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Promotion in the Marketing Mix: What Works, Where and Why

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TESTING PROMOTIONS IN DIFFERENT MARKETS IS ESSENTIAL

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In 1992, 15,866 new health, beauty, household, food, and pet products were introduced (Miller 1993). If historical trends continue, most of them will not succeed in the marketplace. Richard Reiser, a new product consultant, reported that about 90 percent of new products fail (Schlossberg 1993). The cost to develop and market a new product can be substantial. Most manufacturers are aware of the risks and rewards associated with new product development and strive to maximize the return on their marketing investments by carefully evaluating each possible product introduction.

Because of geographic taste variations, manufacturers often conduct marketing research in several areas to balance the experiments and to identify regional marketing opportunities. For example, after developing a new breakfast item during the 1970s, McDonald's tested the "Egg McMuffin" in several locations around the country. Results from the Midwest and Northeast were very positive, while the response in the Southeast was disappointing. Because Southeastern consumers were unfamiliar with Eggs Benedict and English Muffins, McDonald's developed a special regional marketing program to introduce the product (Hapolenu 1990). If McDonald's had conducted the test at only one site, their national volume estimates could have been quite biased. This illustrates how well-designed marketing research can contribute to smart business decisions.

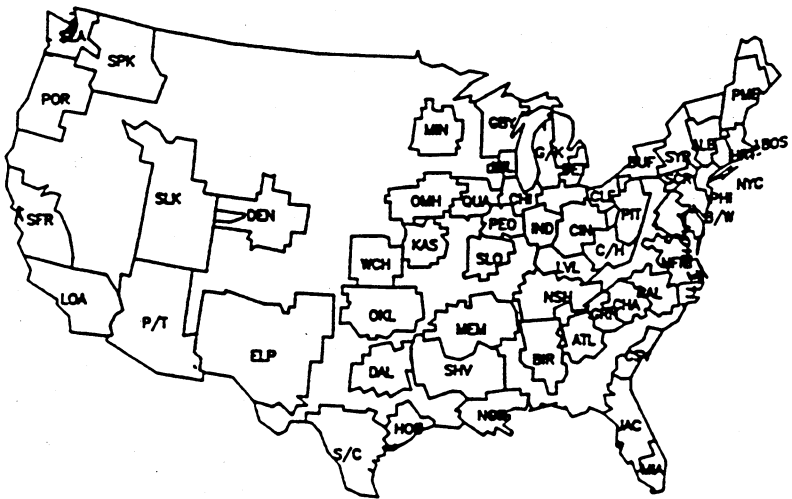
Although individual promotional events may be less expensive than developing a new product (and may have a higher success rate), they still represent large marketing investments. A nationally-distributed coupon may cost manufacturers over one million dollars (Blattberg and Neslin 1990). Seemingly small changes in the ad contents or in coupon face values can have large budgetary impacts (Mouland 1992; Blattberg and Neslin 1990). Promotion tests similar to new product tests are needed to avoid unprofitable events and to learn how to enhance the impact of profitable programs.

This paper argues that regional variations in tastes make it essential to test promotions in several markets. The same variables often employed to balance new product tests, namely socio-economics, psychographics (e.g., values, attitudes, lifestyles, activities, interest, and opinions), geographics, and buyer behavior, can be used to help balance promotion experiments and identify opportunities. Evidence of geographic variations in food consumption patterns, in price elasticities, and in promotion sensitivities will be reviewed in the next three sections. Significant differences between markets would imply that promotions should be tested in several areas before they are used on a wide scale.

