# SEGMENTATION ANALYSIS OF GROCERY SHOPPERS IN ALABAMA

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INTRODUCTION

The retail food industry sector has seen dramatic changes in the past few years driven in part by demographic and lifestyle changes. As a result, understanding customers is more important than ever in today's competitive economy, where declining customer loyalty and high customer turnover continue to erode profit margins. A key factor to success is finding slight differences to give a business the marketing edge; since a business that target specialty markets will promote its products and services more effectively than a business aiming at the "average" customer (Lake, 2007). The process of splitting customers, or potential customers, in a market into different groups, within which customers share a similar level of interest in the same or comparable set of needs satisfied by a distinct marketing proposition is what the literature refers to as market segmentation. Segmentation of a market is concerned with individual or group differences in response to specific market variables (e.g. preferences, lifestyles, media habits, etc.), and opportunities in marketing increase when segmented groups of clients and customers with varying needs and wants are recognized.

By looking at a household sample of over 500, the objective in this paper is to segment grocery shoppers in Alabama based on selected respondents' preferred characteristic. The focus is on individual or group differences in response to specific market variables (e.g. preferences, lifestyles, shopping habits, etc.). The strategic presumption is that if these response differences exist, can be identified, and are reasonably stable over time, and if the segments can be efficiently reached, the business may increase its market share beyond that obtained by assuming market homogeneity. The remainder of the paper is organized in five additional sections. First, a review of the literature is presented followed by a description of the survey data. The last three sections present the method of analysis, results and conclusions, respectively.

LITERATURE REVIEW

Marketing literature provides many examples of market segmentation research and numerous bases for segmentation have been proposed (Mangaraj and Senuer, 2001; Lake, 2007; McKinsey et al. 2000; Green and Krieger, 1991; Grover and Srinivasan, 1987; Kamakura and Russell, 1989). One technique commonly used in domestic market segmentation is cluster analysis. Cluster analysis groups objects by minimizing the within group differences and maximizing between group differences. Cluster analysis is often based on consumer attitude towards the products, perceived benefits, purchase propensities, lifestyle, or demographics (Punj and Stewart, 1983).

There are few examples of market segmentation for food products in the literature. One example is provided by Funk and Phillips (1990). They evaluated the usefulness of consumer profiles in aiding advertisers develop promotional strategies for eggs. Several examples, developed by consumer information and market research companies, are provided by Asp (1992) who discusses schemes for segmenting the United States. Although there has been limited attention to market segmentation specifically for food products in the literature, agribusinesses use segmentation to develop marketing strategies for domestic consumers. Two such examples are Pillsbury's "What's Cookin" lifestyle segmentation that divides the U.S. population into five segments based on eating behavior and Coca-Cola's segmentation of food shoppers into six groups (Asp, 1992).

Only a few cluster analyses of global markets have been done (e.g., Berlage and Terweduwe, 1988; Day et al., 1988; Huszagh et al., 1986; Sethi, 1971; Sriram and Gopalakrishna, 1991). Day et al. (1988) segmented the global market for industrial goods, which they identified as the first attempt to identify global industrial market segments, clustering 96 nations, based on 18

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economic, demographic, and trade variables. Berlage and Terweduwe (1988) did a cluster analysis of 102 countries, using 20 variables on income, growth, structure of production, health, and financial flows, to determine the rigor of various organizations' (e.g., World Bank, United Nations) classification of nations in development stages. Sriram and Gopalakrishna (1991) segmented 40 countries to identify groups of similar countries that could be targeted with standardized advertising.

The effect of shopper characteristics on consumer store choice behavior is well researched. The lifestyle, demographic and media usage characteristics of different retail outlets can be valuable for understanding store choice (Bearden, Jesse and Durand,1978; Singson, 1975) have used multidimensional scaling to find a relationship between consumers store choice behavior and shopper's socio economic characteristics. Baltas George and Papastathopoulou (2003) have examined relationship between consumer profile and brand and store choice behavior in the Greek grocery market.

Marketing researchers have proposed other customer characteristics besides demographic traits to segment markets. Sissors identifies a number of customer characteristics including usage patterns, brand loyalty, and readiness to buy, among others. Another method, called lifestyle segmentation, was developed by integrating demographics with psychographics (attitudes and values). Senauer and Kinsey (1996) discuss a lifestyle-based segmentation scheme used by the Pillsbury Company. It divides food consumers into five categories: the Chase and Grabbits, 26 percent of consumers; the Functional Feeders, 18 percent; the Down Home Stokers, 21 percent; the Careful Cooks, 20 percent; and the Happy Cookers, 15 percent. A number of other lifestyle-based segmentation systems are also described in detail in (Senauer, 1996).

