst_i + \dots + \gamma_{2,15}storage_i + \varepsilon_{2i} \\
 outuse_i &= \gamma_{3,0} + \gamma_{3,1}pricecon_i + \gamma_{3,2}finconst_i + \dots + \gamma_{3,15}storage_i + \varepsilon_{3i}
 \end{aligned} \tag{1}$$

Next, we add the seven demographic characteristics identified in Figure 2, and obtain three additional model specifications depending upon whether demographics have only a direct effect on the three behaviors, only an indirect effect through psychographics, or both a direct and an indirect effect. Model B, containing direct effects of demographics, is obtained by adding the demographic variables to each equation in (1):⁴

$$\begin{aligned}
 sbuse_i &= \gamma_{1,0} + \dots + \gamma_{1,16}age_i + \gamma_{1,17}income_i + \dots + \gamma_{1,22}employ_i + \mu_{1i} \\
 inuse_i &= \gamma_{2,0} + \dots + \gamma_{2,16}age_i + \gamma_{2,17}income_i + \dots + \gamma_{2,22}employ_i + \mu_{2i} \\
 outuse_i &= \gamma_{3,0} + \dots + \gamma_{3,16}age_i + \gamma_{3,17}income_i + \dots + \gamma_{3,22}employ_i + \mu_{3i}
 \end{aligned} \tag{2}$$

We incorporate the indirect effects of demographics by specifying equations for each of the psychographics as a function of demographics. As discussed earlier, we model relationships of income, employment status, children in the family, and residence type with specific psychographics, but allow age, education, and gender to affect all fifteen psychographics. Thus,

Model C, with indirect effects of demographics, is obtained by adding the following fifteen equations for psychographics to (1) and allowing covariation between their error terms:

$$\begin{aligned}
 pricecon_i &= \gamma_{4,0} + \gamma_{4,1}age_i + \gamma_{4,2}educ_i + \gamma_{4,3}gender_i + \gamma_{4,4}income_i + \varepsilon_{4i} \\
 finconst_i &= \gamma_{5,0} + \gamma_{5,1}age_i + \gamma_{5,2}educ_i + \gamma_{5,3}gender_i + \gamma_{5,4}income_i + \varepsilon_{5i} \\
 timepres_i &= \gamma_{14,0} + \gamma_{14,1}age_i + \gamma_{14,2}educ_i + \gamma_{14,3}gender_i + \gamma_{14,4}kids_i + \gamma_{14,5}employ_i + \varepsilon_{14i} \\
 storage_i &= \gamma_{15,0} + \gamma_{15,1}age_i + \gamma_{15,2}educ_i + \gamma_{15,3}gender_i + \gamma_{15,4}home_i + \varepsilon_{15i} \\
 qualcon_i &= \gamma_{5,0} + \gamma_{5,1}age_i + \gamma_{5,2}educ_i + \gamma_{5,3}gender_i + \varepsilon_{5i} \\
 &\cdot \\
 &\cdot \\
 planning_i &= \gamma_{18,0} + \gamma_{18,1}age_i + \gamma_{18,2}educ_i + \gamma_{18,3}gender_i + \varepsilon_{18i}
 \end{aligned} \tag{3}$$

Finally, Model D, with both direct and indirect effects of demographics, is obtained by combining (2) and (3). Note that Models A and B are not nested within Model D even though Model D is the most general. This is because the psychographic variables are exogenous in Models A and B, whereas they are endogenous in Models C and D. Model A, however, is nested within Model B and Model C is nested within Model D.

2.5 Data

We obtain data from a mall intercept consumer survey. The survey consisted of personal interviews with 319 adults, intercepted at four shopping malls in Massachusetts, at various times of day and on different days of the week. A professional market research firm conducted the interviews over a four-week period in the summer of 1998. Each interview lasted approximately 30 minutes and respondents were given three scratch-and-win lottery tickets, each costing \$1.00, as an incentive for participation. The conditions for inclusion in the survey were that the

respondent should be at least 18 years of age and should do at least some of the grocery shopping for the household. The demographic profile of the sample is summarized in Table 2.

Insert Table 2 About Here

At the beginning of each interview, the interviewer provided the respondent with definitions and examples of (a) store brands; (b) national brands; (c) in-store promotions on national brands; and (d) out-of-store promotions on national brands. The definitions and examples were printed in bold capital letters on a card and the card was placed in front of the respondent during the entire length of the interview. The interviewers were instructed first to clarify any questions about the definitions of these four terms before proceeding with the interview. This procedure ensured that there was no confusion among respondents about what was meant by these terms.

The Appendix provides the items for all the constructs used in the study as well as all the demographic variables. All constructs except demographic variables are measured using five-point scales. The national brand promotion and store brand usage scales measure frequency of use and are anchored by "Never" and "Very Often," while all other scales are of the Agree-Disagree type and are anchored by "Strongly Disagree" and "Strongly Agree".⁵

Note we need to measure the *usage* of store brands and the *usage* of promotions on national brands, not the feelings associated with them. Thus, our scales are fundamentally different from those in the deal proneness studies of researchers like Lichtenstein, Netemeyer, and Burton

(1990). Also, our research calls for consumer-level measures of store brand usage and national brand deal usage. Therefore, our scales are designed to assess a general usage level across product categories, although we recognize that usage also varies by product category, especially for store brands (Sethuraman and Cole 1997).

Items for many of the scales are taken either in part or in their entirety from the literature. Since we created some new scales and did not use some of the other scales in their entirety, we pre-tested all the scales with 40 respondents. The pre-test led us to reword a few items and delete a few others that had low item-to-total correlations. We use EQS (Bentler 1995) to estimate the structural equation model.

3. STRUCTURAL MODEL ANALYSIS

3.1 Measurement Model

We evaluate the reliability and validity of our constructs using confirmatory factor analysis. Table 3 lists the constructs and reliability statistics. The composite reliability index has been shown to have advantages over Cronbach's alpha when the measures are not tau-equivalent (Raykov 1997). The table shows that the reliabilities of all the constructs are quite high, with only one Cronbach's alpha (Planning) that falls below Nunnally's (1978) cut-off of 0.70 for such scales.

Insert Table 3 About Here

To assess the dimensionality and validity of our constructs, we specify two confirmatory factor analysis models, one for the eleven items relating to the three behaviors, i.e., store brand use, in-

store national brand promotion use, and out-of-store national brand promotion use, and another for the forty items relating to the fifteen psychographic constructs. For both models, we do not allow any cross-loadings, allow inter-factor covariances to be freely estimated, and do not allow measurement errors to covary. Even under the high standards of measurement quality imposed by these conditions, and with fifteen constructs in the psychographics measurement model, the fit of both models is acceptable. The robust comparative fit index is 0.914 for the store brand and promotion use measurement model, and 0.916 for the psychographics measurement model. Similarly, the standardized root mean square residual is 0.094 for the former model and 0.053 for the latter. The fit of the former model is significantly improved by allowing measurement error covariances between the items relating to store flyer use. We free up these covariances because doing so makes conceptual sense. As a result, the robust comparative fit index increases from 0.914 to 0.964 while the standardized root mean squared residual decreases from 0.094 to 0.074. Although model fit could be improved by freeing up some other measurement paths, no modification indices stand out as being substantially bigger than the others. Therefore, we do not make further model modifications simply to boost the fit of the models (see Baumgartner and Homburg 1996).