Table 1: SAMI Market Abbreviations and Names

<u>MKT</u>	<u>Market Name</u>	<u>MKT</u>	<u>Market Name</u>
ALB	Albany-Schenectady-Troy	MIA	Miami
ATL	Atlanta	MIL	Milwaukee
BIR	Birmingham-Montgomery-Huntsville	MIN	Minneapolis-St. Paul
BOS	Boston-Providence	NFK	Norfolk-Richmond
BUF	Buffalo-Rochester	NOR	New Orleans
B/W	Baltimore-Washington	NSH	Nashville-Knoxville, TN
CHA	Charlotte	NYC	New York
CHI	Chicago	OKL	Oklahoma City-Tulsa
CIN	Cincinnati-Dayton-Columbus	OMH	Omaha-Des Moines
CLE	Cleveland	PEO	Peoria-Springfield, IL
CSV	Charleston-Savannah	PHI	Philadelphia
C/H	Charleston-Huntington	PIT	Pittsburgh
DAL	Dallas-Ft. Worth	PME	Portland, ME
DEN	Denver	POR	Portland, OR
DET	Detroit	P/T	Phoenix-Tucson
ELP	El Paso-Albuquerque-Lubbock	QUA	Quad Cities
GBY	Green Bay	RAL	Raleigh-Greensboro-Winston-Salem
GRN	Greenville-Spartanburg-Asheville, SC	SCR	Scranton-Wilkes-Barre, PA
G/K	Grand Rapids-Kalamazoo	SEA	Seattle-Tacoma
HOU	Houston	SFR	San Francisco
HRT	Hartford-New Haven-Springfield, CT	SHV	Shreveport-Jackson
IND	Indianapolis	SLK	Salt Lake City-Boise
JAC	Jacksonville-Orlando-Tampa	SLO	St. Louis
KAS	Kansas City	SPK	Spokane-Yakima, WA
LOA	Los Angeles-San Diego	SYR	Syracuse
LVL	Louisville-Lexington, KY	S/C	San Antonio-Corpus Christi
MEM	Memphis-Little Rock	WCH	Wichita

