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ABSTRACT

THE IDENTIFICATION OF BEHAVIORAL, KNOWLEDGEABLE, AND DEMOGRAPHIC MARKET SEGMENTS OF PURCHASERS OF HOUSEHOLD DURABLES

By

Stanley Dewayne Sibley

Consumers are frequently considered problem solvers in the decision-making process when purchasing goods and services. In the problem solving process consumers can be classified into the following three major stages: (1) extensive problem solving; (2) limited problem solving; or (3) routinized response problem solving. The stages, dependent upon the degree of consumer simplification of the purchasing problem for a given good or service, suggest that consumers will vary on the extensiveness of brand, store, and brand-store search activities in the marketplace and will perhaps differ on the amount of unused and total brand, store, and brand-store knowledge. The consumer shopping activity and unused knowledge of brands and stores can be combined for distinguishing among four major market segments--(1) the active shopper and high knower of unused brands and stores, (2) the active shopper and low knower of unused brands and stores, (3) the inactive shopper and high knower of unused brands and

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stores, and (4) the inactive shopper and low knower of unused brands and stores.

The research investigated the level of product and store knowledge, the amount of shopping effort, and demographic characteristics of recent purchasers of household white goods and brown goods for the purpose of market segmentation. The research included the analysis of individual products as well as product groups, single and dual independent and dependent variables, product classifications, and market trends. The research utilized extensively the matrix approach for classifying purchasers on shopping activity and/or knowledge levels of brands and stores.

The general null hypotheses were formulated to guide the research and to be tested with empirical data.

The four major hypotheses were:

1. The purchasing groups within the product-store total knowledge matrix will not differ on selected demographic characteristics.
2. The purchasing groups within the product-store unused knowledge matrix will not differ on selected demographic characteristics.
3. The purchasing groups within the product-store shopping matrix will not differ on selected demographic characteristics.

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4. The purchasing groups within the product-store unused knowledge and shopping matrix will not differ on selected demographic characteristics.

Specific hypotheses on the predicted direction for the single dependent and single independent variables were also tested.

The research methodology included a telephone survey based on a systematic sample of households in the Lansing, Michigan area in 1971 and 1972. The total number of completed interviews was 897 with 295 respondents categorized as recent purchasers of major household appliances or color televisions. The primary analysis of the data was chi-square for the testing of the differences between purchasing groups.

The major results of the research indicated:

1. Considerable variation on shopping activity and knowledge levels tends to exist between purchasing groups of white goods and brown goods. The buyers of brown goods in contrast to buyers of white goods tend to be more active brand, store, and brand-store shoppers, tend to be more knowledgeable of unused stores, and tend to be more knowledgeable of total brands, stores, and brands-stores.
2. Purchasers were differentiated on demographic characteristics, shopping activity, unused knowledge, and total knowledge of brands and stores for brown goods and for white goods. For example, the findings for buyers of brown goods on the dependent variable sets and a demographic descriptor, among others, were:
 - a. The high knowers of total brands and stores were buyers with 1) a smaller household and white collar occupation, and 2) a larger household and non-white collar occupation; the low knowers were the larger households engaged in white collar occupations.

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- b. The high knowers of unused brands and stores were non-white collar people living a shorter time at their residence; the low knowers were white collar people living a shorter time at their residence.
 - c. The active shoppers of brands and stores were purchasers living in multi-family buildings, and the inactive shoppers were buyers living in single family housing.
 - d. The largest segment of total buyers of brown goods were high knowers of unused brands and stores and inactive shoppers of brands and stores. Within this segment and based on proportions, about three times as many single family housing dwellers as multi-family housing dwellers were found.
3. The major independent variables describing buyers varied according to the dependent variable and the specific product.
 4. Consumers are actively comparing fewer brands and stores in the marketplace for white goods over time.

The research demonstrated convincingly that purchasers can be separated into homogeneous market segments based upon behavioral, knowledgeable, and demographic characteristics. The findings on shopping activity and unused knowledge of brands and stores suggested that one or more of the four possible segments could be valuable to the firm. In particular, the findings on the active shoppers and high knowers of brands and stores should be useful to the firm entering a new geographical market.

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THE IDENTIFICATION OF BEHAVIORAL, KNOWLEDGEABLE,
AND DEMOGRAPHIC MARKET SEGMENTS OF PURCHASERS
OF HOUSEHOLD DURABLES

By

Stanley Dewayne Sibley

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Marketing and Transportation Administration

1972

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for their many

years.

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CHAPTER I

PROBLEM DELINEATION

The primary objective of this research is to investigate brand and store knowledge and shopping behaviors of purchasers of household durable goods for the purpose of market segmentation.

Nature of the Problem

This section presents information on the problem solving process of consumers, the application of the matrix approach, the background information on household durables, the problem statement, the hypotheses, and a statement on methodology.

Background of the Problem

One approach to consumer behavior is to view consumers as problem solvers who are seeking an ideal product assortment to maximize their total satisfaction. In solving his problem the consumer reduces his uncertainty and makes a series of decisions that result in either rejection, postponement, or purchase. To understand these decisions, a decision-making process approach

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As Engel, Kollat, and Blackwell stated:

. . . a purchase is one point in a particular course of action undertaken by a consumer. In order to understand that one point (the act of purchasing) it is necessary to examine the events that precede and follow the purchase.¹

What are the conditions of decision-making? Katona believed that six major conditions were associated with real decision-making. These conditions included (1) infrequent, subjectively expensive disbursements, (2) ungratified past experiences and unfulfilled expectations, (3) individual behavior differing from reference groups, (4) purchasing of innovations, (5) major new informational inputs, and (6) some personality attributes, related frequently to education.² In addition, "When genuine decisions are made, consumers are not marionettes that can be manipulated. The main reason for this is that consumers' problem solving is commonly guided by a desire to understand . . . having an answer to the question of why."³

In the problem-solving and decision-making processes the consumer in attempting to understand often engages in search activities to gain the appropriate information to reduce the uncertainty of making an incorrect decision. Such activity can be delineated into external search and internal search. External search can be defined as:

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. . . processes and activities whereby the consumer uses various sources of information, including mass media, personal sources, and marketer-dominated sources (advertisements, dealer visits, and so on) to learn about the number of alternative solutions to the perceived problem, the characteristics and attributes of these alternatives, and their relative desirability.⁴

Internal search can be defined as ". . . all information which is utilized is stored in memory, having resulted from past experiences."⁵

In a comprehensive buyer behavior model, Howard and Sheth separate decision making into three stages according to the experience of the buyer in decision-making. The three stages are extensive problem solving, limited problem solving, and routinized response behavior. In the extended problem solving stage the consumer is characterized by considering a number of brands without preferring any one brand and without having definite selection decision rules. In the limited problem solving stage the consumer is characterized by liking several brands without preferring any one brand but with a definite set of decision rules. In the routinized response stage the consumer is characterized by considering actively only a very limited number of brands and preferring one brand with a definite set of decision rules.⁶ The authors posit, "The farther he [the buyer] is along in simplifying his environment, the less is his tendency toward active search behavior."⁷

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The above model on stages of decision-making and search activity is quite similar to another model also separating decision-making into three stages of extended, limited, and habitual behaviors.⁸ The major difference between extended and limited decision-making behaviors is that external search is found in the former but not in the latter. Habitual decision-making is different from the other two stages because alternatives to the purchase decision are not evaluated.⁹

A measure of external search for brand alternatives is the number of different brands of a household durable good actively considered by the purchaser, and a measure of external search for store alternatives is the number of different stores actively considered in the market. The two search activities can be meaningfully combined in a shopping matrix.

Based upon search activity, Dommermuth constructed a theoretical shopping matrix defined as the number of retail outlets shopped on one dimension and the number of brands examined on the other dimension. Each cell of the matrix included the proportion of purchasers who conducted the particular amount of search for brands and stores. Four major areas of the matrix were further discussed relative to brand and store loyalty. The four areas were A, B, C, and D as illustrated in Figure 1-1. Dommermuth theorized that people in the A cell (one brand-one store) were purchasers with either strong brand loyalty, strong

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INDEX P. 2
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		Number of retail outlets shopped				
		1	2	3	4	5 or more
Number of brands examined	5 or more	C	D	D	D	D
	4	C	D	D	D	D
	3	C	D	D	D	D
	2	C	D	D	D	D
	1	A	B	B	B	B

Figure 1-1.--The Shopping Matrix.*

*William P. Dommermuth, "The Shopping Matrix and Marketing Strategy," Journal of Marketing Research, II (May, 1965), p. 128.

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store loyalty, and/or an insignificant purchasing decision. Consumers in the B cell, were strong brand loyal but were not store loyal. Consumers in the D cells were, as Dommermuth stated, the "truest 'shopping market'" since these consumers shopped in a number of stores and shopped a number of brands.¹⁰

It was suggested that the potential of the shopping matrix was its ability to distinguish the behavioral differences of shoppers between product types and within a product type. It was also suggested that differences might be found in other related factors, including differences over time, between brands, between market areas, and between socioeconomic groups.¹¹ Dommermuth found that purchasers of one household durable good differed on their brand and store shopping behaviors with purchasers of other household durable goods.¹² In addition, the purchasers of television sets differed on their brand and store shopping behaviors relative to income levels.¹³

A measure of internal search for brand and store alternatives is the number of different brands and sources of supply of a household durable good known but not used in shopping by the purchaser. This measure is consistent with the definition of internal search because the information on brands and stores is used to distinguish between acceptable and unacceptable brands and stores. These unacceptable brands and stores are stored in memory but not used in the active comparison process in the market.

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A matrix, similar to the shopping matrix, can be constructed to place purchasers according to their unused knowledge levels (see Figure 1-2). No research on the combination of brand and store unused knowledge of purchasers was found in the literature.

A measure of combined search activities, internal and external, is the total brands and stores known by the purchaser. This value includes the brand of the product purchased, and the store purchased from, the brands and stores actively considered, and the brands and stores known but not related behaviorally to the shopping process.

Finally, the two major search measures for brands and stores can be combined into a two-by-two paradigm (see Figure 1-3) according to whether the shopper is (1) high on brand and store shopping and high on unused brand and store knowledge, (2) high on brand and store shopping and low on unused brand and store knowledge, (3) low on brand and store shopping and high on unused brand and store knowledge, and (4) low on brand and store shopping and low on unused brand and store knowledge. The first two groups (high shopping--high unused knowledge and high shopping--low unused knowledge) would correspond to extensive problem solving, the third group (low shopping--high unused knowledge) would correspond to limited problem solving, and the fourth group (low shopping--low unused knowledge) would correspond to routinized response problem solving.

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Figure 1-

The Number of Stores Known but Unused

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	0	1	2	3	4 or more

Figure 1-2.--The Unused Knowledge Matrix.

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Figure 2-

Brand and Store Shopping	High	High Shoppers and Knowers	High Shoppers and Low Knowers
	Low	Low Shoppers and High Knowers	Low Shoppers and Knowers
		High	Low
		Brand and Store Unused Knowledge	

Figure 1-3.--The Shopping and Unused Knowledge Model.

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These purchasing groups categorized according to shopping behaviors and to knowledge may constitute a new or redefined market opportunity to a retailer, manufacturer, or vertical channel system. At the micro level for the firm attempting to assess different territories for the determination of which territories to enter first and to assess within a territory those segments to sell to first with a new brand of a generic product, the model should be beneficial. Some market areas would likely be composed of relatively active shoppers and high knowers of brands, stores, and brands-stores, while other market areas would be composed of relatively inactive shoppers and low knowers, and other areas would be between the two extremes. A firm deciding upon which market area to enter, with all other things being equal, would, it seems, select the market area with extensive problem solving or active shoppers and high knowers. This conclusion would appear to be warranted if the generic product were in the introductory, growth, or even the maturity stage of the product life cycle. High brand, store brand-store knowers would be more likely susceptible to giving their attention to information on a new or old specific brand or store than the low knowers because this latter group is only aware of a very limited number of brand and store alternatives. Their attention to advertising and sales promotion by firms outside of their evoked set (i.e., acceptable brand or store alternatives)¹⁴ should be much lower than for the high knowers.

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For the firm currently in the market area, the model would add to its understanding of its market share position, the position of its brand and its stores relative to competitive brands and stores, and whether its current purchasers are extensive, limited, or routinized problem solvers. Then, the firm could attempt to cater more fully to any one of the groups not a part of its market and/or could try to cater more fully to the group currently buying its brand(s) to maintain its market share. Active shoppers would likely place a greater emphasis on pertinent product and store information which would need to be provided for these people to make the necessary comparisons among brands and stores. In addition, strategies aimed at persuading this shopper to return to the store after other comparisons would be particularly relevant. The furnishing of comparison information would seem warranted also in the firm's advertising. At the other extreme, inactive shoppers would probably require generally less capable retail salesmen than the active shoppers, but the salesman would need to be qualified in closing the sale at the earliest possible moment since this consumer may never return again. The firm's advertising would appear to play a more important role since these consumers are either presold or not presold but do not wish to expend any more energy and time comparing alternative brands and/or stores.

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Researching the stages of problem solving by purchases will open potential avenues to follow for other purposes, one of which is market segmentation. Although purchasing groups might be isolated on the amount and type of search activity, this factor alone does not appear to be valuable to the firm unless these groups can be identified through other independent variables for the development of a suitable marketing mix at the strategic and tactical decision-making levels. These independent variables can include a multitude of different ones, but the variables most frequently reported for markets tend to be demographic and socioeconomic. These independent variables can include education, income, age, mobility, home ownership, marital status, occupation and so forth. Purchaser characteristics derived from demographic and socioeconomic variables are probably the most applicable independent variables for company usage if differences were found in purchasing groups.

To fulfill the criteria for decision-making suggested by Katona, to circumvent non-existent or minor purchasing problems as much as possible, and to research search activities on brand and store alternatives, it would seem most feasible to use a product category that in most cases, if not all, would cause the consumer to consider the alternatives, to utilize past and present knowledge, and to determine a solution for a major purchasing problem. Household durable goods would usually a priori

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fit these constraints of decision-making because these products tend to be purchased infrequently, they tend to constitute major expenditures, and the retained brand and store knowledge of the replacement consumer tend usually to be outdated during the time period when the old product was purchased and when the consumer perceived the need for a new product.

General background information concerning household durable goods will establish the proper perspective. Data were available concerning the number of units sold by product in 1969 and the demographic and purchasing characteristics of purchasing families. Based on the number of units sold in one year, household durable goods represent an important purchase for many families in the United States. Approximately 60 million units of household durables, including domestic radios, televisions, refrigerators, furnaces, and so forth, were purchased in 1969. For selected products that year, consumers bought 10.5 million televisions (monochrome and color), 5.5 million air conditioners, 5.3 million refrigerators, 4.8 million ranges, and 4.1 million automatic washers.¹⁵ Most of these products have been increasing their annual sales over time, but none of these products, except perhaps air conditioners, have been rapidly increasing sales. The trends on sales evidently reflect the saturated market and dominance of replacement sales. (See Table 1-1.)

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TABLE 1-1.--Unit Sales of Selected Household Durables.*

Durables	1965 (000)	1967 (000)	1969 (000)
Color Television	2,747	5,224	5,523
Monochrome Television	8,028	5,435	4,976
Dishwashers	1,111	1,100	2,118
Freezers	1,111	1,100	1,195
Ranges	4,293	4,033	4,814
Refrigerators	4,678	4,713	5,296
Air Conditioners	3,240	4,129	5,459
Dehumidifiers	210	280	637
Automatic Washers	3,771	3,921	4,111
Dryers	2,048	2,678	3,022
Vacuum Cleaners	5,107	5,677	7,134

*Table was adapted from "Econographics," Appliance Manufacturer, March, 1970, p. 12.

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Based upon data compiled by the Survey Research Center at the University of Michigan, several interesting conclusions emerged on the proportion of the sample purchasing specific household durables, the demographic characteristics of the buyers, and appliance ownership. In 1966 approximately one-half of the sampled families bought one or more household durables. For specific household durables about one-fifth of the families purchased furniture, about one-sixth of the families bought televisions, about one-tenth of the families purchased refrigerators, about one-twelfth of the families bought washing machines, and about one-twentieth of the families purchased cooking ranges.

Most of the purchasers were younger families with the head of the household under 45 years old. The number of families purchasing household durables increased as income increased and decreased as age increased. In addition, the number of families who purchased two or more appliances increased as income increased. The amount of money spent for household durables also increased as income increased.

Relative to appliance ownership, about four-fifths of the families owned three or more large appliances. The lower income subgroup owned older appliances and had a greater frequency of having two or more repairs in a year than for the higher income subgroup. Relative to appliance ownership and home ownership, about one-third of the home

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owners possessed five or more appliances, while only one-tenth of the renters owned five or more appliances.¹⁶

The background information on the problem solving process, stages of problem solving, the matrix approach, and household durable goods and the literature search resulted in the statement of the problem and the formulation of hypotheses.

Statement of the Problem

The research investigates the level of product and store knowledge and the amount of shopping effort of recent purchasers of household white goods and brown goods relative to selected demographic characteristics for the purpose of market segmentation.

The research focuses specifically on purchaser characteristics and on their behaviors, their unused knowledge, and their total knowledge of brands, stores, and brands-stores. In addition, the research attempts to isolate those independent variables that are more efficacious across products and within products for delineating buyers. Furthermore, the research includes the analysis of the relationship between shopping activity and product classifications and the study of market trends associated with purchasing activity for household durable goods.

Specific Hypotheses

The specific hypotheses were formulated for testing the possible relationships between the independent variables

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variables and the single dependent variables. The specific hypotheses are stated according to the expected direction of the relationships based on previous research, theoretical discussions, and logic. There are three major sections separated according to the dependent variables of total knowledge (Set A), unused knowledge (Set B), and shopping activity (Set C). Within each section the hypotheses are for brands and for stores; therefore, for each stated hypothesis with "(stores)" following "brands" there are in actuality two hypotheses.

- Set A
- H₁: Home owners will have relatively less total knowledge of brands (stores) than non-home owners.
 - H₂: Single-family home dwellers will have relatively less total knowledge of brands (stores) than the multi-building dwellers.
 - H₃: Mobiles will have relatively greater total knowledge of brands than non-mobiles.
 - H₄: Mobiles will have relatively less total knowledge of stores than non-mobiles.
 - H₅: People living a shorter time in the market area will have relatively greater total knowledge of brands (stores) than people living a longer time in the market area.
 - H₆: Marrieds will have relatively greater total knowledge of brands (stores) than non-marrieds.
 - H₇: Larger families will have relatively greater total knowledge of brands (stores) than smaller families.
 - H₈: Families with the head of the household engaged in professional or clerical occupations will have relatively greater total knowledge of brands (stores) than families not in professional and clerical occupations.

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- H₉: Families with the head of the household having more than 12 years of school will have relatively greater total knowledge of brands (stores) than families with the household head having 12 years or less of school.
- H₁₀: Families with annual incomes less than \$15,000 will have relatively greater total knowledge of brands (stores) than families with incomes of \$15,000 or more.
- H₁₁: Families recently purchasing more than one household good will have relatively greater total knowledge of brands (stores) than families purchasing recently one household durable good.
- H₁₂: Families purchasing the household durable good for the first time will have relatively greater total knowledge of brands (stores) than families purchasing the product as a replacement.
- Set B H₁: Home owners will have relatively less unused knowledge of brands (stores) than non-home owners.
- H₂: Single-family home dwellers will have relatively less unused knowledge of brands (stores) than the multi-building family.
- H₃: Mobiles will have relatively greater unused knowledge of brands than non-mobiles.
- H₄: Mobiles will have relatively less unused knowledge of stores than non-mobiles.
- H₅: Families living a shorter time in the market area will have relatively greater unused knowledge of brands (stores) than families living a longer time in the market area.
- H₆: Larger families will have relatively greater unused knowledge of brands (stores) than smaller families.

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- H₇: Families with the head of the household engaged in professional or clerical occupations will have relatively greater unused knowledge of brands (stores) than families with the household head not engaged in professional or clerical occupations.
- H₈: Marrieds will have relatively greater unused knowledge of brands (stores) than non-marrieds.
- H₉: Families with the household head having more than 12 years of school will have relatively greater unused knowledge of brands (stores) than families with the head of the household having 12 years or less of school.
- H₁₀: Families with annual incomes less than \$15,000 will have relatively greater unused knowledge on brands (stores) than families with annual incomes of \$15,000 or more.
- H₁₁: Families purchasing recently more than one durable good will have relatively greater unused knowledge of brands (stores) than families purchasing recently only one durable good.
- H₁₂: Families purchasing the household durable good for the first time will have greater unused knowledge on brands (stores) than families purchasing the product as a replacement.
- H₁₃: Families with older heads of the household will have relatively greater unused knowledge of brands (stores) than families with younger household heads.
- Set C
- H₁: Home owners will do relatively less shopping for brands (stores) than non-home owners.
- H₂: Single-family home dwellers will do relatively less shopping for brands (stores) than the multi-family building dweller.
- H₃: Mobiles will do relatively greater shopping for brands than non-mobiles.

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- H₄: Mobiles will do relatively less shopping for stores than non-mobiles.
- H₅: Families living a shorter time in the market area will do relatively greater shopping for brands (stores) than families living a longer time in the market.
- H₆: Marrieds will do relatively greater shopping for brands (stores) than non-marrieds.
- H₇: Larger families will do relatively greater shopping for brands (stores) than smaller families.
- H₈: Families with the household head engaged in professional or clerical occupations will do relatively greater shopping for brands (stores) than families with the household head not engaged in professional or clerical occupations.
- H₉: Families with the head of the household having more than 12 years of school will do relatively greater shopping for brands (stores) than families with the household head having 12 years or less of education.
- H₁₀: Families with annual incomes less than \$15,000 will do relatively greater shopping for brands (stores) than families with annual incomes of \$15,000 or more.
- H₁₁: Families purchasing recently more than one durable good will do relatively greater shopping for brands (stores) than families purchasing recently one durable good.
- H₁₂: Families purchasing the household durable good for the first time will do relatively greater shopping for brands (stores) than families purchasing the product as a replacement.
- H₁₃: Families with younger household heads will do relatively greater shopping for brands (stores) than families with older heads of the household.

Exercises

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General Hypotheses

The general hypotheses were formulated for the purpose of testing for possible relationships between the purchaser demographic and behavioral characteristics and the combined dependent variables of the matrices. The general hypotheses are divided into four major sections with the first three sections for two dependent variables and the last section for the combination of two dependent variable sets or four dependent variables in total. These hypotheses are presented in the form of null hypotheses with no difference between the dependent and independent variables.

H₁: The purchasing groups within the product-store total knowledge matrix will not differ on:

- a. Age of Head of Household
- b. Education of Head of Household
- c. Income of Household
- d. Marital Status
- e. Occupation of Head of Household
- f. Home Ownership
- g. Type of Housing
- h. Length of Stay in Market Area
- i. Length of Stay at Present Residence
- j. Size of Family
- k. Number of Recent Household Durables Purchased
- l. Purchasing Experience

H₂: The purchasing groups within the product-store unused knowledge matrix will not differ on:

- a. Age of Head of Household
- b. Education of Head of Household
- c. Income of Household
- d. Marital Status
- e. Occupation of Head of Household
- f. Home Ownership
- g. Type of Housing
- h. Length of Stay in Market Area

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- k. Number of Recent Household Durables Purchased
- l. Purchasing Experience

H₃: The purchasing groups within the product-store shopping matrix will not differ on:

- a. Age of Head of Household
- b. Education of Head of Household
- c. Income of Household
- d. Marital Status
- e. Occupation of Head of Household
- f. Home Ownership
- g. Type of Housing
- h. Length of Stay in Market Area
- i. Length of Stay at Present Residence
- j. Size of Family
- k. Number of Recent Household Durables Purchased
- l. Purchasing Experience

H₄: The purchasing groups in the product-store unused knowledge and product-store matrix will not differ on:

- a. Age of Head of Household
- b. Education of Head of Household
- c. Income of Household
- d. Marital Status
- e. Occupation of Head of Household
- f. Home Ownership
- g. Type of Housing
- h. Length of Stay in Market Area
- i. Length of Stay at Present Address
- j. Size of Family
- k. Number of Recent Household Durables Purchased
- l. Purchasing Experience

Methodology

For this research project telephone interviews were completed in the Lansing, Michigan area from a sample drawn systematically from every 56th telephone number after randomly selecting the first number from the first 56 numbers. The total number of respondents contacted was 897

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and the total number of respondents classified as recent purchasers was 295.

The interviewing by trained women was conducted mainly during the first three weeks of December, 1971. Interviewers were spot checked during the interviewing process and no variation attributed to interviewer errors was noted. If the potential respondents were not reached with the initial phone call, these people were telephoned eight more times, if necessary, by the interviewers. After nine telephoning attempts without success, the potential respondent was categorized as unreachable.

After the data were collected, the data were key-punched on IBM cards. The data were tabulated for gross frequency counts, and then used for the statistical analysis for confirming or disconfirming the research hypotheses on purchaser knowledge, unused knowledge, and behaviors.

Contributions of the Research

Two comprehensive consumer behavior models related buying behavior to three major stages of problem solving. The research will demonstrate the possibility of separating purchasers of major household durable goods into three stages for analysis. In conjunction with the stage of problem solving is the extensiveness of search activities undertaken by the consumer. The research will add to the current findings of external and internal search and will demonstrate the usefulness of combining the two

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measures into one. Furthermore, the theoretical framework, applying matrices, appears to be especially relevant to this study since the matrix approach tends to illustrate succinctly the differences in consumers on search behavior and the differences in products bought by consumers. Contributing research using the matrix approach for shopping behaviors is necessary since only a few studies in the past have been reported on its application.

Studying major household durable goods and search activity will contribute to the confirmation or not of several theoretical frameworks on the classification of products. These products are often theoretically considered important enough to motivate consumers to engage in extensive search activity and to learn about the brand and store alternatives. There is accumulating evidence that this particular relationship is no longer relevant to a relatively large number of buyers.

Differences in consumer characteristics can isolate identifiable market segments. The research will contribute to the rather extensive body of knowledge on the application of the market segmentation concept in marketing. Relating behaviors to demographic variables appears to be a worthwhile project, given the past success with these independent variables in other research. The importance of the demographic characteristics tends to be the availability of these data in market areas whereby the firm can easily obtain.

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To the manufacturer of major household durables, the research offers a framework to be used in other market areas to assess the company's current or potential status relative to consumers' behaviors and knowledge. The crux of the channel selection problem is determining which stores are most worthwhile to sell to and which stores need greater manufacturer's assistance in the marketing mix. The search activities of consumers will show for the firm engaging in this type of research which stores are the potentially major alternatives for the future purchase.

To the retailer of major household durables, the research offers a framework also which can be applied in the market area to assess the company's market position. The retailer has to make decisions on which brands are actively considered by consumers. The search measures would appear to lead sales and, thus offer a faster reaction time to the market's dynamics in changes of consumers in response to the marketing mixes of several manufacturers.

Limitations of the Research

A number of pertinent limitations to the research are evident. First, the research at best is exploratory since the knowledge variable has not been widely pursued in marketing. Second, a telephone survey always carries a certain amount of risk on the randomness of the sample from the distribution of telephones in the market area and from the greater probability of a turndown on partial or

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all of the questionnaire because of the ease of saying "no." Third, the possibility of post-transaction dissonance and post-purchase information seeking resulting in a greater level of knowledge will not be analyzed, and it may or may not influence the results regarding the new owners identification of brands and stores. Fourth, the research only attempts to measure awareness which is just one dimension of the multidimensional concept of knowledge. Fifth, although the analysis is post-transactional, the findings are proposed to be applicable to the pre-transactional time period for other consumers. Finally, the emphasis of the study is on relative knowledge levels, shopping behaviors, and identifying characteristics without determining moral judgments on whether a relatively more knowledgeable or more active shopper is better or worse off than a relatively less knowledgeable or less active one.

Organization

The organization of the dissertation is according to general topic area. Chapter II summarizes the germane literature on search activities and market segmentation. Chapter III describes in detail the research methodology for the collection and analysis of the survey data. Chapter IV presents the research findings from the survey on recent purchasers of household durables. Chapter V reviews a summary of the research findings, presents purchaser profiles for specific products, discusses the

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relationship of the findings to marketing theory and practice, and suggests researchable ideas for study in the future.

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CHAPTER I--FOOTNOTES

¹James F. Engel, David T. Kollat, and Roger D. Blackwell, Consumer Behavior (New York: Holt, Rinehart and Winston, Inc., 1968), p. 7.

²Ibid., pp. 378-379.

³George Katona, The Mass Consumption Society (New York: McGraw-Hill Book Company, 1964), pp. 289-290.

⁴Engel, Kollat, and Blackwell, op. cit., p. 378.

⁵Ibid., pp. 378-379.

⁶John A. Howard and Jagdish N. Sheth, The Theory of Buyer Behavior (New York: John Wiley and Sons, Inc., 1969), p. 27.

⁷Ibid.

⁸Engel, et al., pp. 351-352.

⁹Ibid., pp. 352-353.

¹⁰William P. Dommermuth, "The Shopping Matrix and Marketing Strategy," Journal of Marketing Research, II (May, 1965), pp. 128-129.

¹¹Ibid., p. 129.

¹²Ibid., pp. 129-131.

¹³Grady D. Bruce and William P. Dommermuth, "Social Class Differences in Shopping Activities," Marquette Business Review, XII (Spring, 1968), pp. 2-3.

¹⁴Howard and Sheth, op. cit., p. 98.

¹⁵"Econographics," Appliance Manufacturer, XVIII (March, 1970), p. 12.

¹⁶George Katona, et al., 1967 Survey of Consumer Finances (Ann Arbor, Michigan: Survey Research Center, 1967).

CHAPTER II

REVIEW OF THE LITERATURE

The words of Pierre Martineau still are applicable today as in 1955 when he stated:

How can we so ignore the consumer in our research?

Almost nobody is trying to understand him as a human being, as a creature who buys song hits like "Shake, Rattle and Roll" and "Let Me Go, Lover" by the million; who idolizes buffoons like Milton Berle and Jackie Gleason; who suddenly develops passions for lavender cars and sectional sofas; who spends his money for such illogical things as dog racing, filter cigarettes, and oversize cuff links.¹

The basis for this research is the previous theory and research on two major concepts--search activity by consumers and market segmentation by firms. The first section reviews the theoretical foundation and empirical research on consumer searching behaviors of brand and store alternatives, and the second section describes the current status of market segmentation and the research related to this study.

The Concept of Search

The concept of search is a critical component in attempting to understand the whys of buyer behavior and the decision-making process of individuals and groups.

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Consumers frequently seek information by reading, listening, and observing at home or by shopping in the marketplace and by recalling and thinking about different product, brand, or store alternatives and their attributes for the purpose of delimiting the alternatives to the solution of the purchasing problem and reducing the uncertainty of deciding incorrectly. From a theoretical perspective, search activity can be delineated into external search and internal search.

External search can be defined as:

. . . processes and activities whereby the consumer uses various sources of information, including mass media, personal sources, and marketer-dominated sources (advertisements, dealer visits, and so on) to learn about the number of alternative solutions to the perceived problem, the characteristics and attributes of these alternatives, and their relative desirability.²

Although external search encompasses a variety of behaviors, the behavioral dimensions of concern to this research include actual shopping behaviors of (1) brands, (2) stores, and (3) brands and stores. The number and identification of brands and stores actively compared measures the extensiveness of the external search of primary brand and store alternatives by the prospective purchaser prior to consumating the transaction. It is these alternatives which the buyer has undertaken search activity for the purpose of comparative shopping of brand

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and store attributes and to derive logically a solution to the purchasing problem.

During this process the prospective buyer often knows other product, brand, or store alternatives but does not consider these alternatives as primary factors in the set of alternative solutions. These secondary brands and stores could result from external search or from internal search but likely from internal search because of selective perception and retention desensitizing influence on the prospective buyer in the market as he makes comparisons of primary brands and stores. Internal search refers to the process where "all information which is utilized is stored in memory, having resulted from past experiences"³ and could be measured according to the recall of all brand and store alternatives or the recall of only those brands and stores not actively considered and identified as primary alternatives to the problem.

External Search

In the marketing literature external search has been most frequently related to product classifications and the searching or lack of searching for product and/or store alternatives by the consumer. Relative to the theoretical discussions, search is either actually making comparisons or the willingness to make comparisons which implies active comparative shopping at a later time. In

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1923 Copeland extended the classifications of consumer products and clarified the distinctions among the classifications. The major product classifications were convenience goods, shopping goods, and specialty goods. Convenience goods were characterized by consumers not searching extensively for the product, frequently purchasing the product, purchasing the product at a convenient, accessible retail store. Specialty goods were characterized by consumers not comparing product or store alternatives, making special effort to purchase from a specific store, and infrequently purchasing these products.⁴ In both of these two product classifications the external search of product, brand, and/or store alternatives is lacking. Shopping goods, the third major product classification, were characterized by consumers making comparisons mainly on the product's attributes (quality and style) and store (price) through search activities and infrequently purchasing these items.⁵

In 1958 Holton argued that Copeland's category of speciality goods was ambiguous and overlapped the convenience goods and shopping goods categories. Convenience goods were defined as:

. . . those goods for which the probable gain from making price and quality comparisons among alternative sellers is thought to be small relative to the consumer's appraisal of the searching costs in terms of time, money, and effort.⁶

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Shopping goods were defined as:

. . . those goods for which the probable gain from making price and quality comparisons among alternative sellers is thought to be large relative to the consumer's appraisal of the searching costs in terms of time, money, and effort.⁷

The essential implication from the definitions was the searching behaviors attributed to consumers of shopping goods and the lack of comparing products among sellers for convenience goods. In addition, Holton pointed out that any particular product might be considered a shopping good by some consumers and might be considered a convenience good by other consumers.⁸

In 1958 Aspinwall extended the earlier work by Copeland and developed the characteristics of goods theory. In the goods theory Aspinwall argued that the characteristics should be pertinent to each product, should be operationally measurable for each product, and should be logically related to the other characteristics. The characteristics of goods included (1) the replacement rate, (2) the gross margin, (3) the adjustment, (4) the time of consumption, and (5) the searching time. Products high in the first attribute but low in the other attributes were called red goods; products medium in all the attributes were called orange goods, and products low in the first attribute but high in the other attributes were called yellow goods.⁹ Therefore, yellow goods would be

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considered shopping goods under previous definitions. According to the yellow goods classification, major household durables, such as refrigerators, freezers, color television sets, would cause potential purchasers to consume relatively high amount of time searching for viable alternatives.

In 1965 Miracle elaborated on Aspinwall's paradigm to include more buyer and product attributes and to encompass industrial products.¹⁰ The major characteristics were (1) unit value, (2) significance of each purchase to the purchaser, (3) time and effort spent shopping, (4) rate of technological change, (5) technical complexity, (6) consumer need for service, (7) frequency of purchase, (8) rapidity of consumption, and (9) extent of usage.

Products were classified according to their relative value for each of the characteristics. The products were then classified as "Group I, Group II, Group III, Group IV, or Group V." For example, Group I contained those products which were very low on unit value, on significance of purchase, on time and effort consumed in shopping, on the rate of technological change, on the technical complexity, and on the buyer's need for service but were very high on the frequency of purchase, on the speed of consumption, and the variety of uses. At the other extreme the Group V

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products were ones which had very high values for the first six attributes and very low values for the last three attributes. In this verbal model the time and effort spent searching was a necessary but insufficient factor in classifying goods; however, it is reasonable to conclude that the time and effort spent shopping for a product is a function of the other eight attributes in part or total for most buyers.

Another major contributor to product classifications and search activities was Bucklin. Products were classified into convenience, shopping, or specialty goods according to the consumer's "preference map" or lack of one and amount of effort exerted to compare alternatives or to purchase a specific, desired product.

Bucklin defined consumer products as follows:

Convenience Goods: Those goods for which the consumer, before his need arises, possesses a preference map that indicates a willingness to purchase any of a number of known substitutes rather than to make the additional effort required to buy a particular item.

Shopping Goods: Those goods for which the consumer has not developed a complete preference map before the need arises, requiring him to undertake search to construct such a map before purchase.

Specialty Goods: Those goods for which the consumer, before his need arises, possesses a preference map that indicates a willingness to expend the additional effort required to purchase the most preferred item rather than to buy a more readily accessible substitute.¹¹

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Extending the classificatory model, Bucklin also divided retail stores into convenience, shopping, or specialty stores dependent upon the consumers' "preference map" and search behaviors.

Convenience Stores: Those stores for which the consumer, before his need for some product arises, possesses a preference map that indicates a willingness to buy from the most accessible store.

Shopping Stores: Those stores for which the consumer has not developed a complete preference map relative to the product he wishes to buy, requiring him to undertake a search to construct such a map before purchase.

Specialty Stores: Those stores for which the consumer, before his need for some product arises, possesses a preference map that indicates a willingness to buy the item from a particular establishment even though it may not be the most accessible.¹²

Products and stores were interrelated by a three-by-three matrix in which each cell was for each specific product class and store class.

Searching behaviors would be hypothesized to occur in five of the nine cells. Brand and store comparisons would be found in the shopping goods-shopping stores cell; brand searching only in the shopping goods-convenience stores cell and the shopping goods-specialty stores cell; and store searching only would be found in the convenience goods-shopping stores cell and the specialty goods-shopping stores cell (see Figure 2-1).

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		Convenience	Shopping	Speciality
Products	Convenience	None	Store Searching Only	None
	Shopping	Brand Searching Only	Brand and Store Searching	Brand Searching Only
	Speciality	None	Store Searching Only	None

Figure 2-1.--Product-Store Classification Matrix and Search Activity for Alternatives.*

*The matrix was developed from Louis P. Bucklin, "Retail Strategy and the Classification of Consumer Goods," Journal of Marketing, XXVII (January, 1963), 53-54.

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Product searching activity.--Brown reported the lack of brand shopping by automobile purchasers. Sixty-to-seventy per cent of the families purchasing automobiles bought the same brand as previously owned. This high repeat purchase rate was attributed to ". . . their inability to predict with certainty the outcome of a decision to purchase any other given make car."¹³

In a recent study on purchasers of household durables the researchers found that 33 per cent of the purchasers shopped one brand, 30 per cent of the buyers shopped two or three brands, and 37 per cent of the buyers shopped four or more brands. The brand shopping activity was for purchasers of major appliances, televisions, furniture, and similar products with a price of \$100 or more.¹⁴

Product searching activity for major household appliances tends to be limited to four brands or less. In 1962, in Washington, D.C. purchasers of refrigerators, freezers, washers, dryers, and ranges were differentiated by brand comparisons as follows: (1) 35 per cent shopped and purchased only one brand; (2) 28 per cent shopped two brands; (3) 24 per cent shopped three brands; (4) 11 per cent shopped four brands; and (5) three per cent shopped for five or more brands. For purchasers of refrigerators and freezers 32 per cent of the respondents shopped only

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one brand; 28 per cent shopped two brands; 26 per cent shopped three brands; 14 per cent shopped four brands; and one per cent shopped five or more brands. For the purchasers of washers and dryers the results with the exception of the categories of four brands shopped and five or more brands shopped were quite similar to the behaviors of the purchasers of refrigerators and freezers. For these purchasers 35 per cent shopped and purchased only one brand; 30 per cent shopped two brands; 22 per cent shopped three brands; nine per cent shopped four brands; and five per cent shopped five or more brands.

Although the sample was quite small ($n=35$), the purchasers of ranges tended to have a greater percentage of the respondents in the one brand shopped and purchased category. Forty-three per cent shopped and purchased one brand, 23 per cent shopped two brands, 23 per cent shopped three brands, and 11 per cent shopped four brands (see Table 2-1).¹⁵

Dommermuth found that refrigerator purchasers had the highest proportion or 58.6% examining more than one brand, followed by television set purchasers with 50.6%, followed by washing machine purchasers with 39.5%, followed by vacuum cleaner buyers with 29.0%. For examining more than one brand (point 4 above), there was a significant difference between refrigerator and television set purchasers and washing machine, electric iron, and vacuum cleaner purchasers.¹⁶

Number of Brands Shipped and Identified ²	Percentage of Purchases of Refrigerators and Freezers	Percentage of Purchases of Washers and Dryers	Percentage of Purchases of Ranges	Total
			42.8%	34.6%

TABLE 2-1.--Product Shopping Activity.¹

Number of Brands Shopped and Identified ²	Percentage of Purchasers of Refrigerators and Freezers	Percentage of Purchasers of Washers and Dryers	Percentage of Purchasers of Ranges	Total
One Brand	31.6%	34.6%	42.8%	34.6%
Two Brands	27.6	29.9	22.9	28.1
Three Brands	25.5	22.0	22.9	23.5
Four Brands	14.3	8.7	11.4	11.1
Five or More Brands	1.0	4.8	--	2.7
Totals	100%	100%	100%	100%
Total Respondents	98	127	35	260
Average Number of Brands Shopped	2.25	2.2	2.0	2.2

¹Table adapted from Exhibits 2-4 in Frank G. Coolson, The Consumer Market for Major Appliances in the Washington, D. C. Metropolitan Area (Washington, D. C.: The American University School of Business Administration Publication Series--Marketing Studies, 1962), p. 20.