Loadings of all the items on their factors are strong. The magnitude of their t-statistics ranges from 6.07 to 29.26. On average, 63% of the variation in an item is explained by its factor. The magnitude of inter-factor correlations ranges from 0.009 to 0.618 and none of the 90% confidence intervals around the correlations include 1 (or -1), thus supporting the discriminant validity of our constructs (Bagozzi 1980; Anderson and Gerbing 1988).

3.2 Comparison of Competing Models

Table 4 summarizes the fit of Models A, B, C, and D. Although the comparative fit indices are not as impressive as some other structural equation models, we note that our models contain many more constructs than the typical model (see Baumgartner and Homburg 1996) and many of our hypotheses are new. Some of the structural paths are hypothesized to be insignificant, but we do not constrain them to zero, since our purpose is to test the hypotheses, not to maximize model fit. We use the fit indices not so much to evaluate a particular model on an absolute level as to compare the four competing models. Note also that these measures assess covariance fit, whereas variance fit, the percentage of variance in the dependent behaviors explained by the independent constructs, and the meaningfulness of individual structural parameters, are important for our study. In fact, Baumgartner and Homburg (1996) caution that emphasis on covariance fit can detract from a "proper concern" for variance fit. As we show later, the structural models perform very well on the latter dimension.

Insert Table 4 About Here

As mentioned earlier, the four models are not nested. Therefore, we provide four measures that can be used to compare and rank-order non-nested models, apart from the χ^2 statistic and the robust comparative fit index. These measures are Root Mean Square Error of Approximation (RMSEA, Steiger 1990), Akaike Information Criterion (AIC, Akaike 1987; Joreskog 1993), Corrected Akaike Information Criterion (CAIC, Bozdogan 1987), and the Expected Cross Validation Index (ECVI, Browne and Cudeck 1989). Definitions of these measures are available in recent books on structural equation models (e.g., Maruyama 1998).

A test for the difference in χ^2 statistics between Models A and B concludes that Model B is superior, i.e., adding direct effects of demographics improves model fit. However, other measures of fit show that this improvement is not very strong. When we consider measures such as AIC and CAIC, which penalize models with a large number of parameters more strongly than the χ^2 test does (Hayduk 1996), we conclude that adding direct effects of demographics does not improve the model. On the other hand, when we compare Model C with either Model A or Model B, we see a vast improvement in these measures of fit. Thus, demographic variables do improve model fit, but modeling indirect effects is much better than modeling direct effects.

In order to determine whether we should include both direct and indirect effects or only indirect effects, we compare Models C and D. The χ^2 test concludes that Model D is superior. However, the improvement is not much since Model C has better AIC, CAIC, and ECVI. Also, we find that only 5 out of 30 direct demographic effects estimated in Model D are statistically significant. Thus, we conclude that the more parsimonious Model C is a better representation of the effect of demographics. Hence, we proceed with results from Model C.⁶

3.3 Role of Demographic Characteristics

Table 5 presents the standardized parameters and model R^2 for the relationship of demographics with each of the fifteen psychographic characteristics. Although the R^2 s are not high, at least one demographic variable has a significant relationship with each of the psychographic variables except brand loyalty. All five of our specific hypotheses about the effect of demographics on psychographics are supported. Consumers with higher income are less price conscious and less financially constrained. People who are employed full time and those with

children in the household are more pressured for time. And, people who live in a house perceive that they have more storage space.

Insert Table 5 About Here

As we expected, age, gender, and education are associated with many psychographic variables. Older consumers are more likely to be shopping mavens, have higher motivation to conform with the expectations of others, are less pressured for time, and have more storage space. Women are more likely than men to be innovative, impulsive, shopping mavens, and planners. They are also more store loyal and have lower NFC. Finally, more educated consumers are less financially constrained, more quality conscious, more innovative, and have higher NFC. They don't enjoy shopping and have more storage space.

Thus, the relationships between demographic and psychographic characteristics are both significant and intuitively appealing. Although the direct effect of demographic variables on store brand use, in-store and out-of-store promotion use is weak, these significant indirect effects show that demographics do play a role in determining shopping behavior.

3.4 Role of Psychographic Characteristics

Table 6 presents standardized parameters and model R^2 for store brand use, in-store promotion use, and out-of-store promotion use. The models explain about 40% of the variation in each behavior. This level of explanatory power compares favorably with other studies of deal proneness or store brand proneness.

Insert Table 6 About Here

Table 6 also presents χ^2 statistics for each psychographic variable to test whether the coefficient of that psychographic variable is equal for each of the three behaviors. The fact that eleven of the fifteen χ^2 statistics are significant shows that most of the psychographic variables have significantly different associations with the three behaviors. In fact, many of the coefficients have opposite signs for one versus the other behavior.

The first column of coefficients in Table 6 shows that most of our hypotheses about the psychographic correlates of store brand use are supported. There is only one instance where a coefficient is statistically significant and has the "wrong" sign: variety seeking is positively associated with store brand use. Perhaps variety seekers use store brands for a change of pace. Where we had directional hypotheses, the coefficient has the right sign and is significant except in one case (impulsiveness). Where we did not have directional hypotheses, the coefficients are insignificant except for NFC, which has a significantly positive coefficient. Overall, economic benefit and cost related characteristics are the strongest correlates of store brand usage. Store brand users are financially constrained, highly price conscious and not very quality conscious; they are variety seekers; they have storage and time constraints, high store loyalty and high NFC.

In-store promotion users have fewer distinguishing characteristics. This is not surprising. Since in-store deals require little effort, they attract a variety of people. All the significant coefficients have the hypothesized sign. However, the coefficients of many characteristics are not significant.

Overall, in-store promotion users are financially constrained; they are impulsive; they enjoy and plan their shopping; and they have plenty of storage space.

Several of our hypotheses about characteristics of out-of-store deal users are supported. All significant coefficients, except for NFC, are of the hypothesized sign. It appears that low NFC people use out-of-store promotions as decision-simplifying cues (e.g., Henderson 1985). In both cases where we could not advance a directional hypothesis, the coefficients are significant. Users of out-of-store promotions have low motivation to conform to others' expectations and they are brand loyal. The latter supports our conjecture that users of this type of promotion seek out deals on their favorite brands. Overall, hedonic benefit and cost related characteristics are the strongest correlates of out-of-store promotion use. Users of these promotions enjoy shopping, are shopping mavens, and do not consider it necessary to conform to the expectations of others; they are brand loyal but not store loyal; they plan their shopping; have low NFC and plenty of storage space.