**SAMI Market Abbreviations
For 54 SAMI Markets
Representing 88.1% of US Food Sales**



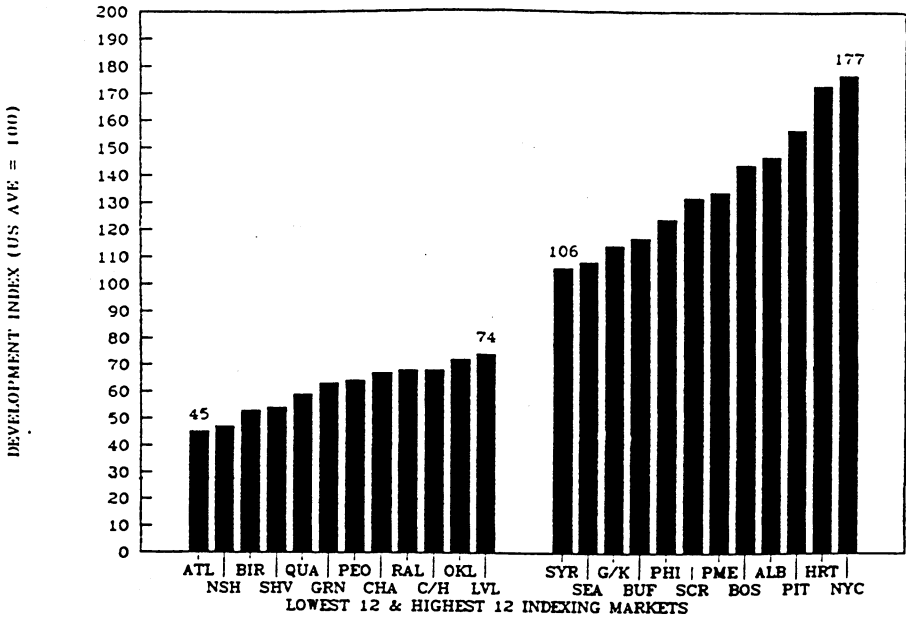


Figure 1: SAMI Pasta Category Dollar Sales per Household Indices by Market

Variations in Food Consumption Patterns by Region

Some foods tend to be associated with geographic areas. Products such as black-eyed peas, lobster, prime steak, grits, jalapeno peppers, crawfish, key lime pie, bagels, cheese, sourdough bread, and trail mix are often linked with certain regions and may be very popular in these places. Blaylock and Smallwood (1986) projected food consumption expenditures per capita by region and reported some large differences. For example, fish consumption was 28.4 percent above the U.S. average in the Northeast and 22.9 percent below average in the North Central region. Butter consumption was 44.9 percent above average in the Northeast and 18.5 percent below average in the South. Similar variations have been noted for many packaged goods. Selling-Area Marketing, Inc. (SAMI) tracked sales for many products using a near-census of wholesale warehouses in each of the 54 markets in Table 1. SAMI provided clients with volume, price, and market share data by market along with annual dollar sales per household indices. Figure 1 shows the range of the 1990 sales indices across the markets for the SAMI Pasta category. New York City had the highest index, 177 or 77 percent above the U.S. average dollar sales of pasta per household. Atlanta was the lowest, 55 percent below average. Ten of the top twelve markets were located in the Northeast. Of the twelve markets with the lowest pasta consumption, nine were in the Southeast. Another category, Canned Apple Sauce, had a different regional consumption pattern. Figure 2 shows that ten of the top markets were in the East-Central part of the U.S., while all twelve low-indexing markets were located in the South. These two examples illustrate that important regional differences can exist in product sales.

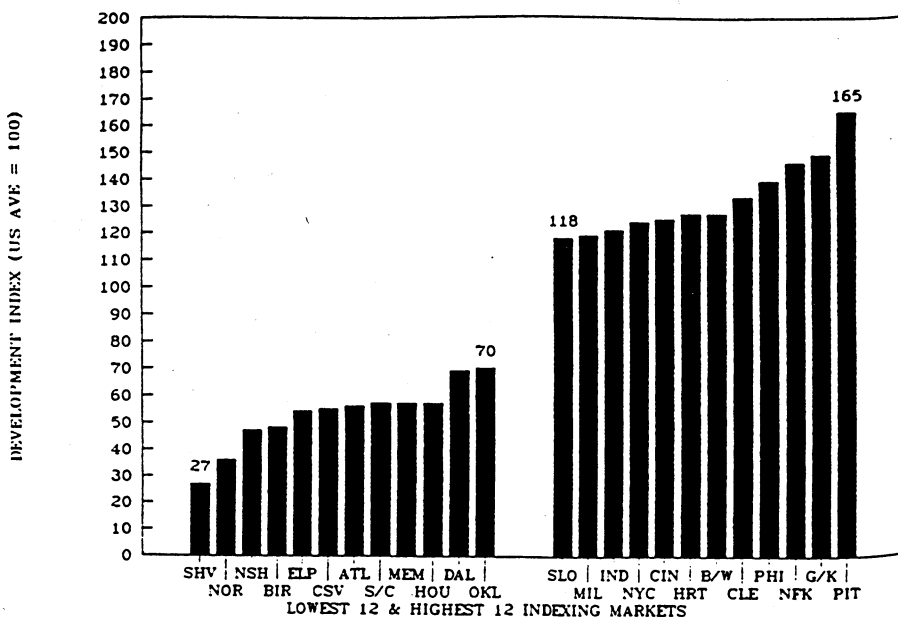


Figure 2: SAMI Canned Apple Sauce Dollar Sales per Household Indices

Food product marketing research conducted in areas with high brand or category consumption rates are likely to yield results that cannot be extrapolated to areas with lower rates. Sales in markets with above average consumption indices may react more to marketing changes because a larger percentage of the households buy the products or they purchase with greater frequency (Blattberg and Neslin 1990). Therefore, it is usually desirable to balance experiments by replicating them in areas with low and medium consumption indices and to match test and control markets using these indices. In some cases, data on geographic consumption patterns is unavailable. A general representation on how food consumption patterns vary across the U.S. could help researchers diversify their samples to make them more representative and select test and control markets from classes with similar tastes.