## DATA

Data for this study were obtained through a telephone survey of Alabama food shoppers. The survey was conducted by the Center for Governmental Services Survey Research Laboratory (CGSSRL) at Auburn University between July 6 and July 21, 2006. A sample of households in Jefferson County was selected through random digit dialing, a procedure that allows each household that has a telephone to have an equal chance of being selected for the sample. The household member who was the primary food shopper for the household was selected to answer the survey questions. Calls were made in evening from 5:00 to 9:00 pm, and during the day on weekends (typically from 11:00am to 5:00pm on Saturdays and 1:00pm to 6:00pm on Sundays). A total of 4,069 call attempts were made resulting in 502 or 12% completed interviews. The average number of call attempts per telephone number was 2.26.

### Survey Responses

The survey instrument contained questions related to respondents' socio-demographic characteristics, shopping habits, behaviors and attitudes. First, the socio-demographic characteristics show that 53 percent of the respondents were Caucasian/White and 42 percent African-American/Black. Another 5 percent was classified as other races. In terms of marital status, 53 percent of the respondents were married while 47 percent were single, divorced or widowed. About 49 percent of the respondents lived in households with only one or two people. Another 24 percent lived in three-person households, while 27 percent lived in households with four or more people.

The majority (61 percent) of the sample indicated having no children under 18 living in the household. As for age, approximately 55 percent of the respondents were between the ages of 26 to 55. The respondents were highly educated with 68 percent of the total sample having at least

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some college education. Approximately 33 percent of those who responded to the income question reported household income of $50,000 or more. Compared with state averages from U.S. Census Bureau statistics (U.S. Census Bureau 2000), the sample demographics are fairly different from the state's demographics (Table 1). For instance, 68 percent of the survey sample had some college level education or above versus 45 percent in the state; 33 percent of the survey sample reported annual income above $50,000 versus 42 percent in the state; and 53 percent of the survey sample was White versus 71 percent in the state.

For consumer behaviors, habits and attitudes, a set of questions asked respondents about the time of day and portion of the week during which they do most of their grocery shopping. About 56 percent indicated shopping evenly between weekdays and weekends, with another 23 percent favoring weekdays. The most popular time of day was the mornings (before 11:30 am), with about 28 percent selecting this time period. Another 28 percent favored the afternoons (1:30 to 5 pm) for their most typical food shopping time period, and another 26 percent favored the early evening hours (5 pm to 8 pm). A small percent of respondents (6 percent) stated that lunchtime was the most favored shopping time of the day (11:30 am to 1:30 pm).

Table 1: Demographic Comparisons

| Variable Name | Survey Sample Statistics | State Statistics (Census 2000) |
|---|---|---|
| Age | 55% between 26 and 55 years | 42% between 25 and 54 years |
| Race | 53% White | 71% White |
| Marital Status | 53% married | 52% married |
| Education | 68% some college and above | 45% some college and above |
| Household Income | 33% $50,000 or more | 42% $50,000 or more |
| Average Household size | 2.2 persons | 2.35 persons |
| Children under 18 years | 39% with children under 18 | 23% with children under 18 |

In terms of the most popular/first-choice grocery store among respondents (i.e. where they "do most of their shopping"), Wal-Mart attracted 27 percent of the responses. The next most popular grocery store was Publix, garnering 19 percent of the responses, followed by Piggly Wiggly with 13 percent of the responses. Other popular grocery store destinations included Food World (11 percent), Winn Dixie (9 percent), and Bruno's (7 percent).

Two reasons for selecting the first-choice store were accepted from each respondent and tabulated in combination as well as separately. When looking at the combined frequency of answers, "selection" accounted for the most popular reason with 25 percent of responses. Selection of produce, organic products, and meat were important among those who chose their primary grocery store based on selection. "Convenient to home" accounted for the next most popular reason with 24 percent of responses. "Prices" accounted for the third most-popular reason, with a combined 16 percent of responses selecting this factor. "Quality of merchandise" was the fourth most-frequently mentioned reason, with a combined count of eleven percent of all responses.

## SEGMENTATION ANALYSIS

The data were analyzed using cluster analysis technique to segment grocery shoppers in the study area based on preferred characteristics of their primary grocery store. The process was carried out following a similar study conducted in the U.S. (Mangaraj and Senauer, 2001). As a first step, twenty questions (requiring respondents to indicate the level of importance on preferred characteristics while shopping in their primary grocery store) were pulled from the survey questionnaire and used as the basis variables for the segmentation process. The questions were based on 1-3 likert scales with 1 being "very important" to 3 being "not important or no answer".

Following Mangaraj and Senauer (2001), response bias due to "yes saying" was corrected by subtracting each respondent's average response across the twenty basis questions from their response to each question[1]. Then, a three-step K-means clustering was implemented using Statistical Package for Social Sciences (SPSS) software (Mangaraj and Senauer, 2001). The clusters so obtained were analyzed by initially looking at the cluster centers for each of the clusters across the twenty basis questions. Finally, demographic and other shopping characteristics of each of the clusters were compared to get a better typology.