This analysis shows that there are distinct differences between the psychographic correlates of store brand use, in-store national brand promotion use, and out-of-store national brand promotion use. As we hypothesized, however, the correlates of in-store and out-of-store deal use are the most similar while the correlates of store brand and out-of-store promotion use are the most dissimilar. Store brand users are the opposite of out-of-store promotion users on many fronts, e.g., quality consciousness, store loyalty, NFC, and storage space. In line with these patterns, the correlation between in-store and out-of-store promotion coefficients is +0.64, that between store brand and in-store promotion coefficients is -0.30, and that between store brand and out-of-store promotion coefficients is -0.57.

4. SEGMENTATION ANALYSIS

4.1 Defining the Segments

The previous analysis shows that store brand, in-store deal, and out-of-store deal usage are driven by different psychographic characteristics. In this section, we determine how these differences produce different market segments. We cluster analyze the sample using factor scores on store brand use, in-store promotion use, and out-of-store promotion use. We use K-means cluster analysis on the basis of Euclidean distances (Anderberg 1973). Table 7 summarizes the key measures for evaluating the 3, 4, 5, and 6-cluster solutions.

Insert Table 7 About Here

The table shows that all measures improve substantially when we go from the 3 to the 4-cluster solution. However, adding further clusters actually reduces the pseudo F-statistic (Calinski and Harabasz 1974), which has been shown to be one of the best ways to determine the number of clusters in a data set (Milligan and Cooper 1985). And, the rate of increase in the other two measures is much lower. Further, our examination of the cluster means shows that the 4-cluster solution adds substantial insight over the 3-cluster solution by identifying a very different cluster whereas the fifth and sixth clusters separate out relatively minor gradations of store brand and promotion use. We therefore use the 4-cluster solution.

Before going further, we examine the stability of the 4-cluster solution in two ways. First, we use several random starting cluster seeds and find that the substantive nature of the clusters is not sensitive to them. Second, we use McIntyre and Blashfield's (1980) cross-validation procedure,

which has been recommended by Punj and Stewart (1983). Specifically, we split our data into two random halves, perform cluster analysis on the first split-half and use the Euclidean distances from the resulting cluster centroids to assign respondents in the second split-half to clusters. We then examine the agreement between this assignment and a cluster analysis performed on the second split-half sample. We find that there is agreement between the assignments in 86% of the cases. These results provide evidence that our clusters are reliable.

Insert Table 8 About Here

The four clusters in our sample are described in Table 8. The first and second clusters, comprising more than a third of the sample, clearly represent separate “deal focused” and “store-brand focused” market segments. The third cluster, consisting of a little less than a third of the sample, represents a “use-all” market segment. Cluster 4, also almost a third of the sample, represents a “use-none” market segment.

This segmentation is quite consistent with our structural model results. The specific psychographic associations and the correlation pattern between the coefficients in the structural model suggested a store-brand focused segment and that in and out-of-store users could be combined into a deal-focused segment. There is also enough in common among all three behaviors to produce a segment that partakes in all of them, and, of course, there is a segment that partakes in none.

4.2 Predicting Segment Membership

To predict segment membership, we compute the normalized Euclidean distance of each respondent from each of the four cluster centroids, and multiply by -1 to get "proximity" rather than "distance". We then regress the four proximity measures on the psychographic variables. Normalization ensures that an observation cannot move closer to (or farther away from) all four clusters simultaneously. For logical consistency, we constrain the coefficients of each psychographic variable to add to zero across the four equations.⁷ A significant coefficient shows that the variable is a good predictor of segment membership, with a positive sign increasing the likelihood of being in a given segment relative to the other segments.

Although the results of these segment regressions should be somewhat consistent with the structural model results in Table 6, we should also expect some differences. First, the deal-focused and use-all segments in the segmentation analysis combine both in-store and out-of-store deal use. Second, the deal-focused and store-brand focused segments contain only "hard core" users. Multiple users have been separated out into the use-all segment. Third, the use-all segment should be quite difficult to predict since it involves behaviors that have been shown to relate with opposite signs to various psychographics.

Table 9 summarizes the results. The table shows that the psychographics have significant overall discriminatory power for all four clusters, with adjusted R^2 s ranging from 0.14 to 0.31.

Insert Table 9 About Here

Interestingly, membership in the deal-focused segment can be predicted by most of the

characteristics that were significant in the structural equation model for predicting in-store or out-of-store promotion usage. These characteristics include: impulsiveness, shopping enjoyment, planning, storage availability, motivation to conform, brand loyalty, store loyalty, and NFC. This is intuitively appealing because members of this segment use both in-store and out-of-store promotions and these behaviors are similar enough that the influences of most characteristics do not cancel each other. In addition, consumers who are highly price conscious do not focus exclusively on deals, and instead gravitate toward the store brand or use-all segments. However, quality conscious consumers avoid the store brand and use-all segments and shift their attention to deals. This reinforces the role of deals as a means to deliver a quality benefit (Chandon, Wansink, and Laurent 2000).

Sensibly, the signs of the coefficients for predicting membership in the store-brand focused segment are the same as they are in the structural equation model for 13 of the 15 psychographics. Many of the highly significant variables in the structural equation model - price consciousness, quality consciousness, store loyalty, and storage space – are also highly significant in the prediction equation. In addition, membership in this segment can be predicted based on lower shopping enjoyment, less impulsiveness, more mavenism, more motivation to conform, less brand loyalty, and less planning.

Note that the lowest R^2 is for the use-all segment. This is to be expected because this segment is an amalgam of behaviors that the structural model shows are generated by different psychographic factors. Membership in this segment is more likely if the consumer is financially constrained, is not quality conscious, enjoys shopping, is variety seeking and impulsive, is

motivated to conform to peer pressure, plans shopping, and feels time pressure. In sum, people in this group want to save money, but they also want to save time and they value hedonic benefits. So, they make the best of both store brands and deals.

Finally, the use-none segment is a diverse group and can be distinguished from the rest of the market in only a few ways. Not surprisingly, they are neither price conscious nor financially constrained. They are also not shopping mavens nor are they pressured for time. So, they are not attracted to either the monetary or time savings promised by promotions and store brands. They are also not drawn to these behaviors by self-expressive desires of the shopping maven.

5. CONCLUSION

5.1 Summary of Findings

We have investigated the extent to which store brands and national brand promotions attract the same consumer. To do so, we have employed a structural model to study the characteristics of consumers who buy store brands, national brands on in-store promotions or national brands on out-of-store promotions. We then clustered consumers into segments based on their use of store brand and national brand promotions and distinguished between the segments using the consumer characteristics from the structural model.