In an early marketing application of cluster analysis, Green, Frank, and Robinson (1967) grouped markets together based on socio-economic characteristics to balance experiments. Larson (1993) employed hierarchical cluster analysis (Ward's method) to classify markets based on their food consumption patterns. The 1990 SAMI consumption indices for 126 food categories were used in the study. The analysis starts with each of the 54 markets in separate partitions. At each step, the two groups with the most similar set of food consumption indices are combined. The process is repeated until all the markets are together in one cluster. The results from hierarchical cluster analysis can be illustrated with a tree diagram or dendrogram. At the top are the individual markets and at the bottom are all the markets merged into one cluster. A partial tree diagram, starting with thirteen market groups and ending with four clusters, is shown in Figure 3. To make twelve groups, the Green Bay - Grand Rapids/Kalamazoo - Milwaukee -

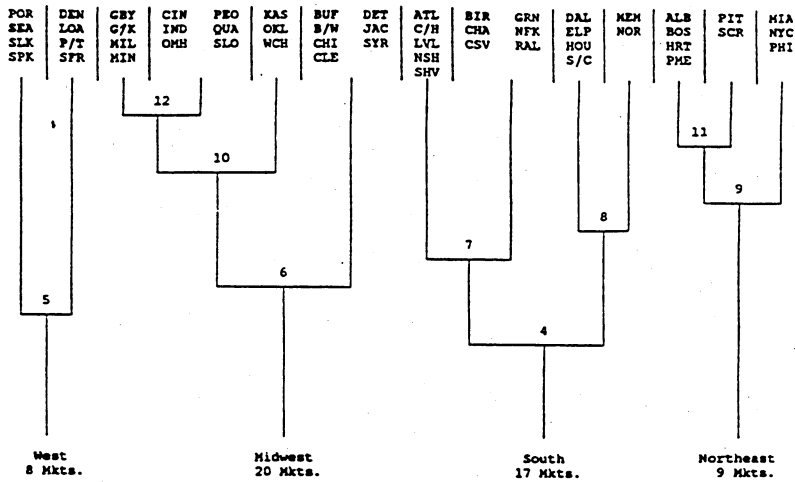


Figure 3: SAMI Market Food Consumption Clusters from Levels 13 to 4

Minneapolis/St. Paul cluster is combined with the Cincinnati/Dayton – Indianapolis – Omaha/Des Moines – Peoria/Springfield – Quad Cities – St. Louis cluster. The 13 groups at the top of the tree diagram, the combinations shown in the middle, and the four clusters at the bottom of Figure 3 all suggest that adjoining markets often have similar food consumption patterns.

The cluster analysis produced several results that differ from common region definitions. Figure 4 shows the eight markets in the “West” cluster and the nine markets in the “Northeast.” The different fill patterns show how the markets were grouped at level 13, the clusters at the top of the tree diagram. Instead of dividing the “West” vertically, splitting the coast from the mountains, the clustering algorithm separated the Northwest markets from the Southwest. Note that Miami was included in the “Northeast” and that Miami’s food consumption patterns were similar to New York City’s and Philadelphia’s.

The “Midwest” cluster, shown in Figure 5, extends as far East as Baltimore/Washington and as far West as Oklahoma City/Tulsa. Jacksonville/Orlando’s consumption patterns were similar to Chicago’s and Detroit’s. The “South,” shown in Figure 6, ranged from Virginia to New Mexico. The market groupings at level 13, the four fill patterns, suggest that consumption patterns tended to change from East to West within this cluster.

Excluding Florida from the “South” and dividing the state into two clusters is quite different from standard region definitions, but is consistent with the work of several cultural geographers (e.g., Reed 1991; Zelinsky 1987). One explanation is that many people from the Midwest and Northeast have moved to Florida and may have maintained their purchase behavior (Morrill 1988). Unfortunately, the migration data does not show where in Florida these people settled, so this hypothesis cannot be confirmed. These results imply that food marketing research done in Florida may not reflect the tastes in the rest of the Southeast.