**Initial versus Final Cluster Centers**

The first step in $k$-means clustering was to find the $k$ centers. SPSS software package was used to find $k$ cases that were well separated and these values were used as initial cluster centers. Given that k-means clustering is very sensitive to outliers, we re-screened the data with the aim of removing outliers from the initial analysis. The results are presented in Table 2 for both the initial and final variable mean for each cluster. These means help to determine the highest and lowest ranked attributes that consumers look for in their preferred grocery stores. As illustrated in Table 2, the results for the initial and final cluster centers are similar, an indication that there was no outlier problem in the data. The sample means of each question shown in Table 2 indicate how respondents in general, feel about different grocery store characteristics.

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[1] Response bias due to "yes saying" was corrected by subtracting each respondent's average response across the 20 basis variables from their response to each question.

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Table 2. Initial and Final Cluster Centers

| Cluster | Initial Cluster Center | | | Final Cluster Center | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 1 | 2 | 3 |
| Fresh bread and other bakery items | 0.07 | 0.20 | -0.31 | 0.07 | 0.20 | -0.31 |
| Fresh fish | 0.25 | 0.20 | -0.07 | 0.25 | 0.20 | -0.07 |
| Fresh meats | 0.29 | 0.51 | 0.03 | 0.29 | 0.52 | 0.02 |
| Halal or kosher meats | -0.43 | -0.58 | -0.96 | -0.43 | -0.58 | -0.96 |
| Take out foods | -0.17 | 0.11 | -0.64 | -0.17 | 0.11 | -0.65 |
| Selection of organic foods | -0.09 | -0.34 | -0.51 | -0.09 | -0.34 | -0.51 |
| Alabama wines | -0.44 | -0.34 | -0.66 | -0.45 | -0.35 | -0.64 |
| Selection of frozen foods | -0.09 | -0.06 | -0.38 | -0.09 | -0.07 | -0.38 |
| Dried flowers | -0.53 | -0.49 | -0.78 | -0.53 | -0.49 | -0.78 |
| Competitive prices | 0.29 | 0.69 | 0.57 | 0.29 | 0.69 | 0.57 |
| Open in the evenings on weekdays | 0.29 | 0.69 | 0.57 | 0.45 | 0.69 | 0.57 |
| Open in the evenings on weekends | 0.24 | 0.30 | 0.17 | 0.24 | 0.30 | 0.17 |
| Distance from home | -0.39 | 0.64 | 0.55 | -0.38 | 0.64 | 0.55 |
| Distance from work place | -0.93 | -0.15 | -0.19 | -0.93 | -0.15 | -0.19 |
| Accessibility from my home | -0.16 | 0.61 | 0.51 | -0.16 | 0.62 | 0.51 |
| Security guard | 0.09 | 0.45 | 0.47 | 0.09 | 0.44 | 0.48 |
| Raised without hormones | 0.44 | -0.76 | 0.48 | 0.44 | -0.75 | 0.49 |
| Produced without hormones (Other food) | 0.43 | -0.77 | 0.44 | 0.43 | -0.77 | 0.44 |
| Produced without pesticides | 0.40 | -0.04 | 0.55 | 0.40 | -0.04 | 0.55 |
| Produced without hormones (Dairy products) | 0.50 | -0.61 | 0.53 | 0.50 | -0.60 | 0.54 |

## Differences between Clusters

The analysis of variance indicates which variable contributed the most to our clusters. Variables with large F values (Table 3) such as: distance from home to grocery store, raised without hormones, and produced without hormones show the greatest separation between clusters. Also, the computed F-ratios reported in Table 3 described the difference between the clusters. *Note however, that the observed significance levels are not interpreted in the usual fashion, because the clusters are selected to maximize the differences between clusters.* Non-significant variables are not contributing to the differentiation of clusters.

Table 3. Analysis of Variance

| | Cluster | | Error | | F | Sign. |
|---|---|---|---|---|---|---|
| | Mean Square | df | Mean Square | df | | |
| Fresh bread and other bakery items | 12.59 | 2 | 0.428 | 499 | 29.44 | 0 |
| Fresh fish | 5.71 | 2 | 0.465 | 499 | 12.29 | 6.18E-06 |
| Fresh meats | 9.95 | 2 | 0.391 | 499 | 25.44 | 1.03E-11 |
| Halal or kosher meats | 14.39 | 2 | 0.420 | 499 | 34.27 | 0.00E+00 |
| Take out foods | 24.74 | 2 | 0.447 | 499 | 55.32 | 0.00E+00 |
| Selection of organic foods | 8.05 | 2 | 0.561 | 499 | 14.36 | 8.66E-07 |
| Alabama wines | 3.76 | 2 | 0.575 | 499 | 6.53 | 1.59E-03 |
| Selection of frozen foods | 5.52 | 2 | 0.452 | 499 | 12.23 | 6.54E-06 |
| Dried flowers | 4.65 | 2 | 0.481 | 499 | 9.67 | 7.61E-05 |
| Competitive prices | 6.20 | 2 | 0.308 | 499 | 20.11 | 3.96E-09 |
| Open in the evenings on weekdays | 6.20 | 2 | 0.308 | 499 | 20.11 | 3.96E-09 |
| Open in the evenings on weekends | 0.66 | 2 | 0.470 | 499 | 1.41 | 2.45E-01 |
| Distance from home | 51.13 | 2 | 0.363 | 499 | 140.81 | 0 |
| Distance from work place | 30.84 | 2 | 0.649 | 499 | 47.50 | 0 |
| Accessibility from my home | 27.83 | 2 | 0.378 | 499 | 73.65 | 0 |
| Security guard | 7.84 | 2 | 0.466 | 499 | 16.80 | 8.67E-08 |
| Raised without hormones | 67.98 | 2 | 0.331 | 499 | 205.16 | 0 |
| Produced without hormones (Other foods) | 66.26 | 2 | 0.364 | 499 | 181.83 | 0 |
| Produced without pesticides | 13.51 | 2 | 0.409 | 499 | 33.03 | 0 |
| Produced without hormones (Dairy products) | 57.77 | 2 | 0.286 | 499 | 202.14 | 0 |