²Includes brand purchased.

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Store searching activity.--Empirical research has been conducted on the amount of search of store alternatives by consumers for products. One empirical study, applying Copeland's product classifications, on search behavior was conducted by Kleimenhagen who used three measures of shopping activity. These operational definitions included (1) number of stores visited, (2) time spent at the shopping center, and (3) distance traveled to the shopping center. For the number of stores visited, consumers purchasing convenience goods shopped primarily (over 90 per cent) in one store and consumers buying specialty goods or shopping goods shopped mainly (around 75 per cent) in one store. The purchasers of shopping goods were the only group with some consumers shopping at five or six stores. For the time spent at the shopping center, purchasers of shopping goods shopped longer at the center than the buyers of convenience or specialty goods. Finally, on the distance traveled to the shopping center, purchasers of specialty goods traveled the farthest followed by buyers of shopping goods.¹⁷

Cunningham (1961) concluded that the average family in his research purchased 70 per cent of total food purchases in two stores, high store loyalty did not lead to shopping in less stores, and high brand loyalty and high store loyalty did not correlate significantly in 15 of the 18 product classes.¹⁸

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Two reports on automobile purchasing and the extensiveness of shopping at automobile dealers suggested that consumers did not shop around to a great degree. About one-half of the automobile purchasers of automobiles shopped at only one automobile dealership, and very few purchasers shopped at more than three dealers.¹⁹ Feldman concluded that data on search behavior were inconsistent with Aspinwall's product theory which suggested that an expensive durable good purchase would cause consumers to do extensive searching.²⁰

Additional data on search behaviors were found on the relative value of the product and the amount of search. Fifty-six per cent of the 891 products across price categories were purchased at one store on one shopping trip without further search. As the price breaks increased from \$5.00-14.00, to \$15.00-49.00, to \$50.00-99.00 to \$100 or more, the percentage of products purchased at one store on one shopping trip decreased in the same order as above from 61 per cent to 37 per cent. Thus, for the most expensive product category about one-third of the products were purchased at the first store visited and about two-thirds of the products either were purchased on another shopping trip(s), at another store(s) or were not yet purchased after visiting one store.²¹

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Data on generic products suggested that shopping activity, measured by the number of shopping trips, varies by type of product. In one study 35 per cent of all shoppers conducted more than one shopping trip for all products. However, 62 per cent of furniture and large appliance shoppers conducted more than one shopping trip. At the other extreme only 20 per cent of the shoppers for shoes made more than one shopping trip.²²

In researching the mobile family, Bell found that mobiles did search retail outlets before making their first major appliance purchase in their new market area. Before the purchase mobile families visited on the average 2.0 stores. In comparison, mobile families visited 3.1 retail stores prior to making their first purchase of furniture.²³ Even though these findings are beneficial in broadening the scope of knowledge on the amount of shopping activity by mobiles, it is unfortunate that comparable information was not researched on non-mobiles to determine if a difference existed between the two market segments.

Store searching behaviors tended to be limited for consumers purchasing small electrical appliances and soft goods. In a small appliance study approximately 60 per cent shopped at two stores, and 22 per cent shopped at three or more stores.²⁴ For soft goods an average of 71 per cent of the purchasers shopped at only one store and

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Store searching behaviors tended to be relatively more extensive than the above for innovations, including color television, stereophonic equipment, automatic dishwashers, and air conditioners. Twenty per cent of the purchasers did not visit any stores before purchasing, 56 per cent visited one store before purchasing, 10 per cent visited two stores before purchasing, 10 per cent visited three stores before buying, and 30 per cent visited four stores or more before buying.²⁶

Sampling the purchasers of color television sets from one department store in northwest Texas, Riter found that 52 per cent of his sample (n=92) shopped and purchased at one store and 48 per cent shopped two or more stores. No significant difference was found among income groups and shopping behaviors; however, slightly over 50 per cent of his sample were in the high income category (over \$10,000). In addition, 60 per cent of the respondents purchased on the first visit to the department store. Although the product brand or the availability of the set were considered important to the majority of the respondents, neither factor appeared to be related to the number of stores shopped.²⁷

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Brandt and Day found that for the buyers of household durables store searching activity included 48 per cent of the sample shopping one store, 30 per cent of the sample shopping two or three stores, and 22 per cent of the sample shopping four or more stores. Household durables included major appliances, televisions, furniture, and similar products with a price of \$100 or more.²⁸

Although the above data provided background information on search activity of durable goods shoppers, more specific information would be useful on store searching behaviors for large appliances. Reporting on 366 respondents who had purchased a large household appliance and had verified their store shopping activity, Coolsen found that 40 per cent of the appliance purchasers shopped and bought at only one store, 27 per cent shopped two stores, 20 per cent shopped three stores, and 14 per cent shopped four stores or more (see Table 2-2).²⁹ In addition, most major appliance purchasers (56 per cent) visited the store where the product was purchased only one time. Thirty-six per cent of the purchasers visited the source of supply two times, and 28 per cent visited the store three times or more. Data for types of stores and purchaser visits suggested that shopping behavior varied with the type of retailer where the consumer did her purchasing. Sixty-nine per cent of the purchasers from independent retailers bought on the first visit, 52 per cent of the purchasers

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TABLE 2-2.--Store Shopping Activity.*

Number of Stores Shopped and Identified ^a	Number of Purchasers	Percentage of Purchasers
One Store	145	39.6%
Two Stores	97	26.5
Three Stores	72	19.7
Four Stores	34	9.3
Five Stores	17	4.7
Six Stores	1	0.2
Totals	366	100.0%

*Table adapted from Exhibit 23 in Frank G. Coolson, The Consumer Market for Major Appliances in the Washington, D. C. Metropolitan Area (Washington, D. C.: The American University School of Business Administration Publication Series--Marketing Studies, 1962), p. 60.

^aIncludes the store where the respondent purchased.

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from large volume retailers bought on the first visit, and 36 per cent of the purchasers from kitchen specialists and other retail outlets bought on the first visit (see Table 2-3).³⁰

Dommermuth found that refrigerator purchasers had the highest proportion or 57.6% shopping at more than one store, followed by television purchasers with 41.7%, followed by washing machine purchasers with 37.6%, followed by vacuum cleaner purchasers with 20.6%, and lastly followed by electric iron purchasers with 17.6%. For shopping at more than one retail outlet there was a significant difference between refrigerator purchasers, television set and washing machine purchasers, and vacuum cleaner and electric iron purchasers.³¹

Some evidence suggests that the number of stores visited or the number of brands considered is not related to the amount of time expended in decision making by purchasers of household durables. Newman and Staelin reported on purchasers of household durables and automobiles and the purchase decision time between first considering the product and the actual purchasing of it. The average number of weeks for the decision was 18.0 weeks for the sample (n=639). The authors used the Automatic Interaction Detector program to denote sequentially the major independent variables in the binary analysis which minimize the within group sum of squares and derived as

Number of Visits to
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Wholesale
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Totals

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TABLE 2-3.--Store Visiting Behaviors.¹

Number of Visits to Source of Supply Where Transaction Was Made	Large Volume Retailers	Independent Retailers	Kitchen Specialists and Other Outlets	Totals
One Visit	52.3%	69.0%	35.7%	55.9%
Two Visits	32.1	20.0	35.7	29.1
Three Visits	11.9	8.8	21.4	11.5
Four or More Visits	3.7	2.2	7.2	3.5
Totals	100.0%	100.0%	100.0%	100.0%
Number of Purchases	243	90	14	347

¹Table adapted from Exhibit 24 in Frank G. Coolson, The Consumer Market for Major Appliances in the Washington, D. C. Metropolitan Area (Washington, D. C.: The American University School of Business Administration Public Series--Marketing Studies, 1962), p. 61.

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many as five splits and few as two splits.³² The first split was between satisfied users (14.2 weeks, n=366) and dissatisfied or nonusers (23.2 weeks, n=273). For satisfied users the next split concerned the products purchased with the buyers of monochrome televisions, washing machines, and air conditioners spending 9.2 weeks in decision-making and buyers of cars, stoves, refrigerators, and color televisions using 16.6 weeks in decision-making. For dissatisfied previous owners and nonusers previously, the next major variable was the amount of information seeking with low information seekers taking 14.2 weeks (n=82) for the purchase and high information seekers using 27.0 weeks (n=191) before purchasing.³³ Even though first time purchasers were combined with dissatisfied users, there seems to be some evidence that these buyers would likely be high information seekers and perhaps be more inclined to consider more brands and stores. Questions were asked, however, on the number of brands considered and the number of stores visited, but the results did not indicate either variable being as important as five other variables in one situation and three variables in the other main situations. However, the amount of purchasing experience for white goods and automobiles was inversely related to decision-making time.³⁴

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Product-store shopping activity.--The shopping matrix based on the number of stores shopped and the number of brands shopped was tested by Dommermuth and Bruce and Dommermuth. The first test was on the shopping behaviors associated with specific products, which included refrigerators, television sets, washing machines, vacuum cleaners, and electric irons, and specific brands of a specific product.³⁵ The second study concentrated on social class, defined according to income, and the amount of shopping activity regarding the purchasing of television sets.³⁶

In the first study the general research results were:

1. Even within this relatively homogeneous group of consumers there are variations between purchasers within every product class with respect to the amount of shopping effort expended in the purchasing process.
2. There is not much evidence of consumers who are highly brand loyal but who wish to visit several retail outlets before purchasing the item. In general, where there is shopping effort, it is directed toward a consideration of both brands and outlets.
3. There are differences in the proportions of consumers who are willing to expend shopping effort between the categories of merchandise examined.³⁷

Specific research results on the particular generic products and the shopping behaviors are illuminating.

These results included:

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1. Cell A (one brand and one store shopped) contained the highest proportion of purchasers for each generic product.
2. Considerable variation did appear to exist between the two brands of television sets and consumer product-store search activity.³⁸

The second study researched television sets and income classes. These income classes were median ranges of (1) \$2,009-4,436, (2) \$4,299-5,491, and (3) \$5,009-9,081. The researchers found that the lowest income group had the lowest amount of shopping activity if the one-brand-one store cell were compared to all other cells. The middle income group did the most searching, while the highest income group was between the activity levels of the other two income groups. The authors also concluded, ". . . the social class structure [income classes] (a marketing uncontrollable) in a community may play a crucial role in the determination of brand and store competition in the community."³⁹

In another study on household durable goods the researchers found that store and brand shopping was highly correlated for purchasers for the product combination of brown goods, white goods, and similar products priced at \$100 or more. In addition, 61 per cent of the single store shoppers considered only one brand, 57 per cent of the two-three store shoppers considered two-three brands, and 82 per cent of the four or more store shoppers considered four or more brands.⁴⁰

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Internal Search

Internal search was previously defined according to stored information as total awareness of brands and stores and awareness but unused knowledge of brands and stores. It is the former which has been primarily researched. From the literature there is some support for studying the number of brands known and the rankings of brands known for a generic product.

In an extensive research project on newspaper advertising effectiveness and the introductory stage of the product life cycle for Lestare, a dry bleach, and Chicken Sara Lee, a convenience food item in a boilable bag, Stewart measured the brand awareness of each product over time. Stewart used thirteen independent variables to predict brand awareness. In rank order for predicting Lestare's awareness the number of brands known by free recall was first, the age of the husband and the interviewer were tied for second and third, social status was fourth, and education of husband was fifth. In rank order for predicting Chicken Sara Lee's awareness the subscription to the newspaper which carried the advertisements was first, education of husband was second, interviewer and social status were tied for third and fourth, and number of brands known by free recall was fifth.⁴¹

Further computations on the interaction of the independent variables suggested that the number of brands mentioned

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was most important in predicting the brand awareness of Lestare and the number of brands mentioned was the third most important variable in predicting the awareness of Chicken Sara Lee.⁴²

Hotchkiss and Franken reported on the number of brands known by respondents (n=1000) from schools and companies.⁴³ The brand awareness question was asked on generic products relevant to the sample. The number of known brands tended to vary across generic products and by sex of the respondent for some products, especially the infrequently purchased ones. For example, the percentages of males and females who recalled six or more brands of typewriters were 39 per cent and four per cent respectively. The percentages of males and females who recalled six or more brands of fountain pens were 18 per cent and three per cent respectively (Table 2-4).⁴⁴

Not only is the number of brands or stores known likely important but so could be the position of the named brand or store relative to other brands or stores. Several writers have suggested that brands mentioned first on a brand awareness question would be more favorably liked or more apt to be used by the respondent than brands named second, third, and so forth. Hotchkiss and Franken concluded, ". . . the brands which led in familiarity were also the brands most extensively used."⁴⁵ Of the brands named first, 56 per cent were currently used or had been

TABLE 2-4.--Percentage of Respondents by Sex and Number of Known Brands for Specific Products.¹

Generic Product	Sex	Knew Five or Less Brands ²	Knew Six or More Brands ²	Knew No Brands ²
Soaps	Male	35%	65%	--
	Female	15	85	--
Coffee	Male	85%	11%	4%
	Female	85	10	5
Breakfast Foods	Male	45%	50%	5%
	Female	35	62	3
Typewriters	Male	60%	39%	1%
	Female	95	4	1
Watches	Male	70%	22%	3%
	Female	85	12	3
Fountain Pens	Male	81%	18%	1%
	Female	94	3	3
Hats	Male	82%	14%	4%
	Female	82	12	6

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¹Table was an adaptation of a graph from George Burton Hotchkiss and Richard B. Franken, The Measurement of Advertising Effects (New York: Harper and Brothers Publishers, 1927), p. 31.

²The percentages were approximated.

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used by the respondents. Cohen found that the first mentioned brand by the respondent tended to be the brand usually consumed by the respondent in the two market areas of the study. In one market 78 per cent of the respondents (n=74) named their regular brand first, and in the other market 73 per cent (n=44) mentioned their regular brand first.⁴⁶ In addition, the second mentioned brand tended to be the one that the respondents would switch to if the respondents were to change brands.⁴⁷

Another consideration of brand awareness is its association with market goals of firms. Reporting on awareness and purchasing behaviors, Assael and Wilson found that unaided brand awareness was correlated (r=.35) with product category sales and unaided advertising awareness was also correlated (r=.41) with product category sales.⁴⁸

One possible limitation of studying brand or store awareness is the inconsistency of recall by the same respondents over time. Researching brand awareness of appliances, Day and Pratt found that unaided recall of brands varied considerably over time since 50 per cent of the sample knew more brands in the second interview, 28 per cent of the sample knew less brands, and 22 per cent of the sample knew the same number of brands. The authors concluded that the main variables explaining these differences were the number of brands identified in the

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first interview, the need for shopping information, and the education of the household head.⁴⁹

Another possible limitation to studying brand or store awareness is the apparent general lack of a relationship between factual knowledge and behaviors. Surveying the literature, Haskins chided advertisers who tested consumers on factual recall because he found twenty-six studies that generally showed no relationship or a relationship in the opposite direction between knowledge and attitudes or behaviors. Haskins, however, concluded that knowledge changes may influence attitudes and behaviors, and therefore it needs to be researched relative to the number of brand alternatives being considered by the consumer, the product familiarity of the consumer, the type of individual, the type of information, the source, the credibility of the source, the type of product, and the timing of the decision-making process.⁵⁰

Brand or store awareness is certainly factual recall, however, the research does focus on the number of brands correctly identified. In addition, there appears to be ample reason to extend beyond the more typical approaches on the analysis of the awareness of brands or stores and to research the feasibility of separating markets by all brands or all stores known, known but unused brands or stores, and in combination with shopping

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Summary

The concept of search was discussed in this section of Chapter II. Search activity was separated into external search, the active shopping of brands and/or stores, and internal search, the mental awareness of brands and/or stores.

The conceptual framework for external search was the classification of products and stores by Copeland, Holton, Aspinwall, Miracle, and Bucklin. The empirical research on the external search for brands suggested that external search tends to be limited to three brands or less, to be increased for relatively higher priced products, and to vary by specific products within the general classification of white goods.

The empirical evidence on the external search for stores suggested that external search tends to vary with the type of good (convenience or shopping or speciality), not to be reduced if shoppers had store loyalty, to be limited to three or fewer dealers for automobile purchasers, to be limited to two stores or less for major white goods, and to differ between purchasers of major appliances and color televisions. The number of store visits tends to vary directly with the price of the product, to vary

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by product, and to be limited to one trip only to the source of supply for most purchasers of white goods.

The research on product and store external search suggested that external search tends to vary for different household durables, to be for brands and stores instead of just stores, and to be non-existent for most purchasers of household durables because no comparisons of brand or store alternatives were made. Different brands of televisions tended to have purchaser differences on external search patterns. Middle income purchasers of televisions tended to search brands and stores the most, lower income buyers of televisions tended to search the least, and higher income purchasers tended to search in-between the other relative income groups.

The research on internal search suggested that the number of brands known in a product category tends to be an important variable in predicting the awareness of a brand in at least two cases and to vary according to the sex of the respondent. The brand named first tends to be the brand currently or historically consumed by the respondent.

The Concept of Market Segmentation

In the marketing literature a viable concept for assisting marketing theorizers and practitioners is market segmentation. The genesis of market segmentation was stated in the early 1900's when Shaw stated that the

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marketplace was composed of market contours based upon differences in social and economic attributes of people and the firm needed to analyze the market by strata and to adjust its selling strategies to its contour.⁵¹ This concept of market segmentation was best stated recently by Smith as:

. . . viewing a heterogeneous market (one characterized by divergent demand) as a number of smaller homogeneous markets in response to differing product preferences among important market segments.⁵²

The Conceptual Foundation

The major premise is that people are different. Since people are different, their needs and wants will often be different; thus, one product cannot satisfy everyone's needs well. Although people are dissimilar, they can be classified according to their needs and wants and other characteristics into more homogeneous groups of people. These characteristics are people-oriented attributes, such as demographic, socioeconomic, and behavioral variables. Each group will have different needs and wants than other mutually exclusive groups of people, but some individuals can be classified into different groups at the same time. In addition, the needs and wants of a group may be filled by different products.

The rationale for market segmentation is based on the long-run profitability and survival of the firm in the

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marketplace. The market is viewed as numerous submarkets, and if taken to the logical extreme, each person constitutes a separate market. However, the marketing manager needs to balance the advantages of delimiting the market further and the increased costs incurred from less specialization in production and marketing. Each submarket has its own demand curve; that is, preference schedule for products and services. Because each submarket is different, the firm should tailor its marketing mix to each target market that is deemed potentially profitable to pursue. By accomplishing this task, the firm provides want-satisfiers that will provide greater satisfaction to the particular group of people than if the marketing mix were developed for greater aggregations of people with different demand schedules. If greater satisfaction were true for individual segments, then taken to the extreme, society should also be more satisfied. The firm catering to the target market should gain consumer loyalty to its product offering and should be isolated, partially or fully, from competition until at least another firm more exactly caters to this market's needs and wants. The firm using market segmentation achieves its differential advantage in the marketplace.

In short market segmentation is the process of subdividing a larger market into smaller submarkets, each with its own unique demand preference schedule for

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want-satisfying products. By segmenting the market and catering to one or more target markets through its marketing mix(es), the firm will be attempting to provide satisfaction deeply for a few people instead of superficially for many people.

Markets are continually changing over time and the firm needs to monitor markets for appropriate adjustments in the marketing mix for established products. Two major dimensions--product and consumer--were suggested by Mainer and Slater as often being important for market segmentation. The product dimension included (1) method of distribution, (2) psychological appeals, (3) price, (4) age or model, (5) application or use, and (6) style, type or size. The consumer dimensions included (1) age, (2) income, (3) education, (4) family life-cycle, (5) home ownership, (6) ethnicity, (7) socioeconomic status, (8) consumer experience, (9) frequency of product use, (10) characteristics of the dwelling, and (11) motivations, values or interests.⁵³ The major informational inputs for monitoring the market and relating to the market segments included (1) brand awareness, (2) brand preference, (3) last purchased brand, (4) brand switching, (5) volume and frequency of product purchases, and (6) price paid for the product.⁵⁴

Another approach is to isolate first the product market, such as the product category, subcategory, or

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brand, and to describe secondly the purchasers of the category, subcategory, or brand.⁵⁵ The major dimensions for describing consumers suggested by Sissors, included the physical characteristics of the market, the behavioral characteristics of buyers, and the qualitative characteristics of the market.

The physical characteristics included (1) the size of the market (number of units sold, dollar sales, share of market), (2) the geographic location (sales by kinds of stores, specific locations, city size, county size, and region), and (3) the demographic variables (age, sex, income, education, occupation, marital status, family size, race, and religion). The behavioral characteristics included (1) time of the purchases (day, week, month, and season), (2) reasons for purchasing (utility, motives, major and minor uses), (3) social-psychological classifications (social class, values, introvert or extrovert), (4) purchasing influences (who influences the buying, who buys it, and who uses it), and (5) the buying process (frequency of purchase, amount of purchase, impulse or not). The qualitative characteristics of the market included (1) heavy users, (2) frequent purchasers, (3) intentions to buy, (4) brand loyalty, and (5) favorable attitudes.⁵⁶

By studying the dimensions of the market as a total research study, the best prospects could then be determined; however, the author evidently believed that

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the best segment is the one with the greatest proportion of sales⁵⁷ which is highly misleading since the best segment for a firm could also likely be the one with the least proportion of sales or somewhere between the least and the most because of market gaps whereby groups of consumers are not being satisfied very well. If all firms selling in a product category adopted the author's conclusion on the largest proportion, then instead of being insulated from competition, any one company would be in very direct competition with other firms aiming for the same segment and leaving other potential segments to perhaps an institutional or product innovator from outside the industry.

Similar to Sissors, Brandt argued that the market needed to be defined before market segmentation and useful starting points were the major function of the product, the consumption system (product expectations, the objectives of the user, and any other pertinent characteristics related to use), and the nonmarket for the product.⁵⁸

Barnett condemned the more typical approaches, such as demographics, social structure, usage patterns, as too insensitive in most situations for predicting brand choices and suggested a better approach was product segmentation which was comprised of studying the differences among brands or products;⁵⁹ the concept is really

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preference testing of attributes in disguise under a new label and then developing a product to match the attributes desired by consumers. The concept is not inconsistent with market segmentation, as Barnett proposed, but market segmentation appears to be relevant, indeed, to use in conjunction with preference testing since not all groups of consumers will prefer the same qualities in a product.

Yankelovich believed that market segmentation needed to be implemented on a variety of dimensions other than just demographics to select the best segment. These dimensions included (1) value, (2) susceptibility to change, (3) purpose, (4) aesthetic reasons, (5) attitudes, (6) needs, and (7) self-confidence.⁶⁰ Yankelovich concluded, "These [dimensions] may have no demographic correlatives."⁶¹ In contrast, Ostheimer argued that education, income, and geographical location were important household characteristics for the explanation of consumer behavior.⁶² Stewart echoed the same conclusions plus added age and occupation for the dimensions of market segments.⁶³

Empirical Research

In marketing researchers have applied the market segmentation concept by utilizing a wide variety of independent and dependent variables. The most prevalent group of variables found in the research studies is the socioeconomic and demographic dimension which is most

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frequently used with the behavioral dimension. Researchers have attempted to identify market segments based upon a relatively large number of demographic and socioeconomic variables,^{64,65,66,67,68,69} or relatively few major demographic, socioeconomic, psychological, and/or behavioral variables, such as age,^{70,71,72,73,74} sex,^{75,76,77} occupation^{78,79} race,^{80,81,82,83} income,^{84,85,86,87,88} social class,^{89,90} life-cycle,^{91,92} mobiles,^{93,94,95} attitudes,^{96,97} psychological factors,^{98,99,100,101,102,103,104,105,106} innovativeness,^{107,108,109,110,111} brand or store loyalty,^{112,113,114} in-home shoppers,^{115,116,117} out-of-town shoppers,^{118,119} store shopping behaviors,^{120,121} usage behaviors,^{122,123,124,125,126} price proneness,¹²⁷ private brand proneness,¹²⁸ package size proneness,¹²⁹ and other selected segments, for example, on interstate travelers,¹³⁰ charge account holders,¹³¹ chemical purchasers,^{132,133} and military purchasers.¹³⁴

The empirical results generally indicate that demographic and socioeconomic variables are indeed important independent variables for many products for segmenting markets. In the following discussion emphasis is placed on the contribution of the research as it relates to this study, especially the demographic variables and the purchasing behaviors of consumers for durable goods, such as major appliances and automobiles.

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Haley and Gatty reported on a survey of research tests using attitudinal, behavioral and socioeconomic and demographic variables to describe attitudes toward brands over several product categories. The variables of income, age, education, sex, marital status, and geographical location (city) were found significant in one-third or more of the tests.¹³⁵

For a new detergent entering the market, early buyers were differentiated from late buyers mainly on demographic and socioeconomic variables in the regression analysis even though these variables constituted only sixteen of the fifty-seven variables the authors originally analyzed.¹³⁶

Differences based on socioeconomic and demographic variables were found to exist between the innovator and early adopter of products and between the strategic innovator and functional innovator. If compared to the early adopter, the innovators were older, more concentrated in professional and managerial occupations, more highly educated, more affluent, composed of Jewish, French, and other European ethnic groups in contrast to British, German and Italian ethnic groups of the early adopter, less likely to own a home, but if owned a home then it was more expensive.¹³⁷ The functional innovators in contrast to the strategic innovators were older, more concentrated in professional and managerial occupations, more highly

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educated, more affluent, composed of Jewish, German, and British ethnic groups in contrast to Negro, French, Italian groups of the strategic innovators, more likely to own a home, if owned home then more expensive, and if rented, then higher rent was paid.¹³⁸

In a recent article Bass, Tigert, and Lonsdale stoutly defended the use of socioeconomic characteristics for the objective of market segmentation. The authors believed that socioeconomic variables were unjustly condemned by researchers studying individual variations when the key to market segmentation is group variations. The authors used age of male head, family income, occupation of household head, number of children under 18 years, education of household head, and television viewing by household head to explain usage rates for ten typical products sold in most supermarkets.¹³⁹

The chi square analysis revealed that group behavior was differentiable into segments according to socioeconomic characteristics. The respondents' purchasing amounts were classified significantly by number of children for all ten products, by age and by income for eight products, by education for seven products, by occupation for five products, and by television viewing for four products. The multiple regression analysis revealed low R^2 ranging from .093 for toothpaste usage to .017 for cream shampoo usage.¹⁴⁰ The two-variable regression analysis of education and income for beer purchases showed a $R=.65$.¹⁴¹ A

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main conclusion from the study would be socioeconomic characteristics were valuable for classifying consumers for market segmentation, regardless of the statistical analysis used.

Although the cited research suggested that socioeconomic and demographic variables appear to have payoffs for market segmentation, a few researchers have raised some major doubts on the efficacy of socioeconomic variables and also personality variables concerning loyalty behaviors. Frank, Massy, and Lodahl studied activity variables, brand loyalty variables, and store loyalty variables as the dependent variables and personality variables and demographic and socioeconomic variables as the independent variables. The authors concluded that the independent variables were generally not too helpful in predicting purchasing behavior, but of the two major groups of independent variables the socioeconomic variables were more worthwhile, as judged by the number of significant predictions.¹⁴² After surveying the marketing literature Frank concluded that socioeconomic and personality variables were not very helpful in identifying those consumers who were brand loyal.¹⁴³

The income variable and the social class variable have frequently been used to isolate market segments. These variables have been researched on the potential contribution of each one to explain consumer behavior. In

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two research studies the authors concluded that income classes were still as important or more important than social classes for relating behaviors to independent variables. For example, Slocum and Mathews concluded that social class was not more valuable than income classes for explaining the credit behaviors and attitudes of consumers owning credit cards and that the income variable was still an important variable for the purpose of market segmentation.¹⁴⁴ Myers, Stanton, and Haug also compared the social class variable with the income class variable for purchasers of food and drink products, cosmetics and personal hygiene products, household cleaning products, and pet foods. The authors concluded, "With few exceptions, it is reasonable to conclude that social class is basically inferior to income as a correlate of buying behavior for the consumer packaged goods covered in this study."¹⁴⁵ In another study the social class variable was compared to occupational classes, and the occupation of the household head was a better explanatory variable than social class for innovative behavior.¹⁴⁶

Brand and store shopping behaviors appear to be related to the purchasers income class. Middle income buyers of television sets tend to compare more brands and stores than higher income or lower income purchasers.¹⁴⁷ Blankertz concluded that shopping around at department

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stores was related to income, that is, the greater the family income, the more department stores were shopped. Higher income families also purchased less on the average at any one store if compared to the lower income families.¹⁴⁸ In contrast to the above research, one study found that demographic characteristics were relatively less valuable than other variables in the regression analysis on brand or store search for household durables. The relatively better demographic variables were age, education, and mobility, but the two best independent variables were product price and shopping time.¹⁴⁹

One research combined occupation and income as the independent variable to explain purchasing of automobiles. Peters studied "relative occupational class income" which places the household according to which one-third of the range of incomes they belong in for an occupational class.¹⁵⁰ The author found that the higher-income blue-collar worker was more similar to the higher-income white-collar and professional worker concerning consumer behavior and automobiles than lower-income blue-collar worker. In addition, regardless of occupation, similarities existed within income classes on the ownership of types of automobiles.¹⁵¹

Peters and Ford found for heavy users of cosmetics that the in-home shopper was significantly differentiated

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from the in-store shopper on education with the in-store shopper having more education than the in-home shopper. The in-home shopper also had significantly less access to a car and more children than the in-store shopper.¹⁵²

Long-distance movers were found to have often purchased major appliances, furniture and other household furnishings at their new geographical location and were likely to be above average in potential and actual purchasing power and to engage in product, brand, and store switching.¹⁵³

Concerning the race variable, blacks and whites differed on purchasing behaviors of automobiles when blacks were compared with whites within specific income classes. In the lower and middle income classes, blacks purchased more automobiles in the higher priced class, and in the lower income class blacks bought more higher priced model cars. For lower, middle, and upper income classes, blacks purchased automobiles with a greater number of cylinders.¹⁵⁴ Bauer, Cunningham, and Wortzel concluded that blacks tended to be brand conscious instead of brand loyal. In contrast to whites, blacks demonstrated greater concern, ambivalence, and anxiety when purchasing products.¹⁵⁵

A number of marketing authors have reported on the aged as a potential market segment. Goeldner and Munn reported on the aged segment and showed that a smaller

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proportion of this group purchased automobiles and other durables than other age groups.¹⁵⁶ Reinecke raised a number of doubts on the efficacy of the senior citizens market as a separate segment for most products since these people are mainly purchasers of staples regardless of income.¹⁵⁷ Goldstein concluded that above average expenditure patterns were related to above average income for all age groups; therefore, to determine the significance of this group to marketers the crucial question was whether the older segment would be gaining in income relative to other age groups in the future.¹⁵⁸ However, the 65 years and over group was way below average on the purchasing of household furnishings and transportation for 1950 and 1960-1961 from the Bureau of Labor Statistics data.¹⁵⁹

Attempting to use personality variables for segmenting between Ford car owners and Chevrolet owners, Evans found only one variable-dominance-significant at alpha equal to or less than .05.¹⁶⁰ Relative to personality measures, the Ford and Chevrolet owners were more similar than different;¹⁶¹ hence, these variables did not lead to meaningful segments in this analysis. In a later study Evans demonstrated that automobile shoppers and non-shoppers could be differentiated on personality variables and demographic variables.¹⁶²

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Wiseman used demographic, product attribute, shopping behavior, and usage expectation variables in an attempt to derive market segments based on the type of car purchased (size and price of car) and model year purchased. The six reported segments were (1) new model year, intermediate car buyer, (2) new model year, full-sized lower price buyer, (3) new model year, full-sized higher price buyer, (4) old model year (previous year models when the new models started selling), intermediate buyer, (5) old model year, full-sized lower price buyer, and (6) old model year, full-sized higher price buyer.¹⁶³

The major findings suggested that the market segments were differentiable using the above variables and other descriptive variables. The new model intermediate buyer was characterized by not liking to shop or to look for low prices. The new model full-sized lower price buyer was described by not wanting to keep the new car more than three years and purchasing the recent new car within three years of the last new car bought. The new model full-sized higher price buyer was delineated by considering a large number of cars, visiting more than three dealers, looking for low prices, and being a first-time new car purchaser.¹⁶⁴

The old-model intermediate buyer was characterized as being a first-time new car buyer, being younger, and visiting more than three car dealers. The old-model

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full-sized lower price buyer was described as being in a later stage of the life-cycle, having lower income, and wanting low prices. The old model full-sized higher price buyer was characterized by wanting to keep car for more than three years, having a greater number of children, considering a greater number of cars before purchasing, being more apt to visit more than one dealer, and believing that a large amount of money could be saved through shopping.¹⁶⁵

Summary

The thrust of this section was the discussion on the theoretical frameworks and empirical evidence on market segmentation. Market segmentation was the process of separating a larger market into smaller homogeneous submarkets by the application of people-oriented attributes. Market segmentation was considered a long-run strategy which resulted in satisfying the needs of individual market segments and society and in accomplishing the primary objective of the business firm.

Numerous authors have contributed to the theoretical frameworks of market segmentation. The emphasis has been on what variables should be used for segmenting markets. Mainer and Slater for the consumer dimension emphasized socioeconomic and demographic variables; Ostheimer and Stewart in separate discussions also suggested the

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Marketing researchers have studied a large variety of variables to derive market segments. The more common variables included age, occupation, sex, race, income, psychological factors, innovativeness, loyalty, usage behaviors, and proneness.

Socioeconomic and demographic variables have been used to describe brand attitudes, to differentiate early and late buyers, to distinguish between types of product innovators, and to explain usage rates. Some controversy has existed on the efficacy of demographic variables for market segmentation since Frank, Massy, and Lodahl raised doubts on their value and Bass, Tigert, and Lonsdale defended their use and value. Individual and combinations of demographic variables have been an assistance to the researcher involved in market segmentation. For example, the income variable has proved to be as important as social class for describing users of credit cards and more important than social class for describing consumers behaviors for packaged goods. Income has also shown to be related to the amount of shopping for brands and for stores. Higher income shoppers tended to shop more

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department stores than lower income shoppers; middle income shoppers tended to compare actively more brands and stores than higher income and lower income shoppers.

In-store shoppers had more education, greater access to an automobile, and fewer children than in-home shoppers. Long-distance mobiles were likely to engage in product, brand, and switching. Lower income blacks tended to purchase more expensive cars than their white counterparts; blacks also tended to exhibit greater concern, ambivalence, and anxiety than whites in another study. The oldsters tended to purchase relatively fewer automobiles and other household durables than other age groups. Personality factors did not differentiate between purchasers of different brands of automobiles in one study but did between shoppers and non-shoppers in another study. Market segments based on demographic, socioeconomic, product attributes, shopping behaviors, and usage expectations were found for purchasers of particular types and model year of automobiles.

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CHAPTER III

RESEARCH DESIGN

The purpose of Chapter III is to present a detailed description of the methodology used in this thesis. An in-depth description of the methodological design will enable other marketing researchers to understand better the procedures of the research and to replicate, if warranted, the study.

The general format of Chapter III is organized around several major topics. The topics include (1) the conceptual and operational framework, (2) the telephone survey, (3) the questionnaire, (4) the sample selection, (5) the interview selection, and (6) the data analyzing steps.

The Conceptual and Operational Framework

The purpose of this section is to identify and to define the independent and dependent variables which constitute the framework for this research. The independent variables and dependent variables were carefully chosen on the basis of the previous theory and research discussed in Chapter II with the objective of potential market segmentation.

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Independent Variables

The independent variables were selected characteristics of the head of the household and the household. These independent variables included (1) age of the head of the household, (2) education of the head of the household, (3) annual income of the family, (4) marital status, (5) occupation of the head of the household, (6) home ownership, (7) type of housing, (8) length of stay in the market area, (9) mobility, (10) size of the family, (11) number of recent household durables purchased, and (12) type of purchase (Figure 3-1).

Dependent Variables

The dependent variables were consumer knowledge of the brand and store alternatives and brand and store shopping behaviors. The dependent variables included (1) total brand knowledge, (2) total store knowledge, (3) total brand-store knowledge, (4) unused brand knowledge, (5) unused store knowledge, (6) unused brand-store knowledge, (7) brands shopped, (8) stores shopped, and (9) brand-store shopping (see Figure 3-1).

Operational Definitions

The working definitions for the dependent and independent variables plus related terms are contained in this section. The specific working definitions for the dependent variables are given in Chapter IV.

Independent, Variable
Dependent, Variable

- 1. White Goods
- 2. Laundry Durable
- 3. Automatic Washers

Independent, Variable

- A. Total Knowledge
- 1. Brands

Independent, Variable

- 1. Age of Head of Household
- 2. Education of Head of Household

Generic Products
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Durable Goods

Dependent Variables

- Independent Variables
1. Age of Head of Household
 2. Education of Head of Household
 3. Income of Household
 4. Marital Status
 5. Occupation of Head of Household
 6. Home Ownership
 7. Type of Housing
 8. Length of Stay in Market Area
 9. Mobility
 10. Size of Family
 11. Number of Recent Household Durables Purchased
 12. Type of Purchase

1. White Goods
2. Laundry Durables
3. Automatic Washers
4. Automatic Dryers
5. Refrigerators
6. Cooking Ranges
7. Brown Goods
8. Portable Color Television Sets
9. Console Color Television Sets

A. Total Knowledge

1. Brands
2. Stores
3. Brands-Stores

B. Unused Knowledge

1. Brands
2. Stores
3. Brands-Stores

C. Shopping Behaviors

1. Brands
2. Stores
3. Brands-Stores

Figure 3-1.--The Conceptual Model.

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Total Brand Knowledge: Total brand knowledge will be defined as the total number of brands of a specific household white good or brown good that the respondent can identify unaided. It includes brand purchased, brands shopped, and unused brands known.

Total Store Knowledge: Total store knowledge will be defined as the total number of stores selling a specific household white good or brown good that the respondent can identify unaided. It includes the store purchased from, stores shopped, and unused stores known.

Total Brand-Store Knowledge: Total brand-store knowledge will be defined as the number of brands and numbers of stores that the respondent can identify unaided.

Unused Brand Knowledge: Unused brand knowledge will be defined as the total number of brands of a specific household white good or brown good that the respondent can identify unaided but did not use during shopping and purchasing.

Unused Store Knowledge: Unused store knowledge will be defined as the total number of stores selling a specific household white good or brown good that the respondent can identify unaided but did not use during shopping and purchasing.

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Brands Shopped: Brands shopped will be defined as the total number of brands which were actively considered of a specific household white good or brown good that the respondent can identify unaided.

Stores Shopped: Stores shopped will be defined as the total number of stores which were actively considered for a specific household white good or brown good that the respondent can identify unaided.

Brand-Store Shopping: Brand-store shopping will be defined as the number of brands shopped and the number of stores shopped that the respondent can identify unaided.

Age: Younger household heads will be defined as being thirty-five years old or less, and older household heads will be defined as being over thirty-five years old.

Education: Lesser educated household heads will be defined as completed twelve years or less of school, and more educated household heads will be defined as completed over twelve years of school.

Annual Family Income: Less affluent families will be defined as earning less than \$15,000 a year, and more affluent families will be defined as earning \$15,000 or more a year.

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Marital Status: Marrieds will be defined as the respondent's acknowledgement that he or she is legally married; all other respondents will be classified as single.

Occupation: White collar workers will be defined as household heads engaged in professional or clerical work; all other household heads will be classified as non-white collar workers.

Home Ownership: Home owners will be defined as having or purchasing their home; renters will be defined as non-home owners.

Type of Housing: Single family housing dwellers will be defined as living in one family building units; multi-family housing dwellers will be defined as living in multi-family building units.

Length of Stay in the Market Area: People living a shorter time in the Lansing, Michigan area will be defined as being in the area for six years or less unless noted; people living a longer time in the Lansing, Michigan area will be defined as being in the area more than six years unless noted.

Mobility: Mobiles will be defined as people living two years or less at their current address unless noted; immobiles will be defined as living more than two years at their current address unless noted.

Size of Family: Smaller households will be defined as having one or two members; larger households will be defined as having three or more members.

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Number of Recent Purchases: Single product purchasers will be defined as recently buying one household durable good; multi-product purchasers will be defined as recently purchasing two or more individual white goods or brown goods.

Type of Purchase: A first-time purchaser will be defined as not having previous purchasing experience with the specific product; a replacement purchaser will be defined as buying the specific product to replace a previously purchased one.

Household White Good: A household white good will be defined as an automatic washing machine, an automatic dryer, a refrigerator, or a cooking range (free-standing).

Household Brown Good: A household brown good will be defined as a portable or console color television set.

Store: A store will be defined for the shopping activity as any store's name or adequate description; a store will be defined for store knowledge as any store's name.