Our structural model analysis shows that the impact of demographics on these behaviors is funneled through psychographics, rather than directly. Further, the psychographic drivers of store brand usage, in-store promotion usage, and out-of-store promotion usage differ substantially. The biggest difference in psychographic drivers is between store-brand and promotion usage,

especially out-of-store promotion usage. Store brand use is particularly associated with price consciousness, low quality consciousness, and store loyalty. Store brand users thus transfer their store loyalty into saving money, even at the expense of quality.

Out-of-store promotion use, on the other hand, is associated with higher shopping enjoyment and mavenism, and less pressure to conform to the expectations of others. Heavy users of these promotions plan their shopping, are willing to switch stores but not brands, have plenty of storage space, and have low need for cognition. Thus, the hedonic aspect of promotions is more salient to them than to store brand users and their costs are low, so they are willing to incur the effort involved in using promotions.

In-store promotion usage is driven by psychographics that are similar to those that drive out-of-store promotion use, especially shopping enjoyment, planning, and available storage space. However, in-store deal users differ in that they feel more financially constrained and are impulsive, and are not driven by mavenism, motivation to conform, and NFC. An interesting aspect of in-store promotion usage is that both impulsive and planning orientations lead to the same behavior. This is a sensible result. Consumers can make use of in-store promotions by either buying on impulse or by planning to use these promotions.

Overall, our structural equation model shows that store brand usage is quite different than either in-store or out-of-store promotion usage, while in-store and out-of-store promotion usage share several similar drivers. It is sensible then that our cluster analysis reveals a store-brand focused segment and a general deal-focused segment. In addition, however, there is a well-defined

segment that partakes in all three behaviors, as well as a segment that partakes in none. Membership in the store-brand focused segment can be predicted based on many of the psychographics that drive store brand purchasing in general. Membership in the deal-focused segment can be predicted by a combination of the psychographics that predict these behaviors separately. The use-all segment is the least easy to predict, since it combines three behaviors that are driven in opposite directions by some psychographics.

Our analysis provides important insight on whether store-brand users and deal users are different market segments. These behaviors are driven by different psychographics, and there are market segments that focus exclusively on one behavior or the other. In that sense, they are different market segments. However, the delineation is not so sharp that it precludes a market segment that partakes in both store brands and national brand promotions. Indeed, we find that a significant portion of the market belongs to this segment.

5.2 Implications for Researchers

There are several implications of our work for researchers. First, we have shown that not only deal buying but also store brand buying is driven by the economic/utilitarian returns, psychosocial/hedonic returns, and costs that have been conceptualized by researchers such as Shimp and Kavas (1984), Urbany, Dickson, and Kalapurakal (1996), and Chandon, Wansink, and Laurent (2000). Our findings support the use of this framework to study the behavior of consumers who seek better value in the marketplace.

Second, we have shown that, while demographics may not be effective at directly predicting these three behaviors, they do have a significant association with psychographic characteristics and are therefore useful in segmentation, targeting, and communication. For instance, our findings buttress earlier work that shows women value self expression and exploration more than men (e.g., Feick and Price 1987; Urbany, Dickson and Kalapurakal 1996). As one might expect, education is positively related with quality consciousness and NFC, full time employment and having young children is associated with time pressure, and higher income is associated with lower financial constraints and price consciousness.

A third implication relates to our conceptualization of store brand usage as a consumer-level rather than a category-level characteristic. There are certainly differences in the use and perceptions of store brands across categories and across retailers (Sethuraman and Cole 1997). However, our success in characterizing store brand users and in distinguishing them from deal users on the basis of psychographic characteristics shows that consumers do have over-arching perceptions about using store brands that generalize across product categories.

Fourth, our work demonstrates the value of jointly examining multiple related behaviors (see Kahn and Raju 1991 for other work in this spirit). Using a common set of variables and one method to study these clearly related behaviors has allowed us to make direct comparisons between their antecedents without being hindered by non-comparable measures or methods.

Finally, we reveal some important specific relationships between consumer psychographics and the use of store brands and/or deals. For instance, we show that planning and impulsiveness can

go together, and that in-store promotion usage is consistent with both tendencies. This dual role warrants further investigation. We find that brand loyal consumers are more likely to buy national brands using out-of-store promotions. This must be because they selectively seek out and use promotions on the brands they regularly buy. In general, the positive association between brand loyalty and deal use, and between storage availability and deal use, suggests that a significant role of out-of-store promotions is to induce loyal users to stock up on the brand. This finding is somewhat at odds with the notion that the predominant effect of promotions is on brand switching (e.g., Gupta 1988). Consistent with our findings, however, recent research has found that stockpiling and stockpiling-related consumption play a more important role than was previously thought though switching does account for the majority of promotion's effect (see Dillon and Gupta 1996; Ailawadi and Neslin 1998; Bucklin, Gupta, and Siddarth 1998; Bell, Chiang, and Padmanabhan 1999). Further, the decomposition of the promotion effect may differ by type of promotion. Our results suggest that displays and in-store specials may induce more brand-switching while coupons and other out-of-store promotions may be more likely to attract consumers who are loyal to the brand. In any event, further research is needed to reconcile our findings with the brand switching effect of promotions.

5.3 Implications for Managers

The major implication for managers is that manufacturers and retailers have the opportunity either to avoid each other or to compete head-to-head. Manufacturers can target the deal-focused segment and retailers can target the store-brand focused segment. These strategies could reduce the tug of war between manufacturers and retailers. However, if manufacturers and retailers both target the use-all segment, it can exacerbate competition within the channel. Our analysis should

help both parties to design their programs once they have decided which segments to target. For example, manufacturers can target the deal-focused segment by appealing to quality conscious consumers who stock up on their favorite brands. This means the promotion should include a strong advertising message to trigger the quality considerations. If the manufacturer wants to encourage stockpiling, e.g., to pre-empt a competitor, it can do so with this segment, for example, by suggesting large purchase quantities (Wansink, Kent, and Hoch 1998). The promotion can be designed as an impulse purchase or a planned purchase. The fact that this target group may already be loyal to the brand means that these promotions should be seen more as customer retention rather than acquisition tools. This explains why such promotions may not pay off in the short run. The fact that this target group is not store loyal may mean that manufacturers can run cooperative promotions with retailers, the carrot for the retailer being that these promotions will increase store traffic.

The retailer's store-brand focused segment is quite distinct. It contains store loyal, price conscious customers who are not quality conscious, not shopping experts and not stockpilers. Retailers can access this group through their frequent shopper programs, which can be used to identify store loyal customers, thus avoiding the deal-focused and use-all segments. For the store-brand focused group, it would be appropriate to stress the relatively consistently low store brand price, so consumers do not have to stock up. Retailers should stress the simplicity of buying store brands because consumers in the store brand segment are not expert shoppers and don't plan their shopping or enjoy it.

Another set of implications for managers relates to the desirability of using HI-LO versus everyday low pricing.⁸ Our results imply that the best strategy for store brands is to set an everyday low price that is close to the promoted price of national brands. Customers in the store-brand focused segment do not plan or enjoy shopping, so a HI-LO pricing strategy would dissuade them from using store brands. On the other hand, national brands would benefit from a HI-LO strategy. Manufacturers can use this strategy to price discriminate and also to compete with store brands for the use-all segment. The use-none segment will buy national brands at regular price while the deal price will allow manufacturers to compete with other national brands for the deal-focused segment and with store brands for the use-all segment.