The Euclidean distances between the final clusters are presented in Table 4, while Table 5 shows how the cases were assigned to each cluster. Greater distances between clusters corresponded to greater dissimilarities. For example cluster 1 and 2 are most different. Cluster 2 is approximately equally similar to clusters 1 and 3. The relationship between the clusters could also have been intuited from the final cluster centers, but this would have become more difficult as the number of clusters and variables increased.

Table 4. Distance between Cluster Centers

| Cluster | 1 | 2 | 3 |
|---|---|---|---|
| 1 | | 2.684 | 1.843 |
| 2 | 2.684 | | 2.511 |
| 3 | 1.843 | 2.511 | |

Table 5. Number of Cases in each Cluster

| Cluster | 1 | 161 |
|---|---|---|
| Cluster | 2 | 120 |
| Cluster | 3 | 221 |
| Valid | | 502 |

## Segmentation Results and discussions

Three segments were identified (Back to Natural, Convenience and Typical shoppers) but first, Figure 1 presents a histogram of the sample means of the twenty questions (after correcting for yes saying bias) used as the basis for segmenting our sample. The scale reflects the deviation of a respondents' response for each question from their average for all twenty questions. As can be seen in the figure, open in evenings on weekdays and competitive prices rank high in attributes that grocery shoppers in the sample look for during store selection; where as other factors such as selection of halal or kosher meats, dried flowers and Alabama wines are of less or no importance to the grocery shoppers in the sample.

### Figure 1. Sample Means
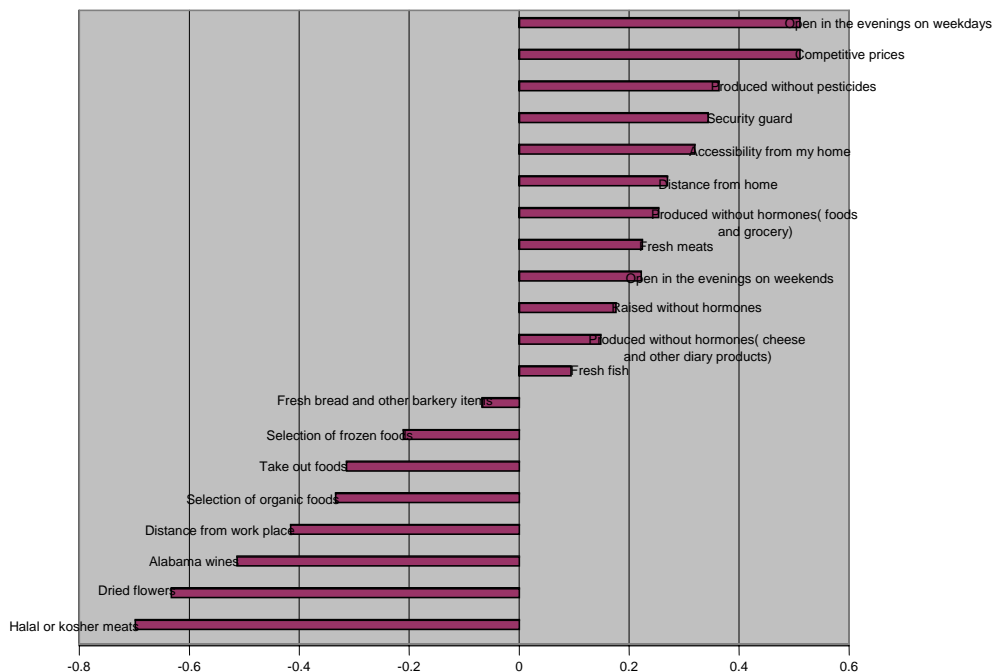


The mean responses (cluster center) for each of the clusters on the twenty preference questions are shown in Table 6. It is important to note that the scores are deviation from each respondent's average response across all the twenty questions. Based on the population means reported in Figure 1, "open in the evenings on weekdays" is the most important attribute in all three clusters. However, the magnitude of the

importance is different for the three clusters as show in Table 6. For instance, cluster 1 respondents rate "open in the evenings on weekdays" as the most important attribute with a mean of 0.45, slightly lower than the population average for this question estimated at 0.51. Cluster 2 respondents rate the importance of this attribute ("open in the evenings on weekdays") higher than the population average for this question with a mean of 0.69, while cluster 3 respondents rate this attribute with a mean of 0.57, lower than cluster 2 but higher than cluster 1 (Table 6).