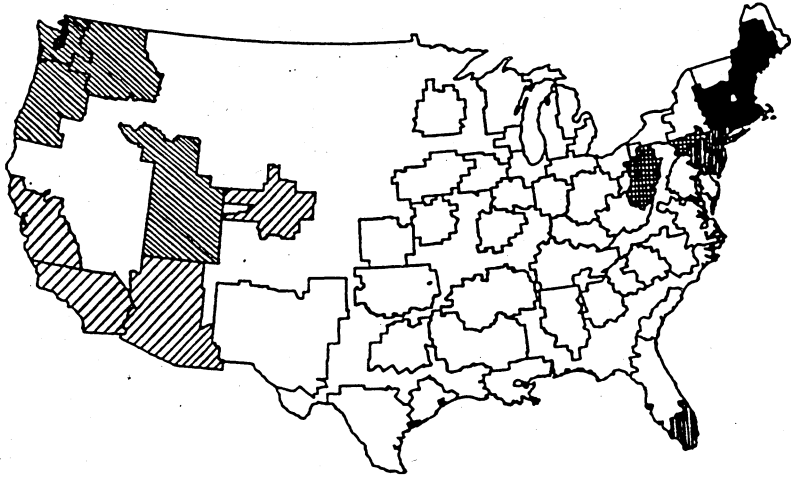


Figure 4: Markets in the "West" and "Northeast" Clusters

To the extent that demographic factors and household income influence food consumption patterns and are not uniformly distributed across the country, some might suspect that these variables may be responsible for the regional food consumption patterns. Larson (1993) reviewed 25 U.S. food demand studies that employed cross-sectional household purchase data and that were published since 1980. Nearly all included several demographic variables (e.g., age, ethnic origin, and household size) and concluded that they were significant. Twenty-three of the studies classified households by geography and found that these regional variables also helped explain purchases. This suggests that geographic variables may explain some variations in food consumption patterns that demographics could not explain.

There is some debate on the value of demographics for explaining purchase behavior. Bryant Robey, editor of *American Demographics*, is a strong proponent: "Demographic characteristics help shape preferences, determine attitudes, and mold values." (*Marketing News* 1984, p.8). Several people in the advertising industry disagree. Rueff (1991, p. 20) argues: "Consumer attitudes and behavior are not demographically driven and, in many cases, are not even demographically related." Lehmkuhl (1984, p.80) suggests we are not considering the right factors: "...by focusing on demographics we are focusing on the dependent variable when we should be in search of the independent variable." Both authors recommend using psychographics to understand consumption patterns.

Psychographics (e.g., values and attitudes) have received limited attention in academic research. Several published studies have associated selected psychographics with consumer purchase behavior. For example, religious commitment was related to the value a consumer placed on certain retail store attributes (McDaniel and Burnett 1990) and religious orientation was a significant variable for predicting the perceived risk associated with consumer durable goods purchase decisions (Delener 1990). However, marketing practitioners usually consider a wide array of proprietary psychographic

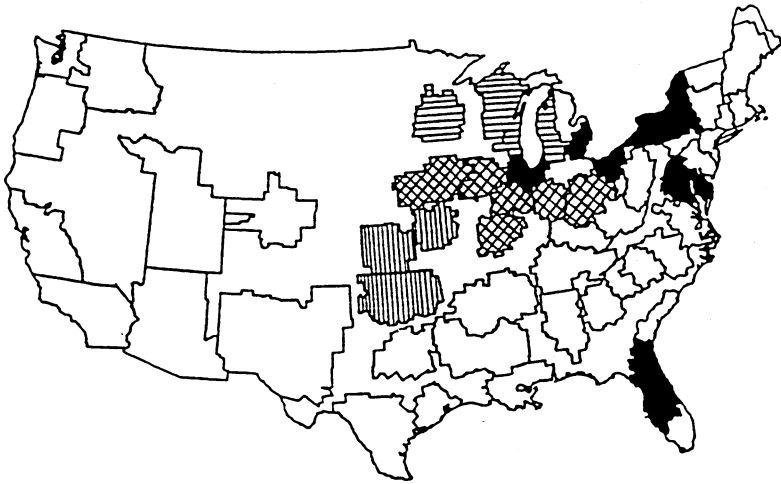


Figure 5: Markets in the "Midwest" Cluster

measure in their analyses. Only a few case studies on the contributions from these variables have reached the public domain (e.g., Piirto 1991; Swenson 1990). None discuss the geographic distribution of these measures. It is possible that psychographics can explain some of the regional variations in food consumption.

Geographic variations in purchase patterns suggest that experiments should be balanced by area to improve the reliability of the results. The food consumption clusters could be used to help balance research on new products and promotions. Identifying variables that are related to these patterns could help fine-tune the experimental designs. The need for testing promotions in several markets is supported by the regional differences in food consumption. There is also evidence that price elasticities and promotion sensitivities vary by area.