Brand: A brand will be defined as the word, words, or other symbols which distinguish one manufacturer's product item or line from another manufacturer's product item or line.

Recent Purchaser: A recent purchaser will be defined as a person who has purchased a new household white good or brown good within the last two years.

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Respondent: A respondent will be defined as the head of the household or the spouse of the head of the household.

The Telephone Survey

Given the nature of the research, it was decided that the most appropriate method to obtain a large enough sample size for the purpose of testing hypotheses was a telephone survey. A telephone survey offers a number of advantages and disadvantages over other research methods, particularly in-home interviews. The most important advantages usually include (1) the ease of obtaining a sample, (2) the lower cost per completed call, (3) the easier task of supervising interviewers, (4) the ability to obtain responses from special groups of people, such as dentists or ophthalmologists, who are difficult to interview by other means, and (5) the opportunity to reach a large portion of the defined population in a short time.

Some of the important disadvantages with this approach include (1) the interviewer's inability to react to the respondent's non-verbal communications, (2) the mistaking by potential respondents of order-getting salesmen with legitimate research, (3) the respondent's apprehensiveness in giving personal information, such as income or education, over the telephone to an unknown outsider, (4) the problem of systematic bias from not reaching a specific segment of the population, even with call-backs, (5) the problem of bias due to the proportion and

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type of the population with unlisted phone numbers, and (6) the problem of invalid responses due to impreciseness of questionnaire wording where the verbal response is the only form of communications received by the interviewer.¹

Although telephone interviewing when compared to personal in-home interviewing contains a number of inherent problems, there is some evidence that the answers can be similar with the methods. In a newspaper readership study telephone-owning respondents were divided into two groups. The first group (n=71) was interviewed on the telephone, and the second group (n=98) was interviewed personally in-home. Each group was then reinterviewed personally in-home. The two interviews allowed the comparisons of the two interviewing methods and comparisons over time on the consistency of responses. The telephone-home group's consistency on the same identified newspapers read as in the previous interview ranged from 93 per cent to 98 per cent with an average of 95 per cent for the seven newspapers. The home-home group's consistency on the answers ranged from 91 per cent to 99 per cent with an average of 95 per cent for the seven newspapers.²

A second study (n=200) on telephone interviews and then a follow-up in-home interview was conducted on newspaper readership. The consistency of responses ranged

from 95.5 per cent to 99.5 per cent and the average was 98 per cent for the seven newspapers.³

The Questionnaire

The major purpose of the questionnaire was to determine knowledge levels and shopping activity of the respondents. The general format of the questionnaire included the introduction, introductory questions, appliance ownership and shopping questions, knowledge questions and demographic questions.

The introduction included the interviewer's name and a brief statement concerning the general product area under study and associated questions. The introductory questions on housing and length of stay in the Lansing area were asked to set the respondent at ease and to obtain answers early during the interview to build quickly a rapport between the interviewer and the interviewee. The appliance ownership, shopping, and knowledge questions were sequenced to obtain the most reliable answers possible. The respondent was first asked questions on current ownership of appliances and color television sets, the brand purchased, the store purchased from, and the year of purchase. If the respondent had purchased one or more of the chosen products within the last two years (i.e., January 1, 1970 or later), the respondent was then asked what brands were shopped for and what stores were shopped at. After these responses the respondent was asked the knowledge questions concerning

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brands and stores (see Appendix A for a copy of the questionnaire).

Pretest of the Questionnaire

During the weeks of November 14, 21, and 28, 1971 the questionnaire was pretested in the Lansing area. The questionnaire was administered over the telephone to respondents. A total of 200 telephone calls were made during the times of 9:30-11:30 in the morning, 1:30-3:30 in the afternoon, and 7:30-8:30 in the evening. The total number of completed interviews were 56 with 16 in the recent purchase group for one or more of the selected products.

At the end of the pretest a discussion with the interviewers suggested changes in the questionnaire's format to facilitate the interviewing process. Very few changes were necessary concerning the wording of the questions. The data were also tabulated to illustrate the possible direction of the responses for the selected variables.

Selection of the Sample

The geographical territory selected for the sample was the nine townships which constitute the general Lansing area. These nine townships were (1) Delhi, (2) Meridian, (3) Windsor, (4) Delta, (5) Watertown, (6) De Witt, (7) Bath, (8) Alledon, and (9) Lansing. These

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townships included the city of Lansing and the towns of East Lansing, Okemos, and Holt.

The source of the sample was the Michigan Bell Telephone Directory which was issued in March, 1971. A systematic sample of 1,353 names was drawn during the latter part of November, 1971 to give an estimated 800 completed interviews. The first telephone number was randomly selected from the first 56 telephone numbers, and then every 56th telephone number was selected. The specific process of selecting names and telephone numbers was through the use of a plastic template fashioned for the purpose of selecting every 56th name, providing it was a residential phone number. If the selected name and number were non-residential, then three names and numbers above and below the original selection were evaluated. If none of these names and numbers were a residential one, then the sample selector took the 56th name and number measuring from the original unused selection.

Selection of the Interviewers and Data Collection

Selection Procedure

The interviewing supervisor and two interviewers were selected on the basis of maturity, previous interviewing experience, pleasant-sounding voices, and proven ability to administer the questionnaire over the telephone. Each interviewer was given detailed instructions to insure accurate recording of the responses to the

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open-ended questions. Each interviewer was tested before actually doing any telephone interviews for the final survey to insure that the interviewer understood completely the instructions and the format of the questionnaire.

Data Collection

The data were collected between November 30, 1971 and January 11, 1972 with mainly callbacks between late December and January 11, 1972. The actual timing of the telephone calls were (1) 9:30-11:30 a.m., (2) 1:30-3:30 p.m., and (3) 7:00-8:30 p.m. If a household could not be reached on the first call, then a schedule of callbacks was developed whereby the calls, eight calls, if needed, were distributed at different times to minimize the problem of poor timing with the first call. If a household were contacted on the first call but the respondent wished not to answer the questions, the interviewer then asked if another time would be more convenient. Often, the respondent was willing to complete the questionnaire at a more opportune time set by appointment.

The total number of households in the potential sample was 1,353. Of this total 1,313 were actually contacted and 897 completed interviews. The total number of recent purchasers was 295. The number of disconnected telephone numbers was 143, the number of new telephone numbers found for the disconnected ones was 40, and the number of new households added was 103. The number of

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non-households reached and the number of new households added was 15, the number of households living outside of market area and the number of new households added was 16, and the number of refusals was 416. Figure 3-2 contains a schematic breakdown of the sample for data collection by the telephone survey method.

During the data collection process the only question with a high number of refusals was the one on income. The refusal rate was 33 per cent of all respondents, recent and non-recent. This figure is somewhat comparable to other available data on income refusals. Skelton found in one study (n=2,507) that 69 per cent of the respondents answered the income question completely, 16 per cent answered it partially, and 15 per cent refused to answer, even partially. According to sex and family relationship, the percentage of respondents answering the income question completely ranged from 45 per cent for adult sons or daughters to 75 per cent for male heads of households. In between the extremes were female heads of households with 62 per cent completion and wives with 65 per cent completion. For refusals to answer, the rate increased as age increased for wives and male heads of households.⁴

Analysis of the Data

Data Preparation

The research data were keypunched on IBM cards and were programmed to produce a frequency count of all

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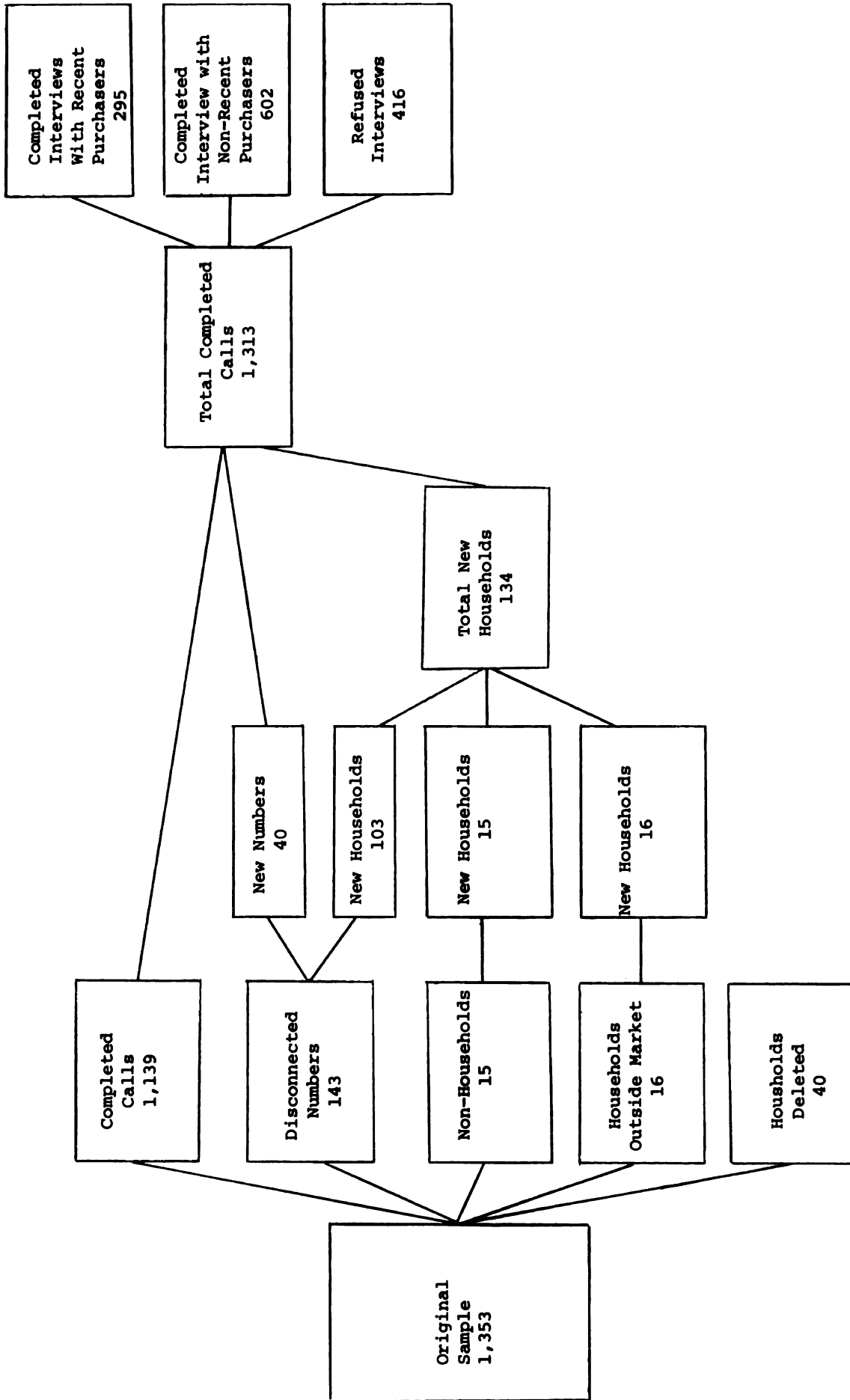


Figure 3-2.--A Schematic Breakdown of the Total Sample.

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respondents for all the variables.⁵ Then, the research data for recent purchasers only were keypunched separately to streamline the computer programs. A computer program was developed to derive the matrices for the dependent variables. After the matrices were obtained the statistical analysis was performed for the purpose of confirming or disconfirming the research hypotheses.⁶

Statistical Analysis

The primary statistical test used in this research was chi square. The chi square test is for finding whether two or more groups are significantly different on various attributes. Chi square analysis was particularly relevant because the research contained a preponderance of nominal level data.

The chi square test includes the following steps. The respondents are categorized into a matrix according to their responses on the independent and dependent variables. The frequencies are summed across for the rows and down for the columns in the matrix. The expected frequencies are then computed for each cell in the matrix. The expected frequency is subtracted from the observed frequency, this difference is squared, and then this value is divided by the expected frequency for each cell. All values in the cells are summed to obtain the chi square statistic (χ^2). The degrees of freedom are determined by the formula $(r-1)(c-1)$ where r refers to the number of rows and c refers to the number of columns in

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the matrix. Given the degrees of freedom, the table of values is checked for the predetermined probability (alpha = .10) for x^2 greater than or equal to the chi square theoretical value. For the alternative hypotheses which do not predict direction a two-tailed test is used; for those hypotheses which do predict direction and the data are in the predicted direction, the one-tailed test is applied. If the chi square statistic is equal to or greater than the theoretical value, then it can be concluded that the null hypothesis of no difference between the groups can be rejected and the alternative hypothesis of a statistical significant difference between the groups can be accepted.⁷

Summary

This chapter focused on the methodology of the research on shopping behaviors and knowledge levels. The nine major dependent variables were (1) total brand knowledge, (2) total store knowledge, (3) total brand-store knowledge, (4) unused brand knowledge, (5) unused store knowledge, (6) unused brand-store knowledge, (7) brands shopped, (8) stores shopped, and (9) brand-store shopping. The twelve main independent variables were (1) age of the head of the household, (2) education of the head of the household, (3) annual income of the family, (4) marital status, (5) occupation of the head of the household, (6) home ownership, (7) type of housing, (8) length of stay in

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the market area, (9) mobility, (10) size of the family, (11) number of recent household durables purchased, and (12) type of purchase. In addition nine independent variables were combined for portions of the analysis.

The research design involved the use of a telephone survey which had several notable advantages and disadvantages over in-home interviews. Some evidence suggests that the responses for telephone surveys and in-home interviews are comparable between methods and consistent over time. The questionnaire was the vehicle to obtain the responses to the questions. The questionnaire was pre-tested by making 200 telephone calls and completing 56 interviews in late November. The final sample of 1,353 names was drawn.

The two interviewers were selected and most of the data were collected during the early and middle part of December. A total of 897 households completed interviews, 416 households refused to answer the questionnaire, and 295 households were classified as recent purchasers.

The data were keypunched and programmed to derive the matrices on shopping behaviors and knowledge by product category. The statistical analysis was then performed to determine if the differences were statistically significant.

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FOOTNOTES--CHAPTER III

¹For further discussion on the use of the telephone survey method, see David J. Luck, Hugh G. Wales, and Donald A. Taylor, Marketing Research (3rd ed., Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1970), pp. 280-281; J. Stevens Stock, "How to Improve Samples Based on Telephone Listings," Journal of Advertising Research, II (September, 1962), 50-51; J. O. Eastlack, Jr. and Henry Assael, "Better Telephone Surveys through Centralized Interviewing," Journal of Advertising Research, VI (March, 1966), 2-7; Robert C. Judd, "Telephone Usage and Survey Research," Journal of Advertising Research, VI (December, 1966), 38-39; and Stanley L. Paine, "Some Advantages of Telephone Surveys," Journal of Marketing Research, XX (January, 1956), 279.

²Don Cahalan, "Measuring Newspaper Readership by Telephone: Two Comparisons with Face-To-Face Interviews," Journal of Advertising Research, I (December, 1960), 4.

³Ibid., pp. 5-6.

⁴Vincent C. Skelton, "Patterns Behind 'Income Refusals,'" Journal of Marketing, XXVII (July, 1963), 39-40.

⁵Appendix B contains a comparison between the total sample data and census data on four demographic characteristics.

⁶The computer facilities at the University of Wisconsin-Oshkosh were used to derive the matrices and to complete the statistical analysis.

⁷Sidney Siegel, Nonparametric Statistics: For the Behavioral Sciences (New York: McGraw-Hill Book Company, Inc., 1956), pp. 104-110.

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CHAPTER IV

PRESENTATION OF EMPIRICAL RESEARCH AND FINDINGS

The primary objective of Chapter IV is the presentation and explication of the empirical data and findings from the research. The major thrust of this chapter will concern the findings on shopping behaviors and knowledge in relation to the independent variables. In addition, general patterns of shopping behaviors and knowledge levels and findings on the efficacy of the demographic and socio-economic variables used in the research will be discussed.

The chapter is organized into five general sections. The first section will present a description of purchasers by product according to shopping behaviors and to knowledge by the application of the matrix approach. The second section will present the empirical evidence for the confirmation or lack of confirmation of the specific hypotheses on the single independent variables and the single dependent variables given in Chapter I. The third section will reveal the empirical evidence for the confirmation or lack of confirmation of the general hypotheses discussed in Chapter I. The fourth section will present the evidence

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on the potential market segments based upon shopping activity and knowledge of brands and stores. The fifth section will review the overall contribution of the demographic variables for the explanation of shopping behavior and knowledge levels.

Descriptions of Shopping Activity and Knowledge

The section is organized into nine subsections with the first three subsections describing shopping behaviors by product for brands, stores, and brands and stores, with the next three subsections describing unused knowledge by product for brands, stores, and brands and stores. This section, as later sections, discuss nine different product categories which need to be clarified at the beginning. For multiple products, such as white goods or laundry durables, only respondents who purchased recently one of these products in the product group are included and all others are excluded. For individual products, such as refrigerators or automatic washers, the single product recent purchaser and the multi-product recent purchaser are combined. This difference does not relate to brown goods, portable color television purchasers and console television purchasers, since no one purchased more than one color television in the last two years.

In this section the matrices combining brands and stores for behaviors and knowledge for purchasers of white

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goods or of brown goods will be presented in this section of Chapter IV, but the other matrices for purchasers included under the nine major product categories will be placed in Appendix C. The tables depicting behaviors and knowledge of buyers of brown goods or white goods will also be presented in this section of Chapter IV, but the remaining tables for the other product categories will be shown in Appendix D.

Brand Shopping Activity

For brown goods only 31.8 per cent of the purchasers were in the one brand considered and purchased cell while 46.2 per cent of the purchasers for brown goods considered three or more brands. In contrast to brown goods' purchasers, the purchasers of white goods tended to be less active brand considers. Over fifty-seven per cent of these purchasers who purchased either a washer, dryer, or refrigerator were in the one brand considered and purchased cell, and 28.4 per cent of the purchasers examined three brands or more.

Since laundry durables (washers and dryers) were a large proportion of total white goods, the purchasers of laundry durables who purchased either a washer or dryer were separated from total white goods on brand shopping activity. There appears to be a tendency for less shopping by these purchasers than for the purchasers of all white

TABLE 4-1. Number and Percentage of Purchases Imported in Brand Shopping Activity by Product.

Product	Number of Brands Considered		% of more		Totals	
	1	2	3	4	No. Per Cent	No. Per Cent

TABLE 4-1.--Number and Percentage of Purchasers Engaging in Brand Shopping Activity by Product.

Product	Number of Brands Considered						Totals					
	1	2	3	4	5 or more							
	No. Per Cent	No. Per Cent	No. Per Cent	No. Per Cent	No. Per Cent	No. Per Cent	No. Per Cent					
Brown Goods	42	31.8	29	22.0	36	27.3	19	14.4	6	4.5	132	100.0
Portable Televisions	26	38.8	12	17.9	17	25.4	9	13.4	3	4.5	67	100.0
Console Televisions	16	24.6	17	26.2	19	29.2	10	15.4	3	4.6	65	100.0
White Goods ^a	57	57.6	14	14.1	16	16.2	7	7.1	5	5.1	99	100.1 ^b
Laundry Durables ^a	37	63.8	11	19.0	9	15.5	--	--	1	1.7	58	100.0
Washers	51	64.6	9	11.4	11	13.9	4	5.1	4	5.1	79	100.1 ^b
Dryers	36	57.1	15	23.8	7	11.1	2	3.2	3	4.8	63	100.0
Refrigerators	35	49.3	8	11.3	13	18.3	10	14.1	5	7.1	71	100.1 ^b
Ranges	20	57.1	11	31.4	3	8.6	--	--	1	2.9	35	100.0

^aFor this product group purchasers are defined as purchasing only one durable good for each product category. In other words, if a respondent purchased two or more products in the product category, then this respondent was deleted.

^bDue to rounding to nearest one-tenth.

BRANDS SPECIFIED:

— Brown Goods

— White Goods

— Portable Televisions

— Console Televisions

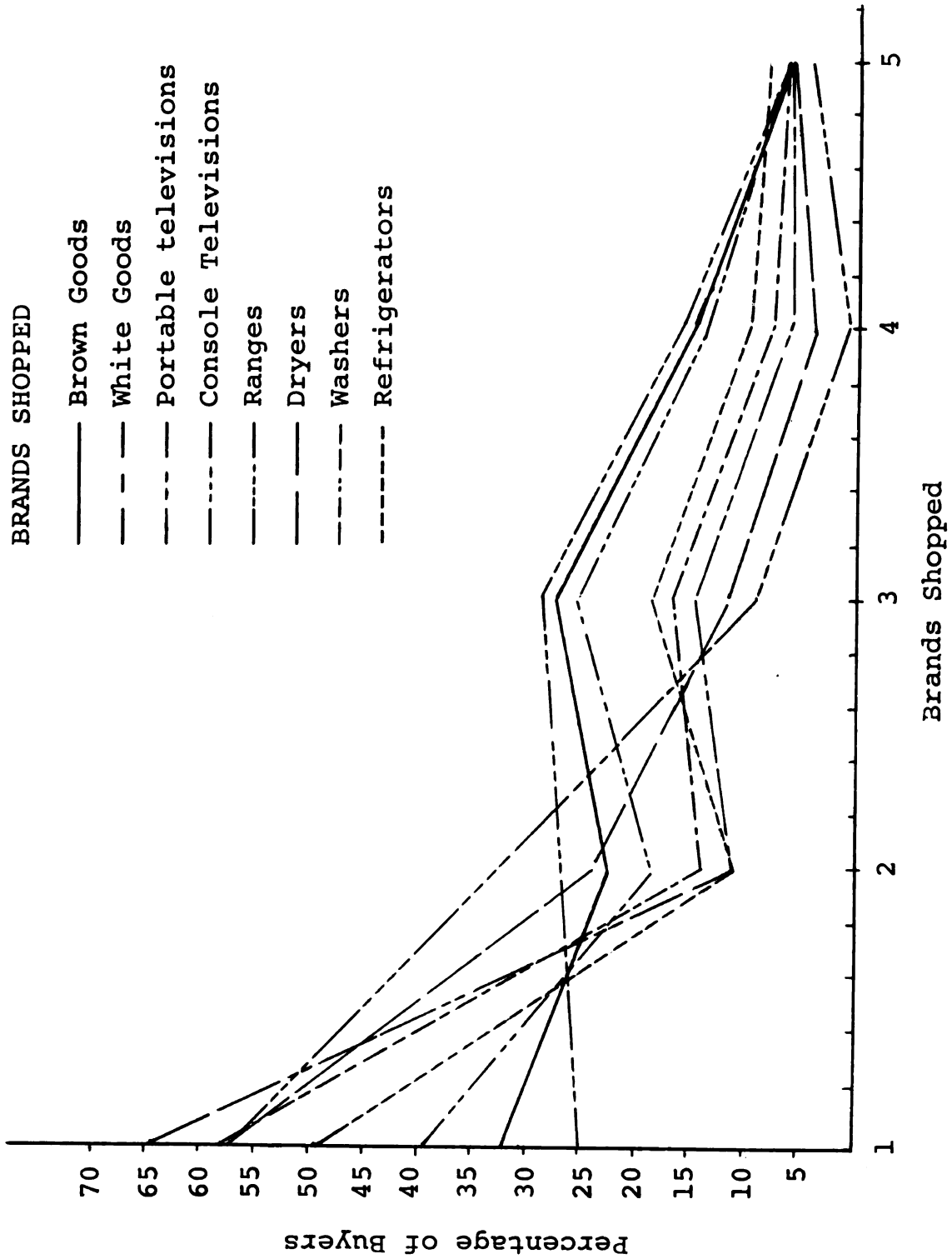


Figure 4-1.--The Percentage of Buyers with the Number of Brands Shopped by Product.

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goods. Over sixty per cent of the laundry durables purchasers were in the one brand considered and purchased cell, and only 17.2 per cent considered three or more brands.

Individual products were also examined concerning brand shopping activity. Considerable variation appears to exist among generic products within the household durables group of products. Although there are slight differences in the one brand considered and purchased cell and in the two brands examined cell, the purchasers of portable color televisions and the purchasers of console color televisions seem to be more similar in their brand shopping behaviors than different. These brand shopping behaviors can be contrasted to the brand shopping behaviors of purchasers of refrigerators, washers, dryers, and ranges. The purchasers of automatic washers appear to engage in less brand comparisons than the other purchasers. At the other extreme refrigerator purchasers appear to do the most brand comparing before purchasing (Table 4-1). A summary graph of the nine product categories and brand shopping behaviors is presented in Figure 4-1.

Store Shopping Activity

Considerable variation again was apparent between the purchasers of brown goods and of white goods. A summary graph for the nine product categories and store shopping activity is presented in Figure 4-2. The purchasers

----- Brown Goods
----- White Goods
----- Portable Televisions
----- Console Televisions
----- Laundry Durables
----- Ranges

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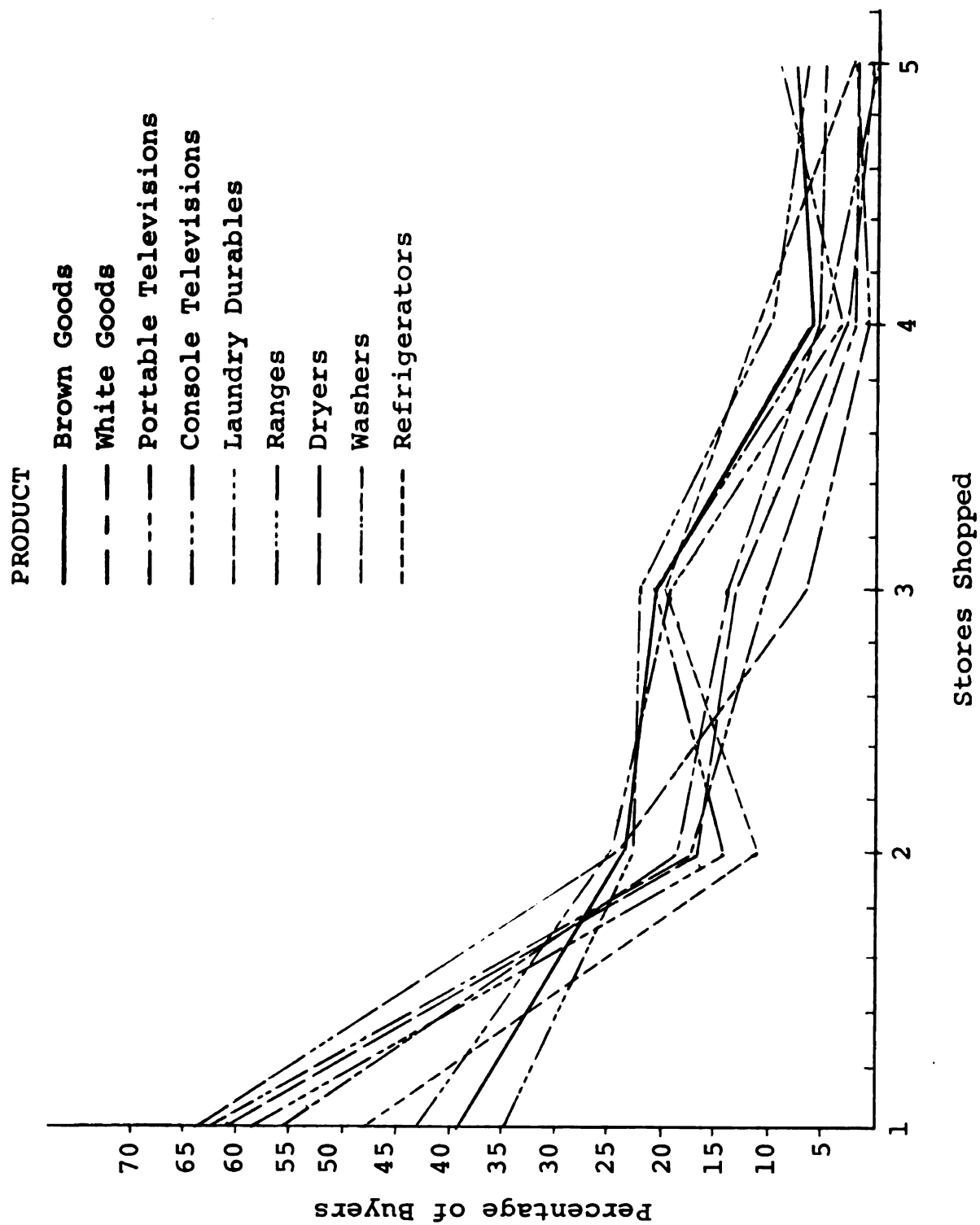


Figure 4-2.--The Percentage of Buyers with the Number of Stores Shopped by Product.

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of brown goods tended to be more active store shoppers than the purchasers of white goods; the percentages of purchasers who considered two or more stores were 60.6 per cent and 44.4 per cent respectively. For the purchasers of laundry durables 63.8 per cent of the purchasers considered and purchased at only one store in comparison to 55.6 per cent of the purchasers who purchased a refrigerator, washer, or dryers.

For individual generic products there were substantial differences in store shopping behaviors dependent upon the product. The purchasers of console color television sets tended to do more active considering of retail stores than the purchasers of portable color television sets. About 65 per cent of the console color television purchasers considered more than one store, and about 58 per cent of the portable color television purchasers were in this category. The purchasers of refrigerators were similar to the purchasers of color televisions on store shopping activity with 47.9 per cent considering and purchasing at one store and 52.1 per cent examining more than one store. The purchasers of automatic washers, dryers, and cooking ranges were quite inactive store shoppers since about 60 per cent of the buyers of each product considered and purchased at only retail store (Table 4-2).

TABLE 4-2. --Number and Percentage of Purchasers Engaging in Store Shopping Activity by Product.

Product	Number of stores considered			Totals		
	No. per Cent	No. per Cent	No. per Cent	5 or more	No. per Cent	No. per Cent
1		2		4		
			3			

Product

TABLE 4-2.--Number and Percentage of Purchasers Engaging in Store Shopping Activity by Product.

Product	Number of Stores Considered					Totals						
	1	2	3	4	5 or more							
	No. Per Cent	No. Per Cent	No. Per Cent	No. Per Cent	No. Per Cent	No. Per Cent						
Brown Goods	52	39.4	32	24.2	28	21.2	9	6.8	11	8.3	132	99.9 ^b
Portable Televisions	29	43.3	17	25.4	13	19.4	2	3.0	6	9.0	67	100.1 ^b
Console Televisions	23	35.4	15	23.1	15	23.1	7	10.8	5	7.7	65	100.1 ^b
White Goods ^a	55	55.6	19	19.2	14	14.1	7	7.1	4	4.0	99	100.0
Laundry Durables ^a	37	63.8	14	24.1	4	6.9	1	1.7	2	3.4	58	99.9 ^b
Washers	50	63.3	14	17.7	9	11.4	3	3.8	3	3.8	79	100.0
Dryers	39	61.9	11	17.5	10	15.9	2	3.2	1	1.6	63	100.1 ^b
Refrigerators	34	47.9	8	11.3	17	23.9	9	12.7	3	4.2	71	100.0
Ranges	20	57.1	5	14.3	8	22.9	2	5.7	--	--	35	100.0

^aFor this product group purchasers are defined as purchasing only one durable good for each product category. In other words, if a respondent purchased two or more products in the product category, then this respondent was deleted.

^bDue to rounding to nearest one-tenth.

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Brand and Store Shopping Activity

The active shopping of brands and stores were combined into matrices to determine if this approach might be helpful to isolate shopping variations. The matrices were developed for combinations of products and individual products.

For white goods slightly over 50 per cent of the purchasers considered and purchased one brand and considered one store. Five per cent of the purchasers compared several brands but did not consider more than one store, and six per cent of the purchasers compared several stores but considered and purchased only one brand. The more active brand and store shopper comprised 48.4 per cent of the buyers (Figure 4-3). For brown goods 27.3 per cent of the purchasers considered and purchased one brand and considered one store. The respective percentages for multi-brand and one store shoppers and for one brand and multi-store shoppers were about 12 per cent and five per cent respectively. About 55 per cent of the buyers of brown goods shopped two or more stores (Figure C-1). From the data it appears that the brown goods buyer tended to be slightly more active in the comparison of brands and stores than the white goods purchaser.

Console television purchasers tended to be slightly more active brand and store shoppers than purchasers of portable television sets. Twenty-two per cent of the

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		Stores					Sums
		1	2	3	4	5 or more	
Brands	5 or more	--	--	1.0	3.0	1.0	5.0
	4	--	1.0	5.1	--	1.0	7.1*
	3	1.0	6.1	5.1	4.0	--	16.2
	2	4.0	8.1	1.0	--	1.0	14.1*
	1	50.6	4.0	2.0	--	1.0	57.6
	Sums	55.6	19.2	14.2	7.0	4.0	100.0% (n=99)

*Due to rounding to nearest one-tenth in each cell.

Figure 4-3.--The Product-Store Shopping Matrix for Purchasers of White Goods

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console television purchasers and 32.8 per cent of the portable television buyers were in the one brand and one store cell. Fourteen per cent of the console television purchasers and 10.5 per cent of the portable television purchasers considered one store but compared two or more brands; the respective percentages for one brand considered and purchased but two or more stores compared were 3.1 per cent and 6.0 per cent. Therefore, 61.6 per cent of console television buyers and 50.7 per cent of portable television buyers compared two or more brands and two or more stores (Figures C-2 and C-3).

For laundry durables considerable less shopping activity is apparent than for white or brown goods in general. Slightly over 60 per cent of the automatic washer or dryer purchasers considered and purchased one brand and considered and purchased at one store. Multi-brand and multi-store shoppers constituted only about 30 per cent of the total. About seven per cent of the shoppers considered more than one brand or more than one store with the other variable's value of one store or one brand respectively (Figure C-4).

Considerable shopping variations were apparent for different white goods. The percentages of purchasers who considered and purchased one brand and considered and purchased at one store were 40.8 per cent of the refrigerator buyers, 48.6 per cent for the range buyers, 58.2 per

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cent of the washer buyers, and 52.4 per cent of the dryer buyers (Figures C-5 to C-8). It appears that purchasers of washers are relatively the least active brand and store shoppers and the purchasers of refrigerators are relatively the most active brand and store shoppers for individual white goods.

Summary

A number of generalizations can be drawn from the data on brand, store, brand and store shopping activity. Brand shopping appeared to be limited for the most part to three brands or less including the brand purchased for most consumers regardless of product category. Considerable variation seemed to exist between the purchasers of white goods and the buyers of brown goods. The purchasers of white goods tended to be relatively inactive brand shoppers with three-fifths of the respondents purchasing a brand without examining any other brands and two-fifths of the purchasers examining at least one brand other than the one bought. The purchasers of brown goods tended to be relatively active brand shoppers since only one-third of these buyers did not consider any brands other than the one purchased but two-thirds of these buyers examined at least one brand other than the one purchased. Considerable variation appeared to exist within the general product category of white goods. The buyers of automatic washers

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tended to be relatively the most brand inactive, the purchasers of refrigerators tend to be relatively the most brand active, and the buyers of dryers and cooking ranges tend to be between the extremes. Finally, considerable similarity on brand shopping activity tended to exist between purchasers of portable color televisions and of console color televisions.

Store shopping tended to be limited to three stores or less regardless of the product category. A substantial difference seemed to exist between buyers of white goods and of brown goods. The purchasers of white goods tended to be relatively less active store shoppers with three-fifths of these people not examining any other store than the one selected for the purchase, and the buyers of brown goods tended to be relatively more active store shoppers since three-fifths of them considered at least one other store before buying at the selected retail outlet. Within the brown goods category the purchasers of console color televisions tended to be slightly more active store shoppers than the buyers of portable color televisions. Within the white goods category, the purchasers of refrigerators appeared to be more similar to the buyers of brown goods on store shopping activity than to the buyers of other white goods who tended to be relatively inactive store shoppers.

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For the dual shopping behaviors of brands and stores a considerable difference appears to be evident between purchasers of white goods and of brown goods. The buyers of white goods tended to be concentrated in the inactive cell with slightly over one-half of these people purchasing a brand at a selected store without considering any other brands or stores. In contrast, the buyers of brown goods tended to be less concentrated in the inactive cell with one-fourth of these people purchasing a brand at a store without further examination. The buyers of brown goods tended to be more apt to shop a number of brands than a number of stores if the corresponding variable's value were limited to one. The buyers of white goods tended to be equally likely to shop a number of brands or a number of stores if the corresponding variable's value were limited to one. Within the category of white goods, the purchasers of refrigerators tended to be the most brand and store active, the buyers of cooking ranges tended to be less brand and store active, and the buyers of automatic washers tended to be the least brand and store active. Within the category of brown goods, the buyers of console color televisions were slightly more brand and store active than the buyers of portable color televisions. Finally, the buyers of individual brown goods tended to exhibit similar behaviors on brand and store shopping, and the purchasers of individual white goods tended to behave similarly on shopping activity.

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Unused Brand Knowledge

A summary exhibit on the nine product categories and unused brand knowledge is shown in Figure 4-4. Brown goods' buyers and white goods' buyers were quite similar in unused brand knowledge with the exception that brown goods' buyers had a slightly less (9.1% compared to 18.4%) in the no known brands category and slightly more (18.2% compared to 10.2%) in the four or more brands known cell.

If brown goods' purchasers were separated into portable and console color television buyers, the distributions of unused brand knowledge tend to be quite similar. The same conclusion is warranted for the purchasers of laundry durables if these buyers were compared to the purchasers of white goods.

For individual white goods, purchasers of refrigerators and washers tended to be distributed similar to a normal curve, peaking at known but unused two brands. The buyers of cooking ranges were distributed decreasingly from zero brands known to four or more brands known but unused; however, the sample size was very small (Table 4-3).

Unused Store Knowledge

Purchasers tended to peak sooner for known but unused stores than for brands. The modal values for purchasers of brown goods or white goods were two brands, but the modal values for these purchasers according to

TABLE 4-3.--Number and Percentage of Purchasers with Unused Brand Knowledge by Product.

Product	Number of Unused Brands Known		4 or more		Totals	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
0						
1						
2						
3						
4 or more						
Totals						

TABLE 4-3.--Number and Percentage of Purchasers with Unused Brand Knowledge by Product.

Product	Number of Unused Brands Known					Totals						
	0	1	2	3	4 or more	No. Per Cent	No. Per Cent					
Brown Goods	12	9.1	31	23.5	41	31.1	24	18.2	24	18.2	132	100.1 ^b
Portable Televisions	7	10.4	14	20.9	22	32.8	12	17.9	12	17.9	67	99.9 ^b
Console Televisions	5	7.7	17	26.2	19	29.2	12	18.5	12	18.5	65	100.1 ^b
White Goods ^a	18	18.4	26	26.5	28	28.6	16	16.3	10	10.2	98	100.0
Laundry Durables ^a	13	23.2	15	26.8	13	23.2	9	16.1	6	10.7	56	100.0
Washers	15	20.3	17	23.0	18	24.3	17	23.0	7	9.5	74	100.1 ^b
Dryers	11	20.4	13	24.1	13	24.1	13	24.1	4	7.4	54	100.1 ^b
Refrigerators	12	17.4	14	20.3	20	29.0	14	20.3	9	13.0	69	100.0
Ranges	10	31.2	9	28.1	5	15.6	4	12.5	4	12.5	32	99.9 ^b

^aFor this product group purchasers are defined as purchasing only one durable good for each product category. In other words, if a respondent purchased two or more products in the product category, then this respondent was deleted.

^bDue to rounding to nearest one-tenth.