Table 6. Cluster Centers

| Cluster | 1 | 2 | 3 |
|---|---|---|---|
| Distance from work place | -0.93 | -0.15 | -0.19 |
| Dried flowers | -0.53 | -0.49 | -0.78 |
| Alabama wines | -0.45 | -0.38 | -0.64 |
| Halal or kosher meats | -0.43 | -0.58 | -0.96 |
| Distance from home | -0.38 | 0.64 | 0.55 |
| Take out foods | -0.17 | 0.11 | -0.65 |
| Accessibility from my home | -0.16 | 0.62 | 0.51 |
| Selection of organic foods | -0.09 | -0.33 | -0.51 |
| Selection of frozen foods | -0.09 | -0.07 | -0.38 |
| Fresh bread and other bakery items | 0.07 | 0.2 | -0.31 |
| Security guard | 0.09 | 0.44 | 0.48 |
| Open in the evenings on weekends | 0.24 | 0.3 | 0.17 |
| Fresh fish | 0.25 | 0.2 | -0.07 |
| Fresh meats | 0.29 | 0.52 | 0.02 |
| Competitive prices | 0.29 | 0.69 | 0.57 |
| Produced without hormones (Other foods) | 0.5 | -0.77 | 0.44 |
| Produced without pesticides | 0.4 | -0.03 | 0.55 |
| Produced without hormones (Dairy products) | 0.43 | -0.6 | 0.54 |
| Raised without hormones | 0.44 | -0.75 | 0.49 |
| Open in the evenings on weekdays | 0.45 | 0.69 | 0.57 |

While all stores that compete in the market needed to pay attention to the attributes that are important to consumers in general, they need to be better than the rest in satisfying those attributes that the segment in question feels more strongly about if they are to cater to the needs of their chosen niche. Next, we examine the deviations from sample mean to identify the strong attributes in each of the three identified clusters.

## Cluster 1: Back to Natural Shoppers

This cluster is comprised of people who score on or near the population average on most health and quality attributes. Certain quality factors are at the premium for this segment (Figure 2). Individuals in this segment are always quality and health minded, as indicated by their tendency to buy foods and fruits produced without hormones, pesticides and other related substances. Members of this segment would most probably shop in an upscale grocery store. A close examination of the demographics in Table 7 indicates that respondents in this cluster tend to be older, better educated and falling in lower and middle-income categories. In addition, this segment has a higher proportion of married people and the largest representation of whites. This segment also spends the most amount of money on grocery and has large household size of at least 4 people on average.
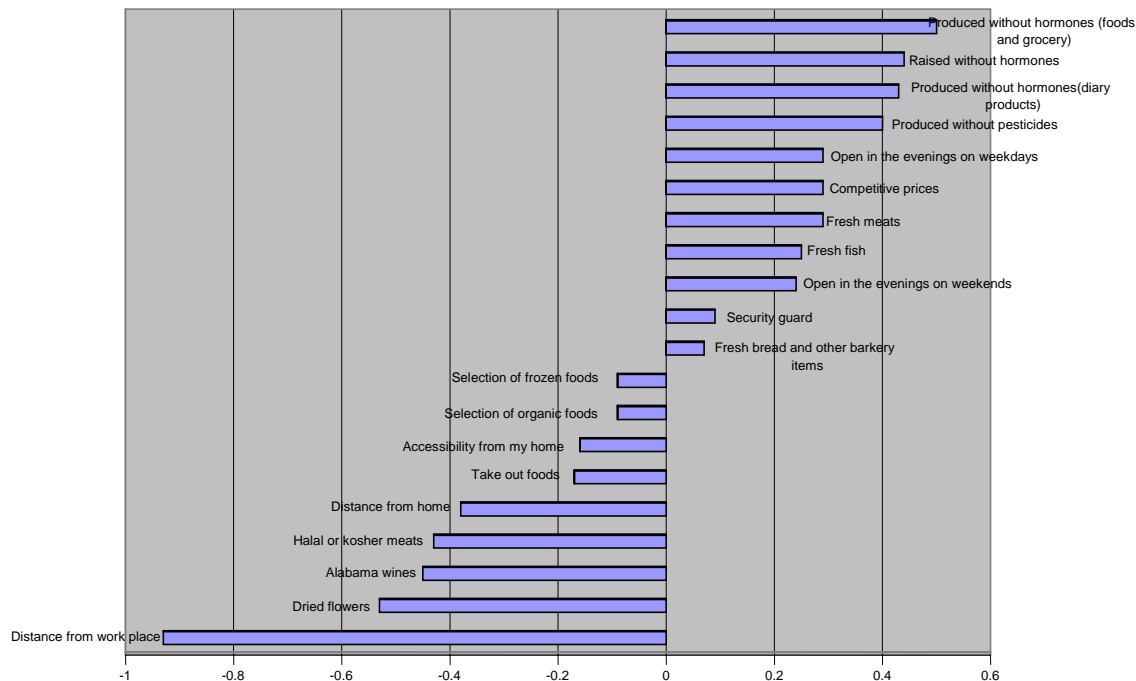
Figure 2. Back to Natural Shoppers