Variations in Price Elasticities by Region

If price elasticities are not constant across the country, the location chosen for pricing and promotion research may affect the results. Several studies on packaged goods have reported important variations in elasticities (e.g., Wittink 1977; Totten 1983; Wittink et al. 1987). Bolton (1989) found significantly different price elasticities for selected brands sold in 12 supermarkets from two cities. Much of the variation was related to the intensity of the marketing activities in the cities. Researchers studying energy demand have also found differences in regional elasticities (Mehta, Narasimham, and Swamy 1978; Kraft and Rodekohr 1978; Hsing 1992).

Few food demand studies in the agricultural economics literature have permitted price coefficients to vary by region. Some of the earlier research (e.g., Manhertz 1969; Prochaska and Schrimper 1973; Boehm 1975) reported significantly different elasticities by area. However, only two of the studies reviewed by Larson (1993) included the

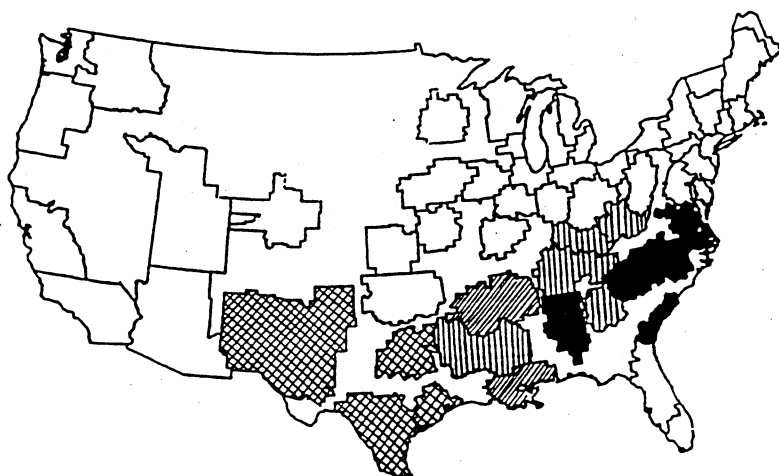


Figure 6: Markets in the "South" Cluster

geographic variables as slope-shifters. It is possible that by constraining the elasticities to be constant across the country, many demand studies may have biased their estimates.

The potential variation in price elasticities between markets can be illustrated by summarizing the research by Hoch et al. (1992). They estimated demand for 18 different product categories by store for Dominick's *Finer Foods*, a major supermarket chain in Chicago. Each of the 83 stores had between 88 and 112 weeks of scanner data. Although they estimated price and promotion elasticities separately, they only reported "price+promotion" elasticities (i.e., the coefficient on price after the promotion variables were dropped from the model, perhaps to maintain some data confidentiality for the supermarket chain). This modification did not appear to be serious problem because the stores had identical promotion schedules and the correlation between the two elasticity measures was reported to be very high.

Stores often had very different "price+promotion" elasticities. The elasticities ranged from -4.63 to -1.56 for soft drinks and from -3.85 to -2.08 for frozen juice. The range for dairy cheese was from -2.17 to -1.00 and for condensed soup was from -2.22 to -0.50 . If these are the elasticity ranges for one grocery chain in a single city, the differences across markets could be quite substantial. Hoch et al. (1992) attempted to explain the elasticity ranges with the characteristics of the consumers and competitors in the trading area of each store. Stores with more older customers, large families, working women, and non-white customers, fewer shoppers with college educations, and smaller, less expensive home in their trading area appeared to have higher elasticities. The closeness of competitors also tended to raise the elasticities. Because these factors vary between markets, price elasticities are also likely to vary by geography. Promotion tests that do not consider these factors and balance their effects could produce distorted results.

Variations in Promotion Sensitivities by Region

Besides regional differences in price elasticities, Wittink (1977) reported significant differences in advertising elasticities by area and Wittink et al. (1987) found large variations in retail promotion elasticities for canned tuna by market. Liu and Forker (1990) analyzed the gains from milk advertising within New York state. Differences in spending productivity by market lead them to recommend a reallocation of advertising funds within the state. These three studies demonstrate that the response to a marketing program may vary by area.