PRODUCTS
Brown Goods
White Goods
Portable Televisions
Console Televisions
Laundry Durables
RANGES

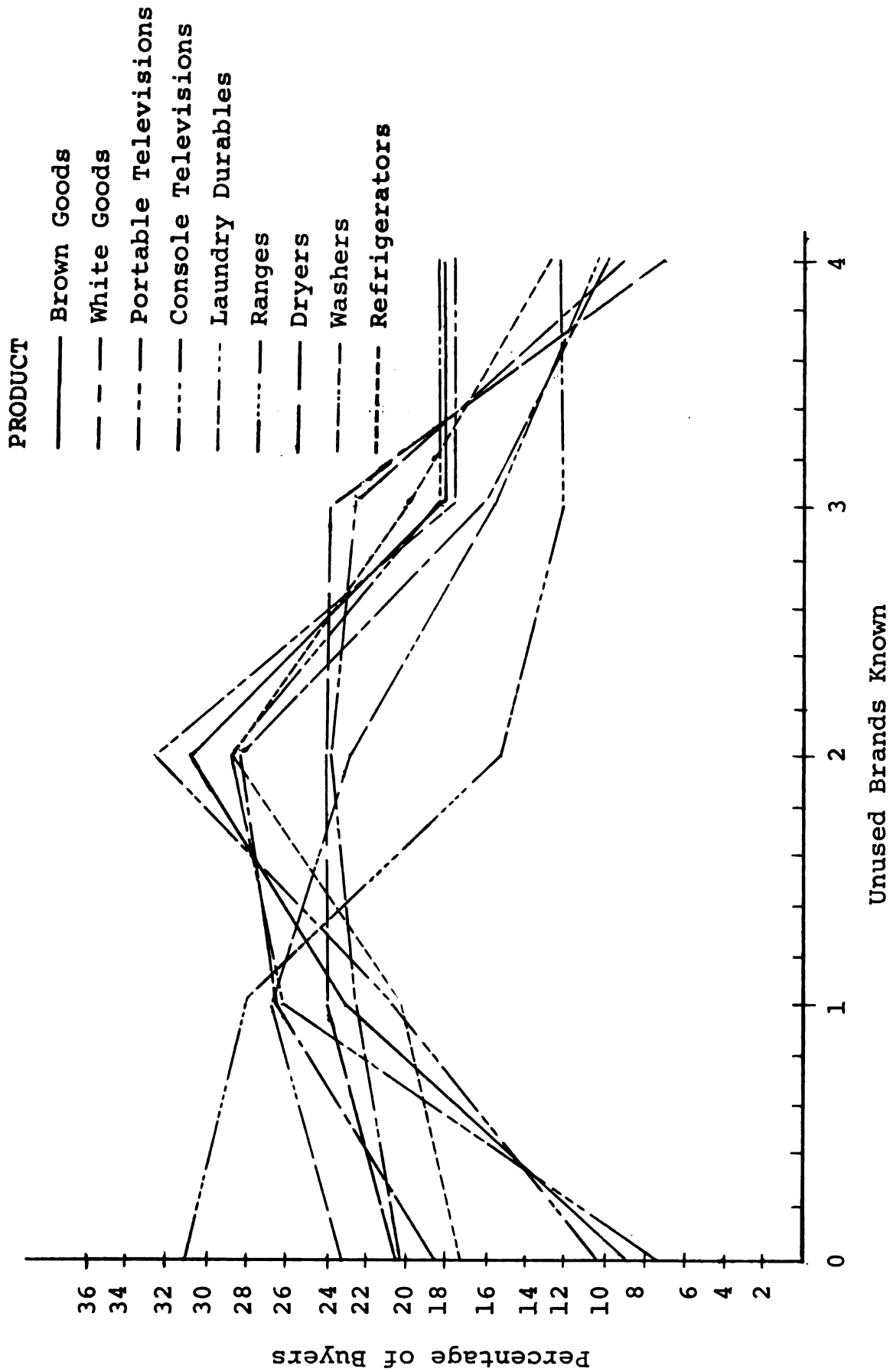


Figure 4-4.--The Percentage of Buyers with the Number of Unused Brands Known by Product.

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number of stores were one store known but unused for brown goods and no stores known and unused for white goods. Purchasers of laundry durables reflected a similar distribution as buyers of white goods in general.

For individual products the purchasers of portable color televisions tended to have a few more respondents at the two extremes of the distribution than the purchasers of console color televisions. For individual products in the white goods category the modal values were no stores known and unused for purchasers of washers, no stores known and unused and two stores known but unused for purchasers of dryers, and one store known but unused for ranges. For all purchasers of these white goods the unused store knowledge tended to be a decreasing function ranging from 24.9 per cent of the buyers with no known and unused stores to 13.1 per cent of the buyers with four or more store alternatives known but unused (Table 4-4). A summary exhibit on the nine product categories and unused store knowledge is shown in Figure 4-5.

Unused Brand and Store Knowledge

Placing the purchasers in a five-by-five matrix according to the dual variable of unused brands and unused stores tended to illustrate the variations of knowledge across products. For brown goods' purchasers tended to be grouped as follows: 8.3 per cent knew four

TABLE 4-4. --Number and Percentage of Purchasers with Unaided Store Knowledge by Product.

Number of Unaided Stores Known	Totals	
	No. of Purchasers	Per Cent
1	2	
2	3	
3 or more		
Totals		

TABLE 4-4.--Number and Percentage of Purchasers with Unused Store Knowledge by Product.

Product	Number of Unused Stores Known					Totals
	0	1	2	3	4 or more	
	No. Per Cent	No. Per Cent	No. Per Cent	No. Per Cent	No. Per Cent	No. Per Cent
Brown Goods	23 17.4	31 23.5	28 21.2	24 18.2	26 19.7	132 100.0
Portable Televisions	13 19.4	15 22.4	14 20.9	9 13.4	16 23.9	67 100.0
Console Televisions	10 15.4	26 24.6	14 21.5	15 23.1	10 15.4	65 100.0
White Goods ^a	27 27.6	18 18.4	21 21.4	19 19.4	13 13.3	98 100.1 ^b
Laundry Durables ^a	14 25.0	12 21.4	11 19.6	11 19.6	8 14.3	56 99.9 ^b
Washers	18 24.3	14 18.9	19 25.7	11 14.9	12 16.2	74 100.0
Dryers	13 24.1	11 20.4	13 24.1	11 20.4	6 11.1	54 100.1 ^b
Refrigerators	21 30.4	14 20.3	14 20.3	13 18.8	7 10.1	69 99.9 ^b
Ranges	5 15.6	15 46.9	2 6.3	5 15.6	5 15.6	32 100.0

^aFor this product group purchasers are defined as purchasing only one durable good for each product category. In other words, if a respondent purchased two or more products in the product category, then this respondent was deleted.

^bDue to rounding to nearest one-tenth.

----- Brown Goods
----- White Goods
----- Portable Televisions
----- Console Televisions
----- Laundry Durables
----- Ranges

50
48
46
44

42

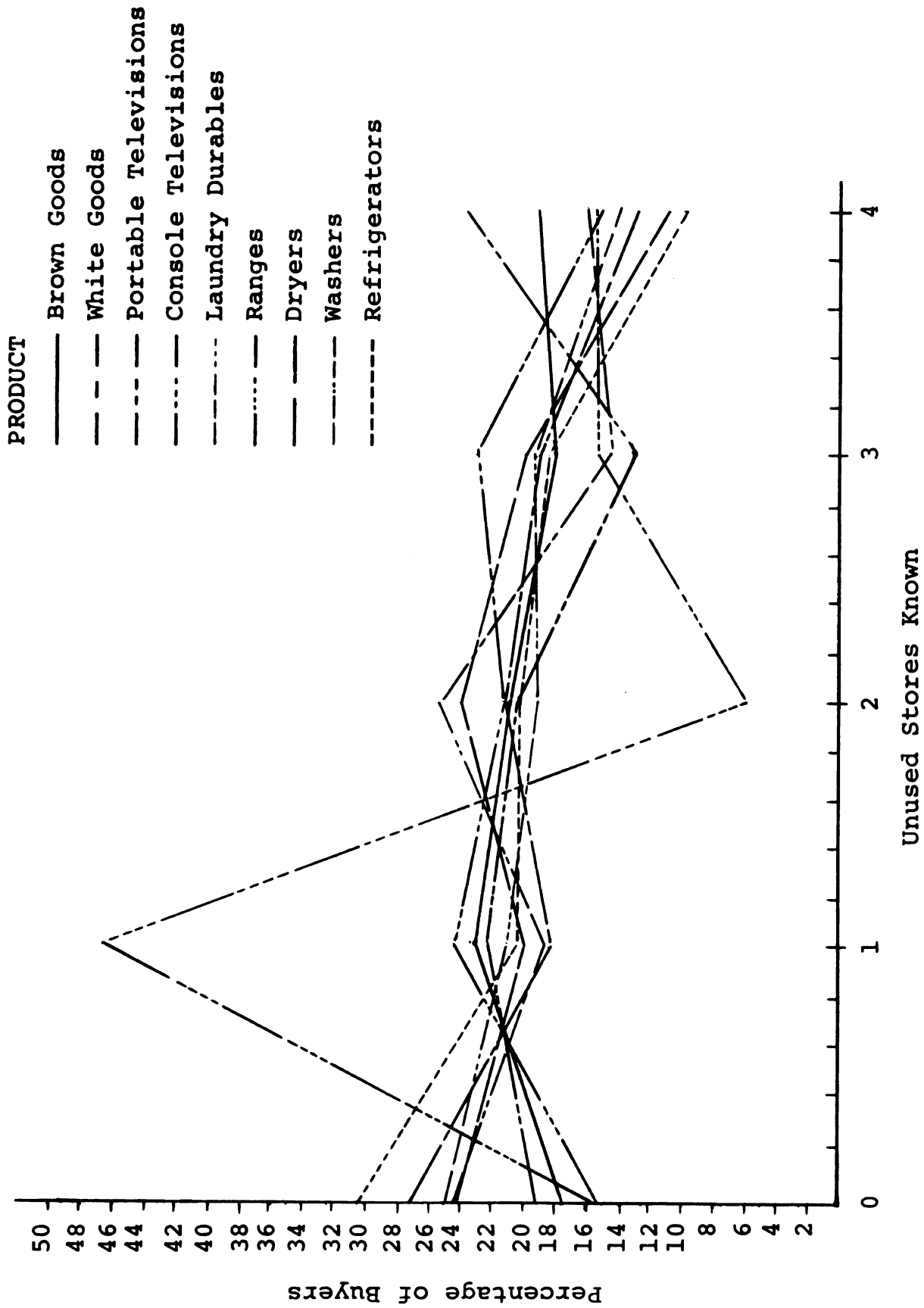


Figure 4-5.--The Percentage of Buyers with the Number of Unused Stores Known by Product.

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or more brands and four or more stores, 8.3 per cent knew two brands and one store, 6.8 per cent knew two brands and two stores, and 6.8 per cent knew one brand and one store (Figure 4-6). In contrast to brown goods' purchasers with a relatively high brand and store unused knowledge, the purchasers of white goods were quite low. These buyers were grouped as follows: 11.2 per cent knew two brands and no stores, 8.2 knew one brand and one store, 7.1 per cent knew one brand and two stores, and 7.1 per cent knew two brands and two stores (Figure C-9).

For laundry durables 10.7 per cent of the purchasers knew no brands and no stores, 14.3 per cent knew one brand or more but no stores, 12.5 per cent knew one store or more but no brands, and the remaining 62.5 per cent knew at least one brand and one store (Figure C-10). For individual white goods 13.0 per cent of the purchasers of refrigerators knew no brands and no stores, 17.3 per cent knew one brand or more and no stores, 4.2 per cent one store or more and no brands, and 64.5 per cent knew at least one brand and one store (Figure C-11). The comparable values for purchasers of cooking ranges were 12.5 per cent, 3.1 per cent, 18.7 per cent, and 65.7 per cent (Figure C-12). The comparable figures for washer purchasers were 12.2 per cent, 12.2 per cent, 8.2 per cent, and 67.4 per cent (Figure C-13), and the figures for dryer purchasers were 13.0 per cent, 11.2 per cent, 7.5 per cent, and 6.8 per

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Figure 4-6.--T
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		Stores					
		0	1	2	3	4 or More	Sums
Brands	4 or more	1.5	2.3	3.0	3.0	8.3	18.1
	3	2.3	4.5	4.5	3.0	3.8	18.1
	2	6.1	8.3	6.8	6.1	3.8	31.1
	1	2.3	6.8	6.1	4.5	3.8	23.5
	0	5.3	1.5	.8	1.5		9.1
	Sums	17.5	23.4	21.2	18.1	19.7	99.9%* (n=132)

*Due to rounding to nearest one-tenth in each cell.

Figure 4-6.--The Product-Store Unused Knowledge Matrix for Purchasers of Brown Goods in Percentages.

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cent (Figure C-14). The general finding from the matrices on individual white goods is the high similarity of unused knowledge patterns across products. The greatest difference occurred for no brands known and one or more stores known for purchasers of cooking ranges if compared to other white goods but this difference could be attributed again to the small number of range purchasers.

The figures for portable color television purchasers were 6.0 per cent knew no brands and no stores, 13.5 per cent knew one brand or more and no stores, 4.5 per cent knew one store or more but no brands, and 76.0 per cent knew at least one brand and one store, and for console color television purchasers the comparable figures were 4.6 per cent, 10.7 per cent, 1.0 per cent, and 81.7 per cent (Figures C-15 and C-16).

Summary

A number of general conclusions can be derived from the data on unused brand, store, brand and store knowledge. The major conclusion on unused brand knowledge tended to be the high degree of similarity in knowledge levels for purchasers across product categories. With the exception of laundry durables and ranges, the purchasers for the other product categories tended to peak at knowing two unused brands. The buyers of white goods tended to be as knowledgeable of unused brands as the purchasers of brown

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goods except a slightly higher proportion of purchasers of brown goods tended to know four or more unused brands and a slightly less proportion tended to know no unused brands. Within the category of brown goods, the purchasers of console color televisions tended to be very similar to the purchasers of portable color televisions on unused brand knowledge. Within the category of white goods, the buyers of individual products varied slightly with purchasers of refrigerators being the most unused brand knowledgeable and the buyers of ranges being the least unused brand knowledgeable.

For unused store knowledge some variation appears to exist between the purchasers of white goods and of brown goods. The buyers of brown goods tended to be more aware of unused store alternatives than the buyers of white goods. The largest proportion of buyers of brown goods tended to know one store, the largest proportion of purchasers of white goods tended to know no store alternatives. Within the category of white goods, considerable variation appeared to exist. The largest proportion of purchasers of refrigerators tended to know no unused store alternatives, the largest proportion of automatic washer purchasers tended to know two unused stores, and the purchasers of ranges and dryers tended to be between these extremes. Within the category of brown goods, slight differences tended to be exhibited between

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purchasers of console televisions and of portable televisions. Comparing modal values, the purchasers of portable color televisions tended to be more knowledgeable on unused store alternatives than the buyers of console televisions.

On unused brand and store knowledge the purchasers of brown goods tended to be more aware of unused brands and stores than the buyers of white goods. Within the product category of brown goods, the distributions on unused brand and store knowledge tended to be similar for purchasers of individual products and approximately 95 per cent of the console television purchasers and 80 per cent of the portable television buyers tended to know at least one unused brand and one unused store. Within the category of white goods, considerable similarity tended to exist between purchasing groups across product categories. About 80 per cent of the purchasers of refrigerators, automatic washers, and dryers tended to know at least one brand and one store, and about 70 per cent of the buyers of cooking ranges tended to have the same knowledge level of unused brands and stores.

Total Brand Knowledge

The total number of brands known, used and unused, by buyers were also compared across products. A summary graph on total brand knowledge is presented in Figure 4-7. The distributions of total brands known ranged from one brand to nine brands or more for brown goods and ranged

----- Brown Goods
----- White Goods
----- Portable Televisions
----- Console Televisions
----- Laundry Durables

36
34
32
30

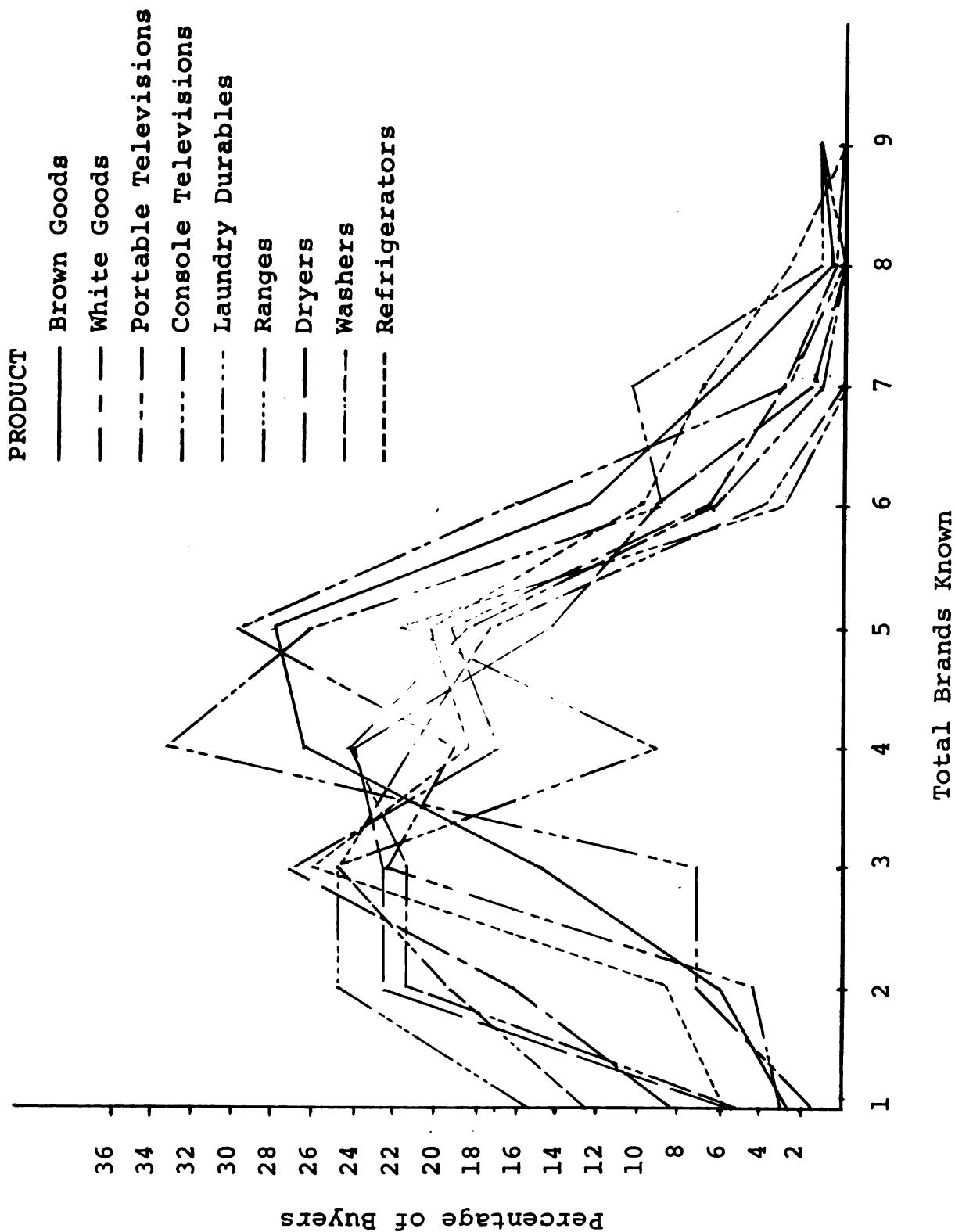


Figure 4-7.--The Percentage of Buyers with the Number of Total Brands Known by Product.

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from one brand to eight brands for white goods. Separating purchasers into brown goods and white goods' buyers showed that purchasers of brown goods tended to be distributed according to a fairly normal distribution peaking at five brands, but purchasers of white goods tended to have a skewed distribution with more than one-fourth of these buyers knowing only three brands.

The purchasers of laundry durables tended to reflect rather closely the distribution of responses for white goods in general. For portable television purchasers 29.4 per cent knew totally three brands or less, 65.7 per cent knew four to six brands, and 4.7 per cent knew seven or more brands. In comparison, the same breaks for console television purchasers were 16.9 per cent, 69.2 per cent, and 13.8 per cent. The distributions tended to reflect greater total brand knowledge for console television purchasers than for portable television purchasers, and greater total brand knowledge for brown goods (totally and separately) than for white goods or just laundry durables.

Separating white goods purchasers by product and including multiple product purchasers revealed a close similarity among purchasers of washers, dryers, and ranges according to total brand knowledge. Refrigerator purchasers tended to be differentiated by having a relatively smaller proportion of these respondents knowing three brands or

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Final Store Knowledge

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less and having a relatively higher proportion knowing seven brands or more than for the other white goods (Table 4-5).

Total Store Knowledge

The distributions of purchasers of brown goods or of white goods according to the total number of stores known tended to be quite similar. The modal values were quite close since the purchasers of white goods peaked at four stores and the purchasers of brown goods peaked at five stores but it was less than one per cent more than for four stores. The distribution of responses by purchasers of laundry durables reflected again the distribution of responses for all white goods.

Although a few more purchasers of console televisions knew seven stores or more than for portable television purchasers, the distributions appeared to be quite similar peaking at four and five stores. For individual white goods the response patterns on total stores known were similar across refrigerators, washers, and dryers, but the pattern for purchasers of cooking ranges tended to show heavier concentrations at two stores or less and six stores or more; however, this tendency could be a result of the small sample size (Table 4-6). A summary graph on total store knowledge on brown goods, white goods, and the remaining seven product categories is presented in Figure 4-8.

TABLE 4-5.--Number and Percentage of Purchasers with Total Brand Knowledge by Product.

Product	Number of Total Brands Known				
	1	2	3	4	5
	No. Per Cent	No. Per Cent	No. Per Cent	No. Per Cent	No. Per Cent
Brown Goods	3 2.3	8 6.1	20 15.2	35 26.5	37 28.0
Portable Televisions	2 3.0	3 4.5	15 22.4	13 19.4	20 29.9
Console Televisions	1 1.5	5 7.7	5 7.7	22 33.8	17 26.2
White Goods ^a	8 8.2	16 16.3	27 27.6	17 17.3	19 19.4
Laundry Durables ^a	7 12.5	11 19.6	14 25.0	12 21.4	10 17.9
Washers	4 5.4	16 21.6	16 21.6	18 24.3	14 18.9
Dryers	3 5.6	12 22.2	12 22.2	13 24.1	8 14.8
Refrigerators	4 5.8	6 8.7	18 26.1	13 18.8	14 20.3
Ranges	5 15.6	8 25.0	8 25.0	3 9.4	7 21.9

^aFor this product group purchasers are defined as purchasing only one durable good for each product category. In other words, if a respondent purchased two or more products in the product category, then this respondent was deleted.

^bDue to rounding to nearest one-tenth.

	6		7		8		9 or more		Totals		
No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
17	12.9	9	6.8	1	.8	2	1.5	132	100.0		
11	16.4	2	3.0	--	--	1	1.5	67	100.1 ^b		
6	9.2	7	10.8	1	1.5	1	1.5	65	99.9 ^b		
7	7.1	3	3.1	1	1.0	--	--	98	100.0		
2	3.6	--	--	--	--	--	--	56	100.0		
5	6.8	1	1.4	--	--	--	--	74	100.0		
5	9.3	1	1.9	--	--	--	--	54	100.1 ^b		
7	10.1	5	7.2	2	2.9	--	--	69	99.9 ^b		
1	3.1	--	--	--	--	--	--	32	100.0		

		7		8		9 or more		Totals	
No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
11	8.3	4	3.0	4	3.0	3	2.3	132	99.9 ^b
7	10.4	--	--	1	1.5	2	3.0	67	100.0
4	6.2	4	6.2	3	4.6	1	1.5	65	100.0
4	4.1	4	4.1	1	1.0	--	--	98	100.1 ^b
2	3.6	1	1.8	--	--	--	--	56	100.0
5	6.8	1	1.4	--	--	--	--	74	100.2 ^b
3	5.6	--	--	--	--	--	--	54	100.0
3	4.3	3	4.3	2	2.9	--	--	69	99.8 ^b
3	9.4	2	6.3	--	--	--	--	32	100.0

PRODUCT
BROWN GOODS
WHITE GOODS
PORTABLE TELEVISIONS

36
34
32

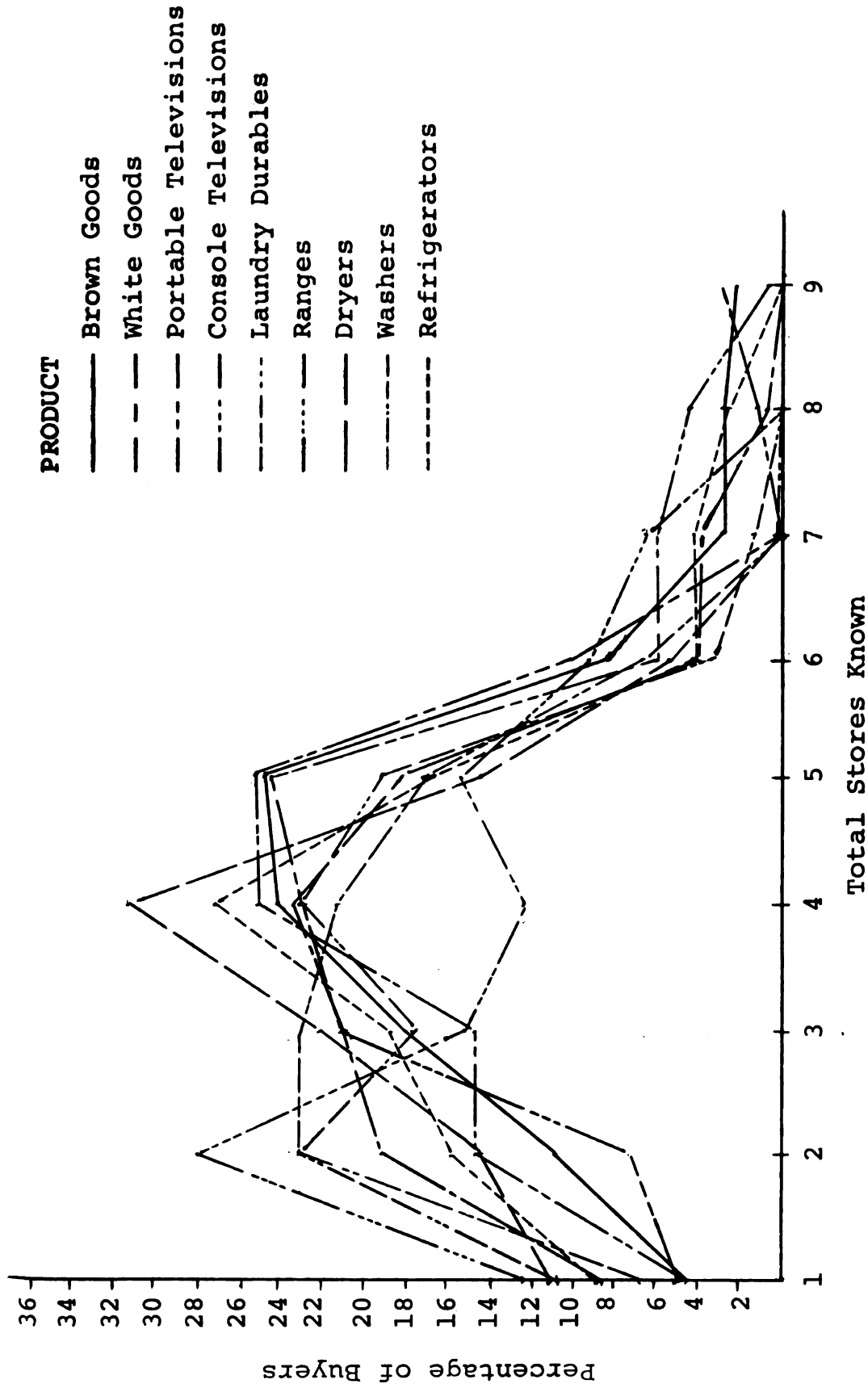


Figure 4-8.--The Percentage of Buyers with the Number of Total Stores Known by Product.

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Total Brand and Store Knowledge

Total brand and store knowledge tended to show slightly greater responses toward the brand side of the matrices relative to the store side if the matrices were divided diagonally in half. The cells with the highest frequencies, however, tended to fall on the diagonal with equal number of brands and stores known. This last generalization held true for all product groups except for slight deviations for purchasers of refrigerators, washers, and console televisions. To illustrate, the highest percentage (10.2) of purchasers for white goods was in the three brands and three stores known cell (Figure 4-9) and for laundry products the highest percentage (8.9) was positioned in three cells--three brands and three stores cell, four brands and four stores cell, and four brands and five stores cell (Figure C-17).

The highest percentage (9.1) of purchasers for brown goods was in the four brands and four stores known (Figure C-18). For portable television purchasers the highest percentage of respondents was in the four brands and four stores known cell, but for console television purchasers the highest percentage was in the four brands and five stores known (Figures C-19 and C-20). For refrigerators the highest percentage of purchasers was found in the five brands and four stores cell (Figure C-21), for washers the highest percentage was found in the four

	1	2
100	--	--
90	--	--
80	--	--
70	--	--
60	--	2.0
50	1.0	2.0
40	3.1	7.1
30	2.0	4.1
20	2.0	4.1
10	8.1	19.1

due to rounding

Figure 4-9.--The
of

	Stores									Sums
	1	2	3	4	5	6	7	8	9 or more	
9 or more	--	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	1.0	--	--	--	1.0
7	--	--	1.0	1.0	--	--	--	1.0	--	3.0
6	--	--	3.1	1.0	2.0	1.0	--	--	--	7.1
5	--	2.0	1.0	7.1	8.2	1.0	--	--	--	19.3
Brands 4	1.0	2.0	2.0	5.1	5.1	1.0	1.0	--	--	17.2
3	3.1	7.1	10.2	5.1	1.0	--	1.0	--	--	27.5
2	2.0	4.1	4.1	2.0	2.0	--	2.0	--	--	16.2
1	2.0	4.1	--	2.0	--	--	--	--	--	8.1
Sums	8.1	19.3	21.4	23.3	18.3	4.0	4.0	1.0	--	99.4%* (n=98)

*Due to rounding to nearest one-tenth in each cell.

Figure 4-9.--The Product-Store Total Knowledge Matrix for Purchasers of White Goods in Percentages.

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brands and five stores known cell (Figure C-22), for dryers highest percentage was located in the four brands and four stores known cell (Figure C-23) and for cooking ranges the highest percentage was positioned in the two brands and two stores known cell (Figure C-24).

Another approach was to divide the matrices into two major subparts to isolate the percentage of purchasers who were high or low total brand and store knowers. If the separation were four brands and four stores known or less (low knowers) and five brands or five stores known or more (high knowers) as illustrated in Figure 4-10, the results were as follows: (1) for brown goods 31.3 per cent were low knowers and 68.7 per cent were high knowers; (2) for white goods 55.8 per cent were low knowers and 44.2 per cent were high knowers; and (3) for laundry durables 64.3 per cent were low knowers and 35.7 per cent were high knowers. The comparable figures for individual product purchasers were: (1) for portable color televisions 34.4 per cent were low knowers and 65.6 per cent were high knowers, (2) for console color televisions 27.6 per cent were low knowers and 72.4 per cent were high knowers, (3) for refrigerators 47.5 per cent were low knowers and 52.5 per cent were high knowers, (4) for washers 48.8 per cent were low knowers and 51.2 per cent were high knowers, (5) for dryers 63.2 per cent were low knowers and 36.8 per cent were high knowers, and (6) for cooking ranges 62.7 were low knowers and 37.3 per cent were high knowers.

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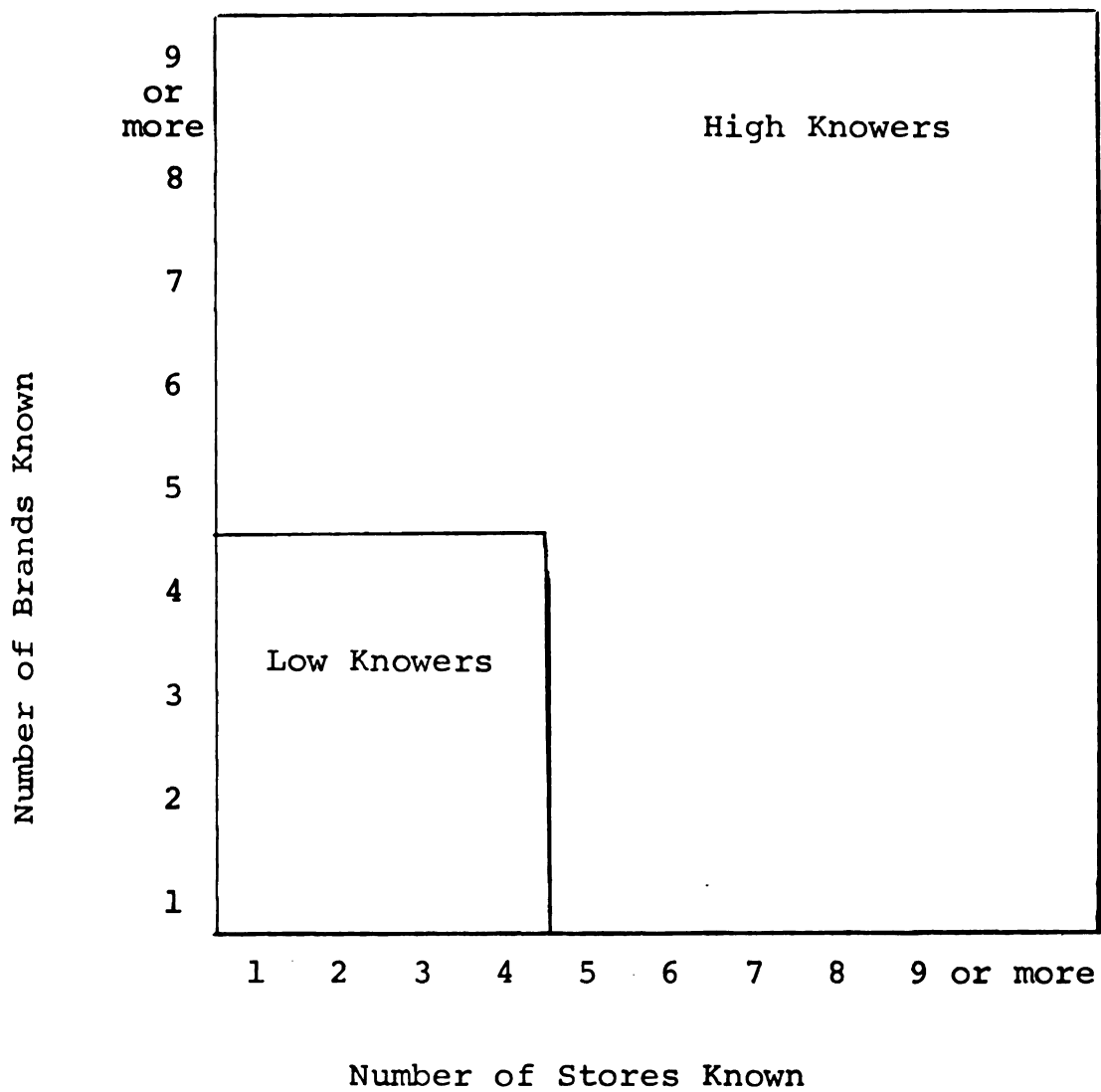


Figure 4-10.--The Separation of Purchasers Into High and Low Knowers for Total Brands and Stores.

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Summary

Purchasers demonstrated differences in total knowledge of brands, stores, brands and stores by product type. Concerning total brand knowledge, purchasers of white goods tended to be differentiated according to a skewed distribution with one-fourth of the purchasers knowing three brands only and one-half of them knowing three brands or less for white goods, and buyers of brown goods tended to be distributed according to a near normal distribution with slightly over one-half of the buyers knowing four or five brands for brown goods. For individual brown goods the buyers of console color televisions tended to be more knowledgeable on total brand alternatives than the purchasers of portable color televisions. For individual white goods the purchasers of refrigerators tended to demonstrate the greatest total brand knowledge and the buyers of cooking ranges tended to reflect the least total brand knowledge.

On total store knowledge a close conformity on response patterns tended to exist for purchasers regardless of the product groups or individual products. The distributions between buyers of brown goods and of white goods tended to show total store knowledge peaked at five stores and four stores, respectively, with slightly higher proportion of brown goods' buyers knowing seven or more stores. Within brown goods this difference tended to be concentrated within

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the console color television category. For individual white goods total store knowledge tended hardly to vary across products.

On total brand and store knowledge the major conclusion from the data tended to be the congruency of responses for brands and stores, that is, the association between the total number of brands known and the total number of stores known appeared to be high. The purchasers of brown goods tended to be relatively high knowers of total brands and stores in contrast to the purchasers of white goods who tended to be relatively low knowers. Within brown goods the purchasers tended to exhibit similar proportions on total brand and store knowledge. Within white goods the purchasers of refrigerators and automatic washers based on proportions tended to be more knowledgeable than the buyers of dryers and cooking ranges.

Specific Hypotheses and Demographic Variables
and the Shopping Behaviors and
Knowledge of Purchasers

This section is organized into three major parts consisting of shopping activity, unused knowledge, and total knowledge. Each of the parts is further separated according to the independent variables analyzed in the research. The research hypothesis and findings pertinent to each category will be reported.

For this section a total of 648 statistical tables was scrutinized for the purpose of determining the

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confirmation or lack of confirmation of the specific hypotheses on brands and on stores. The large number of the tables was a result of analyzing twelve independent variables with six dependent variables across nine product categories. All the statistical tests were one-tailed, unless noted, and a confidence level of .10 was considered significant, but individual confidence levels better than .10 are reported in the tables. Only the tables with a confidence level of .10 or less numerically are reported. The significant tables for the independent variable--home ownership--will be presented for each dependent variable in the section, and the other tables with significant relationships will be shown in Appendix D.

Shopping Activity

Home Ownership.--The hypothesis states: Home owners will do relatively less shopping for brands (stores) than non-home owners. The data confirmed this hypothesis on brand shopping activity for purchasers of brown goods and portable color televisions. The active brand shoppers for these products were purchasers who did not own their own homes (Tables 4-7 and 4-8). The purchasers of portable color televisions showed a particularly strong relationship between shopping activity and renting. None of the other product categories showed significance in the predicted direction or a significant relationship in the opposite

TABLE 4-7.-

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TABLE 4-7.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Home Ownership for Brown Goods.

Brand Shopping Activity*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	56	57.1	16	44.4	72	53.7
Actives	42	42.9	20	55.6	62	46.3
Total	98	100.0	36	100.0	134	100.0

*Significant at the .10 level of confidence

TABLE 4-8.--Numbers and Percentages of Purchasers According To Brand Shopping Activity and Home Ownership for Portable Televisions.

Brand Shopping Activity*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	28	65.1	9	37.5	37	55.2
Actives	15	34.9	15	62.5	30	44.8
Total	43	100.0	24	100.0	67	100.0

*Significant at the .025 level of confidence.

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direction. The data did not confirm the hypothesis on store shopping activity. None of the relationships were significant for the purchasers of household durables.

Type of Housing.--The hypothesis reads: One-family home dwellers will do relatively less shopping for brands (stores) than the multi-family building dweller. The data confirmed the hypothesis on brand shopping activity for buyers of brown goods and portable color televisions (Tables D-1 and D-2). The relationships were highly significant in each case since about two-thirds of the purchasers living in multi-family buildings were active brand shoppers and about two-thirds of the purchasers living in single-family homes were inactive brand shoppers. None of the buyers for the other product categories showed a significant relationship in the predicted direction.

The data confirmed the hypothesis on store shopping activity for purchasers of portable color televisions (Table D-3). The more active shoppers for these products tended to be the ones living in multi-family buildings; however, in each case more purchasers were inactive store shoppers than active store shoppers. None of the other purchasers showed a significant relationship between store shopping activity and type of housing.

Mobility.--The hypothesis on mobility and brand shopping asserts: Mobiles will do relatively greater shopping for brands than non-mobiles. The data confirmed

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the hypothesis for purchasers of brown goods and portable color television sets (Tables D-4 and D-5). The more active shoppers for these products were the people who had changed addresses within the last two years. This independent variable was the first one to show a significant relationship between purchasers of white goods and brand shopping activity, but the relationship was in the opposite direction as hypothesized (Table D-6). In addition, refrigerator purchasers were also in the opposite direction predicted by the hypothesis with the immobiles being much more active brand shoppers than the mobiles (Table D-7).

The hypothesis on mobility and store shopping asserts: Mobiles will do relatively less shopping for stores than non-mobiles. The data confirmed the store activity hypothesis only for purchasers of automatic washers (Table D-8). In this case over 90 per cent of the mobiles were inactive store shoppers while 75 per cent of the immobiles were inactive store shoppers. Therefore, the active store shoppers were very few in general but in the predicted direction.

Length of Stay in the Market Area.--The hypothesis contends: Families living a shorter time in the market area will do relatively greater shopping for brands (stores) than families living a longer time in the market.

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categories showed a significant relationship. For store shopping activity the purchasers of white goods in general and refrigerators in specific (Tables D-9 and D-10) were differentiated on this independent variable. The purchasers of these products tended to be generally inactive store shoppers, but the more active shoppers were ones living in the market six years or less. None of the other purchasers for the product categories had meaningful relationships.

Marital Status.--The specific hypothesis maintains: Marrieds will do relatively greater shopping for brands (stores) than non-marrieds. The data on refrigerator purchasers confirmed this hypothesis on brand shopping (Table D-11), but the data on portable television purchases suggested that the relationship is in the opposite direction, at least, for this product (Table D-12). For store shopping activity the marrieds purchasing refrigerators tended to be the more active shopper than the non-marrieds (Table D-13). The buyers for the other product categories did not show a significant relationship between marital status and shopping activity.

Household Size.--The hypothesis submits: Larger families will do relatively greater shopping for brands (stores) than smaller families. The data were quite mixed concerning the relationship between household size and brand shopping activity. The larger households were more

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active brand shoppers for console color televisions than the smaller households (Table D-14), but the smaller households were more active brand shoppers for portable color televisions and for dryers than the larger households (Tables D-15 and D-16). A difference among products, however, can be as revealing or more so than if the purchasers for the different products were all related in the same direction.