## Table 7. Demographic Characteristics

|  | Cluster 1 | Cluster 2 | Cluster 3 |
|---|---|---|---|
|  | % | % | % |
| **Age** | | | |
| 15 – 39 | 23 | 25.8 | 21.7 |
| 40 – 64 | 58.3 | 60.8 | 57.9 |
| 65+ | 18.6 | 13.3 | 20.36 |
| **Education** | | | |
| High school graduation or less | 29.8 | 23.2 | 25.2 |
| Vocational or technical training | 2.2 | 4.1 | 6.1 |
| Some college | 17 | 26.9 | 24.4 |
| College graduate | 34 | 29.4 | 31.3 |
| Post graduate | 17 | 16.4 | 13 |
| **Income** | | | |
| Less than $15000 | 7.4 | 4.8 | 4.3 |
| 15000 – 14999 | 3.2 | 8.5 | 7.8 |
| 15000 – 34999 | 9.6 | 5.1 | 5.2 |
| 35000 – 49999 | 43.6 | 50.1 | 46.9 |
| 50000 – 99999 | 17 | 19.1 | 22.6 |
| 100000 – 150000 | 9.6 | 7.2 | 10.4 |
| More than 150000 | 9.6 | 5.3 | 2.6 |
| **Martial Status** | | | |
| Single, Divorced or Widowed | 39.3 | 38.5 | 51.3 |
| Living together | 5.3 | 2 | 3.5 |
| Married | 55.3 | 56.3 | 43.4 |
| **Children under 18** | | | |
| No | 56.3 | 64.8 | 33.9 |
| Yes | 43.6 | 35.1 | 64.3 |
| **Race** | | | |
| Caucasian/ White | 58.5 | 51.9 | 52.2 |
| Minorities | 41.5 | 48.1 | 47.8 |
| **Grocery Spending** | | | |
| > $25 | 1.1 | 2.4 | 0.9 |
| 25 – 49 | 8.5 | 8.9 | 13.9 |
| 50 – 74 | 23.4 | 22.5 | 20.8 |
| 75 – 99 | 15.9 | 14.3 | 23.4 |
| 100 – 149 | 17 | 27.3 | 20 |
| 150 or more | 27.6 | 17.7 | 13 |
| **Household Size** | | | |
| 1 person | 15.9 | 15.4 | 24.3 |
| 2 people | 30.5 | 33.4 | 27.8 |
| 3 people | 22.3 | 23.8 | 23.4 |
| 4 people | 21.2 | 14.3 | 14.8 |
| 5 people | 6.4 | 8.9 | 3.5 |
| 6 people | 1.1 | 2 | 3.5 |
| 7 people | 0 | 0.6 | 1.7 |
| 8 people | 2.1 | 0 | 0 |

## Cluster 2: Convenience Driven Shoppers

Convenience and price related attributes are important for this segment of shoppers (Figure 3). Distance and safety are also important. It is the quality of the shopping experience that is important to this segment of grocery shoppers. As for demographic (Table 7), the segment consists of middle aged, low income, educated, and has the largest representation of minorities. The average number of a typical household in this segment is two, indicating that in many cases their children have left or were never present.