Analyses that focus on the promotion response in large regions may conceal important differences at the local level. Consider how coupon use may vary across the country. National surveys (e.g., Nielsen Clearing House 1985; Manufacturers Coupon Control Center 1989; Cavacos and Karaban 1993) focus on the total U.S. level and provide a few details for large regions. These studies suggest that the people who are most likely to redeem coupons are over 30 years old, married, and white. They tend to have college educations, children, and upper- middle incomes. These surveys report that coupon usage is highest in the Midwest and Northeast and lowest in the West and South. For example, the Manufacturers Coupon Control Center survey (1989) found the highest usage in the East Central region, 84 percent of households used coupons, and the lowest usage in the Southwest, 66 percent, suggesting that usage patterns may be fairly uniform across the country.

Table 2 summarizes the findings from six studies of coupon use in smaller geographies. By comparing their results with the national surveys, some assessments

Table 2: Local Market Studies on Coupon Behavior

Authors	State	Demographics Related to Coupon Usage
Thompson and Tat (1981)	Tennessee	Related: Age Not Significant: Household Size, Education, Income, Gender, Occupation
Moory (1983)	Arkansas	Related: Life Cycle, Children Not Significant: Marital Status, Age, Education, Occupation, Race, Income, Residence
Larson (1985)	Minnesota	Related: Gender, Marital Status Not Significant: Age, Household Size, Education, Income
Meloy, McLaughlin, and Kramer (1988)	New York	Related: Household Size, Gender, Age, Marital, Status, Children, Income, Education, Employment Not Significant:
Avery and Haynes (1991)	Ohio	Related: Marital Status, Gender, Children, Employment, Household Size, Income Not Significant: Age, Education
Goodwin (1992)	Kansas	Related: Race, Household Size, Marital Status Not Significant: Employment, Age, Income, Education

about the internal homogeneity of large regions and about the profile of "typical" coupon users can be made. Many of the variables judged to be significantly related to coupon use in one study were not significant in others. For example, age was significantly related to usage in the Thompson and Tat (1981) and Meloy, McLaughlin, and Kramer (1988) analyses, but was not significant in the Mooty (1983), Larson (1985), Avery and Haynes (1991), and Goodwin (1992) studies. These differences suggest that wide variations in coupon redemption behavior may exist between markets and that the survey results for large regions may mask important local details.

There are several possible explanations for the regional variation in promotional sensitivity. The first deals with consumer socio-economics and psychographics. Several studies have found considerable heterogeneity in how households respond to promotions (e.g., Ortmeier, Lattin, and Montgomery 1991; Fader and Lattin 1993). Diamond and Campbell (1990) found that consumer education and social class appeared to be linked with attitudes toward various types of consumer promotions and with promotion usage. Henderson (1994) classified consumers into clusters based on household promotion usage and socio-economic variables. Similar cluster analyses with the regional distribution of these variables could be used for balancing promotion experiments.

Profiles of promotion users based on psychographics have not been published. Two descriptions of coupon users that are similar to psychographics may provide some insights into the values and motives of redeemers and non-redeemers. After studying many consumers in focus groups, Clayton/Curtis/Cottrell (1987) developed seven classes. Coupon users were "Brand Buyers," "Persuadable Purchasers," "Shrewd Shoppers," or "Compulsive Clippers." Non-Users were "Nippers" (Non-Involved Prior Users), "Ninnies" (Non-Involved Never Users), or "Nuppies" (Non-User Yuppies). Employing simpler shopper classifications (e.g., level of coupon use) may disguise some key value and motivation differences. More sophisticated groupings are probably needed to balance the samples in promotion research.

The second approach examines the geo-demographics of coupon users. This method classifies neighborhoods using Census data and assumes "you are where you live." One company, Claritas Corporation, developed 40 classes of households using geo-demographics (Weiss 1988). The two groups with the highest coupon use were "Coalburg & Corntown" (usage index of 122, class included 2.0 percent of U.S. households) and "Levittown, U.S.A." (120, 3.1 percent of households). Both groups tended to be middle-class and white. "Coalburg & Corntown" households lived in small towns, had blue-collar jobs, and had high-school educations. "Levittown, U.S.A." households lived in suburbs, had white collar jobs, and had college educations. Ranked at the bottom based on coupon use was the "Urban Gold Coast" group of households (50, 0.5 percent of households) who tended to live in upscale, urban enclaves and in high-rise housing and "Tobacco Roads" group of households (49, 1.2 percent of households) who tended to be black families in lower-class Southern farm towns. These profiles illustrate the difficulty of forming large regions and market segments with similar promotion responsiveness.