For store shopping activity the hypothesis was confirmed for purchasers of console color televisions. The larger households were indeed more active store shoppers than the smaller households (Table D-17). The other purchaser--product relationships were not meaningful according to the criterion.

Age.--The hypothesis states: Families with younger household heads will do relatively greater shopping for brands (stores) than families with older heads of the household.

The age variable was not particularly useful to present differences among brand and store shoppers. The hypothesis was not confirmed by any of the purchasers of household durables for brand shopping activity, and the hypothesis was confirmed only for purchasers of cooking ranges for store shopping activity. The younger shoppers tended to be more active store shoppers for this product than the older shoppers (Table D-18).

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Occupation.--The hypothesis reads: Families with the household head engaged in professional or clerical occupations will do relatively greater shopping for brands (stores) than families with household head not engaged in professional or clerical occupations.

The data confirmed the hypothesis on brand shopping for buyers of brown goods in general and console televisions in particular. The white collar workers (professional and clerical) were more active brand shoppers than ones not engaged in these occupations for these products (Tables D-19 and D-20). The data did not confirm the hypothesis on store shopping activity by buyers for household durables.

Education.--The hypothesis asserts: Families with the head of the household having more than 12 years of school will do relatively greater shopping for brands (stores) than families with the household head having 12 years or less of education. The independent variable--education--was not related either to brand shopping activity or to store shopping activity for buyers of household durables.

Annual Family Income.--The hypothesis contends: Families with annual incomes less than \$15,000 will do relatively greater shopping for brands (stores) than families with annual incomes of \$15,000 or more. Annual family income and shopping activity was related in one instance. The relationship was in the opposite direction

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than the prediction of the hypothesis. The more affluent purchasers of refrigerators tended to be more active brand shoppers than the less affluent (Table D-21). The income variable as some other more traditionally researched independent variables did not lead to substantial findings on behaviors of household durables' buyers.

Recent Purchases.--The hypothesis asserts: Families purchasing recently more than one durable good will do relatively greater shopping for brands (stores) than families purchasing recently one durable good.

The data on the purchasers of dryers were the most confirming. Multi-product purchasers were the more active shoppers compared to single-product purchasers for brands and for stores for dryers (Tables D-22 and D-23). However, in both relationships the majority of purchasers were inactive shoppers.

Type of Purchase.--The hypothesis maintains: Families purchasing the household durable good for the first time will do relatively greater shopping for brands (stores) than families purchasing the product as a replacement. The data confirmed the hypothesis on brand shopping activity for laundry durables; the first-time purchaser tended to be a more active brand shopper than the replacement purchaser (Table D-24). None of the buyers for other household durables were significantly related to brand shopping behaviors for household durables at the acceptable confidence level.

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The data confirmed the hypothesis on store shopping activity for buyers of white goods, laundry durables, and cooking ranges. The first-time purchaser tended to be the more active store shopper when compared to the replacement purchaser (Tables D-25, D-26, and D-27). The relationship appeared to be most significant for the purchasers of white goods and cooking ranges.

Summary

The main independent variables describing brand shopping activity tended to be mobility with four significant relationships and size of household with three significant relationships. Mobiles tended to be active brand shoppers of brown goods and portable color televisions; immobiles tended to be active brand shoppers of white goods and refrigerators. Smaller households tended to be active brand shoppers of portable televisions and dryers; larger households tended to be active brand shoppers of console color televisions.

The independent variables describing store shopping activity best tended to be first-time or replacement purchase with three significant relationships and length of time in the market area with two significant relationships. First-time purchasers tended to be active store shoppers for white goods, laundry durables, and cooking ranges. Purchasers living a shorter time in the market area tended to be active store shoppers for white goods and refrigerators.

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Unused Knowledge

Home Ownership.--The hypothesis states: Home owners will have relatively less unused knowledge of brands (stores) than non-home owners. The empirical data on unused brand knowledge tended to suggest that the relationship is in the opposite direction from the hypothesis at least for purchasers of brown goods and portable color televisions. The high knowers of unused brands tended to be the people who owned their homes (Tables 4-9 and 4-10). The purchasers of automatic washers were differentiated according to the direction suggested by the hypothesis, (Table 4-11), but these purchasers were the only other ones presenting a significant relationship on the home ownership variable and unused brand knowledge.

For unused store knowledge and home ownership the results were also in the opposite direction from the hypothesis. Home owners purchasing brown goods in general and portable color televisions in specific tended to be the high knowers of unused store knowledge (Tables 4-12 and 4-13). There is evidently an inverse relationship opposite from the hypothesis concerning the purchasing of portable televisions and perhaps the purchasing of brown goods. This latter product category included the purchasers of console televisions who made up one-half of the high knowers for home owners and four-sevenths of the

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TABLE 4-9.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Home Ownership for Brown Goods.

Unused Brand Knowledge*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	29	28.2	17	45.9	46	32.9
High Knowers	74	71.8	20	54.1	94	67.1
Total	103	100.0	37	100.0	140	100.0

* Significant at the .05 level of confidence with a two-tailed test.

TABLE 4-10.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Home Ownership for Portable Televisions.

Unused Brand Knowledge*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	11	22.9	12	48.0	23	31.5
High Knowers	37	77.1	13	52.0	50	68.5
Total	48	100.0	25	100.0	73	100.0

* Significant at the .05 level of confidence with a two-tailed test.

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Grouped Brand Knowledge*	No.
Low Knowers	32
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Low Knowers	3
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TABLE 4-11.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Home Ownership for Washers.

Unused Brand Knowledge*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	32	48.5	3	25.0	35	44.9
High Knowers	34	51.5	9	75.0	43	55.1
Total	66	100.0	12	100.0	78	100.0

* Significant at the .10 level of confidence.

TABLE 4-12.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Home Ownership for Brown Goods.

Unused Store Knowledge*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	36	35.3	21	56.8	57	41.0
High Knowers	66	64.7	16	43.2	82	59.0
Total	102	100.0	37	100.0	139	100.0

* Significant at the .05 level of confidence with a two-tailed test.

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TABLE 4-13.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Home Ownership for Portable Televisions.

Unused Store Knowledge*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	15	31.3	16	64.0	31	42.5
High Knowers	33	68.7	9	36.0	42	57.5
Total	48	100.0	25	100.0	73	100.0

* Significant at the .01 level of confidence with a two-tailed test.

low knowers for home owners with the remaining proportions composed of portable television buyers.

Type of Housing.--The hypothesis reads: Single-family home dwellers will have relatively less unused knowledge of brands (stores) than the multi-family building dweller. For unused brand knowledge the only significant relationship was for purchasers of dryers. The multi-family building purchasers tended to be the high knowers of unused brands if compared to the purchasers of dryers residing in single-family housing (Table D-28). For unused store knowledge the high knowers of unused stores were again the purchasers of dryers who resided in multi-family housing (Table D-29). This relationship was in direct opposition to the significant findings on purchasers of brown goods

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and portable color televisions. These product purchasers who were higher on unused store knowledge were the people living in single-family housing (Tables D-30 and D-31).

Mobility.--The hypothesis on unused brand knowledge asserts: Mobiles will have relatively greater unused knowledge of brands than immobiles. The data did show a significant relationship but in the opposite direction as predicted from the hypothesis. The immobiles tended to have relatively more high brand knowers for portable color television sets than the mobiles (Table D-32).

The hypothesis on unused store knowledge asserts: Mobiles will have relatively less unused knowledge of stores than immobiles. The immobiles, as predicted, for portable color televisions tended to be greater knowers of unused stores than the mobiles (Table D-33). None of the purchasers of the other household durables showed a significant relationship between mobility and unused store knowledge.

Length of Stay in the Market Area.--The hypothesis contends: Families living a shorter time in the market area will have relatively greater unused knowledge of brands (stores) than families living a longer time in the market area. The data tended to confirm the hypothesis on unused brand knowledge for the purchasers of white goods and refrigerators. The high knowers of brands for these products were the ones who had been in the market area for

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a shorter period of time (Tables D-34 and D-35). The alternative hypothesis on unused store knowledge has to be accepted for purchasers of brown goods and portable color televisions. These purchasers with high unused store knowledge tended to be the people who had been in the market area the longest (Tables D-36 and D-37).

Marital Status.--The hypothesis maintains: Marrieds will have relatively greater unused knowledge of brands (stores) than non-marrieds. This hypothesis on unused brand knowledge tended to be confirmed for the purchasers of portable color televisions. The marrieds were relatively more knowledgeable than the non-marrieds (Table D-38). The hypothesis on unused store knowledge tended to be confirmed for the purchasers of white goods in general and refrigerators in particular. The high unused store knowers were the marrieds in each instance (Tables D-39 and D-40). The other buyer-product sets did not show any meaningful relationships.

Household Size.--The hypothesis submits: Larger families will have relatively greater unused knowledge of brands (stores) than smaller families. The hypothesis on unused brand knowledge was confirmed for the purchasers of portable color televisions and refrigerators. The larger households were relatively more knowledgeable of brands (Tables D-41 and D-42). The hypothesis on unused store knowledge was confirmed across products for white

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goods, laundry durables, washers, dryers, brown goods, and portable color televisions. The larger households were indeed the relatively more knowledgeable of unused stores (Tables D-43 through D-48). This relationship across products tends to be the first one with a high degree of confirmation as judged by the number of significant findings.

Age.--The hypothesis states: Families with older heads of the household will have relatively greater unused knowledge of brands (stores) than families with younger household heads. The age variable did not differentiate among purchasers of household durables on the dependent variable, unused brand knowledge. For unused store knowledge the empirical data rejected the above hypothesis by showing a significant relationship in the opposite direction for the purchasers of washers and of dryers. For these household durables the younger buyer was the higher knower of unused stores (Tables D-49 and D-50).

Occupation.--The hypothesis reads: Families with the head of the household engaged in professional or clerical occupations will have relatively greater unused knowledge of brands (stores) than families with the household head not engaged in professional or clerical occupations. The data on unused brand knowledge and occupation rejected the hypothesis as stated for the purchasers of portable color televisions. The non-white collar purchasers tended

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to have relatively more unused brand knowledge than the white collar purchasers (Table D-51). None of the purchasers for the other household durables demonstrated a significant relationship between occupation and unused brand or store knowledge.

Education.--The hypothesis contends: Families with the household head having more than 12 years of school will have relatively greater unused knowledge of brands (stores) than families with the head of the household having 12 years or less of school.

The data on unused knowledge confirmed the hypothesis in only one situation. The more educated purchasers of automatic washers tended to be the more knowledgeable of unused brands (Table D-52). Otherwise, this variable did not differentiate among buyers of other household durables.

Annual Family Income.--The hypothesis asserts: Families with annual incomes less than \$15,000 will have relatively greater unused knowledge on brands (stores) than families with annual incomes of \$15,000 or more. The data on unused brand knowledge and annual family income did not present any significant findings. For unused store knowledge significant findings were found for purchasers of brown goods and portable color television sets. The less affluent buyer was the more knowledgeable for these product purchases; the relationships were highly significant especially for purchasers of portable televisions (Tables D-53 and D-54).

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Recent Purchase.--The hypothesis maintains: Families purchasing recently more than one durable good will have relatively greater unused knowledge of brands (stores) than families purchasing recently only one durable good. The empirical data on unused brand knowledge confirmed the hypothesis for purchasers of laundry durables, washers, and dryers. The multi-product buyers were indeed the more knowledgeable of unused brands when compared to single-product purchaser (Tables D-55, D-56, and D-57). The empirical data on unused store knowledge confirmed the hypothesis for purchasers of white goods. The multi-product purchasers were the more knowledgeable of unused stores (Table D-58).

Type of Purchase.--The hypothesis states: Families purchasing the household durable good for the first time will have relatively greater unused knowledge on brands (stores) than families purchasing the product as a replacement. The findings on the relationship between replacement purchase or not and the amount of unused brand knowledge tend to confirm the hypothesis for purchasers of portable color televisions and dryers. In each product category the first-time purchaser was more knowledgeable of unused brands (Tables D-59 and D-60) than the replacement purchaser. The empirical data on unused store knowledge rejected the hypothesis at least for purchasers of laundry durables. The replacement buyer was the more knowledgeable on unused stores (Table D-61).

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Summary

The major independent variables describing the dependent variable, unused brand knowledge, tended to be length of time in the market area with four significant relationships, home ownership and number of products recently purchased each with three significant relationships. Purchasers living a longer time in the market tended to be high knowers of unused brands of brown goods and portable color televisions; buyers living a shorter time in the market tended to be high knowers of unused brands of white goods and refrigerators. Home owners tended to be high knowers of unused brands of brown goods and portable televisions; renters tended to be high knowers of unused brands of automatic washers. Multi-product purchasers tended to be high knowers of unused brands of laundry durables, automatic washers, and dryers.

The most important independent variables for unused store knowledge tended to be size of household with six significant relationships, type of housing with three significant relationships, and a number of other independent variables with two significant relationships. Larger households tended to be high knowers of unused stores for brown goods, portable televisions, white goods, laundry durables, washers, and dryers. Purchasers living in single-family housing tended to know more unused stores for brown goods and portable televisions; purchasers

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living in multi-family housing tended to know more unused stores for dryers.

Total Knowledge

Home Ownership.--The hypothesis states: Home owners will have relatively less total knowledge of brands (stores) than non-home owners. The empirical data on total brand knowledge confirmed the hypothesis for purchasers of washers and of dryers. The renters were the relatively more knowledgeable of all possible brand alternatives than the home owners for these products (Tables 4-14 and 4-15). For total store knowledge the variable of home ownership did not result in any significant relationships.

Type of Housing.--The hypothesis reads: Single-family home dwellers will have relatively less total knowledge of brands (stores) than the multi-building dwellers. The findings on total brand knowledge were significant at a relatively low level of confidence for purchasers across a number of product categories. Purchasers living in multi-family buildings were relatively more knowledgeable than ones living in single-family homes for washers, dryers, and portable color televisions (Tables D-62, D-63, and D-64). Type of housing and total store knowledge did not result in any significant relationships for buyers of household durables.

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TABLE 4-14.--Numbers and Percentages of Purchasers According to Total Brand Knowledge and Home Ownership for Washers.

Total Brand Knowledge*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	49	76.6	6	54.5	55	73.3
High Knowers	15	23.4	5	45.4	20	26.7
Total	64	100.0	11	100.0	75	100.0

* Significant at the .10 level of confidence.

TABLE 4-15.--Numbers and Percentages of Purchasers According to Total Brand Knowledge and Home Ownership for Dryers.

Total Brand Knowledge*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	36	78.3	4	50.0	40	74.1
High Knowers	10	21.7	4	50.0	14	25.9
Total	46	100.0	8	100.0	54	100.0

* Significant at the .05 level of confidence.

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Mobility.--The hypothesis on total brand knowledge contends: Mobiles will have relatively greater total knowledge of brands than immobiles. The hypothesis on total store knowledge asserts: Mobiles will have relatively less total knowledge of stores than non-mobiles. This variable did not result in significant patterns for total brand or total store knowledge for purchasers of household durables.

Length of Stay in Market Area.--The hypothesis maintains: People living a shorter time in the market area will have relatively greater total knowledge of brands (stores) than people living a longer time in the market area. None of the purchasers of household durables were differentiable on this independent variable and total brand knowledge. For total store knowledge the purchasers of white goods and refrigerators were separated significantly according to the hypothesis (Tables D-65 and D-66). The purchasers of other household durables were not found to be significantly related to length of stay in the marketplace and total store knowledge.

Marital Status.--The hypothesis submits: Marrieds will have relatively greater total knowledge of brands (stores) than non-marrieds. The empirical data did not confirm this hypothesis on total brand knowledge and marital status for buyers of household durables. The empirical data were mixed concerning the total store knowledge and marital status relationship. The marrieds

who purchased white goods were relatively more knowledgeable on total stores than the singles (Table D-67), but the non-marrieds who purchased portable color televisions were the relatively more knowledgeable on total store alternatives (Table D-68).

Household Size.--The hypothesis states: Larger families will have relatively greater total knowledge of brands (stores) than smaller families. The empirical data on total brand knowledge confirmed this hypothesis only for buyers of refrigerators. The larger households for this product category were the relatively more knowledgeable on total brand alternatives (Table D-69). For total store knowledge the purchasers who were members of larger households were relatively more knowledgeable on total store alternatives for laundry durables (Table D-70). None of the purchasers for other household durables was significantly differentiated on total knowledge and size of household.

Age.--The hypothesis reads: There will be no difference between younger and older purchasers on total brand or store knowledge. The data rejected the null hypothesis of no difference between age of household head and total knowledge for purchasers of selected products. For total brand knowledge the older purchasers of white goods and refrigerators were relatively more knowledgeable than the younger purchasers (Tables D-71 and D-72). For total store knowledge the younger purchasers were

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interestingly, when compared to the above, more knowledgeable than older purchasers for white goods and laundry durables. The relationships on total store knowledge and buyers of these product were very significant (Tables D-73 and D-74).

Occupation.--The hypothesis contends: Families with the head of the household engaged in professional or clerical occupations will have relatively greater total knowledge of brands (stores) than families not in professional and clerical occupations. The empirical data did not support the hypothesis on total brand knowledge and occupation of the household head. The findings are mixed on this variable and total store knowledge. The white collar purchasers of automatic washers were relatively more knowledgeable on total store alternatives than the non-professional and non-clerical buyers (Table D-75), but the non-white collar buyers were more knowledgeable on total stores than the white collar purchasers of portable color televisions (Table D-76).

Education.--The hypothesis asserts: Families with the head of the household having more than 12 years of school will have relatively greater total knowledge of brands (stores) than families with the household head having 12 years or less of school. The empirical data did not support this hypothesis on total brand knowledge; however, the hypothesis on total store knowledge and

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education was supported for purchasers of console television purchasers. The higher educated purchasers were more knowledgeable than the lesser educated purchasers for this product (Table D-77).

Annual Family Income.--The hypothesis maintains: Families with annual incomes less than \$15,000 will have relatively greater total knowledge of brands (stores) than families with incomes of \$15,000 or more. The hypothesis on total brand knowledge was not supported by the empirical data. The hypothesis on total store knowledge was supported concerning the buyers of brown goods and portable color televisions. The less affluent were more knowledgeable on total store alternatives than the more affluent for these product categories (Tables D-78 and D-79).

Recent Purchases.--The hypothesis submits: Families recently purchasing more than one household good will have relatively greater total knowledge of brands (stores) than families recently purchasing one household durable good. The empirical data on total brand knowledge tended to confirm the hypothesis only for purchasers of cooking ranges (Table D-80). The purchasers of other household durables did not demonstrate a significant relationship between the number of products recently purchased and total brand knowledge. The empirical data on total store knowledge were relatively more convincing. The multi-product purchasers who bought white goods and refrigerators tended to be

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relatively more knowledgeable on total store alternatives than the single product buyers (Tables D-81 and D-82).

Type of Purchase.--The hypothesis states:

Families purchasing the household durable good for the first time will have relatively greater total knowledge of brands (stores) than families purchasing the product as a replacement. The hypothesis on total brand knowledge was not confirmed by the buyers of durable products. For total store knowledge the findings were dependent upon the type of product. The first-time purchasers of white goods were relatively more knowledgeable on total stores than the replacement buyer (Table D-83); however, the replacement purchasers of brown goods and portable color televisions were relatively higher knowers of total stores than the first-time purchasers (Tables D-84 and D-85).

Summary

The main independent variables differentiating high knowers and low knowers of total brands tended to be type of housing with three significant relationships, age with two significant relationships, and home ownership with two significant relationships. Purchasers residing in multi-family dwelling units tended to be high knowers of total brands of portable color televisions, automatic washers, and dryers. Older buyers tended to be high knowers of total brands of white goods and refrigerators. Renters tended to be high knowers of total brands of washers and of dryers.

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The main independent variable separating high knowers and low knowers of total store alternatives tended to be first-time or replacement purchase with three significant relationships. Replacement purchasers tended to be high knowers of total stores for brown goods and portable televisions; first-time purchasers tended to be high knowers of total stores for white goods. The independent variables with two relationships significantly differentiating high and low knowers of total stores tended to be time in market area, marital status, occupation, income, age, and number of products recently purchased.

Findings on the General Hypotheses on Shopping
Activity, Unused Knowledge, and Total
Knowledge of Brands and Stores

The previous section described in specific terms the variations and similarities on shopping behaviors, unused knowledge, and total knowledge of brands or stores for purchasers of household durables. This section presents the findings concerning the dual variables from the matrices on brand and store shopping activity, unused brand and store knowledge, and total brand and store knowledge.

The purchasers were separated into two groups for each dependent variable--actives or inactives for shopping activity, high knowers or low knowers for unused knowledge, and high knowers or low knowers for total knowledge. For brand and store shopping activity, the inactives were the

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buyers who considered at best two brands and two stores including the brand purchased at the selected store, for unused brand and store knowledge and low knowers were the buyers who knew at most two brands and two stores over and beyond the brands and/or stores considered for purchasing, and for total brand and store knowledge the low knowers were the buyers who knew at most four brands and four stores which included the brands and stores used and unused (Figure 4-11). For each product category and dual variable set a statistical test was conducted on the independent variables. A confidence level of .10 or less numerically with a two-tailed test was considered adequate for the purposes of the research. The dependent variable set were first analyzed for all twelve independent variables singularly and for nine independent variables in combination. This latter analysis then involved obviously dual variables for the dependent and independent factors to attempt to improve the predictive power relating to the shopping behaviors and knowledge for household durables. The three independent variables deleted from the dual independent and dependent variable analysis were: (1) type of housing, (2) marital status, and (3) type of purchase. The variables of number of recent purchases, length of stay at present address (mobility), and the length of stay in the market area were tested on several different values. The main break for length of stay at present address was at five years and for length of stay in the market was at fifteen years. If the values changed, the new values were given in the write-up.

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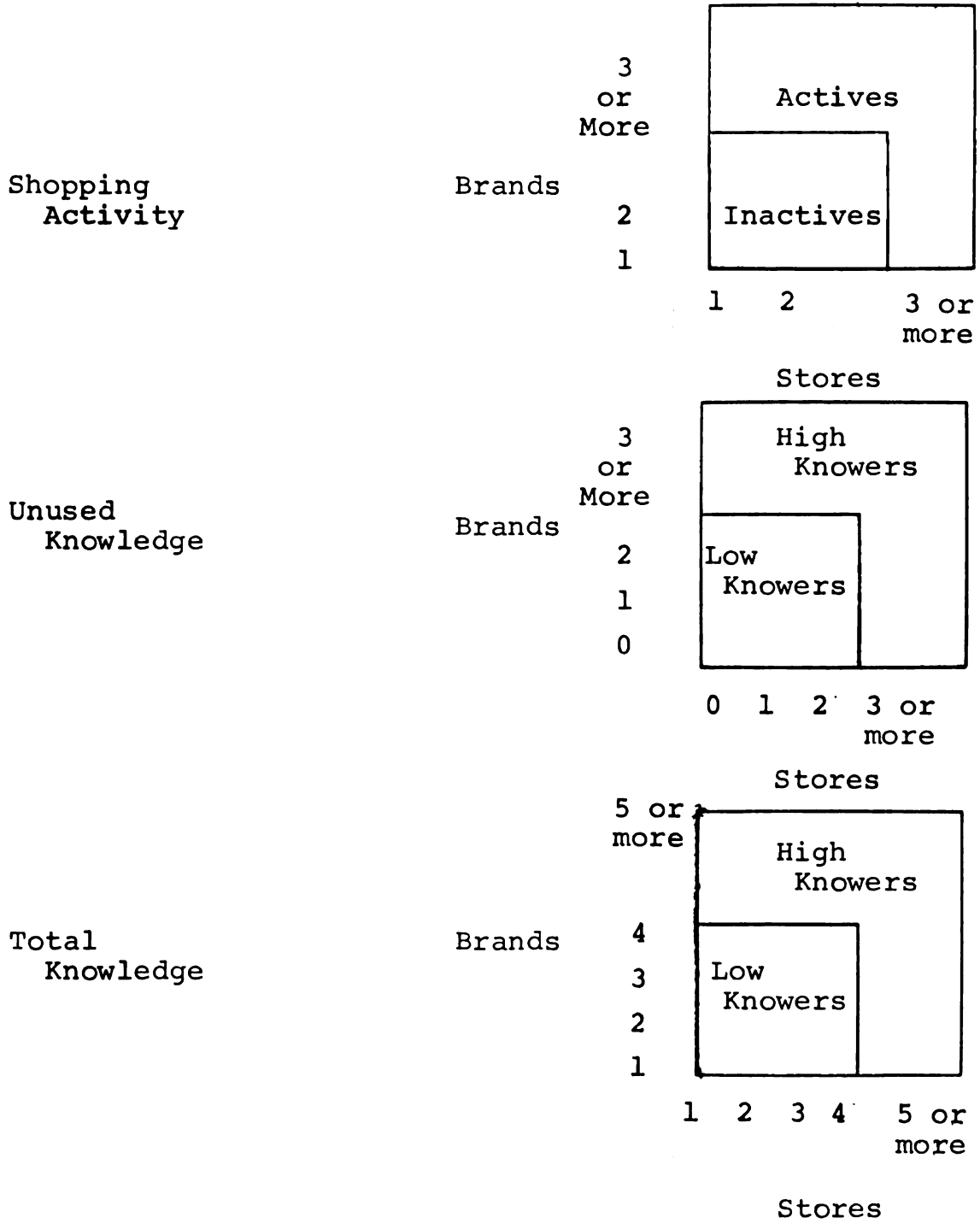


Figure 4-11.--A Graphic Description of the Groups in the Matrices for the Dependent Variables.

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This section is organized into three major parts. The first portion will present the findings on brand and store shopping activity, the second section will present the findings on unused brand and store knowledge, and the third section will present the findings on total brand and store knowledge of purchasers of household durables. Each of these major parts will be divided first by each of the independent variables singularly and second by each of the combined independent variables showing significance. The tables discussed in this section will show the confirming data only because of the larger number of tables which were generated. Those tables showing confirmation for the independent variable of home ownership and the dependent variables will be presented within the section, and the tables showing confirmation for the first dual independent variables for each dual dependent variable set will also be presented within this section. All other significant tables will be placed in Appendix D.

Brand and Store Shopping Activity

Home Ownership.--The null hypothesis states: The purchasing groups within the product-store shopping matrix will not differ on home ownership. The null hypothesis can be rejected for the purchasers of brown goods and portable color televisions. The active brand and store shoppers for the two product categories were the purchasers who did not own their homes (Tables 4-16 and 4-17). On a percentage basis the buyers of portable televisions who did

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TABLE 4-16.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Home Ownership for Brown Goods.

Brand and Store Shopping Activity*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	49	51.0	12	34.3	61	46.6
Actives	47	49.0	23	65.7	70	53.4
Total	96	100.0	35	100.0	131	100.0

* Significant at the .10 level of confidence.

TABLE 4-17.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Home Ownership for Portable Televisions.

Brand and Store Shopping Activity*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	27	62.8	7	30.4	34	51.5
Actives	16	37.2	16	69.6	32	48.5
Total	43	100.0	23	100.0	66	100.0

* Significant at the .02 level of confidence.

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not own their homes tended to be the more active compared across the product categories and doubtlessly influenced the findings on brown goods.

Type of Housing.--The null hypothesis reads: The purchasing groups within the product-store shopping matrix will not differ on the type of housing. The null hypothesis can be rejected for the buyers of brown goods and portable televisions. The active brand and store shoppers were buyers who tended to live in multi-family buildings for these products (Tables D-86 and D-87). The active shoppers constituted about three-fourths of the buyers living in multi-family structures for brown goods and portable televisions.

Length of Stay at Present Address.--The null hypothesis contends: The purchasing groups within the product-store shopping matrix will not differ on the length of stay at the present address. The null hypothesis can be rejected for only one purchasing group--the buyers of portable televisions. The more active brand and store shoppers were the people living at their present address: (1) for three years or less, or (2) for seven to fifteen years. However, the relatively most active purchasing group were the ones living at the present address three years or less. On a proportional basis the least active shoppers as a group were the ones residing at their present address over fifteen years (Table D-88).

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Length of Stay in Market Area.--The null hypothesis maintains: The purchasing groups within the product-store shopping matrix will not differ on the length of stay in the market area. The null hypothesis can be rejected for buyers of cooking ranges and console television sets if the inactive shoppers were defined as not considering any brands or stores beyond the brand bought at the selected stores. The more active brand and store shoppers of cooking ranges were the ones living in the market area under seven years (Table D-89), but the more active brand and store shopper of console color televisions were the ones living in the market over six years (Table D-90). If the length of stay in the market area were fifteen years or less or sixteen years and more, a significant difference was found for the purchasers of automatic washers. In this situation the more active shoppers were buyers who lived in the market area sixteen years or more; however, as a total group the purchasers of automatic washers tended to be inactive brand and store shoppers (Table D-91).

Marital Status.--The null hypothesis asserts: The purchasing groups within the product-store shopping matrix will not differ on marital status. The null hypothesis can be rejected for the buyers of brown goods and portable color televisions. The more active brand and store shoppers were the ones who were not married. Active

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shoppers constituted about 70 per cent of non-marrieds for both product categories, about 40 per cent of the marrieds for portable televisions, and about 50 per cent of the marrieds for brown goods (Tables D-92 and D-93).

Household Size.--The null hypothesis submits: The purchasing groups within the product-store shopping matrix will not differ on household size. This hypothesis can be rejected only for buyers of portable color television sets. For this group the more active brand and store shoppers were households with a composition of two or one members, and the less active shoppers were households with three or more members (Table D-94).

Age.--The null hypothesis reads: The purchasing groups within the product-store shopping matrix will not differ on the age of household head. The null hypothesis has to be accepted for the age of the household head and shopping for brands and stores for all buyer groups for all product categories.

Occupation.--The null hypothesis states: The purchasing groups within the product-store shopping matrix will not differ on the occupation of the household head. The null hypothesis has to be rejected on occupation and shopping for brands and stores for purchasers of laundry durables if the purchasers who did not compare brands or stores were contrasted to the ones who did make brand or store comparisons. The active shoppers were the white

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collar workers, and the inactive shoppers were non-white collar people (Table D-95).

Education.--The null hypothesis contends: The purchasing groups within the product-store shopping matrix will not differ on education of the household head. The null hypothesis cannot be rejected on the educational level and shopping for brands and stores for buyer groups for all product categories.

Income.--The null hypothesis maintains: The purchasing groups within the product-store shopping matrix will not differ on annual family income. The null hypothesis has to be accepted on family income and brand and store shopping for purchaser groups for all product categories.

Recent Purchasers.--The null hypothesis asserts: The purchasing groups within the product-store shopping matrix will not differ on the number of recent household durables purchased. The null hypothesis can be rejected for buyers of automatic dryers. There was a significant difference according to the number of purchases and shopping activity. The relatively more inactive shopping group purchased only one household durable good within the last two years. The relatively more active groups purchased two durables or more within the last two years (Table D-96). The null hypothesis can also be rejected

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for buyers of console color televisions if purchasers who did not compare brands and stores were contrasted to the ones who did make comparisons. The relatively more active brand and store shoppers, in contrast to purchasers of dryers, were the ones purchasing recently just one household durable good (Table D-97).

Type of Purchase.--The null hypothesis submits: The purchasing groups within the product-store shopping matrix will not differ on replacement purchase or first-time purchase. The null hypothesis can be rejected for buyers of white goods, laundry durables, ranges, and console color televisions. For all the above products the first-time purchasing group was the relatively more active brand and store shopper (Tables D-98, D-99, and D-100). For console television buyers the groups were separated into a group who did not compare brands and stores and a group who did conduct comparisons. About 85 per cent of the first-time purchasers were actives which compared to about 55 per cent of the replacement purchasers who were actives (Table D-101).

Age-Income.--The null hypothesis states: The purchasing groups within the product-store shopping matrix will not differ on the age of household head and annual family income. The null hypothesis can be rejected for buyers of white goods, automatic washers, and dryers. For white goods the more active brand and store shoppers

were centered in two purchasing groups: (1) the people earning less than \$15,000 annually and younger, and (2) the ones earning \$15,000 or more annually and older (Table 4-18). If the group not comparing brands and stores were contrasted to the segment comparing at least one brand and/or one store, the active purchasers for washers and for dryers were the same two groups reported above (Tables 4-19 and 4-20).

Age-Household Size.--The null hypothesis reads: The purchasing groups within the product-store shopping matrix will not differ on the age of the household head and the size of the household. This null hypothesis can be rejected for the purchasers of white goods and refrigerators. For each of these purchasing groups and product categories the more active brand and store shoppers were: (1) the households with two or less members with a younger household head, and (2) the households with more than two members with an older household head (Tables D-102 and D-103).

Age-Number of Recent Purchases.--The null hypothesis contends: The purchasing groups within the product-store shopping matrix will not differ on the age of the household head and number of recent purchases of household durable goods. The null hypothesis can be rejected only for the buyers of brown goods. If the purchasers who did not compare any brands or stores were compared to the ones

TABLE 4-18.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Age, and Income for White Goods.

Brand and Store Shopping Activity*	Younger and More Affluent		Younger and Less Affluent		Older and More Affluent		Older and Less Affluent		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives	7	100.0	14	56.0	9	56.3	18	78.3	48	67.6
Actives	0	0.0	11	44.0	7	43.7	5	21.7	23	32.4
Total	7	100.0	25	100.0	16	100.0	23	100.0	71	100.0

* Significant at the .10 level of confidence.



TABLE 4-19.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Age, and Income for Automatic Washers.

Brand and Store Shopping Activity*	Younger and More Affluent		Younger and Less Affluent		Older and More Affluent		Older and Less Affluent		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives**	7	77.8	10	45.5	3	37.5	18	78.3	38	61.3
Actives**	2	22.2	12	54.5	5	62.5	5	21.7	24	38.7
Total	9	100.0	22	100.0	8	100.0	23	100.0	62	100.0

* Significant at the .05 level of confidence.

** Inactives in this table are defined as considering no brands and stores other than the actual brand purchased at the preferred store.

TABLE 4-20.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Age, and Income for Dryers.

Brand and Store Shopping Activity*	Younger and More Affluent		Younger and Less Affluent		Older and More Affluent		Older and Less Affluent		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives**	5	83.3	6	37.5	3	30.0	11	68.8	25	52.1
Actives**	1	16.7	10	62.5	7	70.0	5	31.2	23	47.9
Total	6	100.0	16	100.0	10	100.0	16	100.0	48	100.0

* Significant at the .10 level of confidence.

** Inactives in this table are defined as considering no brands and stores other than the actual brand purchased at the preferred store.

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who compared one brand and/or one store or more, the purchasers who were older and purchased two or more household durables tended to be more inactive brand and store shoppers than the other groups (Table D-104).

Age-Home Ownership.--The null hypothesis maintains: The purchasing groups within the product-store shopping matrix will not differ on the age of household head and home ownership. The null hypothesis can be rejected only for the buyers of portable color televisions. There was a significant difference among the purchasers. The two most active purchasing groups were the renters regardless of age of household head; the most inactive group was the older home owner (Table D-105).

Education-Household Size.--The null hypothesis asserts: The purchasing groups within the product-store shopping matrix will not differ on the education of the household head and household size. The null hypothesis can be rejected for buyers of brown goods and portable color televisions. The only active brand and store shopping group was the smaller households with the head of the household having more than a high school education (Tables D-106 and D-107). The effect was quite pronounced for the between group comparisons for the portable television product category.

Education-Length of Stay in the Market Area.--The null hypothesis submits: The purchasing groups within the

product-store shopping matrix will not differ on the education of the household head and the length of stay of the household in the market area. The null hypothesis can be rejected with qualifications for the purchasers of automatic washers. The most active brand and store shoppers for this product category were the ones with less education and lived in the market area over fifteen years. The most inactive brand and store shopping group was the people with less education but lived in the market fifteen years or less (Table D-108).

Education-Length of Stay at Present Address.--The null hypothesis states: The purchasing groups within the product-store shopping matrix will not differ on the education of household head and the length of stay at present address. The null hypothesis can be rejected for purchasers of automatic washers. If the buyers who did not consider any brands or stores beyond the actual brand bought at the preferred store were compared to ones who did consider at least one other brand and/or store, the very inactive brand and store shopping group was the households living at the current address over five years with the household head having more education. The more active shopping groups were: (1) the households living at the current address five years or less with the household head having more education, and (2) the households living at

the current address five years or less and having less education (Table D-109).

Education-Home Ownership.--The null hypothesis reads: The purchasing groups within the product-store shopping matrix will not differ on the education of the household head and home ownership. The null hypothesis can be rejected for buyers of brown goods and portable color televisions. For these product categories, the comparisons between inactive shoppers who did not consider any brands or stores other than the brand purchased at the preferred store and active shoppers who did compare brands and/or stores showed as the most active shopping group the renters with more education (Tables D-110 and D-111). Although the number of purchasers who were renters with less education were small, this group tended to be the more inactive on shopping for brands and stores.

Income-Household Size.--The null hypothesis contends: The purchasing groups within the product-store shopping matrix will not differ for annual family income and household size. The null hypothesis can be rejected for the purchasers of white goods if buyers who did not compare any brands or stores were contrasted to ones who did compare brand and/or stores. The least active brand and store shoppers for the product category were the ones with smaller households and greater affluence; the most active shoppers were the larger households with more affluence (Table D-112).

Income-Length of Stay at Present Address.--The null hypothesis maintains: The purchasing groups within the product-store shopping matrix will not differ on annual family income and length of stay at the present address. The null hypothesis can be rejected for the purchasers of white goods if the buyers who did not compare brands or stores were contrasted with ones who did make comparisons. The active shoppers were the buyers with greater affluence and residing at their current address over five years (Table D-113).

Household Size--Length of Stay at Present Address.--The null hypothesis asserts: The purchasing groups within the product-store shopping matrix will not differ on household size and length of stay at the present address. The null hypothesis can be rejected only for the buyers of portable color televisions. The more active brand and store purchasers were the smaller households living a shorter time at the present address. The remaining groups were brand and store shopping inactives (Table D-114).

Household Size--Home Ownership.--The null hypothesis submits: The purchasing groups within the product-store shopping matrix will not differ on size of the household and home ownership. The null hypothesis can be rejected only for purchasers of portable color televisions. The more active shopping group was the renters with smaller households. The more inactive shopping group was the larger households who owned their homes (Table D-115).



Household Size--Occupation.--The null hypothesis states: The purchasing groups within the product-store shopping matrix will not differ on size of the household and the occupation of the household head. The null hypothesis can be rejected with qualifications for the buyers of portable televisions. The influence of occupation was really nil since the active shoppers were the smaller households regardless of occupation and the inactive shoppers were the larger households regardless of occupation (Table D-116).

Number of Recent Purchases--Length of Stay at the Present Address.--The null hypothesis reads: The purchasing groups within the product-store shopping matrix will not differ on the number of recent purchases and the length of stay at the present address. The null hypothesis can be rejected for the purchasers of brown goods. The two most active brand and store shopper segments were: (1) people purchasing recently only one household durable and living a shorter time at their current address, and (2) people purchasing recently multi-household durables and living a longer time at their current address (Table D-117).

Number of Recent Purchases--Occupation.--The null hypothesis contends: The purchasing groups within the product-store shopping matrix will not differ on the number of recent purchases and occupation of the household head. The null hypothesis can be rejected for buyers of

console televisions. The active brand and store shoppers were the white collar workers recently purchasing only one household durable good; the inactive brand and store shoppers were the non-white collar persons recently purchasing multiple household durables (Table D-118).

Length of Stay in the Market Area--Home Ownership.--

The null hypothesis maintains: The purchasing groups within the product-store shopping matrix will not differ on the length of stay in the market area and home ownership. The null hypothesis can be rejected with qualifications for the purchasers of brown goods. If the purchasers who did not compare brands or stores were compared to ones who did compare brands and/or stores, the active shoppers tended to be all renters and the home owners living a longer period of time in the market area. The inactive shoppers, however, turned out to be the people living in the market area a shorter period of time and owning their own homes (Table D-119). The null hypothesis can also be rejected for purchasers of portable televisions. The active shoppers were renters and the inactive shoppers were home owners regardless of the length of stay in the market area (Table D-120).

Length of Stay in Market Area--Occupation.--The

null hypothesis asserts: The purchasing groups within the product-store shopping matrix will not differ on the length of stay in the market area and occupation of the

household head. The null hypothesis can be rejected with qualifications for purchasers of automatic washers if people who did not compare brands or stores were contrasted to ones who did compare brands and/or stores. The active shopping group for washers lived in the market area a shorter period of time with the household head engaged in a white collar occupation. The inactive shopping group also lived in the market area a shorter time period but was not engaged in white collar work (Table D-121).

Length of Stay at Present Address--Home Ownership.--

The null hypothesis submits: The purchasing groups within the product-store shopping matrix will not differ on the length of stay at current address and home ownership. The null hypothesis can be rejected for the purchasers of portable color televisions. The active brand and store shoppers were the renters who lived at their current address for five years or less (Table D-122).