Figure 3. Convenience Driven Shoppers
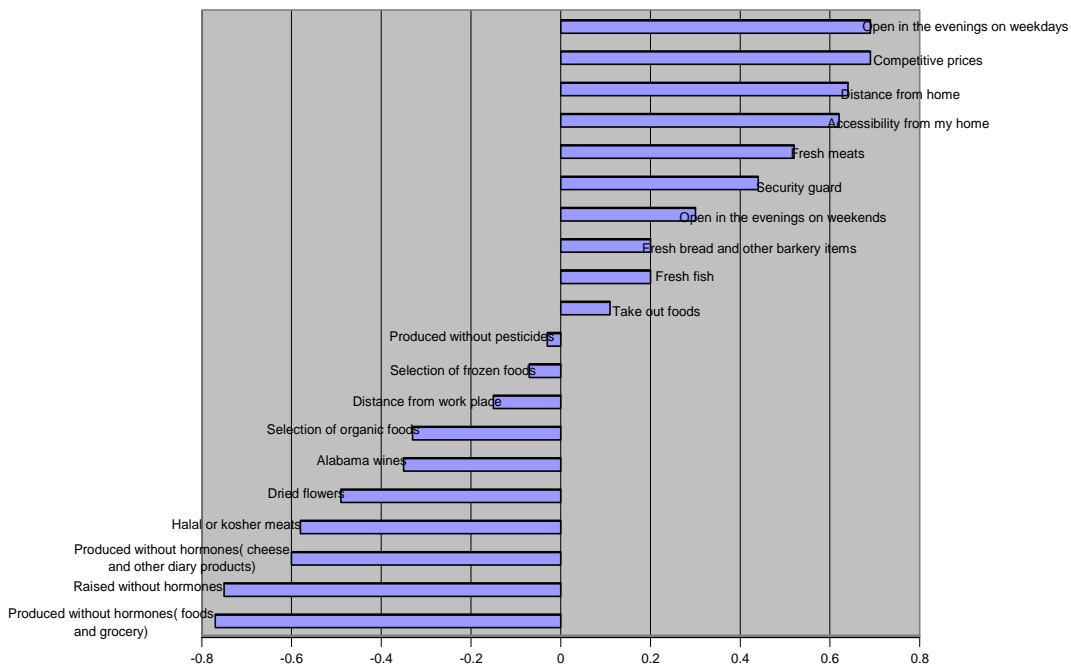


## Cluster 3: Typical Shoppers

Convenience, price and quality rule in this segment (Figure 4). Open in the evenings on weekdays, competitive prices, produced without pesticides, and distance from home to grocery store are important for this segment. Looking at demographics (Table 7), this segment consists of middle aged, higher income, educated and mostly whites. This segment has the highest proportion of singles and also the highest

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number of children less than 18 years. The presence of largest proportion of singles may indicate that there

may be a fair number of single-parents families.

Figure 4. Typical Shoppers
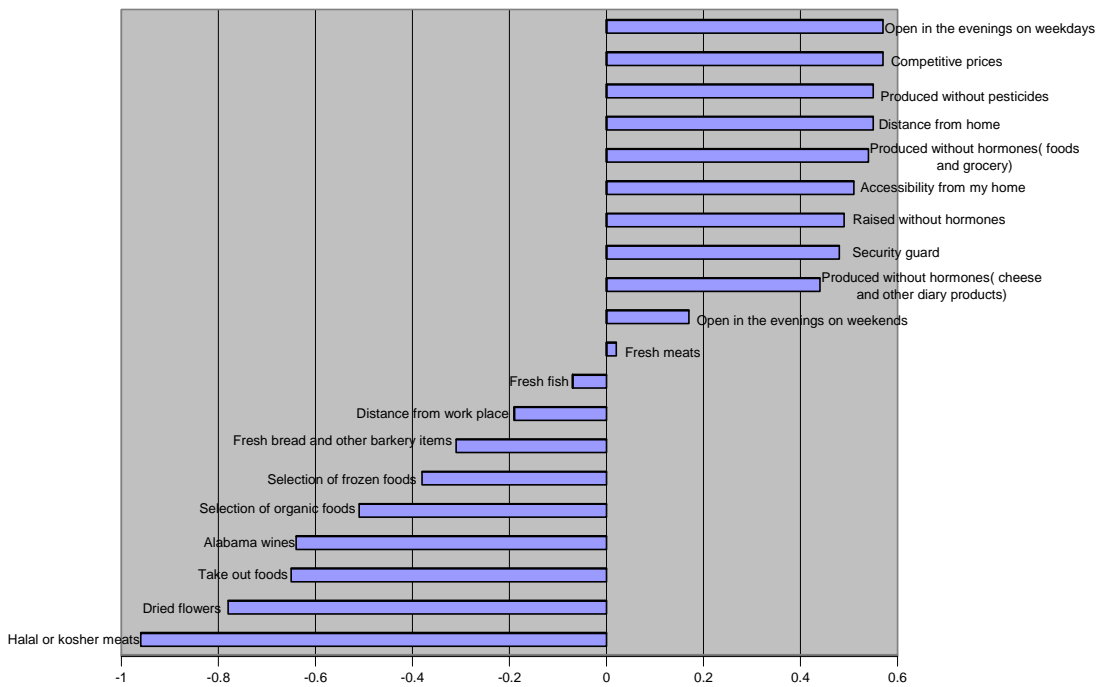


## Conclusion

By employing cluster analysis technique, a sample of over 500 grocery shoppers in Alabama have

been segmented, based on the relative importance of factors that describe their shopping experiences. The

findings were used to address the following questions: which factors are important to Alabama grocery

shoppers in choosing a grocery store, which factors are universal and which ones are only important to

certain consumers and how many distinct segments of grocery store shoppers exit and what are their

distinguishing preferences? The results showed that the majority of grocery shoppers in the sample agree

that open in the evenings on weekends is the single most important consideration in choosing a store for

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their grocery shopping. Competitive prices and produced without hormones came next in order of importance.