Thus, our answer to the question of whether manufacturers can combat the store brand threat effectively through promotions is a partial yes. If manufacturers want to battle store brands for market share, they can target the use-all segment. They can do so with price and convenience oriented messages and in-store displays designed to encourage impulsive purchases. However, this will work only partially. There is still a segment that exclusively buys store brands and has very different characteristics than promotion users. These people are not impulsive, they do not plan, and they don't stockpile. This segment seems inaccessible to the types of promotions commonly used by manufacturers. Our conclusion here is consistent with the mixed view of whether manufacturer promotions reduce store brand share. For example, Blattberg and Wisniewski (1989) found that promotions were effective at combating store brands, while Hoch and Banerji (1993) found they were not.

In conclusion, our results contribute to the study of store brand and promotion usage conceptually, substantively, and managerially. Conceptually, we reinforce the economic benefits/hedonic benefits/costs framework, and support the role of demographics as an indirect rather than direct cause of these behaviors. Substantively, we find that store brands and national brand promotions attract consumers with distinctly different psychographic profiles; the national brand promotion user profile relates more to hedonic benefits and costs, whereas the store brand user profile relates more to economic benefits and costs. Store brand and national brand promotion usage are therefore different consumer behaviors. Managerially, we suggest that manufacturers and retailers can avoid or escalate conflict depending on which segments they target, that promotions are only a partial way for manufacturers to address the private label threat, and that the psychographic characteristics of store brand and promotion users make EDLP a promising strategy for store brands, whereas HI-LO pricing might be better for national brands. Of course there is still much to do in this area, as pointed out above. This work is important because the way in which manufacturers and retailers play out their dual roles as competitors and partners, which includes their promotion and store brand strategies, will define the 21st century marketplace.

FOOTNOTES

1. In the remainder of the paper, when we refer to promotion or deal usage, we mean promotions on national brands.
2. Chandon, Wansink, and Laurent (2000) do not examine costs and list convenience as an economic benefit. Our typology includes the specific aspects of convenience in search, switching, thinking and inventory costs.
3. Although our hypotheses refer to national brand loyalty, a limitation of our data is that our measurement scale for brand loyalty does not refer specifically to national brands. However, we believe consumers were thinking of national brands when they responded because national brands are more salient. As a whole, they have higher market shares and higher loyalty as measured by share of requirements (IRI Marketing Fact Book 1998).
4. Some of the demographic characteristics, e.g., employment status, are operationalized as a set of dummy variables in the empirical analysis. For simplicity of exposition at this stage, we simply represent each demographic characteristic as a single variable.
5. The Appendix lists the psychographic scales in the order in which they were discussed in the previous section. Their order was random in the actual survey.
6. There are no substantive differences in the estimated psychographic coefficients for Model C and Model D. Complete results for Model D are available from the first author upon request.

7. We also performed four logistic regressions using the dichotomous cluster membership variables, one for discriminating each cluster from the other three. We did not find any substantive differences in conclusions though there were fewer significant coefficients in the logistic regressions. We believe using the continuous proximity variables is preferable because they retain more information than the dichotomized cluster membership variables. However, results of the logistic regressions are available from the first author upon request.

8. We thank an anonymous reviewer for the suggesting the insights stated in this paragraph.

APPENDIX SURVEY ITEMS

1. Store Brand Usage Scale:

I buy store brands.
I look for store brands when I go shopping.
My shopping cart contains store brands for several products.

2. Out-of-Store National Brand Promotion Usage Scale:

I clip coupons for national brands from newspapers and magazines.
I take along coupons for national brands and use them when I go shopping.
I scan store flyers for sales on national brands before going shopping.
I use store flyers to decide what to buy and where to shop.

3. In-Store National Brand Promotion Usage Scale:

I am influenced by special displays of national brands in the store.
I use a coupon if I see it on a package or in the store.
I pick up and use the store flyer when I am shopping in the store.
I take advantage of specials on national brands in the store.

4. Psychographic Characteristics:

Price Consciousness

I compare prices of at least a few brands before I choose one.
I find myself checking the prices even for small items.
It is important to me to get the best price for the products I buy.

Financial Constraints

My household budget is always tight.
My household often has problems making ends meet.

Quality Consciousness

I will not give up high quality for a lower price.
I always buy the best.
It is important to me to buy high quality products.

Shopping Enjoyment

I think grocery shopping is a chore.
I like to finish my shopping as quickly as possible and get out of the store.
I enjoy grocery shopping.

Innovativeness

When I see a product somewhat different from the usual, I check it out.

I am often among the first people to try a new product.
I like to try new and different things.

Variety Seeking

If I use the same brands over and over again, I get tired of them.
I buy different brands to get some variety.

Impulsiveness

I often find myself buying products on impulse in the grocery store.
I often make an unplanned purchase when the urge strikes me.

Mavenism

I am somewhat of an expert when it comes to shopping.
People think of me as a good source of shopping information.
I enjoy giving people tips on shopping.

Motivation to Conform

It bothers me if other people disapprove of my choices.
It is important to me to fit in.
My behavior often depends on how I feel others wish me to behave.

Brand Loyalty

I prefer one brand of most products I buy.
I am willing to make an effort to search for my favorite brand.
Usually, I care a lot about which particular brand I buy.

Store Loyalty

I prefer to always shop at one grocery store.
I am willing to make an effort to shop at my favorite grocery store.
Usually, I care a lot about which particular grocery store I shop at.

Planning

I spend a lot of time planning my grocery shopping trips.
I make a shopping list before I go grocery shopping.

Time Pressure

Most days, I have no time to relax.
I always seem to be in a hurry.
I never seem to have enough time for the things I want to do.

Need For Cognition

Thinking is not my idea of fun.
I like tasks that don't require much thinking once I have learned them.
I only think as hard as I have to.

Storage Space

I have plenty of storage space at home.
I have a lot of room at home to stock extra grocery products.