Length of Stay at Present Address--Occupation.--

The null hypothesis states: The purchasing groups within the product-store shopping matrix will not differ on the length of stay at present address and the occupation of the household head. The null hypothesis can be rejected with qualifications for purchasers of automatic washers. Regardless of occupation, the active brand and store shoppers were people living at the present address for a shorter time period, and the inactive shoppers were

ones living at the present address for a longer time period (Table D-123).

Summary

The main single independent variables describing brand and store shopping activity tended to be first-time or replacement purchase with four significant relationships and length of stay in the market area with three significant relationships. First-time purchasers tended to be active brand and store shoppers for white goods, laundry durables, cooking ranges, and console color televisions. People living in the market area under six years tended to be active brand and store shoppers for cooking ranges; persons residing over six years tended to be active brand and store shoppers for console televisions; and individuals living in the market area over fifteen years tended to be active brand and store shoppers for automatic washers. Independent variables having two significant relationships tended to include home ownership, type of housing, marital status, and number of recent purchases.

The major bivariate combination tended to be age of the household head and income with three significant relationships. The combinations of two independent variables with two significant relationships tended to include age of household head and household size, education of the household head and household size, and education of the household head and home ownership. The active brand

and store shoppers tended to be the groups composed of younger household heads with less income and of older household head with greater income for white goods, automatic washers, and dryers. The active brand and store shoppers tended to be the groups consisting of younger households heads with smaller households and of older household heads with larger households for white goods and refrigerators. Smaller households with higher educated household heads tended to be the active brand and store shoppers for brown goods and portable color televisions. Renters with higher educated household heads tended to be the active brand and store shoppers for brown goods and portable color televisions.

Unused Brand and Store Knowledge

Home Ownership.--The null hypothesis states: The purchasing groups within the product-store unused knowledge matrix will not differ on home ownership. The null hypothesis can be rejected for purchasers of automatic washers. The renters tended to be more knowledgeable on unused brands and stores, and the home owners tended to be less knowledgeable on unused brands and stores (Table 4-21).

Type of Housing.--The null hypothesis reads: The purchasing groups within the product-store unused knowledge matrix will not differ on type of housing. The null

TABLE 4-21.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Home Ownership for Automatic Washers.

Unused Brand and Store Knowledge*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	36	57.1	3	27.3	39	52.7
High Knowers	27	42.9	8	72.7	35	47.3
Total	63	100.0	11	100.0	74	100.0

*Significant at the .10 level of confidence.

hypothesis can be rejected for purchasers of console televisions. The purchasers living in single-family housing were the more knowledgeable on unused brands and stores for this product. About two-thirds of people residing in single-family housing were high knowers as compared to one-third of the buyers residing in multi-family housing (Table D-124).

Length of Stay at Present Address.--The null hypothesis contends: The purchasing groups within the product-store unused knowledge matrix will not differ on the length of stay at the present address. The null hypothesis can be rejected for purchasers of portable televisions, refrigerators, and cooking ranges. The two main groups of high knowers of unused portable television brands and stores tended to live at their current



address one year or less or greater than fifteen years (Table D-125). The two groups of high knowers of unused refrigerator brands or stores tended to live one year or less at their current address also or over three years but under seven years at their present address (Table D-126). The group of high knowers of unused brand and stores for cooking ranges tended to live five years or less at their present residence (Table D-127).

Length of Stay in the Market Area.--The null hypothesis maintains: The purchasing groups within the product-store unused knowledge matrix will not differ on the length of stay in the market area. The null hypothesis can be rejected for purchasers of refrigerators, brown goods, and portable televisions. For refrigerator purchasers the higher knowers of unused brands and stores lived in the market area six years or less (Table D-128). The higher knowers of unused brands and stores for brown goods and for portable color televisions lived in the market area over fifteen years (Tables D-129 and D-130).

Marital Status.--The null hypothesis asserts: The purchasing groups within the product-store unused knowledge matrix will not differ on marital status. The null hypothesis has to be accepted for all purchasing groups for all household durables.

Household Size.--The null hypothesis submits: The purchasing groups within the product-store unused knowledge

matrix will not differ on the size of the household. A significant difference was found for purchasers of automatic dryers and refrigerators. The higher knowers of unused brands and stores for dryers or refrigerators were the larger households (Tables D-131 and D-132).

Age.--The null hypothesis states: The purchasing groups within the product-store unused knowledge matrix will not differ on the age of the household head. The null hypothesis has to be accepted for all purchasing groups for all household durables.

Occupation.--The null hypothesis reads: The purchasing groups within the product-store unused knowledge matrix will not differ on the occupational work of the household head. The null hypothesis can be rejected for buyers of brown goods and portable color televisions. The higher knowers of unused brands and stores were the non-white collar people for both product categories; the lower knowers were the white collar workers (Tables D-133 and D-134).

Education.--The null hypothesis contends: The purchasing groups within the product-store unused knowledge matrix will not differ on the educational level attained by the household head. The null hypothesis has to be accepted for all purchasing groups for all household durables.

Income.--The null hypothesis maintains: The purchasing groups within the product-store unused knowledge matrix will not differ on annual family income. The null hypothesis has to be accepted for all purchasing groups for all product categories of household durables.

Number of Recent Purchases.--The null hypothesis asserts: The purchasing groups within the product-store unused knowledge matrix will not differ on the number of recent purchases. The null hypothesis can be rejected for buyers of white goods and dryers. For white goods the higher knowers of unused brands and stores were people who purchased recently more than one product (Table D-135); the higher knowers for dryers were people who purchased either one product or three or more products (Table D-136).

Type of Purchase.--The null hypothesis reads: The purchasing groups within the product-store unused knowledge matrix will not differ on replacement purchase or first-time purchase. The null hypothesis can be rejected for buyers of laundry durables and cooking ranges. The higher knowers of unused brands and stores for cooking ranges were the first-time purchaser of this product (Table D-137). In contrast to buyers of ranges, the purchasers of laundry durables with greater unused knowledge of brands and stores were the replacement buyers (Table D-138).

Age--Length of Stay at Present Address.--The null hypothesis contends: The purchasing groups within the product-store unused knowledge matrix will not differ on the age of the household head and length of stay at the present address. The null hypothesis can be rejected with qualifications for purchasers of refrigerators. The main group of higher knowers of unused brands and stores were older buyers living less than five years at their current address; the main group of low knowers were older buyers living longer at their residence; and between the two extremes were the younger buyers (Table 4-22).

Education--Number of Recent Purchases.--The null hypothesis contends: The purchasing groups within the product-store unused knowledge matrix will not differ on the education of the household head and the number of recent purchases. The null hypothesis can be rejected for buyers of white goods. The main group of higher knowers were people purchasing recently multiple products with household heads having more than a high school degree. The remaining three groups were relatively low knowers of unused brands and stores (Table D-139).

Education--Length of Stay in the Market Area.--The null hypothesis maintains: The purchasing groups within the product-store unused knowledge matrix will not differ on education of the household head and length of stay in the market area. The null hypothesis can be rejected for

TABLE 4-22.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Age, and Length of Stay at Present Address for Refrigerators.

Unused Brand and Store Knowledge*	Younger and Shorter Time at Residence		Younger and Longer Time at Residence		Older and Shorter Time at Residence		Older and Longer Time at Residence		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	11	55.0	1	50.0	5	23.8	17	77.3	34	52.3
High Knowers	9	45.0	1	50.0	16	76.2	5	22.7	31	47.7
Total	20	100.0	2	100.0	21	100.0	22	100.0	65	100.0

* Significant at the .01 level of confidence.

purchasers of white goods, laundry durables, and automatic washers. The higher knowers, as a group, of unused brands and stores were the less educated living in the market area fifteen years or less for all three product categories. The lower knowers, as a group, of unused brands and stores were the less educated living in the market area over fifteen years for the three product categories. Between the two extremes on knowledge were the higher educated (Tables D-140, D-141, and D-142).

Education--Length of Stay at the Present Address.--

The null hypothesis asserts: The purchasing groups within the product-store unused knowledge matrix will not differ on education of the household head and length of stay at the present address. The null hypothesis can be rejected only for purchasers of refrigerators. The major group of high knowers of unused brands and stores were the less educated living five years or less at their present address. The major group of low knowers were the less educated, again, but living over five years at their present address, and between the two extremes were the more educated (Table D-143).

Income--Occupation.--The null hypothesis states:

The purchasing groups within the product-store unused knowledge matrix will not differ on annual family income and occupation of household head. The null hypothesis can be rejected for purchasers of brown goods. The main

group of higher knowers of unused brands and stores for televisions were the less affluent, non-white collar people. At the other extreme the lower knowers were the more affluent, white collar workers (Table D-144).

Household Size--Length of Stay at Present Address.--

The null hypothesis reads: The purchasing groups within the product-store unused knowledge matrix will not differ on size of the household and the length of stay at their present address. The null hypothesis can be rejected only for buyers of refrigerators. In this product category the high knowers, as a group, of unused brands and stores were the larger households living five years or less at their present address. The major group of low knowers were smaller households living over five years at their current address (Table D-145).

Household Size--Occupation.--The null hypothesis contends: The purchasing groups within the product-store unused knowledge matrix will not differ on size of the household and occupation of the household head. The null hypothesis can be rejected just for buyers of refrigerators. The major group of higher knowers of unused refrigerator brands and stores were the larger households, non-white collar people, and at the other extreme the low knowers were the smaller households, white collar workers (Table D-146).

Number of Recent Purchase--Length of Stay in the Market Area.--The null hypothesis maintains: The purchasing groups within the product-store unused knowledge matrix will not differ on the number of recent purchases and a household's length of stay in the market area. The null hypothesis can be rejected for the purchasers of white goods and refrigerators. For both product categories the high knowing group were the ones living in the market area fifteen years or less and buying multiple household durables. All three other groups tended to be mainly low knowers of unused brands and stores (Tables D-147 and D-148).

Number of Recent Purchases--Length of Stay at the Present Address.--The null hypothesis asserts: The purchasing groups within the product-store unused knowledge matrix will not differ on the number of recent purchases and the length of stay at the present address. The null hypothesis can be readily rejected for buyers of white goods and refrigerators. The high knowers of unused brands and stores were mainly centered in one group composed of the multi-product purchaser living five years or less at his current address. The low knowers were the people living over five years at their current residence regardless of the number of household durables recently bought (Tables D-149 and D-150). The null hypothesis also cannot be accepted for purchasers of brown goods. The

main group of high knowers of unused brands and stores for televisions was also the multi-product purchaser residing five years or less at his current address, but the low knowers, as a group, were the multi-product purchaser living over five years at his present address (Table D-151).

Length of Stay in the Market Area--Length of Stay at Present Address.--The null hypothesis states: The purchasing groups within the product-store unused knowledge matrix will not differ on length of stay in the market area and current address. The null hypothesis can be rejected for purchasers of refrigerators and portable televisions. The main group of high knowers of unused brands and stores for refrigerators were buyers living at their current address five years or less and in the market area fifteen years or less; the low knowers for refrigerators were people living in the market area over fifteen years and at their current address over five years (Table D-152). In contrast to the above, the high knowers group for portable televisions were ones living in the market area over fifteen years and at their current address over five years (Table D-153).

Length of Stay in Market Area--Occupation.--The null hypothesis reads: The purchasing groups within the product-store unused knowledge matrix will not differ on the length of stay in the market area and occupation of the household head. The null hypothesis of no difference can be rejected for buyers of brown goods, portable

televisions, and automatic washers. The main group of high knowers of unused brands and stores for brown goods and portable televisions were non-white collar people living in the market area over fifteen years; the low knower group were white collar workers living fifteen years or less in the market area (Tables D-154 and D-155). The purchasers of automatic washers who were high knowers of unused brands and stores lived in the market area less than fifteen years regardless of occupation; the main group of buyers who were the low knowers were non-white collar people residing over fifteen years in the market (Table D-156).

Length of Stay at Present Address--Occupation.--The null hypothesis contends: The purchasing groups within the product-store unused knowledge matrix will not differ on the length of stay at present address and occupation of the head of the household. The null hypothesis can be rejected for buyers of brown goods and refrigerators. For both product categories the main segment of high knowers lived five years or less at their current residence and were not white collar workers. The main group of low knowers of unused brands and stores for brown goods were the white collar workers living five years or less at their present residence (Table D-157). The main group of low knowers for refrigerators were white collar workers living over five years at their current address (Table D-158).

Summary

The main single independent variables differentiating low and high knowers of unused brands and stores tended to be length of stay at the present address and length of stay in the market area each with three significant relationships across products. Concerning the length of stay at the present address the high knowers of unused brands and stores for portable televisions tended to live: (1) one year or less, or (2) more than fifteen years at their present residence. The high knowers of unused brands and stores for refrigerators tended to live: (1) one year or less, or (2) over three but under seven years at their current address. The high knowers of unused brands and stores for cooking ranges tended to live under six years at their place of residence. Concerning the length of stay in the market area, the high knowers of unused brands and stores for refrigerators tended to live in the market under seven years, but the high knowers of unused brands and stores for brown goods and for portable televisions tended to reside in the market over fifteen years. Over independent variables with two significant relationships tended to include household size, occupation, number of recent purchases, and first-time or replacement purchase.

The combining of independent variables appeared to have some payoff for selected products in describing the dependent variables. The three bivariate combinations of

education of household head and length of stay in the market area, of number of recent purchases and length of stay at present address, and of length of stay in the market area and occupation each had three significant relationships across products. The less educated household heads living a shorter time in the market area tended to be the high knowers of unused brands and stores for white goods, laundry durables, and automatic washers; the less educated household heads residing a longer time in the market area tended to be at the other extreme as the low knowledge group for the three product categories. Concerning number of recent purchases and length of stay at the current residence, the multi-product purchasers residing a shorter time at current address tended to be the high knowers for white goods, refrigerators, and brown goods. Concerning length of stay in the market area and occupation, the non-white collar people living in the market area over fifteen years tended to be the high knowers of unused brands and stores for brown goods and portable televisions. Purchasers residing less than fifteen years in the market regardless of occupation tended to be the high knowers for automatic washers.

Total Brand and Store Knowledge

Home Ownership.--The null hypothesis states: The purchasing groups within the total product-store knowledge matrix will not differ on home ownership. The null

hypothesis can be accepted for all purchasers for all product categories of household durables.

Type of Housing.--The null hypothesis reads: The purchasing groups within the total product-store knowledge matrix will not differ on type of housing. The null hypothesis can be accepted for all purchasers for all product categories of household durables.

Length of Stay at Present Address.--The null hypothesis contends: The purchasing groups within the total product-store knowledge matrix will not differ on the length of stay at present address. The null hypothesis can be rejected for buyers of dryers. The more knowledgeable group on total brands and stores tended to be the people who lived at their present residence the shortest time (Table D-159).

Length of Stay in Market Area.--The null hypothesis maintains: The purchasing groups within the total product-store knowledge matrix will not differ on the length of stay in the market area. The null hypothesis can be accepted for all purchasers of these household durables.

Marital Status.--The null hypothesis asserts: The purchasing groups within the total product-store knowledge matrix will not differ on marital status. The null hypothesis has to be rejected for all buyers of household durables.

Household Size.--The null hypothesis states: The purchasing groups within the total product-store knowledge matrix will not differ on the size of the household. The null hypothesis can be rejected for purchasers of refrigerators and automatic washers. For both products the main group who were more knowledgeable on total brands and stores were the larger households. Overall, the buyers of refrigerators had a greater tendency to have more knowledge than the purchasers of automatic washers (Tables D-160 and D-161).

Age.--The null hypothesis states: The purchasing groups within the total product-store knowledge matrix will not differ on age. The null hypothesis can be accepted for all purchasers of these household products.

Occupation.--The null hypothesis reads: The purchasing groups within the total product-store knowledge matrix will not differ on occupation. The null hypothesis can be rejected only for buyers of portable color televisions. The non-white collar group were more knowledgeable of brands and stores than the white collar people. Both groups, however, were quite knowledgeable relative to other groups previously reported (Table D-162).

Education.--The null hypothesis contends: The purchasing groups within the total product-store knowledge matrix will not differ on education. The null hypothesis can be accepted for all purchasers of these household durables.

Income.--The null hypothesis maintains: The purchasing groups within the total product-store knowledge matrix will not differ on income. The null hypothesis can be accepted for income and total knowledge of brands and stores.

Number of Recent Purchases.--The null hypothesis asserts: The purchasing groups within the total product-store knowledge matrix will not differ on the number of recent purchases. The null hypothesis can be rejected for purchasers of white goods, refrigerators, dryers, and cooking ranges. For these product groups the more knowledgeable group were the people purchasing recently two or more household durables. Comparing across products, the white goods and refrigerator purchasers recently buying multiple products tended to be more knowledgeable, as a group, than other product purchasers (Tables D-163, D-164, D-165, and D-166).

Type of Purchase.--The null hypothesis states: The purchasing groups within the total product-store knowledge matrix will not differ on the type of purchase. The null hypothesis can be accepted for purchasers of all products.

Age--Household Size.--The null hypothesis reads: The purchasing groups within the total product-store knowledge matrix will not differ on age of household head and the size of the household. The null hypothesis can

be rejected for buyers of refrigerators. For refrigerator purchasers the most knowledgeable group was characterized by an older head of the household with a larger household. At the other extreme the least knowledgeable group was composed of older household heads with smaller households (Table 4-23).

Age--Number of Recent Purchases.--The null hypothesis contends: The purchasing groups within the total product-store knowledge matrix will not differ on the age of the household head and the number of recent purchases of household durables. The null hypothesis can be rejected with qualification for purchasers of white goods. In this situation the more knowledgeable groups were the multiple product buyers regardless of age (Table D-167).

Age--Length of Stay in Market Area.--The null hypothesis maintains: The purchasing groups within the total product-store knowledge matrix will not differ on the age of the household head and the length of stay in the market area. The null hypothesis can be rejected for buyers of portable color televisions. The most knowledgeable group on total brands and stores was characterized by younger heads of households and greater time in the market; the next two more knowledgeable groups were the younger heads of households living in the market a shorter time and the older household heads living in the market a longer time; and the least knowledgeable segment

TABLE 4-23.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Age, and Household Size for Refrigerators.

Total Brand and Store Knowledge*	Younger and Smaller Households		Younger and Larger Households		Older and Smaller Households		Older and Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	2	40.0	10	58.8	12	66.7	7	28.0	31	47.7
High Knowers	3	60.0	7	41.2	6	33.3	18	72.0	34	52.3
Total	5	100.0	17	100.0	18	100.0	25	100.0	65	100.0

* Significant at the .10 level of confidence.

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was the older household heads living in the market a shorter time period (Table D-168).

Education--Number of Recent Purchases.--The null hypothesis maintains: The purchasing groups within the total product-store knowledge matrix will not differ on the education of the household head and the number of household durables recently purchased. The null hypothesis can be rejected with qualifications for purchasers of white goods. The two most knowledgeable groups were multiple product purchasers regardless of education, and the two least knowledgeable groups were the single product purchasers regardless of education (Table D-169).

Education--Length of Stay in Market Area. The null hypothesis asserts: The purchasing groups within the total product-store knowledge matrix will not differ on the education of the household head and the length of stay in the market area. The null hypothesis can be rejected for the buyers of white goods. The most knowledgeable group was clearly the less educated household heads residing in the market a shorter time period; all other groups tended to be below average on total brand and store knowledge (Table D-170).

Household Size--Number of Recent Purchases.--The null hypothesis states: The purchasing groups within the total product-store knowledge matrix will not differ on the size of the household and number of household durables

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recently purchased. The null hypothesis can be rejected for buyers of white goods. The two most knowledgeable groups were multiple product purchasers regardless of household size; the least knowledgeable group of the four was the smaller household which recently purchased only one household durable good (Table D-171).

Household Size--Length of Stay in Market Area.--The null hypothesis reads: The purchasing groups within the total product-store knowledge matrix will not differ on the size of the household and the length of stay in the market area. The null hypothesis can be rejected for purchasers of automatic washers. The two most knowledgeable groups were composed of people who resided in the market a shorter time period regardless of household size; the least knowledgeable group was characterized by a small household living in the market a longer time period (Table D-172).

Household Size--Length of Stay at Present Address.--The null hypothesis contends: The purchasing groups within the total product-store knowledge matrix will not differ on the size of the household and the length of stay at the present address. The null hypothesis can be rejected for buyers of automatic washers. The two most knowledgeable groups of total brand and store alternatives were: (1) the smaller households living at their present residences a shorter time period, and (2) the larger

households living at their present residences a longer time period. The least knowledgeable group was the smaller household residing a longer time at the present location (Table D-173).

Household Size--Occupation.--The null hypothesis maintains: The purchasing groups within the total product-store knowledge matrix will not differ on the size of the household and occupation of the household head. The null hypothesis can be rejected for buyers of brown goods, portable televisions, and refrigerators. For brown goods the two most knowledgeable groups were: (1) the smaller household with the household head engaged in a white collar position, and (2) the larger household with the household head not engaged in a white collar position (Table D-174). The same two segments emerged as the most knowledgeable for portable televisions; however, the least knowledgeable group was the larger household with the household head engaged in white collar work (Table D-175). The buyers of refrigerators were clearly different than the buyers of portable televisions. The most knowledgeable group was the larger household with the household head engaged in a white collar position. The two least knowledgeable groups were the smaller households regardless of occupation (Table D-176).

Number of Recent Purchases--Length of Stay in Market Area.--The null hypothesis asserts: The purchasing

groups within the total product-store knowledge matrix will not differ on the number of household durables recently purchased and length of stay in the market area. The hypothesis can be rejected for buyers of white goods. The most knowledgeable group on total brands and stores was the multi-product purchaser living a shorter time in the market area; the least knowledgeable group was the single product purchaser living a longer time in the market (Table D-177).

Number of Recent Purchases--Length of Stay at Present Address.--The null hypothesis states: The purchasing groups within the total product-store knowledge matrix will not differ on the number of household durables recently purchased and the length of stay at the present address. The null hypothesis can be rejected for purchasers of white goods. The most knowledgeable group on total brand and store alternatives were the multiple product purchasers residing a shorter time at their current location. The two least knowledgeable groups were the single product purchasers regardless of length of stay at present location (Table D-178).

Number of Recent Purchases--Occupation.--The null hypothesis states: The purchasing groups within the product-store knowledge matrix will not differ on the number of household durables recently purchased and the occupation of the household head. The null hypothesis can be rejected for buyers of white goods and refrigerators. For white goods the two most knowledgeable groups were the

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multiple product purchasers regardless of occupation (Table D-179). However, for refrigerators the most knowledgeable group was the multi-product purchaser engaged in white collar work; the second more knowledgeable group was the multi-product buyer not engaged in white collar work. The least knowledgeable group was the single product buyer not engaged in white collar work (Table D-180).

Summary

Although purchasing groups tended to be differentiated on the independent and dependent variables, the data tended to show a rather large number of insignificant relationships, especially for the single independent variable analysis. Four independent variables demonstrated meaningful relationships with the dependent variables. The major independent variable describing the dependent variable tended to be the number of recent purchases of household durables. Multi-product purchasers tended to be the high knowers of total brands and stores for white goods, refrigerators, dryers, and cooking ranges.

For the dual independent variables the two main sets tended to be: (1) household size and occupation, and (2) number of recent purchases and occupation. The high knowers of total brands and stores for brown goods and portable televisions tended to be composed of: (1) smaller households with the household head employed in a white collar occupation, and (2) larger households with the

household head not engaged in white collar work. In contrast to television purchasers, the high knowers of total brands and stores for refrigerators tended to be larger households with the household head employed at a white collar position. Concerning the number of recent purchases and occupation, the high knowers of total brands and stores for white goods tended to be multiple product buyers regardless of occupation; the high knowers of total brands and stores for refrigerators tended to be the multiple product buyers engaged in white collar occupation.

The Combination of Knowledge and Shopping By
Purchasers for Household Durables

This section presents the findings on the knowledge-shopping model presented in Chapter I. Purchasers were isolated into four major groups on the amount of unused knowledge and amount of shopping activity for brands and stores. These groups were subsequently statistically tested with the independent variables for each product category. The decision rule was a confidence level of .10 or greater.

The four main groups are described as: (1) high knowers and active shoppers of brands and stores, (2) high knowers and inactive shoppers of brands and stores, (3) low knowers and active shoppers of brands and stores, and (4) low knowers and inactive shoppers of brands and stores. The operational definitions for each group were

respectively: (1) purchasers who knew three or more unused brands and/or stores and who compared at least three brands and/or three stores, (2) purchasers who knew three or more unused brands and/or stores and who bought without comparing externally any brands or stores or compared only two brands and two stores at most, (3) purchasers who knew no more than two unused brands and two unused stores and who compared at least three brands or stores, and (4) purchasers who knew no more than two unused brands and two unused stores and who bought without comparing externally any brands or stores or compared only two brands and two stores at most. Figure 4-12 summarizes the operational definitions and depicts the four purchasing groups based upon the combination of the shopping matrix and the knowledge matrix.

The statistically significant findings were few in number after testing for the nine product categories. The four purchasing groups were differentiated only on five different independent variables for seven product categories. The independent variables were: (1) the number of recent household durables purchased, (2) type of purchase, (3) length of stay at present address, (4) type of housing, and (5) home ownership. The product categories were: (1) white goods, (2) laundry durables, (3) washers, (4) dryers, (5) brown goods, (6) portable televisions, and (7) console televisions.

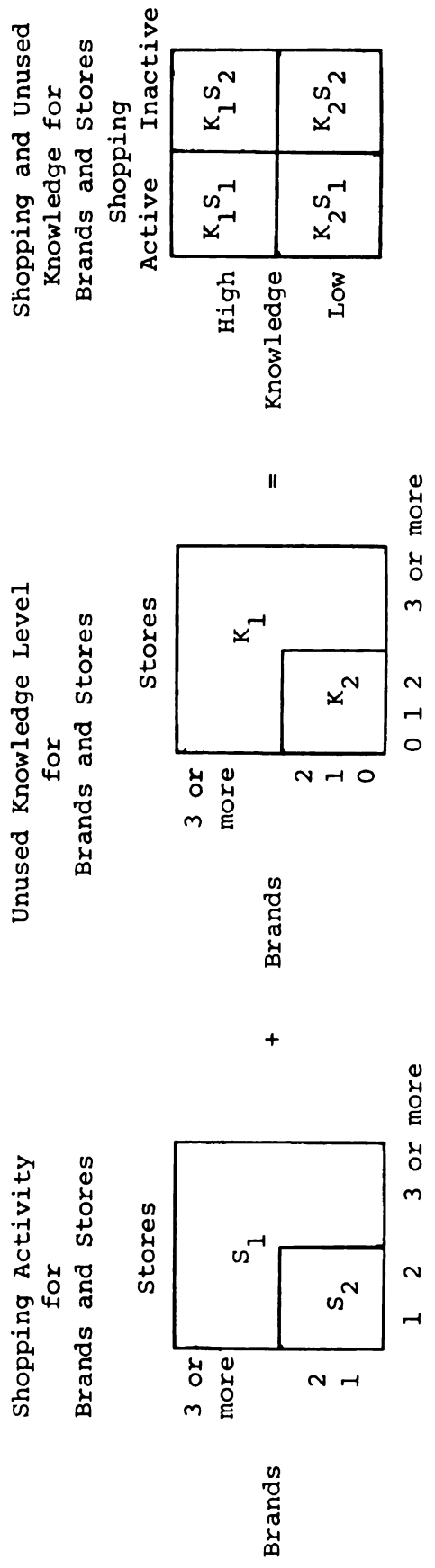


Figure 4-12.--The Combination of Shopping Activity and Unused Knowledge for Brands and Stores.

The findings to follow will not include statements of the null hypotheses of no difference because of the relatively few significant findings. The tables with the significant findings will be presented in this chapter.

White Goods

For white goods the greatest proportion of total buyers were low on unused knowledge of brands and stores and inactive brand and store shoppers. The next two largest percentages of buyers were: (1) high on unused knowledge and inactive shoppers, and (2) low on unused knowledge and active shoppers. The smallest proportion of total buyers were high on unused knowledge and active shoppers of brands and stores. Furthermore, the distribution of total buyers of white goods on the knowledge and shopping variables was reasonably close for all purchasing groups with the exception of the high knowers and active shoppers since the percentages ran from 24 per cent to the high of 34 per cent for the two extreme groups. The exceptional group contained only 10 per cent of the total buyers.

The separation of the four purchasing groups of white goods by the number of household durables recently purchased revealed significant differences. Based on percentages of the total subgroup according to number of recent purchases, the following conclusions were warranted:

1. Multi-product purchasers were two times as likely as single product buyers to be in the high knowers and active shoppers category.

2. About 1.5 times as many multiple product purchasers as single product purchasers were high knowers but inactive shoppers of brands and stores. Forty-four per cent of the multi-product purchasers were in this category.

3. One-fourth of the single product purchasers and about one-fourth of the multi-product buyers were low knowers but active shoppers of brands and stores.

4. Single-product purchasers were three times as likely as multi-product buyers to be in the low knowers and inactive shoppers group. Forty per cent of the single product purchasers were in this category (Table 4-24).

The buyers of white goods were also differentiated on the type of purchase and the dependent variable set. Based on proportions, the following conclusions were warranted:

1. About two and a half times as many first-time purchasers as replacement purchasers were high knowers and active shoppers of brands and stores.

2. About two and a half times as many replacement purchasers as first-time purchasers were high knowers and inactive shoppers of brands and stores.

3. About twice as many first-time purchasers as replacement purchasers were low knowers and active shoppers of brands and stores.

TABLE 4-24.--Numbers and Percentages of Purchasers According to Shopping Activity and Unused Knowledge and Number of Recent Purchases for White Goods.

Brand and Store Knowledge Level and Shopping Activity*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
High Knowers, Active Shoppers	6	8.0	4	17.4	10	10.2
High Knowers, Inactive Shoppers	22	29.3	10	43.5	32	32.7
Low Knowers, Active Shoppers	17	22.7	6	26.1	23	23.5
Low Knowers, Inactive Shoppers	30	40.0	3	13.0	33	33.7
Total	75	100.0	23	100.0	98	100.0

*Significant at the .10 level of confidence.

4. About one-third of the replacement buyers and one-fourth of the first-time buyers were low knowers and inactive shoppers of brands and stores.

5. For replacement purchasers 38 per cent were high knowers and inactive shoppers and 36 per cent were low knowers and inactive shoppers.

6. For first-time purchasers 40 per cent were low knowers and active shoppers followed by 25 per cent who were low knowers and inactive shoppers (Table 4-25).

The next major product category was laundry durables. The proportions of total buyers for each dependent variable set category varied from 2 per cent up to 41 per cent. The largest group with 41 per cent

TABLE 4-25.--Numbers and Percentages of Purchasers According to Shopping Activity and Unused Knowledge and Type of Purchase for White Goods.

Brand and Store Knowledge Level and Shopping Activity*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
High Knowers, Active Shoppers	6	7.8	4	20.0	10	10.3
High Knowers, Inactive Shoppers	29	37.7	3	15.0	32	33.0
Low Knowers, Active Shoppers	14	18.2	8	40.0	22	22.7
Low Knowers, Inactive Shoppers	28	36.4	5	25.0	33	34.0
Total	77	100.0	20	100.0	97	100.0

* Significant at the .05 level of confidence.

of the total was the high knowers and inactive shoppers of brands and stores. The next two largest groups were:

(1) the low knowers and inactive shoppers of brands and stores with 38 per cent of total purchasers, and (2) the low knowers and active shoppers with 20 per cent of the total. The smallest group with 2 per cent of the total was the high knowers and active shoppers.

Based upon proportions and the type of purchase, the following statements can be made:

1. Twice as many replacement buyers as first-time buyers were high knowers and inactive shoppers of brands and stores.

2. Almost four times as many first-time purchasers as replacement buyers were low knowers and active shoppers.

3. About one-third of the first-time purchasers and about two-fifths of the replacement buyers were low knowers and inactive shoppers.

4. The greatest proportion (43 per cent) of first-time buyers were low knowers and active shoppers, and the next largest proportion (36 per cent) were low knowers and inactive shoppers.

5. The greatest proportion (48 per cent) of replacement buyers were high knowers and inactive shoppers, and the next largest group with 38 per cent of the total replacement buyers was the low knower and inactive shopper (Table 4-26).

Purchasers of automatic washers were distributed quite similar to laundry durables but slight differences were noted. The high knowers and active shoppers of brands and stores accounted for 6 per cent of the total washer purchasers, the high knowers and inactive shoppers accounted for 41 per cent of the total, the low knowers and active shoppers constituted 22 per cent of the total, and the low knowers and inactive shoppers composed 32 per cent of the total.

Using proportions to distinguish between mobility with the break at two years and the

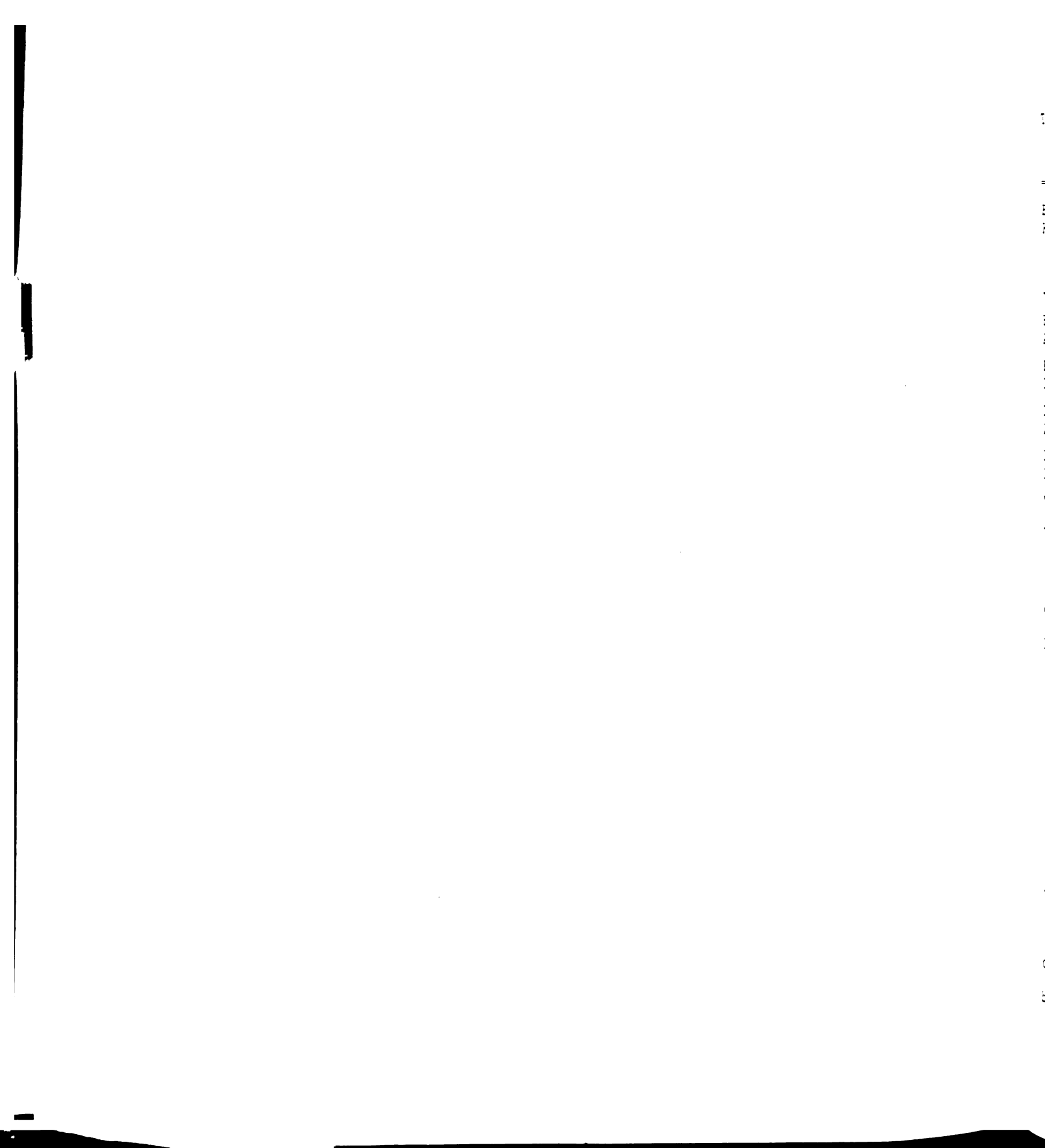


TABLE 4-26.--Numbers and Percentages of Purchasers According to Shopping Activity and Unused Knowledge and Type of Purchase for Laundry Durables.

Brand and Store Knowledge Level and Shopping Activity*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
High Knowers, Active Shoppers	1	2.4	0	0.	1	1.8
High Knowers, Inactive Shoppers	20	47.6	3	21.4	23	41.1
Low Knowers, Active Shoppers	5	11.9	6	42.9	11	19.6
Low Knowers, Inactive Shoppers	16	38.1	5	35.7	21	37.5
Total	42	100.0	14	100.0	56	100.0

* Significant at the .10 level of confidence.

dependent variable set, the following generalizations can be stated:

1. Seven times as many mobiles as immobiles were high knowers and active shoppers of brands and stores.
2. About two-fifths of the mobiles and two-fifths of the immobiles were high knowers and inactive shoppers of brands and stores.
3. About ten times as many immobiles as mobiles were low knowers and active shoppers of brands and stores.
4. About two-fifths of the mobiles and one-fourth of the immobiles were low knowers and inactive shoppers of brands and stores.

5. The two main groups of immobiles were:

(1) the high knowers and inactive shoppers with 41 per cent of the total, and (2) the low knowers and active shoppers.

6. The two main groups of mobiles, each with 41 per cent of the total were: (1) the high knowers and inactive shoppers, and (2) the low knowers and inactive shoppers (Table 4-27).

TABLE 4-27.--Numbers and Percentages of Purchasers According to Shopping Activity and Unused Knowledge and Length of Stay at Present Address for Washers.

Brand and Store Knowledge Level and Shopping Activity*	Shorter Time at Present Address		Longer Time at Present Address		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
High Knowers, Active Shoppers	3	13.6	1	2.0	4	5.5
High Knowers, Inactive Shoppers	9	40.9	21	41.2	30	41.1
Low Knowers, Active Shoppers	1	4.5	15	29.3	16	21.9
Low Knowers, Inactive Shoppers	9	40.9	14	27.5	23	31.5
Total	22	100.0	51	100.0	73	100.0

* Significant at the .05 level of confidence.

For the total dryer buyers the major dependent variable groups, adjudged by the proportion of the total, were in the same order of magnitude as for the washer

purchasers. The purchasers of dryers were significantly differentiated on their mobility with the break at two years and the number of recent purchases in conjunction with the dependent variable set. Based on proportions for the length of stay at their current residence, the findings were:

1. None of the immobiles and 18 per cent of the mobiles were high knowers and active shoppers of brands and stores.

2. About two-fifths of the immobiles and one-third of the mobiles were high knowers and inactive shoppers.

3. About twice as many immobiles as mobiles were low knowers and active shoppers of brands and stores.

4. About two-fifths of the mobiles and one-third of the immobiles were low knowers and inactive shoppers of brands and stores.

5. The two main groups of mobiles were: (1) the low knowers and inactive shoppers with 41 per cent of their total, and (2) the high knowers and inactive shoppers with 29 per cent of their total.

6. The two main groups of immobiles were: (1) the high knowers and inactive shoppers with 42 per cent of their total, and (2) low knowers and inactive shoppers with 33 per cent of their total (Table 4-28).

TABLE 4-28.--Numbers and Percentages of Purchasers According to Shopping Activity and Unused Knowledge and Length of Stay at Present Address for Dryers.

Brand and Store Knowledge Level and Shopping Activity*	Shorter Time at Present Address		Longer Time at Present Address		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
High Knowers, Active Shoppers	3	17.6	0	0.	3	5.7
High Knowers, Inactive Shoppers	5	29.4	15	41.7	20	37.7
Low Knowers, Active Shoppers	2	11.8	9	25.0	11	20.8
Low Knowers, Inactive Shoppers	7	41.2	12	33.3	19	35.8
Total	17	100.0	36	100.0	53	100.0

*Significant at the .05 level of confidence.

The purchasers of dryers were also differentiated on the number of recent purchases and the dependent variable set. Based on proportions, the following conclusions are warranted:

1. None of the single product buyers and 11 per cent of the multi-product buyers were high knowers and active shoppers.
2. About one-third of the single product buyers and about one-third of the multi-product buyers were high knowers and inactive shoppers of brands and stores.
3. About four times as many multi-product buyers as single product buyers were low knowers and active shoppers.

4. About twice as many single product buyers as multi-product purchasers were low knowers and inactive shoppers.

5. The two major dependent variable groups for single product buyers were: (1) low knowers and inactive shoppers with 59 per cent of their total, and (2) high knowers and inactive shoppers with 35 per cent of their total.