Another factor that influences sales response from coupon events is the use of extra-value or bonus coupon promotions by retailers. To increase store traffic and market share, managers sometimes offer to double or triple the value of each redeemed coupon. Surveys suggest that supermarkets representing about 40 percent of total grocery sales

use this marketing tool and that there is considerable variation by market (Progressive Grocer 1987; 1989). These promotions increase the incentive for consumers to redeem coupons. One study found that redemption rates in these double-coupon areas were about 29 percent above the U.S. average (Heitsmith 1994). Continuous use of bonus coupons could develop couponing habits and make the sales response much stronger than in other areas. Well-designed promotion experiments usually match test and control markets by the prevalence of bonus coupon promotions in the areas.

Discussion

Consider a producer who wants to promote a food item. One option is to form a partnership with a complementary item and to promote both together (e.g., distribute coupons that give consumers 50-cent discounts if they purchased both items). Regional variation in each product's popularity would probably affect the response to the joint promotion. If both have low sales rates in the same areas, the joint promotion may not help them penetrate new markets. If one item is heavily consumed in areas where the other is relatively unknown, the joint promotion may help boost sales of the second product. An examination of the geographic pattern of each product's sales could help the producer evaluate the benefits of the partnership.

An alternative promotion would be to temporarily lower the wholesale price and provide incentives to retailers to pass through price discounts to consumers. Geographic variations in price and promotion elasticities and in retailer participation may make this alternative much more efficient in some areas than in others. Reviewing the performance of past events by area may give the producer some indication about where temporary price promotions are more effective.

Another case where regional promotion testing may be critical is with premiums. A free sports cap with a particular team's logo may be very popular in some areas and not in others, limiting the sales gains to a few markets. For a new product, the perceived value of the premium may be particularly important. Offering premiums with little or not perceived value may decrease sales. Research by Simonson, Carmon and O'Curry (1994) suggests when consumers are uncertain about a product, the questionable value they place on a premium may be transferred to the product, lowering their probability of purchase. Therefore, the regional distribution of preferences for premiums should be explored to avoid potential problems.

Information about what promotion types work well in each market is not generally available. Sometimes marketers rely on proxies for promotion performance that may lead them to take unprofitable actions. For discount coupons, a redemption rate (i.e., the percentage of distributed coupons that are redeemed) is easier to calculate than incremental volume and may appear to be a useful measure. The geographic distribution of redemption rates tends to be similar to the distribution of coupon usage. However, coupons with high redemption rates may not be profitable and areas with high rates may not be desirable targets. Honnold (1991) worked on many projects for marketing firms and said he often found client redemption rates to be higher in the Northeastern region. However, the efficiency of events in that area was usually lower than in other markets. Well-designed experiments should directly measure how well promotions perform versus their objectives in each area.

One approach to confirm the importance of regional variations is to observe how marketers with extensive research experience design their promotions. Many firms have observed the geographic variations in promotion response and have adopted regional marketing strategies. Food marketers such as Campbell Soup (Knorr 1987), Frito-Lay (Osborn 1987), and Hardee's (Heber 1993) have shifted from national promotion plans to localized marketing programs in an effort to improve the productivity of their marketing spending. Their actions corroborate the significance of promotion performance differences by area and the need for testing promotions in multiple locations to avoid spurious results.

Conclusions

Variations in factors that can influence the response to and success of promotions, namely product popularity, price sensitivity, and promotion responsiveness, should be considered when planning and testing possible events. The regional and household differences illustrated in this paper suggest that significant deviations in promotion performance are likely. Therefore, promotion tests, like new product tests, should be replicated in several, carefully-chosen markets to improve the reliability and projectability of the results.

ENDNOTES

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