5. Demographic Variables:

Age

- _1_ less than 25 years _3_ 35-44 years _5_ 60 -74 years
2 25-34 years _4_ 45-59 years _6_ 75 years or older

Gender

- _0_ Male _1_ Female

Education

- _1_ high school or less _2_ some college _3_ college _4_ advanced degree

Employment (Coded from multicategory question)

- _0/1_ Homemaker _0/1_ Student _0/1_ Retired
0/1 Full Time/Self Employed _0/1_ Part Time/Other

Children Under Age 12 (Coded from multicategory question)

- _0_ No _1_ Yes

Live in a House (Coded from multicategory question)

- _0_ No _1_ Yes

Annual Household Income

- _1_ < \$30,000 _3_ \$45,000 to < \$60,000 _5_ \$75,000 to < \$100,00
2 \$30,000 to < \$45,000 _4_ \$60,000 - < \$75,000 _6_ \$100,00 to < \$150,000
7 \$150,000 or more

Per Capita Income (Computed)

Annual Household Income/ Number of members in Household

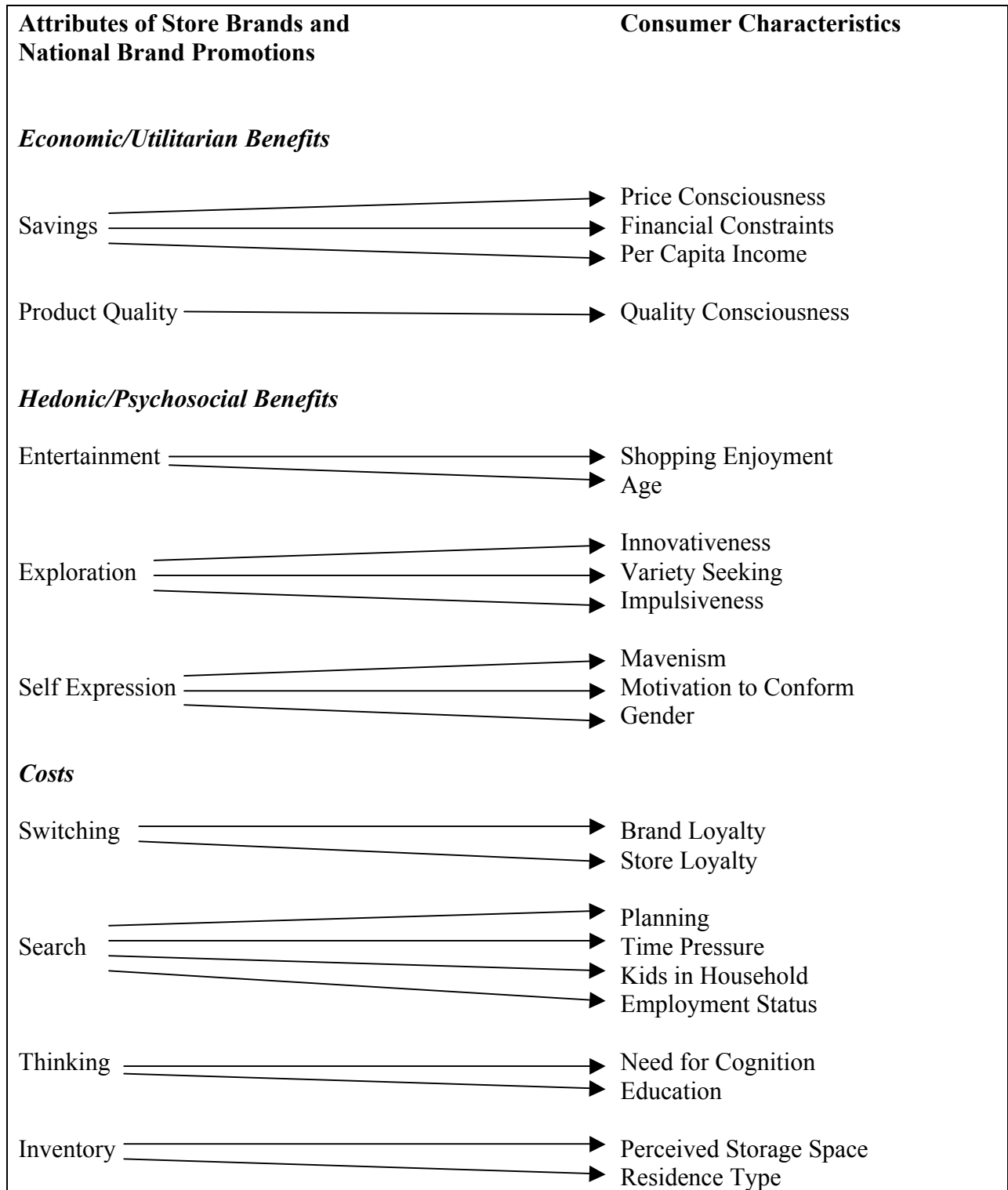
TABLE 1
SUMMARY OF HYPOTHESIZED RELATIONSHIPS

Psychographic Characteristics	Dependent Variable		
	Store Brand Usage	In-Store Promotion Usage	Out-of-Store Promotion Usage
<i>Related to Economic Benefits:</i>			
Price Consciousness	+	+	+
Financial Constraints	+	+	+
Quality Consciousness	-	0	0
<i>Related to Hedonic Benefits:</i>			
Shopping Enjoyment	0	+	+
Innovativeness	?	+	+
Variety Seeking	-	+	+
Impulsiveness	0	+	0
Mavenism	?	0	+
Motivation to Conform	?	?	?
<i>Related to Costs:</i>			
Brand Loyalty	-	-	?
Store Loyalty	+	?	-
Planning	?	+	+
Time Pressure	+	+	-
NFC	?	-	+
Perceived Storage Space	-	+	+

**TABLE 2
SAMPLE DEMOGRAPHICS**

Demographic Characteristic	Percent of Sample
Gender	
Female	66.5 %
Age	
< 25 years	12.2 %
25 - 34 years	25.7 %
35 - 44 years	27.6 %
45 - 59 years	23.2 %
60 - 74 years	8.2 %
> 74 years	3.1 %
Education Level	
High school or less	19.7 %
Some college	29.2 %
College	40.1 %
Advanced degree	11.0 %
Employment Status	
Homemaker	10.7 %
Student	6.6 %
Retired	6.0 %
Employed full time or self-employed	61.7 %
Employed part time or other	15.0 %
Annual Household Income	
< \$ 30,000	6.3 %
\$ 30,000 - \$ 45,000	13.9 %
\$ 45,000 - \$ 60,000	20.5 %
\$ 60,000 - \$ 75,000	25.9 %
\$ 75,000 - \$ 100,000	19.6 %
\$ 100,000 - \$ 150,000	12.0 %
> \$ 150,000	1.9 %
Other Characteristics	
Household has kids under age 12	35.1%
Live in a home (versus apartment etc.)	67.7%

FIGURE 2
IDENTIFYING RELEVANT CONSUMER CHARACTERISTICS



REFERENCES

- Ailawadi, Kusum L. and Scott A. Neslin (1998), "The Effect of Promotion on Consumption: Buying More and Consuming it Faster," *Journal of Marketing Research*, 35 (August), 390-398.
- Akaike, Hirotugu (1987), "Factor Analysis and AIC," *Psychometrika*, 52, 317-332.
- Anderberg, M.R. (1973), *Cluster Analysis for Applications*, New York: Academic Press.
- Anderson, James C. and David W. Gerbing (1988), "Structural Equation Modeling in Practice: A Review and Recommended Two Step Approach," *Psychological Bulletin*, 103 (3), 411-423.
- Bagozzi, Richard P. (1980), *Causal Models in Marketing*, New York: John Wiley & Sons, Inc.
- Baltas, George and Peter Doyle (1998), "Exploring Private Brand Buying," in: Per Andersson (Ed.): *Proceedings of the 27th EMAC Conference*, European Marketing Association, Stockholm, Track 5: Marketing Research, 183-200.
- Baumgartner, Hans and Christian Homburg (1996), "Applications of Structural Equation Modeling in Marketing and Consumer Research: A Review," *International Journal of Research in Marketing*, 13 (October), 139-161.