6. The two main groups for multi-product buyers were: (1) high knowers and inactive shoppers with 38 per cent of their total, and (2) low knowers and active shoppers with 27 per cent of their total (Table 4-29).

TABLE 4-29.--Numbers and Percentages of Purchasers According to Shopping Activity and Unused Knowledge and Number of Recent Purchases for Dryers.

Brand and Store Knowledge Level and Shopping Activity*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
High Knowers, Active Shoppers	0	0.	4	10.8	4	7.4
High Knowers, Inactive Shoppers	6	35.3	14	37.8	20	37.0
Low Knowers, Active Shoppers	1	5.9	10	27.0	11	20.4
Low Knowers, Inactive Shoppers	10	58.8	9	24.3	19	35.2
Total	17	100.0	37	100.0	54	100.0

* Significant at the .05 level of confidence.

Brown Goods

The general product category of brown goods produced substantially different distributions of total purchasers on knowledge levels and shopping activities than the findings for white goods. Based upon the proportions of the total buyers, the largest group of buyers of white goods was the low knowers and inactive shoppers (34 per cent), but this buying group ranked last for buyers of brown goods with 15 per cent. The second largest group for white goods was the high knowers and inactive shoppers (33 per cent), and this buying group ranked first for buyers of brown goods with 32 per cent. The third main group for white goods was the low knower and active shopper with 24 per cent of the total; this buying group ranked second for buyers of brown goods with 29 per cent. The fourth largest group for white goods was the high knowers and active shoppers with 10 per cent of the total, and this buying group was third in rank with 24 per cent of the total purchasers of brown goods.

Based upon the type of housing and the proportions for brown goods the findings were:

1. About one-third of the multi-family housing dwellers and one-fifth of the single family housing dwellers were high knowers and active shoppers of brands and stores.

2. About three times as many single family housing dwellers as multi-family housing dwellers were high knowers and inactive shoppers.

3. About two-fifths of the multi-family dwellers and one-fourth of the single family dwellers were low knowers and active shoppers.

4. About one-seventh of the single family dwellers and about one-seventh of the multi-family dwellers were low knowers and inactive shoppers.

5. The two main groups of multi-family dwellers were: (1) low knowers and active shoppers with 41 per cent of the total, and (2) high knowers and active shoppers with 32 per cent of the total.

6. The two main groups of single-family dwellers were: (1) high knowers and inactive shoppers with 39 per cent of the total, and (2) low knowers and active shoppers with 25 per cent of the total (Table 4-30).

The findings on portable color television purchasers and type of housing are similar to the findings for brown goods in general with two exceptions. The two exceptions were: (1) about three times as many multi-family housing dwellers than single family housing dwellers were high knowers and active shoppers of brands and stores, and (2) about twice as many single family dwellers as multi-family dwellers were low knowers and inactive shoppers (Table 4-31).

TABLE 4-30.--Numbers and Percentages of Purchasers According to Shopping Activity and Unused Knowledge and Type of Housing for Brown Goods.

Brand and Store Knowledge Level and Shopping Activity*	Single Family Housing		Multi-Family Housing		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
High Knowers, Active Shoppers	21	21.4	11	32.4	32	24.2
High Knowers, Inactive Shoppers	38	38.8	4	11.8	42	31.8
Low Knowers, Active Shoppers	24	24.5	14	41.2	38	28.8
Low Knowers, Inactive Shoppers	15	15.3	5	14.7	20	15.2
Total	98	100.0	34	100.0	132	100.0

*Significant at the .05 level of confidence.

TABLE 4-31.--Numbers and Percentages of Purchasers According to Shopping Activity and Unused Knowledge and Type of Housing for Portable Televisions.

Brand and Store Knowledge Level and Shopping Activity*	Single Family Housing		Multi-Family Housing		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
High Knowers, Active Shoppers	5	11.1	8	36.4	13	19.4
High Knowers, Inactive Shoppers	21	46.7	3	13.6	24	35.8
Low Knowers, Active Shoppers	10	22.2	9	40.9	19	28.4
Low Knowers, Inactive Shoppers	9	20.0	2	9.1	11	16.4
Total	45	100.0	22	100.0	67	100.0

*Significant at the .01 level of confidence.

The findings on portable televisions purchasers and home ownership were quite similar to the findings on portable television buyers and type of housing. The findings were:

1. About one-fourth of the renters and one-sixth of the home owners were high knowers and active shoppers of brands and stores.

2. About twice as many home owners as renters were high knowers and inactive shoppers.

3. About twice as many home renters as home owners were low knowers and active shoppers.

4. About twice as many home owners as renters were low knowers and inactive shoppers.

5. The two main groups of renters were: (1) the low knowers and active shoppers with 44 per cent of the total, and (2) the high knowers and active shoppers with 26 per cent of the total.

6. The two main groups of home owners were: (1) the high knowers and inactive shoppers with 42 per cent of the total, and (2,a) the low knowers and active shoppers, and (2,b) the low knowers and inactive shoppers, each with 21 per cent (Table 4-32).

The final set of significant relationships were for purchasers of console televisions. Before turning to the dependent variable set and independent variable relationships, the description of the distribution of total buyers which differed slightly from the general pattern

TABLE 4-32.--Numbers and Percentages of Purchasers According to Shopping Activity and Unused Knowledge and Home Ownership for Portable Televisions.

Brand and Store Knowledge Level and Shopping Activity*	Home Owner		Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
High Knowers, Active Shoppers	7	16.3	6	26.1	13	19.7
High Knowers, Inactive Shoppers	18	41.9	5	21.7	23	34.8
Low Knowers, Active Shoppers	9	20.9	10	43.5	19	28.8
Low Knowers, Inactive Shoppers	9	20.9	2	8.7	11	16.7
Total	43	100.0	23	100.0	66	100.0

*Significant at the .10 level of confidence.

for brown goods will be presented. The three main groups were: (1) the high knower and active shopper of brands and stores, (2) the low knower and active shopper, each with 29 per cent of the total, and (3) the high knower and inactive shopper with 28 per cent of the total. The smallest group was the low knower and inactive shopper with 14 per cent of the total.

The significant findings, based on proportions, for the independent variable--the number of recent household durable purchases--and the dependent variable set were:

1. Almost three times as many single product buyers as multi-product buyers were high knowers and active shoppers of brands and stores.

2. About two and a half times as many multi-product buyers as single product buyers were high knowers and inactive shoppers.

3. About three-tenths of the multi-product purchasers and about three-tenths of the single product buyers were low knowers and active shoppers of brands and stores.

4. Almost three times as many single product purchasers as multi-product buyers were low knowers and inactive shoppers.

5. The two main groups of single product buyers were: (1) high knowers and active shoppers with 35 per cent of the total, and (2) low knowers and active shoppers with 29 per cent of the total.

6. The two main groups of multi-product buyers were: (1) the high knowers and inactive shoppers with 50 per cent of the total, and (2) the low knowers and active shoppers with 31 per cent of the total (Table 4-33).

Summary

The combination of unused knowledge on stores and brands and of shopping activity on brands and stores resulted in significant findings for purchasers of all product categories except refrigerators and cooking ranges. None of the independent variables demonstrated efficacy across products, but the independent variables showing significant relationships tended generally to be product category specific--that is, brown goods or white goods.

TABLE 4-33.--Numbers and Percentages of Purchasers According to Shopping Activity and Unused Knowledge and Number of Recent Purchases for Console Televisions.

Brand and Store Knowledge Level and Shopping Activity*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
High Knowers, Active Shoppers	17	34.7	2	12.5	19	29.2
High Knowers, Inactive Shoppers	10	20.4	8	50.0	18	27.7
Low Knowers, Active Shoppers	14	28.6	5	31.3	19	29.2
Low Knowers, Inactive Shoppers	8	16.3	1	6.3	9	13.8
Total	49	100.0	16	100.0	65	100.0

*Significant at the .10 level of confidence.

For all purchasers of white goods the main group was the low knowers and inactive shopper. For multi-product purchasers of white goods the main group was the high knower and inactive shopper, and for the single product purchaser the biggest group was the low knower and inactive shopper. For first time purchaser of white goods the major group was the low knower and active shopper, and for replacement purchasers the largest group was the high knower and inactive shopper.

For total buyers of brown goods the main group was the high knower and inactive shopper of brands and stores. For multi-family housing dwellers the main group was the low knower and active shopper of brands and stores.

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For the single family housing dwellers the largest group was the high knower and inactive shopper.

An Evaluation of the
Hypotheses and the
Demographic Variables

This section of Chapter IV is a succinct summary on the efficacy of the independent variables to explain the dependent variables. The evaluation will focus on the confirmation of hypotheses and will show which independent variables appear to be more worthy for further research. For the confirmation of the hypotheses the major criterion is confirming data by five or more product-specific purchasing groups. For the single independent and single dependent variables discussed in the second section of this chapter the significant relationships need to be in the same direction as hypothesized; for the single and dual independent variables and the dual dependent variables presented in the third section of this chapter the significant relationships did not have to take direction into account since the null hypothesis was one of no difference. The dual dependent variable analysis in the previous section is not included in the discussion.

Single Independent and Dependent
Variable Analysis

Brand Shopping Activity.--The twelve hypotheses on the relationships between the dependent variable of brand shopping and the independent variables were not confirmed.

Four independent variables had at best two significant relationships in the hypothesized direction; these variables were mobility, home ownership, type of housing, and occupation. The variable of mobility had four significant relationships, but two of the four relationships were in the opposite direction of the hypothesis. The independent variables with one confirmation in the hypothesized direction included household size, marital status, income, number of recent purchases, and type of purchase (first-time or replacement).

The number of significant relationships with the independent and dependent variables varied across products. Brown goods had four significant relationships between the dependent variable of brand shopping and the independent variables of mobility, home ownership, type of housing, and occupation. Portable color televisions had five significant relationships with the independent variables of mobility, household size, home ownership, type of housing, and marital status. Console televisions had two significant relationships based on household size and occupation. White goods had only one significant relationship based on mobility; laundry durables had only one significant relationship with first-time or replacement purchase. Dryers had two significant relationships with household size and the number of recent purchases, and refrigerators had three significant relationships based on mobility, marital status

and income. The purchasers of automatic washers and cooking ranges were not differentiated on any of the independent variables and brand shopping activity. In total eighteen significant relationships regardless of direction or twelve significant relationships in the hypothesized direction were found for brand shopping activity from a potential of 108 combinations (Table 4-34).

Store Shopping Activity.--The twelve hypotheses on the relationships between the dependent variable of store shopping activity and the independent variables were not confirmed. The main independent variable emerging for store shopping was the type of purchase, first-time or replacement, which had only three confirmations of the hypotheses. The confirmations were for purchasers of white goods, laundry durables, and cooking ranges. Length of stay in the market area had two confirmations; type of housing, mobility, marital status, household size, age, and number of recent purchases had one confirmation.

None of the purchasers of each product category were differentiated on more than two significant relationships out of the twelve possible; however, the independent variable differentiating store shoppers varied according to the specific product. Portable televisions had one significant relationship between the dependent variable on type of housing; console televisions had also one significant relationship based on household size; but brown

TABLE 4-34.--Number of Significant Relationships Between the Independent Variables and Brand Shopping Activity by Product.

Independent Variables ¹	Products ²								Totals
	Brown Goods	Portable Televisions	Console Televisions	White Goods	Laundry Durables	Dryers	Refrigerators	Totals	
Mobility	1	1		1*			1*		4
Household Size		1*	1			1*			3
Home Ownership	1	1							2
Type of Housing	1	1							2
Marital Status		1*					1		2
Occupation	1		1						2
Income							1*		1
Recent Purchases						1			1
Replacement Purchase					1				1
Totals	4	5	2	1	1	2	3		18

¹Independent variables not showing at least one meaningful relationship were excluded.

²The purchasers of washers and ranges were not differentiated on the variables.

*The relationship was in the opposite direction of the hypothesis.

goods were not differentiated on the variables. White goods had two significant relationships between store shopping and type of purchase and length of stay in the market area. Laundry durables had one significant relationship based on type of purchase; automatic washers had one relationship based on type of purchase; automatic washers had one relationship based on mobility; and dryers had one significant relationship based on the number of recent purchases. Refrigerators had two significant relationships between store shopping activity and marital status and length of stay in the market area; cooking ranges also had two significant relationships based on type of purchase and age. The brown goods product category did not have even one significant relationship. In total a mere eleven significant relationships were found for store shopping activity and the independent variables from a potential of 108 combinations (Table D-181).

Unused Brand Knowledge.--The twelve hypotheses on the relationship between the dependent variable of unused brand knowledge and the independent variables were not confirmed. At best the data showed three confirmations between unused brand knowledge and the number of recent purchases for buyers of laundry durables, automatic washers, and dryers. Length of stay in the market area, household size, and type of purchase had two confirmations; home

ownership, type of housing, mobility, marital status, occupation and education had one confirmation in the hypothesized direction. Income and age did not have any confirmations.

Considerable differences on the independent variables existed for purchasers of specific products. Brown goods had only one significant relationship between unused brand knowledge and an independent variable, home ownership, but portable color televisions had six significant relationships based on home ownership, household size, type of purchase, mobility, marital status, and occupation. White goods had one significant relationship between the dependent variable and length of stay in the market area; refrigerators had two significant relationships based on length of stay in the market area and household size. Laundry durables had one significant relationship with the number of recent purchases; washers had two significant relationships with home ownership and the number of recent purchases; and dryers had three significant relationships with the number of recent purchases, type of purchase, and type of housing. In summary seventeen significant relationships regardless of direction or fourteen significant relationships in the proper direction were found for unused brand knowledge and the independent variables from a potential of 108 combinations (Table D-182).

Unused Store Knowledge.--One hypothesis on the relationship between unused store knowledge and the independent variable of household size was confirmed with six significant relationships across products. The products demonstrating significance included brown goods, portable televisions, white goods, laundry durables, washers, and dryers. The other eleven hypotheses on the relationship between unused store knowledge and the independent variables were not confirmed. The two independent variables of marital status and income had two confirmations; type of housing, mobility, and number of recent purchases had one confirmation in the predicted direction. Type of housing, home ownership, length of stay in the market area, and age had two significant relationships in the opposite direction as hypothesized and type of purchase had one significant relationship in the opposite direction.

The number of significant relationships for the independent and dependent variables varied across products. Brown goods had five significant relationships between unused store knowledge and the independent variables of household size, type of housing, home ownership, length of stay in the market area, and income; portable color televisions had six significant relationships including the five above for brown goods plus mobility. White goods had three significant relationships based on household size, marital status, and the number of recent purchases;

refrigerators had only one meaningful relationship based on marital status. Laundry durables had two significant relationships with household size and type of purchase; washers had two significant relationships with household size and age; and dryers had three relationships with household size, type of housing, and age. In total twenty-two significant relationships between unused store knowledge and the independent variables were found (Table D-183).

Total Brand Knowledge.--The twelve hypotheses on the relationship between total brand knowledge and the independent variables were not confirmed. Type of housing had three confirmations, home ownership and age had two confirmations, and household size and the number of recent purchases had one confirmation.

None of the purchasing groups by product had more than two significant relationships, and purchasers of brown goods, console televisions, and laundry durables were not differentiated by any significant relationships. Portable televisions had one significant relationship between total brand knowledge and type of housing. White goods had one significant relationship with age; automatic washers and dryers had two significant relationships with type of housing and home ownership. Refrigerators had two significant relationships with age and household size; cooking ranges had one significant relationship with the number of recent purchases. In total only nine significant

relationships between total brand knowledge and the independent variables were found from the analysis (Table D-184).

Total Store Knowledge.--The twelve hypotheses on the relationships between total store knowledge and the independent variables were not confirmed. Confirmation of the hypotheses was two at best with length of stay in the market area, income, a number of recent purchases, and age (no direction predicted). Independent variables with one confirmation included type of purchase, marital status, occupation, household size, and education.

Considerable variation on the number of significant relationships on total store knowledge and the independent variables was evident across products. Brown goods had two significant relationships with type of purchase and income; portable televisions had four significant relationships with type of purchase, marital status, occupation, and income; and console televisions had one significant relationship with education. White goods had five significant relationships with type of purchase, length of stay in the market area, marital status, age, and the number of recent purchases. Laundry durables had two significant relationships with age and household size; automatic washers had one relationship with occupation; and refrigerators had two significant relationships based on the length of stay in the market area and the number of recent purchases. In total seventeen significant relationships were found

concerning total store knowledge and the independent variables across products (Table D-185).

Summary

In general, the socioeconomic and demographic variables differentiated very few purchasing groups by product for the dependent variables. One hypothesized relationship between unused store knowledge and household size was confirmed; the remaining hypotheses were not confirmed. Specific independent variables appeared to be product-specific for brown goods or white goods instead of being generalized across a number of consumer products labeled consumer household durables.

Single and Dual Independent Variable and Dual Dependent Variable Analysis Brand and Store Shopping Activity

The twelve hypotheses on the relationship between the dependent variable of brand and store shopping activity and the single independent variables were not confirmed according to the decision rule of five or more confirmations across products. The relationships between the dependent variable and type of purchase had four significant findings for console televisions, white goods, laundry durables, and cooking ranges. The next most important independent variable was length of stay in the market area with three significant findings on purchasers across console televisions, automatic washers, and cooking ranges. Home

ownership, type of housing, marital status, and recent purchases had two significant findings; length of stay at present address, household size, and occupation had only one significant finding.

For individual product categories the purchasers of brown goods and individual brown goods tended to have the preponderance of significant relationships. Brown goods were differentiated on home ownership, type of housing, and marital status; portable televisions were differentiated on the same three as above plus length of stay at present address and household size; and console televisions were differentiated on type of purchase, length of stay in the market area, and recent purchases. White goods were differentiated on the type of purchase; laundry durables were separated on the type of purchase and occupation; washers were differentiated on the length of stay in the market area and recent purchases; and cooking ranges were differentiated on the type of purchase and the length of stay in the market area. In total eighteen significant relationships were found on the relationship between brand and store shopping and the single independent variables across products (Table D-186).

The null hypotheses on the relationships between brand and store shopping activity and the dual independent variables must be accepted. The hypothesis on the

relationship between age, income and brand and store shopping behaviors had three confirmations for purchasers of white goods, automatic washers, and dryers. The hypotheses on brand and store shopping behaviors and the dual independent variables of age-household size, education-household size, and education-home ownership had two confirmations only. Fifteen hypotheses had one confirmation. The dual independent variables included: (1) age-number of recent purchases, (2) age-home ownership, (3) education-length of stay in the market area, (4) education-length of stay at present address, (5) income-household size, (6) income-length of stay at present address, (7) household size-length of stay at present address, (8) household size-home ownership, (9) household size-occupation, (10) recent purchases-length of stay at present address, (11) number of recent purchases-occupation, (12) length of stay in the market area-home ownership, (13) length of stay in market area-occupation, (14) length of stay at present address-home ownership, and (15) length of stay at present address-occupation.

For the dual independent variables and brand and store shopping behaviors by product the number of significant findings ranged from seven for portable color televisions to zero for laundry durables and cooking ranges. Similar to previously, the significant findings based on the dual independent variables were centered in

one product group, brown goods or white goods. Brown goods had five significant relationships based on education-household size, education-home ownership, age-number of recent purchases, number of recent purchases-length of stay at present address, and length of stay in market area-home ownership. Portable color televisions had eight significant findings from education-household size, education-home ownership, age-home ownership, household size-length of stay at present address, household size-home ownership, household size-occupation, length of stay in market area-home ownership, and length of stay at present address-home ownership. Console televisions in comparison to portable televisions had only one significant finding based on number of recent purchases-occupation. White goods had four significant relationships with age-income, age-household size, income-household size, and income-length of stay at present address. Laundry durables did not have any significant findings, but automatic washers had five findings with age-income, education-length of stay in the market, education-length of stay at present address, length of stay in market-occupation, and length of stay at present address-occupation. Dryers had one significant finding based on age-income. Refrigerators had only one significant finding based on age-household size, and cooking ranges did not have any pertinent relationships. In

total twenty-five significant relationships were found for the dual independent variables and brand and store shopping activity (Table D-186).

From the above discussion four major generalizations can be drawn for the benefit of other research. First, the independent variables, singularly or in combination, did not confirm the general hypotheses of expected differences among purchasers across products. Second, the apparent reason for the general lack of confirmation was the variability of purchaser characteristics and behaviors across different products. Third, the traditional socioeconomic and demographic variables of age, income, education, and occupation were not valuable as single independent variables to describe brand and store shopping behaviors, but these same variables, especially age and education, were quite valuable in combination with other independent variables. Finally, the purchasers of brown goods, portable color televisions, and automatic washers were relatively easier to find differentiating variables than the buyers of laundry durables, cooking ranges, dryers, and refrigerators who were relatively more difficult to isolate by the possible differentiating variables.

Unused Brand and Store Knowledge.--The hypotheses on the relationships between unused brand and store knowledge and the single dependent variables were not

confirmed. The relationships of the dependent variable and the independent variables of length of stay at present address and length of stay in the market area had only three confirmations, purchasers of portable televisions, refrigerators, and cooking ranges for the former and purchasers of brown goods, portable televisions, and refrigerators for the latter. Four hypotheses based on household size, occupation, number of recent purchases, and type of purchase had two confirmations; two hypotheses founded on home ownership and type of housing had one confirmation.

For unused brand and store knowledge and the single independent variables by product the relevant variables were generally dependent upon the product purchased. Brown goods had two significant relationships between the dependent variable and the independent variables of length of stay in the market area and occupation; portable televisions had three significant relationships with the above two independent variables plus length of stay at present address; and console televisions had only one significant finding from type of housing. White goods had only one major finding between unused brand and store knowledge and the number of recent purchases; laundry durables also had only one significant finding based on the type of purchase; washers had one significant relationship based on home

ownership; and dryers had two significant relationships with household size and the number of recent purchases. Refrigerators did slightly better than other white goods with three significant relationships based on the length of stay at present address, length of stay in the market, and household size. Cooking ranges had two major findings with length of stay at present address and type of purchase. In sum sixteen significant relationships were found between unused brand and store knowledge and the single independent variables (Table D-187).

The null hypotheses of no difference between the dependent variable of unused brand and store knowledge and the dual independent variables must be accepted for purchasers across products. Three hypotheses had at best three confirmations; the major dual independent variables were education-length of stay in the market area for purchasers of white goods, durables, and automatic washers, recent purchases-length of stay at present address for buyers of brown goods, white goods, and refrigerators, and occupation-length of stay in market area for buyers of brown goods, portable televisions, and automatic washers. The hypotheses with two confirmations were results from three dual independent variables of recent purchases-length of stay in the market area, occupation-length of stay at present address, and

length of stay in market area-length of stay at present address. A number of hypotheses had one confirmation based upon the dual independent variables of age-length of stay at present address, education-number of recent purchases, education-length of stay at present address, income-occupation, household size-length of stay at present address, and household size-occupation.

The number of significant findings on the possible relationships between unused brand and store knowledge and the bivariate independent variables by product ranged from eight for buyers of refrigerators to zero for purchasers of console color televisions, dryers, and cooking ranges.

Brown goods had four significant relationships with number of recent purchases-length of stay at present address, occupation-length of stay in the market area, occupation-length of stay at present address, and income-occupation; portable color televisions had only two significant findings based on occupation-length of stay in the market area and length of stay in the market area-length of stay at present address. White goods, as brown goods, had four significant relationships which were based on education-length of stay in the market area, number of recent purchases-length of stay at present address, number of recent purchases-length of stay in the market area, and education-number of recent

purchases. Laundry durables had one major finding resulting from education-length of stay in the market area; automatic washers had two major relationships resulting from education-length of stay in the market area and occupation-length of stay in the market area. Refrigerators stood out from the other products with eight significant relationships from: (1) number of recent purchases-length of stay at present address, (2) number of recent purchases-length of stay in the market area, (3) occupation-length of stay at present address, (4) length of stay in the market area-length of stay at present address, (5) age-length of stay at present address, (6) education-length of stay at present address, (7) household size-length of stay at present address, and (8) household size-occupation. In total twenty-one significant findings resulted from the analysis on the possible relationships between unused brand and store knowledge and the dual independent variables (Table D-187).

The discussion on the relationship between the dual dependent variables of unused brand and store knowledge and the independent variables suggest four major conclusions. First, the independent variables, singularly or in combination, did not confirm the alternative hypotheses of a differences among purchasers across products because of the variability of purchaser unused

knowledge and characteristics across products. Second, the often used single socioeconomic and demographic variables of age, education, and income did not demonstrate one significant finding. Third, the length of stay in the market area and the length of stay at present address emerged as being relatively more important, singularly or in combination with other variables, than the remaining independent variables. Finally, for specific products the differentiating variables for refrigerators were relatively more numerous when compared to other products.

Total Brand and Store Knowledge.--The null hypotheses of no differences between the dependent variables of total brand and store knowledge and the single independent variables must be accepted. Only one hypothesis on the relationship between the dependent variables and the number of recent purchases had as many as four confirmations for buyers of white goods, dryers, refrigerators, and cooking ranges. The hypothesis with household size had two confirmations for purchasers of automatic washers and refrigerators. Two hypotheses with length of stay at present address and with occupation had one confirmation for buyers of dryers for the former and of portable color televisions for the latter.

A total of eight significant relationships were found for the dual dependent variables and single independent variables for the nine product categories.

The products with two significant relationships were dryers with recent purchases and length of stay at present address and refrigerators with recent purchases and household size. The products with one significant finding were portable televisions with occupation, white goods with recent purchases, automatic washers with household size, and cooking ranges with recent purchases (Table D-188). The products with no significant findings included brown goods, console color televisions, and laundry durables.

The hypotheses on the relationships between the dual dependent and dual independent variables were not confirmed for purchasers across products. The hypothesis on the relationship between total brand and store knowledge and household size-occupation had three confirmations for buyers of brown goods, portable color televisions, and refrigerators. The hypothesis on the dual dependent variables and number of recent purchases-occupation had only two confirmations for purchasers of white goods and refrigerators. A number of hypotheses, predominately for white goods and refrigerators. A number of hypotheses, predominately for white goods, had one confirmation; the bivariate independent variables were: (1) age-household size, (2) age-recent purchases, (3) age-length of stay in the market area, (4) education-number of recent purchases, (5) education-length of stay in the market area, (6) household size-number of recent purchases,

(7) household size-length of stay in the market area, (8) household size-length of stay at present address, (9) number of recent purchases-length of stay in market area, and (10) number of recent purchases-length of stay at present address.

The number of significant findings between the bivariate dependent and independent variables by product ranged from seven for white goods to zero for console color televisions, laundry durables, and cooking ranges. White goods with seven significant relationships were differentiated on recent purchases-occupation, age-number of recent purchases, education-number of recent purchases, education-length of stay in the market area, household size-number of recent purchases, number of recent purchases-length of stay in the market area, and number of recent purchases-length of stay at present address. Automatic washers had one significant finding with household size-length of stay at present address; dryers had one significant relationship with household size-length of stay in the market area; and refrigerators had three significant relationships with household size-occupation, number of recent purchases-occupation, and age-household size. Brown goods had only one significant finding between total brand and store knowledge and household size-occupation; portable televisions had two significant findings from household size-occupation and

age-length of stay in the market area. In total fifteen significant relationships were found between total brand and store knowledge and the dual independent variables for purchasers across products (Table D-188).

From the discussion several general conclusions can be drawn concerning the bivariate dependent variables of total brand and store knowledge and the independent variables. First, none of the alternative hypothesis were confirmed according to the criterion of five or more confirmations for purchasers across product categories. Second, the lack of confirmations relative to combining the dependent variables of brand and store shopping activity and of unused brand and store knowledge suggested that a cancelling effect might have resulted from purchasers who were high on one dual dependent variable set and low on the other dual dependent variable set. Third, the single independent variables of age, education, and income again did not result in any significant findings; in combination with other independent variables age, education, occupation did perform slightly better. Finally, the major independent variables for combinations with other independent variables appeared to be the number of recent purchases, occupation, age, and length of stay in the market area.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The primary objective of Chapter V is to discuss the application of the findings from Chapter IV for the benefit of marketing practice, theory, and research. Chapter V is organized into four major sections to accomplish this purpose. The four sections are sequentially (1) a review of the major findings presented in Chapter IV, (2) a description of purchasers by product, (3) a discussion on the empirical findings and marketing theory, and (4) suggestions for future research extending the present empirical data on purchaser shopping behaviors and knowledge.

Review of Major Findings

The review of the main findings is organized according to the five major sections in Chapter IV. These sections were (1) descriptions of shopping activity and knowledge, (2) specific hypothesis on demographic variables and the shopping behaviors and knowledge of purchasers, (3) findings on the general hypotheses on shopping activity, unused knowledge, and total knowledge

of brands and stores, (4) findings on shopping activity and knowledge, and (5) an evaluation of the demographic variables.

Descriptions of Shopping Activity and Knowledge

Shopping activity for brands tended to be limited to three brands or less across product categories. Shopping activity for brands tended to vary between product categories with the purchasers of brown goods being relatively more active brand shoppers than buyers of white goods. Brand shopping activity also varied considerably among individual white goods but did not vary substantially between purchasers of individual brown goods. Shopping activity for stores tended to be limited to three stores or less across product categories. Shopping activity for stores tended to vary between product categories with the purchasers of brown goods being relatively more active store shoppers than the buyers of white goods. The purchasers of portable televisions, console televisions, and refrigerators exhibited similar store shopping behaviors; the buyers of washers, dryers, and cooking ranges exhibited similar behaviors. The combination of brand and store shopping emphasized the difference between purchasers of brown goods and white goods. The buyers of brown goods tended to be relatively more active shoppers than the purchasers of white goods. Individual products, brown goods or white goods, tended to exhibit similar brand and

store shopping behaviors as for their generic product group of brown goods or white goods.

Unused brand knowledge tended to be quite similar across product categories. Most purchasers identified two brands or less beyond the brands actively compared during shopping. Unused store knowledge tended to vary across product categories with purchasers of brown goods identifying more unused stores than the buyers of white goods. The purchasers of refrigerators tended to have less unused store knowledge than other purchasers, or in other words, tended to use up their knowledge of brands when shopping to a greater degree than other buyers. The combination of unused brand and store knowledge again emphasized the differences between buyers of brown goods and white goods with the buyers of brown goods being more knowledgeable of unused brands and stores than the buyers of white goods. Buyers of individual products reflected similar knowledge levels as the buyer groups for the respective product category of brown goods or white goods.

Total brand knowledge varied across product categories. The purchasers of white goods identified fewer total brands than the buyers of brown goods. Individual products also exhibited differences in total brand knowledge with purchasers of console televisions identifying more brands than buyers of portable televisions and purchasers of refrigerators identifying more brands than buyers of the other white goods. Total store knowledge

tended to be similar across product categories; however, the buyers of brown goods tended to be slightly more knowledgeable of total store alternatives than the purchasers of white goods. The combination of total brand and store knowledge suggested that the buyers of brown goods were more knowledgeable than the purchasers of white goods. The purchasers of individual brown goods tended to be similar on total brand and store knowledge, but the buyers of refrigerators and automatic washers tended to be more knowledgeable than the purchasers of dryers or cooking ranges.

Specific Hypotheses on Demographic Variables and Shopping Behavior and Knowledge of Purchasers

The major independent variables differentiating active and inactive brand shoppers across products tended to be mobility and the size of the household. Immobiles were more active brand shoppers of white goods and refrigerators; mobiles were more active brand shoppers of brown goods and portable televisions. Smaller households were more active brand shoppers of portable televisions and dryers. Larger households were more active brand shoppers of console televisions.

The major independent variables separating active and inactive store shoppers were the type of purchase (replacement or first-time) and length of time in the market area. First-time buyers were more active store shoppers than replacement purchasers for white goods,

laundry durables, and cooking ranges. People residing a shorter period of time in the market area were more active store shoppers than people living a longer period of time in the market for white goods and refrigerators.

The main independent variables differentiating high and low knowers of unused brands were the length of time in the market area, home ownership, and number of products recently purchased. Purchasers residing a longer time in the market were high knowers of unused brands for brown goods and portable color televisions; purchasers living in a shorter time in the market were the high knowers of unused brands for white goods and refrigerators. Home owners were high knowers of unused brands for brown goods and portable televisions, but renters were high knowers for automatic washers. The multiple product buyers were the high knowers of unused brands for laundry durables, washers, and dryers.

The main independent variables separating high and low knowers of unused stores were household size and type of housing. The larger households were the high knowers of unused stores for brown goods, portable televisions, white goods, laundry durables, washers and dryers. People living in single-family housing were the high knowers of unused stores for brown goods and portable televisions; the people residing in multi-family housing were the high knowers for dryers.

The major independent variables separating high and low knowers of total brands were type of housing, age, and home ownership. Purchasers living in multi-family housing were high knowers of total brands of portable televisions, washers, and dryers. Older buyers were the high knowers of total brands for white goods and refrigerators. Renters, in contrast to home owners, were the high knowers for washers and dryers.

The main independent variable differentiating high and low knowers of total stores was the type of purchase. Replacement purchasers were high knowers of total stores for brown goods and portable televisions. The first-time purchasers were the high knowers for white goods.

General Hypotheses on the Demographic Variables and the Shopping Behavior and Knowledge of Brands and Stores of Purchasers

The two major single independent variables related to brand and store shopping activity were type of purchase and the length of stay in the market area. For type of purchase the first-time buyers were more active brand and store shoppers for white goods, laundry durables, cooking ranges, and console televisions; the replacement buyers were less active brand and store shoppers for the same products. Persons residing in the market area six years or less were active shoppers for cooking ranges. People living over six years in the market were active shoppers for console televisions. People living in the market over fifteen years were active brand and store shoppers for

automatic washers. Single independent variables with two significant relationships across product categories were (1) home ownership, (2) type of housing, (3) marital status, and (4) the number of household durables recently purchased.

The main independent bivariate combination was age of the household head and family income. The active brand and store shoppers for white goods, automatic washers, and dryers were (1) younger household heads with less income and (2) older household heads with more income. The inactive brand and store shoppers for the same products were (1) older household heads with less income and (2) younger household heads with more income.

The dual independent variables associated with brand and store shopping with two significant relationships were (1) age of household head and household size, (2) education of the household head and household size, and (3) education of the household head and home ownership. The active brand and store shoppers for white goods and refrigerators were (1) younger household heads with smaller households and (2) older household heads with larger households. The active brand and store shoppers for brown goods and portable televisions were (1) higher educated household heads with smaller households and (2) higher educated household heads who were renting.

For unused brand and store knowledge the main single independent variables were length of stay at current

address and length of stay in the market area. These two variables had three significant relationships across products. The high knowers of unused brands and stores were purchasers (1) living one year or less or more than fifteen years at their present address for portable televisions, (2) living one year or less and over three but under seven years at their current address for refrigerators, and (3) living under six years at their current address for cooking ranges. The low knowers of unused brands and stores were buyers (1) living over one year but no more than fifteen years at their current address for portable televisions, (2) living over one year but no more than three years and living seven years or more at their current address for refrigerators, and (3) living six years or more at their address for cooking ranges. For the length of stay in the market area the high knowers of unused brands and stores for refrigerators lived in the market area under seven years, and the low knowers lived in the market area seven years or longer. The high knowers of unused brands and stores for brown goods and for portable televisions lived in the market area over fifteen years; the low knowers resided in the market area fifteen years or less. Single independent variables with two significant relationships were (1) household size, (2) occupation, (3) the number of household durables recently purchased, and (4) the type of purchase.

The dual independent variables to describe unused brand and store knowledge of purchases resulted in three major differentiating aggregations. The combinations with three significant relationships were (1) education of the household head and length of stay in the market area, (2) the number of recent purchases and length of stay at present address, and (3) occupation and the length of stay in the market area. The less educated household heads living a shorter time in the market area were high knowers of unused brands and stores for white goods, laundry durables, and automatic washers. The less educated household heads residing a longer time in the market area were low knowers of unused brands and stores for white goods, laundry durables, and automatic washers. The multi-product purchasers living a shorter time at their present address were the high knowers of unused brands and stores for white goods, refrigerators, and brown goods. The multi-product purchasers living a longer time at their current address were the low knowers for brown goods. The low knowers for white goods and refrigerators included the previous group coupled with the single product purchasers regardless of the length of time at their current address. The non-white collar buyers living over fifteen years in the market area were high knowers of unused brands and stores for brown goods and portable televisions; the white collar buyers residing a shorter time in the market area were the low knowers for both

product categories. The buyers living less than fifteen years in the market area regardless of occupation were the high knowers of unused brands and stores for automatic washers. The non-white collar buyers living a longer time in the market area were the main group of low knowers for washers.

For total brand and store knowledge the main independent variable was the number of recent purchases of household durable goods. The high knowers of total brand and store alternatives were multiple product purchasers for white goods, refrigerators, dryers, and cooking ranges; the low knowers for the same products were the single product buyers.

The main dual independent variables for total brand and store knowledge were (1) occupation of household head and household size and (2) occupation and the number of recent purchases. The high knowers of total brands and stores for brown goods and portable televisions were (1) white collar smaller households and (2) non-white collar larger households; the low knowers were white collar larger households for both products. The high knowers of total brands and stores for refrigerators were white collar larger households; the low knowers were white collar smaller households. For the number of recent purchases and occupation the high knowers of total brands and stores for white goods were multiple product buyers regardless of occupation; the low knowers were single product buyers regardless of occupation. The

high knowers of total brands and stores for refrigerators were white collar multi-product buyers; the low knowers were non-white collar single product buyers.

Combination of Knowledge Levels
and Shopping Activity

The combination of brand knowledge, store knowledge, brand shopping, and store shopping resulted in moderate success at best for market segmentation. The purchasing groups of brown goods and of white goods were significantly differentiated on several independent variables. The main independent variables for purchasers of different white goods were the number of recent purchases, the type of purchase, and the length of stay at present address. The major independent variables for buyers of different brown goods were type of housing, home ownership, and the number of recent purchases. The independent variables with no significant relationships included the length of stay in the market area, marital status, household size, age, occupation, education, and income.

The major findings, among others, included for specific product categories and products were:

White Goods:

1. The largest proportion of the total buyers of white goods were low knowers of brands and stores and inactive brand and store shoppers.
 - a. Based on proportions, single product purchasers were three times as likely as multi-product buyers to be in the low knowers and inactive shoppers category.

- b. Based on proportions, about one-third of the first-time buyers and one-third of the replacement purchasers were low knowers and inactive shoppers.
- 2. The smallest proportion of the total buyers of white goods were high knowers of brands and stores and active brand and store shoppers.
 - a. Based on proportions, multi-product purchasers were two times as likely as single product buyers to be in the high knowers and active shoppers category.
 - b. Based on proportions, about two and a half times as many first-time buyers as replacement purchasers were high knowers and active shoppers of brands and stores.
- 3. The two largest groups of single product buyers were ordinarily (1) low knowers and inactive shoppers and (2) high knowers and inactive shoppers.
- 4. The two largest groups of multi-product buyers were ordinarily (1) high knowers and inactive shoppers and (2) low knowers and active shoppers.
- 5. The two largest groups of first-time buyers were ordinarily (1) low knowers and active shoppers and (2) low knowers and inactive shoppers.
- 6. The two largest groups of replacement purchasers were ordinarily (1) high knowers and inactive shoppers and (2) low knowers and inactive shoppers.

Laundry Durables:

- 1. The largest proportion of total buyers of laundry durables were high knowers of brands and stores and inactive brand and store shoppers.
 - a. Based on proportions, two times as many replacement buyers as first-time purchasers were high knowers of brands and stores and inactive brand and store shoppers.

2. The smallest proportion of total buyers of laundry durables were high knowers of brands and stores and active shoppers of brands and stores.
3. The two largest groups of first-time buyers were ordinarily (1) low knowers and active shoppers and (2) low knowers and inactive shoppers.
4. The two largest groups of replacement buyers were ordinarily (1) high knowers and inactive shoppers and (2) low knowers and inactive shoppers.

Automatic Washers:

1. The largest proportion of total purchasers of automatic washers were high knowers of brands and stores and inactive shoppers of brands and stores.
 - a. About two-fifths of the mobiles and two-fifths of the immobiles were high knowers and inactive shoppers.
2. The smallest proportion of total buyers of automatic washers were high knowers of brands and stores and active shoppers of brands and stores.
 - a. Based on proportions, seven times as many mobiles as immobiles were high knowers and active shoppers of brands and stores.
3. The two largest groups for mobiles were (1) high knowers and inactive shoppers and (2) low knowers and inactive shoppers.
4. The two largest groups of immobiles were ordinarily (1) the low knowers and active shoppers and (2) the high knowers and inactive shoppers.

Dryers:

1. The largest proportion of total buyers of dryers were high knowers of brands and stores and inactive shoppers of brands and stores.