Three segments were identified; Back to Natural, Convenience and Typical shoppers. The largest segment, "Typical Shoppers", comprised of about 44 percent of the entire sample and indicated a desire to spend little time as possible shopping. The shopping experience is of minimal importance to them, what they wanted is convenience, safety, low prices and fast service. The second largest segment, "Back to Natural Shoppers", comprised of 32 percent of the sample. They were drawn by selection of natural and organic foods, environmentally friendly products. They also emphasized safety from danger and crimes and selection of quality fresh products. Finally, "Convenience Driven Shopper", which was the smallest segment, was made up of 23.9 percent of the entire sample. They placed a high value on shopping experience. They looked forward to running into friends at stores and to enjoy an atmosphere where they can shop freely.

Reference

Asp, E.H. (1992). "Consumer Lifestyles Are a Key to Food Marketing." *Cereal Foods World.*Vol. 37(4):311-318.

Baltas, George and Paulina Papastathopoulou (2003), "Shopper Characteristics, Product and Store Choice Criteria: A Survey in the Greek Grocery Sector," International Journal of Retail and Distribution Management, Vol. 31, pp. 498-507.

Berlage, Lodewijk and Dirk Terweduwe. (1988). "The Classification of Countries by Cluster and Factor Analysis." World Development. Vol. 16(12):1527-45.

Day, Ellen, Richard J. Fox and Sandra M. Huszagh. (1988). "Segmenting the Global Market for Industrial Goods: Issues and Implications." *International Marketing Review.* Vol. 5(3):14-27.

Dickson, Peter R. and James L. Ginter. (1987). "Market Segmentation, Product Differentiation, and Marketing Strategy." *The Journal of Marketing.* Vol. 51(2):1-10.

Dillon, William R. and Narendra Mulani. (1989). "LADI: A Latent Discriminant Model of Analyzing Marketing Research Data." *Journal of Marketing Research.* Vol. 26:15-29.

Green, Paul E. and Abba M. Krieger. (1991). "Segmenting Markets with Conjoint Analysis." *The Journal of Marketing.* Vol. 55(4):20-31.

Grover, Rajiv and V. Srinivasan. (1987). "A Simultaneous Approach to Market Segmentation and Market Structuring." *Journal of Marketing Research.* Vol. 24: 139-53.

Friddle, Charlotte G., Sandeep Mangaraj and Jean Kinsey. "The Food Service Industry: Trend and Changing Structures in the Millenium." Working paper 01-02, The Retail Food Industry Center, University of Minnesota, 2002.

Funk, Thomas F. and Willard Phillips. (1990). "Segmenting of the Market for Table Eggs in Ontario." *Agribusiness: An International Journal.* Vol. 6(4):309-27.

Huszagh, Sandra M., Richard J. Fox, and Ellen Day. (1986). "Global Marketing: An Empirical Investigation." *Columbia Journal of World Business.* Vol. 20(4):31-43.

Govindasamy, R., Zurbriggen, M., Italia, J., Adelaja, A., Nitzsche, P., & Van Vranken, R. 1998. *Market segmentation: Consumer trends, preferences, and characteristics*: Rutgers University and New Jersey Agricultural Experiment Station.

Kinsey, Senauer. (1996). "Working Wives and the Marginal Propensity to Consume Food Away From Home." Vol 65(1):10-19.

Mckinsey, James H. Segmentation and Positioning for Strategic Marketing Decisions. Chicago, America Marketing Association, 2000.

Kamakura, Wagner **A.** and Gary **J.** Russell. (1989). "A Probabilistic Choice Model for Market Segmentation and Elasticity Structure." *Journal of Marketing Research.* Vol. 26:379- 90.

Lake, Laura . 2007. Market Segmentation for the Small Business. Accessed Dec. 16, 2007 at:
http://marketing.about.com/cs/sbmarketing/a/smbizmrktseg.htm

Mangaraj, Sand and Senauer, Ben. 2001. A Segmentation Analysis of U.S. Grocery Store Shoppers.
Department of Applied Economics, University of Minnesota, St. Paul, MN.

Michel, Wagner B and Kamakura C. "Improving Rating Scale Measures by Detecting and Correcting Bias
Components in Response Styles." Journal of Marketing Research, Vol. 29 p.176-188, 2000.

Punj, Girish and David W. Stewart. (1983). "Cluster Analysis in Marketing Research: Review and
Suggestions for Application." *Journal of Marketing Research.* Vol. 20:134 -48.

Sethi, S. Prakash. (1971). "Comparative Cluster Analysis for World Markets." *Journal of
Marketing Research.* Vol. 18:348-54.

Sriram, Ven and Pradeep Gopalakrishna. (1991). "Can Advertising be Standardized Among Similar
Countries? A Cluster-Based Analysis." *International Journal of Advertising.* Vol. 10:137-149.