Bawa, Kapil and Robert W. Shoemaker (1987), "The Coupon-Prone Consumer: Some Findings Based on Purchase Behavior Across Product Classes," *Journal of Marketing*, 51 (October), 99-110.

Bearden, William, Richard G. Netemeyer and Jesse E. Teel (1989), "Measurement of Consumer Susceptibility to Interpersonal Influence," *Journal of Consumer Research*, 15 (March), 473-481.

Bell, David R., Jeongwen Chiang and V. Padmanabhan (1999), "The Decomposition of Promotional Response: An Empirical Generalization," *Marketing Science*, 18 (4), 504-526.

Bellizzi, Joseph A., John R. Hamilton, Harry F. Krueckeberg and Warren S. Martin (1981), "Consumer Perceptions of National, Private, and Generic Brands," *Journal of Retailing*, 57 (Winter), 56-70.

Bentler, Peter M. (1995), *EQS Structural Equations Program Manual*, Los Angeles: BMDP Statistical Software.

Blattberg, Robert C., Thomas Buesing, Peter Peacock and Subrata Sen (1978), "Identifying the Deal Prone Segment," *Journal of Marketing Research*, 15 (August), 369-377.

---- and Kenneth Wisniewski (1989), "Price-Induced Patterns of Competition," *Marketing Science*, 8 (Fall), 291-309.

---- and Scott A. Neslin (1990), *Sales Promotion: Concepts, Methods, and Strategies*, Englewood Cliffs, NJ: Prentice Hall.

Bozdogan, Hamparsum (1987), "Model Selection and Akaike's Information Criteria (AIC): The General Theory and its Analytical Extensions," *Psychometrika*, 52, 345-370.

Browne, Michael W. and Robert Cudeck (1989), "Single Sample Cross-Validation Indices for Covariance Structures," *Multivariate Behavioral Research*, 24, 445-455.

Bucklin, Randolph E. and James M. Lattin (1991) "A Two-State Model of Purchase Incidence and Brand Choice," *Marketing Science*, 19 (Winter), 24-39.

----, Sunil Gupta and S. Siddarth (1998), "Determining Segmentation in Sales Response Across Consumer Purchase Behaviors," *Journal of Marketing Research*, 35 (May), 189-197.

Cacioppo, John T. and Richard E. Petty (1982), "The Need for Cognition," *Journal of Personality and Social Psychology*, 42 (1), 116-131.

Calinski, R.B. and Harabasz, J. (1974), "A Dendrite Method for Cluster Analysis," *Communications in Statistics*, 3, 1-27.

Chandon, Pierre, Brian Wansink and Gilles Laurent (2000), "A Benefit Congruency Framework of Sales Promotion Effectiveness," *Journal of Marketing* (forthcoming).

Cobb, Cathy J. and Wayne D. Hoyer (1986), "Planned Versus Impulse Purchase Behavior," *Journal of Retailing*, 62 (Winter), 384-409.

Cox Direct (1998), *20th Annual Survey of Promotional Practices*, Largo, Florida.

Cunningham, Isabelle C. M., Andrew P. Hardy and Giovanna Imperia (1982), "Generic Brands versus National Brands and Store Brands," *Journal of Advertising Research*, 22 (October-November), 25-32.

Darden, William R. and William D. Perreault (1976), "Identifying Interurban Shoppers: Multiproduct Purchase Patterns and Segmentation Profiles," *Journal of Marketing Research*, 13 (February), 51-60.

Dick, Alan, Arun Jain and Paul Richardson (1995), "Correlates of Store Brand Proneness: Some Empirical Observations," *Journal of Product and Brand Management*, 4 (4), 15-22.

Dillon, William R. and Sunil Gupta (1996), "A Segment-level Model of Category Volume and Brand Choice," *Marketing Science*, 15 (1), 38-59.

Donnelley Marketing Inc. (1995), *17th Annual Survey of Promotional Practices*, Oakbrook Terrace, Illinois.

Dunne, David and Chakravarthi Narasimhan (1999), "The New Appeal of Private Labels," *Harvard Business Review*, 77 (May-June), 41-52.

Feick, Lawrence F. and Linda L. Price (1987), "The Market Maven: A Diffuser of Marketplace Information," *Journal of Marketing*, 51 (January), 83-97.

Granzin, Kent L. (1981), "An Investigation of the Market for Generic Products," *Journal of Retailing*, 57 (Winter), 39-55.

Gupta, Sunil (1988), "Impact of Sales Promotions on When, What, and How Much to Buy," *Journal of Marketing Research*, 25 (November), 342-355.

Hawes, Jon M. and James R. Lumpkin (1984), "Understanding the Outshopper," *Journal of the Academy of Marketing Science*, 12 (Fall), 200-218.

Hayduk, Leslie (1996), *LISREL Issues, Debates, and Strategies*, Baltimore: Johns Hopkins University Press.

Henderson, Caroline M. (1984), "Sales Promotion Segmentation: Refining the Deal-Proneness Construct," *Amos Tuck School Working Paper*.

---- (1985), "Modeling the Coupon Redemption Decision," *Advances in Consumer Research*, 138-143.

Higie, Robin A., Lawrence Feick and Linda L. Price (1987), "Types and Amount of Word-of-Mouth Communications About Retailers," *Journal of Retailing*, 63 (Fall), 260-278.

Hoch, Stephen J. and Shumeet Banerji (1993), "When do Private Labels Succeed?" *Sloan Management Review*, 34 (Summer), 57-67.

Inman, Jeffrey J., Leigh McAlister and Wayne D. Hoyer (1990), "Promotion Signal: Proxy for a Price Cut?" *Journal of Consumer Research*, 17 (June), 74-81.

IRI Marketing Fact Book (1998), Annual Report, Information Resources Inc.

Joreskog, Karl G. (1993), "Testing Structural Equation Models," in K. Bollen and R. Stine (eds.) *Testing Structural Equation Models*, Newbury Park: Sage Publications.

Kahn, Barbara E. and Jagmohan S. Raju (1991), "Effects of Price Promotions on Variety-Seeking and Reinforcement Behavior," *Marketing Science*, 10 (Fall), 316-337.

Kolodinsky, Jane (1990), "Time as a Direct Source of Utility: The Case of Price Information Search for Groceries," *Journal of Consumer Affairs*, 24 (Summer), 89-109.

Kim, Byung-Do, Kannan Srinivasan and Ronald T. Wilcox (1999), "Identifying Price Sensitive Consumers: The Relative Merits of Demographic Vs. Purchase Pattern Information," *Journal of Retailing*, 75 (Summer), 173-193.

Krishna, Aradhna, Imran S. Currim and Robert W. Shoemaker (1991), "Consumer Perceptions of Promotional Activity," *Journal of Marketing*, 55 (April), 4-16.

Lal, Rajiv (1990), "Manufacturer Trade Deals and Retail Price Promotions," *Journal of Marketing Research*, 27 (November), 428-444.

Lichtenstein, Donald R., Richard G. Netemeyer and Scot Burton (1990), "Distinguishing Coupon Proneness from Value Consciousness: An Acquisition-Transaction Utility Theory Perspective," *Journal of Marketing*, 54 (July), 54-67.

----, ---- and ---- (1995), "Assessing the Domain Specificity of Deal Proneness: A Field Study," *Journal of Consumer Research*, 22 (December), 314-326.

Mantel, Susan Powell and Frank R. Kardes (1999), "The Role of Direction of Comparison, Attribute-Based Processing, and Attitude-Based Processing in Consumer Preference," *Journal of Consumer Research*, 25 (March), 335-352.

Maruyama, Geoffrey M. (1998), *Basics of Structural Equation Modeling*, SAGE Publications, Thousand Oaks, CA.

McIntyre, R.M. and R.K. Blashfield (1980), "A Nearest-Centroid Technique for Evaluating the Minimum-Variance Clustering Procedure," *Multivariate Behavioral Research*, 15, 225-38.

Milligan, G.W. and M.C. Cooper (1985), "An Examination of Procedures for Determining the Number of Clusters in a Data Set," *Psychometrika*, Vol. 45, 325-342.

Mittal, Banwari (1994), "Bridging the Gap Between Our Knowledge of "Who" Uses Coupons and "Why" Coupons Are Used," *Marketing Science Institute Working Paper*, Report Number 94-112.

Montgomery, David B. (1971), "Consumer Characteristics Associated With Dealing: An Empirical Example," *Journal of Marketing Research*, 8 (February), 118-120.

Moorthy, K. Sridhar (1988), "Product and Price Competition in a Duopoly," *Marketing Science*, 5 (3), 141-168.

NCH NuWorld (1999), *Worldwide Coupon Distribution & Redemption Trends*, Lincolnshire, IL: NCH NuWorld Marketing Limited.

Narasimhan, Chakravarthi (1984), "A Price Discrimination Theory of Coupons," *Marketing Science*, 3 (Spring), 128-147.

----, Scott A. Neslin and Subrata Sen (1996), "Promotional Elasticities and Category Characteristics," *Journal of Marketing*, 60 (April), 17-30.

Nunnally, Jum C. (1978), *Psychometric Theory*, Second Edition, McGraw Hill Publishers, New York.

Omar (1996), "Grocery Purchase Behaviour for National and Own-Label Brands," *Service Industries Journal*, 16 (January), 58-67.

Price, Linda L., Lawrence F. Feick and Audrey Guskey-Federouch (1988), "Couponing Behaviors of the Market Maven: Profile of a Super-Couponer," in *Advances in Consumer Research*, 15, 354-359.

Progressive Grocer (1975), "Consumer Behavior in the Supermarket," *Progressive Grocer*, October, 37-46.

Punj, Girish, and David W. Stewart (1983), "Cluster Analysis in Marketing Research: Review and Suggestions for Application", *Journal of Marketing Research*, 20 (May), 134-148.

Quelch, John and David Harding (1996), "Brands Versus Private Labels: Fighting to Win," *Harvard Business Review*, 74 (January-February), 99-109.

Raju, P.S. (1980), "Optimal Stimulation Level: Its Relationship to Personality, Demographics and Exploratory Behavior," *Journal of Consumer Research*, 7 (December), 795-809.

Raykov, Tenko (1997), "Estimation of Composite Reliability for Congeneric Measures," *Applied Psychological Measurement*, 21 (June), 173-184.

Richardson, P.S., A.S. Dick and A.K. Jain (1994), "Extrinsic and Intrinsic Cue Effects on Perceptions of Store Brand Quality," *Journal of Marketing*, 58 (October), 28-36.

----, A.K. Jain and A.S. Dick (1996), "Household Store Brand Proneness: A Framework," *Journal of Retailing*, 72 (2), 159-185.

Schindler, Robert M. (1989), "The Excitement of Getting a Bargain: Some Hypotheses Concerning the Origin and Effects of Smart-Shopper Feelings," in *Advances in Consumer Research*, 16, 447-453.

Schneider, Linda G. and Imran S. Currim (1991), "Consumer Purchase Behaviors Associated with Active and Passive Deal-Proneness," *International Journal of Research in Marketing*, 8 (3), 205-222.

Sethuraman, Raj (1992), "Understanding Cross-Category Differences in Private Label Shares of Grocery Products," *Marketing Science Institute Working Paper*, Report No. 92-128.

---- and Catherine Cole (1997), "Why do Consumers Pay More for National Brands than for Store Brands?" *Marketing Science Institute Working Paper*, Report No. 97-126.

Shimp, Terence A. and Alican Kavas (1984), "The Theory of Reasoned Action Applied to Coupon Usage," *Journal of Consumer Research*, 11 (December), 795-809.

Sirohi, Niren, Edward W. McLaughlin and Dick R. Wittink (1998), "A Model of Consumer Perceptions and Store Loyalty Intentions for a Supermarket Retailer," *Journal of Retailing*, 74 (2), 223-245.

Steenkamp, Jan-Benedict E.M. and Marnik G. Dekimpe (1997), "The Increasing Power of Store Brands: Building Loyalty and Market Share," *Long Range Planning*, 30 (6), 917-930.

Steiger, J.H. (1990), "Structural Model Evaluation and Modification: An Interval Estimation Approach," *Multivariate Behavioral Research*, 25, 173-180.

Urbany, Joel E., Peter R. Dickson and Rosemary Kalapurakal (1996), "Price Search in the Retail Grocery Market," *Journal of Marketing*, 60 (April), 91-104.

Wansink, Brian, R.J. Kent and S.J. Hoch (1998), "An Anchoring and Adjustment Model of Purchase Quantity Decisions," *Journal of Marketing Research*, 35 (February), 71-81.

Webster, Frederick R., Jr. (1965), "The Deal-Prone Consumer," *Journal of Marketing Research*, 2 (May), 186-189.

Williams, Terrell G. and Mark E. Slama (1995), "Market Mavens' Purchase Decision Evaluative Criteria: Implications for Brand and Store Promotion Efforts," *Journal of Consumer Marketing*, 12 (3), 4-21.

Zhang, Yong (1996), "Responses to Humorous Advertising: The Moderating Effect of Need for Cognition," *Journal of Advertising*, 25 (Spring), 15-32.