- a. About two-fifths of the immobiles and one-third of the mobiles were high knowers and inactive shoppers.
 - b. About one-third of the single product buyers and about one-third of the multi-product buyers were high knowers and inactive shoppers.
2. The smallest proportion of total buyers of dryers were high knowers of brands and stores and active shoppers of brands and stores.
 - a. None of the immobiles and about one-fifth of the mobiles were high knowers and active shoppers.
 - b. None of the single product buyers and only one-tenth of the multi-product purchasers were high knowers and active shoppers.
 3. The two largest groups of mobiles were ordinarily (1) low knowers and active shoppers and (2) high knowers and inactive shoppers.
 4. The two largest groups of immobiles were ordinarily (1) high knowers and inactive shoppers and (2) low knowers and inactive shoppers.
 5. The two largest groups of single product buyers were ordinarily (1) low knowers and inactive shoppers and (2) high knowers and inactive shoppers.
 6. The two largest groups of multi-product buyers were (1) high knowers and inactive shoppers and (2) low knowers and active shoppers.

Brown Goods:

1. The largest proportion of total buyers of brown goods were high knowers of brands and stores and inactive shoppers of brands and stores.
 - a. Based on proportions, about three times as many single family housing dwellers as multi-family housing dwellers were high knowers and inactive shoppers.
2. The smallest proportion of total buyers of brown goods were low knowers of brands and stores and inactive brand and store shoppers.

- a. Based on proportions, about one-seventh of the multi-family housing dwellers and of the single family housing dwellers were low knowers and inactive shoppers.
3. The two largest groups of single family housing dwellers were ordinarily (1) high knowers and inactive shoppers and (2) low knowers and active shoppers.
4. The two largest groups of multi-family housing dwellers were (1) low knowers and active shoppers and (2) high knowers and active shoppers.

Portable Color Televisions:

1. The largest proportion of total buyers of portable televisions were high knowers of brands and stores and inactive shoppers of brands and stores.
 - a. Based on proportions, about three and a half times as many single family housing dwellers as multi-family housing dwellers were high knowers and inactive shoppers.
 - b. Based on proportions, about twice as many home owners as renters were high knowers and inactive shoppers.
2. The smallest proportion of total buyers of portable televisions were low knowers of brands and stores and inactive shoppers of brands and stores.
 - a. Based on proportions, twice as many single family housing dwellers as multi-family housing dwellers were low knowers and inactive shoppers.
 - b. Based on proportions, about twice as many home owners as renters were low knowers and inactive shoppers.
3. The two largest groups of purchasers living in single family housing were ordinarily (1) high knowers and inactive shoppers and (2) low knowers and active shoppers.
4. The two largest groups of purchasers living in multi-family housing were ordinarily (1) low knowers and active shoppers and (2) high knowers and active shoppers.

5. The two largest groups of home owners were ordinarily (1) high knowers and inactive shoppers and (2) (a) low knowers and active shoppers and (2) (b) low knowers and inactive shoppers.
6. The two largest groups of renters were ordinarily (1) low knowers and active shoppers and (2) high knowers and active shoppers.

Console Color Television:

1. The largest proportion of total buyers of console televisions were centered in two groups--(1) the high knowers of brands and stores and active shoppers of brands and stores and (2) the low knowers of brands and stores and the active shoppers of brands and stores.
 - a. Based on proportions, about three times as many single product buyers as multi-product buyers were high knowers and active shoppers.
 - b. About three-tenths of the single product buyers and three-tenths of the multi-product buyers were low knowers and active shoppers.
2. The smallest proportion of total buyers of console televisions were the low knowers of brands and stores and the inactive shoppers of brands and stores.
 - a. Based on proportions, almost three times as many single product buyers as multi-product buyers were low knowers and inactive shoppers.
3. The two largest groups of single product buyers were ordinarily (1) high knowers and active shoppers and (2) low knowers and active shoppers.
4. The two largest groups of multi-product buyers were ordinarily (1) high knowers and inactive shoppers and (2) low knowers and active shoppers.

The combination of knowledge and shopping of brands and stores demonstrated differences in purchasers and purchaser characteristics. For white goods the major group

based on proportions of buyers were low knowers and inactive shoppers, and for brown goods the major group based on proportions of buyers were high knowers and inactive shoppers. Individual products showed the same major segment of purchasers as their respective product category with the exception of console televisions.

Summary and Conclusions

To evaluate the general confirmations of the hypotheses across products, the significant relationships for each product, dependent variable, and independent variable set were summed. The decision rule of five or more confirmations across products was used. The only hypothesis confirmed across products was on the relationship between unused store knowledge and household size.

The best independent variable sets across products were determined by summing significant relationships for each single and dual dependent variable. The independent variables were: (1) mobility for brand shopping activity, (2) type of purchase for store shopping activity, (3) (a) home ownership and (b) number of recent purchases for unused brand knowledge, (4) household size for unused store knowledge, (5) type of housing for total brand knowledge, (6) type of purchase for total store knowledge, (7) type of purchase for brand and store shopping activity, (8) (a) mobility, (b) length of stay in the market area, (c) education of the household head and the length of stay in the market area, (d) length of stay at present address

and the number of recent purchases, and (e) occupation of the household head and the length of stay in the market area for unused brand and store knowledge, and (9) the number of recent purchases for total brand and store knowledge.

The review of the findings demonstrated several major principles on knowledge and shopping activities by purchasers of household durables. First, the matrix approach is worthwhile to utilize for describing the purchaser distributions of knowledge and shopping behaviors by brands, by stores, and by brands and stores. Second, the matrix approach can be extended to two matrices on knowledge levels and shopping activities of brands and stores, and then the two matrices can be combined to determine the significance of four dependent variables. Third, differences in knowledge levels and shopping activities are apparent across products with many similar attributes. Fourth, definite differences exist between purchasers of brown goods and buyers of white goods when the dependent variables are studied individually, in combinations, or in dual combinations. Fifth, the findings on the relationships between the independent and dependent variables are quite product specific, thus, the demographic descriptors should be frequently used for specific product categories instead of across product categories to obtain the most benefit with the least input.

Profiles of Purchasers of Household Durables

This section presents the major attributes of the buyers of household durables based on the findings in Chapter IV. The purchasers are described by product according to the behavioral, knowledgeable, and demographic characteristics for the single and dual dependent variables. A portion of the attributes are interrelated. These profiles are contained in Figures 5-1 through 5-18.

The purchaser profiles for the dependent variables need an explanation on their derivation. The dichotomies are relative, that is, they are based on the largest percentages, not absolute numbers, of purchasers. If one or more groups of purchasers were within 5 per cent of the group at one of the extremes, then these additional groups were also listed.

An example will help clarify the dichotomies and the 5 per cent decision rule. If purchasers of white goods were separated into groups from the four-valued independent variables of active or inactive brand and store shoppers as follows: (1) younger and more affluent--0 per cent were active and 100 per cent were inactive; (2) younger and less affluent--44.0 per cent were active and 56.0 per cent were inactive; (3) older and more affluent--43.7 per cent were active and 56.3 per cent were inactive; and (4) older and less affluent--21.7 per cent were active and 78.3 per cent were inactive; then the main active brand and store shopping group were

characterized as younger and less affluent (44.0 per cent) since this percentage of purchasers is relatively higher on active shopping than any of the other groups. However, a second group, the older and more affluent (43.7 per cent) would also be reported since its proportion on shoppers is within 5 per cent of the primary group. The inactive brand and store shopping group is characterized as being younger and more affluent because it is proportionately (100 per cent) the least active.

The profiles also include the most important independent variable set for each dependent variable set by the application of the displacement process suggested by Belson¹ and utilized by Stewart.² This process involves ranking the independent variables on the number of people displaced which is found by subtracting the observed frequency of people from the expected frequency of people, using only the minuses or pluses. The top ranking independent variable set was selected plus any other independent variable set which was within two-tenths of the top ranking one. The top ranking independent variable set(s) for the dependent variable set is denoted in the profiles by the underlining of the listed attributes.

Conclusions on Profiles

The sets of consumer profiles demonstrated the rather large number of market segments to the business

- | | |
|---|---|
| <p>I. <u>Active Brand Shoppers</u></p> <p>A. <u>Renter</u></p> <p>B. <u>Multi-Family Dwelling Unit</u></p> <p>C. <u>More Mobile</u></p> <p>D. <u>White Collar Occupation</u></p> <p>E. <u>Higher Educated*</u></p> | <p>I. <u>Inactive Brand Shoppers</u></p> <p>A. <u>Home Owner</u></p> <p>B. <u>Single Family Dwelling Unit</u></p> <p>C. <u>Less Mobile</u></p> <p>D. <u>Non-White Collar</u></p> <p>E. <u>Less Educated*</u></p> |
| <p>II. <u>High Knowers of Unused Brands</u></p> <p>A. <u>Home Owner</u></p> <p>B. <u>Married*</u></p> | <p>II. <u>Low Knowers of Unused Brands</u></p> <p>A. <u>Renter</u></p> <p>B. <u>Single*</u></p> |
| <p>III. <u>High Knowers of Unused Stores</u></p> <p>A. <u>Home Owner</u></p> <p>B. <u>Single Family Dwelling Unit</u></p> <p>C. <u>Longer Time in Market</u></p> <p>D. <u>Larger Household</u></p> <p>E. <u>Less Affluent</u></p> | <p>III. <u>Low Knowers of Unused Stores</u></p> <p>A. <u>Renter</u></p> <p>B. <u>Multi-Family Dwelling Unit</u></p> <p>C. <u>Shorter Time in Market</u></p> <p>D. <u>Smaller Household</u></p> <p>E. <u>More Affluent</u></p> |
| <p>IV. <u>High Knowers of Total Brands</u></p> <p>A. <u>Multi-Family Dwelling Unit*</u></p> <p>B. <u>More Mobile*</u></p> | <p>IV. <u>Low Knowers of Total Brands</u></p> <p>A. <u>Single Family Dwelling Unit*</u></p> <p>B. <u>Less Mobile*</u></p> |
| <p>V. <u>High Knowers of Total Stores</u></p> <p>A. <u>Less Affluent</u></p> <p>B. <u>Replacement Purchaser of Brown Goods</u></p> | <p>V. <u>Low Knowers of Total Stores</u></p> <p>A. <u>More Affluent</u></p> <p>B. <u>First Time Purchaser of Brown Goods</u></p> |

Figure 5-1.--Profile of Purchasers of Brown Goods from the Single Independent and Single Dependent Variable Analysis.

*These attributes were significant at the .15 level of confidence.

- 284
- I. Active Brand and Store Shoppers
- A. Renter
- B. Multi-Family Housing
- C. Single
- D.1. Younger Head and Multi-Product Purchaser
- D.2. Single Product Purchaser Regardless of Age
- E. More Educated and Smaller Household
- F. More Educated and Renter
- G.1. Multi-Product Purchaser and Longer Time at Residence
- G.2. Single Product Purchaser and Shorter Time at Residence
- H. Shorter Time in Market Area and Renters
- II. High Knowers of Unused Brands and Stores
- A. Over Fifteen Years in Market Area
- B. Non-White Collar
- C. Less Affluent and Non-White Collar
- D. Larger Household and Non-White Collar
- E. Multi-Product Purchaser and Shorter time at Residence
- F. Longer Time in Market Area and Non White Collar
- G. Shorter Time at Residence and Non-White Collar
- III. High Knowers of Total Brands and Stores
- A.1. Larger Household and Non-White Collar
- A.2. Smaller Household and White Collar
- I. Inactive Brand and Store Shoppers
- A. Home Owner
- B. Single Family Housing
- C. Married
- D. Older Heads and Multi-Product Purchasers
- E. Less Educated and Smaller Household
- F. Less Educated and Renter
- G. Multi-Product Purchaser and Shorter Time at Residence
- H. Shorter Time in Market Area and Home Owners
- II. Low Knowers of Unused Brands and Stores
- A. Fifteen Years or Less in Market Area
- B. White Collar
- C. More Affluent and White Collar
- D. Smaller Household and White Collar
- E. Multi-Product Purchaser and Longer Time at Residence
- F. Shorter Time in Market Area and White Collar
- G. Shorter Time at Residence and White Collar
- III. Low Knowers of Total Brands and Stores
- A. Larger Household and White Collar

Figure 5-2.--Profile of Purchasers of Brown Goods from the Single and Dual Independent Variable and Dual Dependent Variable Analysis.

- | | |
|---|---|
| <p>I. <u>Active Brand Shoppers</u></p> <p>A. <u>Renter</u></p> <p>B. <u>Multi-Family Dwelling Unit</u></p> <p>C. <u>More Mobile</u></p> <p>D. <u>Single</u></p> <p>E. <u>Smaller Household</u></p> <p>F. <u>White Collar Occupations*</u></p> <p>G. <u>Higher Educated*</u></p> | <p>I. <u>Inactive Brand Shoppers</u></p> <p>A. <u>Home Owner</u></p> <p>B. <u>Single Family Dwelling Unit</u></p> <p>C. <u>Less Mobile</u></p> <p>D. <u>Married</u></p> <p>E. <u>Larger Household</u></p> <p>F. <u>Non-White Collar*</u></p> <p>G. <u>Less Educated*</u></p> |
| <p>II. <u>Active Store Shoppers</u></p> <p>A. <u>Multi-Family Dwelling Unit</u></p> | <p>II. <u>Inactive Store Shoppers</u></p> <p>A. <u>Single Family Dwelling Unit</u></p> |
| <p>III. <u>High Knowers of Unused Brands</u></p> <p>A. <u>Home Owner</u></p> <p>B. <u>Less Mobile</u></p> <p>C. <u>Married</u></p> <p>D. <u>Larger Household</u></p> <p>E. <u>Non-White Collar</u></p> <p>F. <u>First Time Purchaser of Portable Televisions</u></p> | <p>III. <u>Low Knowers of Unused Brands</u></p> <p>A. <u>Renter</u></p> <p>B. <u>More Mobile</u></p> <p>C. <u>Single</u></p> <p>D. <u>Smaller Household</u></p> <p>E. <u>White Collar Occupations</u></p> <p>F. <u>Replacement Purchaser of Portable Televisions</u></p> |
| <p>IV. <u>High Knowers of Unused Stores</u></p> <p>A. <u>Home Owner</u></p> <p>B. <u>Single Family Dwelling Unit</u></p> <p>C. <u>Less Mobile</u></p> <p>D. <u>Longer Time in Market</u></p> <p>E. <u>Larger Household</u></p> <p>F. <u>Older*</u></p> <p>G. <u>Less Affluent</u></p> | <p>IV. <u>Low Knowers of Unused Stores</u></p> <p>A. <u>Renter</u></p> <p>B. <u>Multi-Family Dwelling Unit</u></p> <p>C. <u>More Mobile</u></p> <p>D. <u>Shorter Time in Market</u></p> <p>E. <u>Smaller Household</u></p> <p>F. <u>Younger*</u></p> <p>G. <u>More Affluent</u></p> |
| <p>V. <u>High Knowers of Total Brands</u></p> <p>A. <u>Home Owner*</u></p> <p>B. <u>Multi-Family Dwelling Unit</u></p> | <p>V. <u>Low Knowers of Total Brands</u></p> <p>A. <u>Renter*</u></p> <p>B. <u>Single Family Dwelling Unit</u></p> |
| <p>VI. <u>High Knowers of Total Stores</u></p> <p>A. <u>Single</u></p> <p>B. <u>Non-White Collar</u></p> <p>C. <u>Less Affluent</u></p> <p>D. <u>Replacement Purchaser of Portable Televisions</u></p> | <p>VI. <u>Low Knowers of Total Stores</u></p> <p>A. <u>Married</u></p> <p>B. <u>White Collar Occupations</u></p> <p>C. <u>More Affluent</u></p> <p>D. <u>First-Time Purchaser of Portable Televisions</u></p> |

Figure 5-3.--Profile of Purchasers of Portable Televisions from the Single Independent and Single Dependent Variable Analysis.

*These attributes were significant at the .15 level of confidence.

I. Active Brand and Store Shoppers

- A. Renter
- B. Multi-Family Housing
- C. Two to Three Years in Market Area
- D. Single
- E. Smaller Household
- F. Older Head and Renter
- G. More Educated and Smaller Household
- H. More Educated and Renter
- I. Smaller Household and Shorter Time
- J. Smaller Household and Renter
- K. Smaller Household and White Collar
- L. Longer Time in Market and Renter
- M. Shorter Time at Residence and Renter

I. Inactive Brand and Store Shoppers

- A. Home Owner
- B. Single-Family Housing
- C. Over Fifteen Years in Market
- D. Married
- E. Larger Household
- F. Older Head and Home Owner
- G. Larger Household Regardless of Education
- H. Less Educated and Renter
- I.1. Longer Time at Residence Regardless of Household Size
- I.2. Larger Household and Shorter Time at Residence
- J. Larger Household and Home Owners
- K. Larger Household and Non-White Collar
- L. Home Owner Regardless of Time in Market
- M. Longer Time at Residence and Home Owner

II. High Knowers of Unused Brands and Stores

- A. One Year or Less at Residence
- B. Over Fifteen Years in Market Area
- C. Non-White Collar
- D. Longer Time in Market Area and Residence
- E. Longer Time in Market Area and Non-White Collar

II. Low Knowers of Unused Brands and Stores

- A. Four to Six Years at Residence
- B. Fifteen Years or Less in Market Area
- C. White Collar
- D. Shorter Time in Market Area and Longer Time at Residence*
- E. Shorter Time in Market Area and White Collar

III. High Knowers of Total Brands and Stores

- A. Non-White Collar
- B. Younger Head and Longer Time in Market Area
- C.1. Smaller Household and White Collar
- C.2. Larger Household and Non-White Collar

III. Low Knowers of Total Brands and Stores

- A. White Collar
- B. Older Head and Shorter Time in Market Area
- C. Larger Household and White Collar

Figure 5-4.--Profile of Purchasers of Portable Televisions from the Single and Dual Independent Variable and Dual Dependent Variable Analysis.

*For practical purposes because of the small number of purchasers in this segment, the least knowledgeable group would be the ones who lived a longer time in the market but a shorter time at their residence.

- | | | | |
|------|--------------------------------------|------|-------------------------------------|
| I. | <u>Active Brand Shoppers</u> | I. | <u>Inactive Brand Shoppers</u> |
| | A. <u>Larger Households</u> | | A. <u>Smaller Households</u> |
| | B. <u>White Collar Occupation</u> | | B. <u>Non-White Collar</u> |
| II. | <u>Active Store Shoppers</u> | II. | <u>Inactive Store Shoppers</u> |
| | A. <u>Larger Household</u> | | A. <u>Smaller Household</u> |
| | B. <u>White Collar Occupations*</u> | | B. <u>Non-White Collar*</u> |
| III. | <u>High Knowers of Unused Brands</u> | III. | <u>Low Knowers of Unused Brands</u> |
| | A. <u>More Mobile*</u> | | A. <u>Less Mobile*</u> |
| IV. | <u>High Knowers of Total Stores</u> | IV. | <u>Low Knowers of Total Stores</u> |
| | A. <u>Larger Household*</u> | | A. <u>Smaller Household*</u> |
| | B. <u>White Collar Occupation*</u> | | B. <u>Non-White Collar*</u> |
| | C. <u>Higher Educated</u> | | C. <u>Less Educated</u> |

Figure 5-5.--Profile of Purchasers of Console Televisions from the Single Independent and Single Dependent Variable Analysis.

*These attributes were significant at the .15 level of confidence.

I. Active Brand and Store Shoppers

- A. Six Years in Market Area
- B. Single Product Purchased Recently
- C. First-Time Purchaser
- D. White Collar and Multi-Product Purchasers*

I. Inactive Brand and Store Shoppers

- A. Six Years or Less in Market Area
- B. Multiple Products Purchased Recently
- C. Replacement Purchaser
- D. Non-White Collar and Multi-Product Purchaser

II. High Knowers of Unused Brands and Stores

- A. Single-Family Housing

II. Low Knowers of Unused Brands and Stores

- A. Multiple Family Housing

Figure 5-6.--Profile of Purchasers of Console Televisions from the Single and Dual Independent Variable and Dual Dependent Variable Analysis.

*This segment had a small number of respondents; therefore, for pragmatic purposes the more relevant group is constituted of white collar single product purchasers.

- I. Active Brand Shoppers
 A. Less Mobile
- II. Active Store Shoppers
 A. Shorter Time in Market
 B. Younger*
 C. Multi-Purchases of Household Durables*
 D. First-Time Purchaser of the White Good
- III. High Knowers of Unused Brands
 A. Shorter Time in Market
 B. Multi-Purchases of Household Durables*
- IV. High Knowers of Unused Stores
 A. Married
 B. Larger Household
 C. Multi-Purchases of Household Durables
- V. High Knowers of Total Brands
 A. Older
 B. Multi-Purchases of Household Durables*
- VI. High Knowers of Total Stores
 A. Shorter Time in Market
 B. Married
 C. Younger
 D. Multi-Purchases of Household Durables
 E. First-Time Purchaser of the White Good
- I. Inactive Brand Shoppers
 A. More Mobile
- II. Inactive Store Shoppers
 A. Longer Time in Market
 B. Older*
 C. Single Purchase of Household Durables*
 D. Replacement Purchaser of the White Good
- III. Low Knowers of Unused Brands
 A. Longer Time in Market
 B. Single Purchase of Household Durables*
- IV. Low Knowers of Unused Stores
 A. Single
 B. Smaller Household
 C. Single Purchase of Household Durables
- V. Low Knowers of Total Brands
 A. Younger
 B. Single Purchase of Household Durables*
- VI. Low Knowers of Total Stores
 A. Longer Time in Market
 B. Single
 C. Older
 D. Single Purchase of Household Durables
 E. Replacement Purchaser of the White Good

Figure 5-7.--Profile of Purchasers of White Goods from the Single Independent and Single Dependent Variable Analysis.

*These attributes were significant at the .15 level of confidence.

- I. Active Brand and Store Shoppers
- A. First-Time Purchaser
- B.1. Younger and Less Affluent
- B.2. Older and More Affluent
- C. Younger and Smaller Households
- D. More Affluent and Larger Households
- E. More Affluent and Longer Time at Residence
- II. High Knowers of Unused Brands and Stores
- A. Multi-Product Purchaser
- B. More Educated and Multi-Product Purchaser
- C. Less Educated and Shorter Time in Market Area
- D. Multi-Product Purchaser and Shorter Time in Market Area
- E. Multi-Product Purchaser and Shorter Time at Residence
- III. High Knowers of Total Brands and Stores
- A. Multi-Product Purchaser
- B. Multi-Product Purchaser Regardless of Age
- C. More Educated and Multi-Product Purchaser
- D. Less Educated and Shorter Time in Market
- E. Smaller Household and Multi-Product Purchaser
- F. Multi-Product Purchaser and Shorter Time in Market
- G. Multi-Product Purchaser and Shorter Time at Residence
- H. Multi-Product Purchaser Regardless of Occupation
- I. Inactive Brand and Store Shoppers
- A. Replacement Purchaser
- B. Younger and More Affluent
- C. Older and Smaller Household
- D. More Affluent and Smaller Household
- E. More Affluent and Shorter Time at Residence
- II. Low Knowers of Unused Brands and Stores
- A. Single Product Purchaser
- B.1. Less Educated Regardless of Number of Products Purchased
- B.2. More Educated and Single Product Purchaser
- C. Less Educated and Longer Time in Market
- D.1. Single Product Purchaser and Regardless of Time in Market Area
- D.2. Multi-Product Purchaser and Longer Time in Market
- E. Multi-Product Purchaser and Longer Time at Residence
- III. Low Knowers of Total Brands and Stores
- A. Single Product Purchaser
- B. Single Product Purchaser Regardless of Age
- C. Single Product Purchaser Regardless of Education
- D. Less Educated and Longer Time in Market
- E. Smaller Household and Single Product Purchaser
- F. Single Product Purchaser and Longer Time in Market
- G. Single Product Purchaser and Regardless of Time at Residence
- H. Single Product Purchaser Regardless of Occupation

Figure 5-8.--Profile of Purchasers of White Goods from the Single and Dual Independent Variables and Dual Dependent Variable Analysis.

- | | |
|--|--|
| I. <u>Active Brand Shoppers</u> | I. <u>Inactive Brand Shoppers</u> |
| A. <u>First-Time Purchaser of a Washer or Dryer</u> | A. <u>Replacement Purchaser of a Washer or Dryer</u> |
| II. <u>Active Store Shoppers</u> | II. <u>Inactive Store Shoppers</u> |
| A. <u>First-Time Purchaser of a Washer or Dryer</u> | A. <u>Replacement Purchaser of a Washer or Dryer</u> |
| III. <u>High Knowers of Unused Brands</u> | III. <u>Low Knowers of Unused Brands</u> |
| A. <u>Multi-Purchases of Household Durables</u> | A. <u>Single Purchase of Household Durables</u> |
| IV. <u>High Knowers of Unused Stores</u> | IV. <u>Low Knowers of Unused Stores</u> |
| A. <u>Larger Households</u> | A. <u>Smaller Households</u> |
| B. <u>Replacement Purchaser of Washers or Dryers</u> | B. <u>First-Time Purchaser of Washers or Dryers</u> |
| V. <u>High Knowers of Total Stores</u> | V. <u>Low Knowers of Total Stores</u> |
| A. <u>Larger Household</u> | A. <u>Smaller Household</u> |
| B. <u>Younger</u> | B. <u>Older</u> |

Figure 5-9.--Profile of Purchasers of Laundry Durables from the Single Independent and Single Dependent Variable Analysis.

*These attributes were significant at the .15 level of confidence.

- I. Active Brand and Store Shoppers
 - A. White Collar
 - B. First-Time Purchaser
- II. High Knowers of Unused Brands and Stores
 - A. Replacement Purchaser
 - B. Less Educated and Shorter Time in Market Area
- I. Inactive Brands and Store Shoppers
 - A. Non-White Collar
 - B. Replacement Purchaser
- II. Low Knowers of Unused Brands and Stores
 - A. First-Time Purchaser
 - B. Less Educated and Longer Time in Market Area

Figure 5-10.--Profile of Purchasers of Laundry Durables from the Single and Dual Independent Variable and Dual Dependent Variable Analysis.

- | | |
|---|---|
| I. <u>Active Brand Shoppers</u>
A. <u>Less Mobile</u> | I. <u>Inactive Brand Shoppers</u>
A. <u>More Mobile</u> |
| II. <u>High Knowers of Unused Brands</u>
A. <u>Renter</u>
B. <u>Larger Household*</u>
C. <u>Higher Educated</u>
D. <u>Less Affluent*</u>
E. <u>Multi-Purchases of Household Durables</u> | II. <u>Low Knowers of Unused Brands</u>
A. <u>Home Owner</u>
B. <u>Smaller Household*</u>
C. <u>Less Educated</u>
D. <u>More Affluent*</u>
E. <u>Single Purchase of Household Durables</u> |
| III. <u>High Knowers of Unused Stores</u>
A. <u>Larger Household</u>
B. <u>Younger</u>
C. <u>Less Affluent*</u> | III. <u>Low Knowers of Unused Stores</u>
A. <u>Smaller Household</u>
B. <u>Older</u>
C. <u>More Affluent*</u> |
| IV. <u>High Knowers of Total Brands</u>
A. <u>Renter</u>
B. <u>Multi-Family Dwelling Unit</u> | IV. <u>Low Knowers of Total Brands</u>
A. <u>Home Owner</u>
B. <u>Single Family Dwelling Unit</u> |
| V. <u>High Knowers of Total Stores</u>
A. <u>White Collar Occupation</u> | V. <u>Low Knowers of Total Stores</u>
A. <u>Non-White Collar</u> |

Figure 5-11.--Profile of Purchasers of Automatic Washers from the Single Independent and Single Dependent Variable Analysis.

*These attributes were significant at the .15 level of confidence.

- I. Active Brand and Store Shoppers
 - A. Over Fifteen Years in Market Area
 - B. Older and More Affluent
 - C. Less Educated and Longer Time in Market Area
 - D. More Educated and Shorter Time at Residence
 - E. Shorter Time in Market Area and White Collar
 - F. Shorter Time at Residence and White Collar
- II. High Knowers of Unused Brands and Stores
 - A. Renter
 - B. Less Educated and Shorter Time in Market Area
 - C. Shorter Time in Market Area Regardless of Occupation
- III. High Knowers of Total Brands and Stores
 - A. Larger Household
 - B. Smaller Household and Shorter Time in Market*
 - C.1. Smaller Household and Shorter Time at Residence
 - C.2. Larger Household and Longer Time at Residence
- I. Inactive Brand and Store Shoppers
 - A. Fifteen Years or Less in Market Area
 - B.1. Older and Less Affluent
 - B.2. Younger and More Affluent
 - C. Less Educated and Shorter Time in Market Area
 - D. More Educated and Longer Time at Residence
 - E. Shorter Time in Market Area and Non-White Collar
 - F. Longer Time at Residence and White Collar
- II. Low Knowers of Unused Brands and Stores
 - A. Home Owner
 - B. Less Educated and Longer Time in Market Area
 - C. Longer Time in Market Area and Non-White Collar
- III. Low Knowers of Total Brands and Stores
 - A. Smaller Household
 - B. Smaller Household and Longer Time in Market
 - C. Smaller Household and Longer Time at Residence

Figure 5-12.---Profile of Purchasers of Automatic Washers from the Single and Dual Independent Variable and Dual Dependent Variable Analysis.

*For practical purposes because of the small sample the main group would be composed of larger households living a shorter time in the market.

- I. Active Brand Shoppers
 - A. Smaller Household
 - B. Multi-Purchases of Household Durables
- II. Active Store Shoppers
 - A. Multi-Purchases of Household Durables
- III. High Knowers of Unused Brands
 - A. Multi-Family Dwelling
 - B. More Mobile*
 - C. Larger Household*
 - D. Multi-Purchases of Household Durables
 - E. First-Time Purchaser of Dryer
- IV. High Knowers of Unused Stores
 - A. Renters*
 - B. Multi-Family Dwelling Unit
 - C. Shorter Time in Market*
 - D. Larger Household
 - E. Younger
- V. High Knowers of Total Brands
 - A. Renter
 - B. Multi-Family Dwelling Unit
- I. Inactive Brand Shoppers
 - A. Larger Household
 - B. Single Purchase of Household Durables
- II. Inactive Store Shoppers
 - A. Single Purchase of Household Durables
- III. Low Knowers of Unused Brands
 - A. Single Family Dwelling Unit
 - B. Less Mobile*
 - C. Smaller Household*
 - D. Single Purchase of Household Durables
 - E. Replacement Purchaser of Dryers
- IV. Low Knowers of Unused Stores
 - A. Home Owners*
 - B. Single Family Dwelling Unit
 - C. Longer Time in Market*
 - D. Smaller Household
 - E. Older
- V. Low Knowers of Total Brands
 - A. Home Owner
 - B. Single Family Dwelling Unit

Figure 5-13.--Profile of Purchasers of Dryers from the Single Independent and Single Dependent Variable Analysis.

*These attributes were significant at the .15 level of confidence.

- | | |
|---|---|
| <p>I. <u>Active Brand and Store Shoppers</u>
 A. <u>Three or More Products Purchased Recently</u>
 B. <u>Older Head and More Affluent</u></p> | <p>I. <u>Inactive Brand and Store Shoppers</u>
 A. <u>Single Product Purchased Recently</u>
 B. <u>Younger Head and More Affluent</u></p> |
| <p>II. <u>High Knowers of Unused Brands and Stores</u>
 A. <u>Larger Household</u>
 B. <u>Two Product Purchaser</u></p> | <p>II. <u>Low Knowers of Unused Brands and Stores</u>
 A. <u>Smaller Household</u>
 B. <u>Three or More Product Purchaser</u></p> |
| <p>III. <u>High Knowers of Total Brands and Stores</u>
 A. <u>Five Years or Less at Residence</u>
 B. <u>Multi-Product Purchaser</u></p> | <p>III. <u>Low Knowers of Total Brands and Stores</u>
 A. <u>Over Five Years at Residence</u>
 B. <u>Single Product Purchaser</u></p> |

Figure 5-14.--Profile of Purchasers of Dryers from the Single and Dual Independent Variable and Dual Dependent Variable Analysis.

- I. Active Brand Shoppers
 A. Less Mobile
 B. Married
 C. More Affluent
- II. Active Store Shoppers
 A. Shorter Time in Market
 B. Married
- III. High Knowers of Unused Brands
 A. Shorter Time in Market
 B. Married*
 C. Larger Households
 D. Older*
- IV. High Knowers of Unused Stores
 A. Shorter Time in Market*
 B. Married
 C. Larger Household*
 D. White Collar Occupation*
- V. High Knowers of Total Brands
 A. Larger Household
 B. Older
- VI. High Knowers of Total Stores
 A. Shorter Time in Market
 B. Married*
 C. Multi-Purchases of Household Durables
 D. First-Time Purchaser of Refrigerators*
- I. Inactive Brand Shoppers
 A. More Mobile
 B. Single
 C. Less Affluent
- II. Inactive Store Shoppers
 A. Longer Time in Market
 B. Single
- III. Low Knowers of Unused Brand
 A. Longer Time in Market
 B. Single*
 C. Smaller Households
 D. Younger*
- IV. Low Knowers of Unused Stores
 A. Longer Time in Market*
 B. Single
 C. Smaller Household*
 D. Non-White Collar*
- V. Low Knowers of Total Brands
 A. Smaller Household
 B. Younger
- VI. Low Knowers of Total Stores
 A. Longer Time in Market
 B. Single*
 C. Single Purchase of Household Durables
 D. Replacement Purchaser of Refrigerators*

Figure 5-15.--Profile of Purchasers of Refrigerators from the Single Independent and Single Dependent Variable Analysis.

*These attributes were significant at the .15 level of confidence.

I. Active Brand and Store Shoppers
A. Younger Head and Smaller Household

- II. High Knowers of Unused Brands and Stores
A. Four to Six Years at Residence
B. Six Years or Less in Market Area
C. Larger Household
D. Older Head and Shorter Time at Residence
E. Less Educated and Shorter Time at Residence
F. Larger Household and Shorter Time at Residence
G. Multi-Product Purchaser and Shorter Time in Market Area
H. Multi-Product Purchaser and Shorter Time at Residence
I. Shorter Time in Market Area and Residence
J. Shorter Time at Residence and Non-White Collar

I. Inactive Brand and Store Shoppers
A. Older Head and Smaller Household

- II. Low Knowers of Unused Brands and Stores
A. Over Six Years at Residence
B. Over Six Years in Market Area
C. Smaller Household
D. Older Head and Longer Time at Residence
E. Less Educated and Longer Time at Residence
F. Smaller Household and Longer Time at Residence
G. Single Product Purchaser and Longer Time in Market Area
H. Longer Time at Residence Regardless of Number of Products Purchased
I. Longer Time in Market Area and Residence
J. Longer Time at Residence and White Collar

III. High Knowers of Total Brands and Stores

- A. Larger Household
B. Multi-Product Purchaser
C. Older Head and Larger Household
D. Larger Household and White Collar
E. Multi-Product Purchaser and White Collar

III. Low Knowers of Total Brands and Stores

- A. Smaller Household
B. Single Product Purchaser
C. Older Head and Smaller Household
D. Smaller Household and White Collar
E. Single Product Purchaser and Non-White Collar

Figure 5-16.--Profile of Purchasers of Refrigerators from the Single and Dual Independent Variable and Dual Dependent Variable Analysis.

- | | |
|---|--|
| <p>I. <u>Active Store Shoppers</u></p> <p>A. <u>Younger</u></p> <p>B. <u>Multi-Purchases of Household Durables*</u></p> <p>C. <u>First-Time Purchaser of Cooking Ranges</u></p> | <p>I. <u>Inactive Store Shoppers</u></p> <p>A. <u>Older</u></p> <p>B. <u>Single Purchase of Household Durables*</u></p> <p>C. <u>Replacement Purchaser of Cooking Ranges</u></p> |
| <p>II. <u>High Knowers of Unused Stores</u></p> <p>A. <u>Shorter Time in Market*</u></p> | <p>II. <u>Low Knowers of Unused Stores</u></p> <p>A. <u>Longer Time in Market*</u></p> |
| <p>III. <u>High Knowers of Total Brands</u></p> <p>A. <u>Multi-Purchases of Household Durables</u></p> <p>B. <u>First-Time Purchaser of Cooking Ranges*</u></p> | <p>III. <u>Low Knowers of Total Brands</u></p> <p>A. <u>Single Purchase of Household Durables</u></p> <p>B. <u>Replacement Purchaser of Cooking Ranges*</u></p> |
| <p>IV. <u>High Knowers of Total Stores</u></p> <p>A. <u>First-Time Purchaser of Cooking Ranges*</u></p> | <p>IV. <u>Low Knowers of Total Stores</u></p> <p>A. <u>Replacement Purchaser of Cooking Ranges*</u></p> |

Figure 5-17.--Profile of Purchasers of Cooking Ranges from the Single Independent and Single Dependent Variable Analysis.

*These attributes were significant at the .15 level of confidence.

- I. Active Brand and Store Shoppers
 - A. Six Years or Less in Market Area
 - B. First-Time Purchaser
- I. Inactive Brand and Store Shoppers
 - A. Over Six Years in Market Area
 - B. Replacement Purchaser
- II. High Knowers of Unused Brands and Stores
 - A. Five Years or Less at Residence
 - B. First-Time Purchaser
- II. Low Knowers of Unused Brands and Stores
 - A. Over Five Years at Residence
 - B. Replacement Purchaser
- III. High Knowers of Total Brands and Stores
 - A. Multi-Product Purchaser
- III. Low Knowers of Total Brands and Stores
 - A. Single Product Purchaser

Figure 5-18.--Profile of Purchasers of Cooking Ranges from the Single and Dual Independent Variable and Dual Dependent Variable Analysis.

firm. The findings showed that consumer characteristics are related to those buyers who are more apt or less apt to shop for brands and/or stores and to know about brands and/or stores. The findings tended frequently to be product-specific which means that it is often a fruitless, misleading task to lump all household durables into one group and can be misleading even to combine products into brown goods or into white goods for analysis.

The consumer profiles developed for the dependent variable and individual products can easily be adapted for application by the producer and reseller. The strength of the independent variables was the common availability of published data from the census, county planning centers, and other sources for individual markets. Once the firm were to know the number of people in the relevant geographical market(s) corresponding to the independent variable, then the firm can begin by using the proportions from the original tables to find the probable number of potential buyers with the specific characteristic(s) and with the probable shopping behaviors and/or with the probable knowledge levels. If the firm has the funds to conduct its own market research and has to know about its specific channel--product--market, then the business firm can begin with those independent variables which were more fruitful in this study. This research is a base-line study to build upon by those producers and resellers attempting to reach potential buyers of major household durables.

Research Results and Marketing Theory

This major section encompasses the relationship of empirical findings to marketing theory. In particular, this section relates empirical data to current consumer product classifications used in marketing, discusses the long-run market trends on brand and store shopping activities, and relates the research to marketing practice. The section is organized into (1) shopping activity and product classifications, (2) market trends: a comparison among researches on brand and store shopping behaviors over time, and (3) strategic marketing planning.

Shopping Activity and Product Classifications

The empirical research on shopping behaviors focused on the amount of brand and store shopping of purchasers of household durable goods. According to some product theories, household durable goods would be a priori classified as products which consumers would exert considerable amount of time and effort to conduct product and/or store comparisons before purchasing. This conclusion would be evident according to Copeland's shopping goods,³ Aspinwall's yellow goods,⁴ and Miracle's Group III products.⁵ This conclusion could not be proposed as easily from Holton's definitions of products because the definitions are centered on the consumer's evaluation of the value of extra shopping activity.⁶ Therefore, any specific product could be labeled as convenience goods or shopping goods depending upon the prospective buyer. This conclusion is also not warranted

according to Bucklin's definitions of types of products and of stores since the definitions are centered on the consumer's preference map and search predispositions⁷ which are ambiguous for classifying specific products unless research were undertaken, preferably before purchase, to delineate consumers' preference maps. Therefore, three product theories offer the possibility of concluding a priori for specific products and two product theories do not offer this theoretical result without ambiguity.

Given the findings presented previously, the theoretical frameworks presented by Copeland, Aspinwall, and Miracle appear not to be able to handle well household durable goods. Since approximately one-half of the purchasers for specific subsets of household durable goods were active brand and store shoppers and one-half of the buyers were inactive shoppers, the products overlap the categories presented by the authors. Copeland's three-way classification of products into convenience, shopping, and speciality goods is not too workable for household durables because the post-transaction results suggest that household durables do not fit closely into one of the classifications but fit several classifications. Aspinwall's yellow goods appeared to represent household durables rather well, except contradictory to the theory, many consumers find that is frequently not worthwhile to actively search for alternatives. This conclusion is based on the assumption that the number of active comparisons is positively related

to the amount of time and effort expended. Miracle's Group III products were supposed to include household appliances and television sets. In his framework one attribute was time and effort in shopping which for Group III products was "medium" relative to "very low" and "low" for Groups I and II respectively and to "high" and "very high" for Groups IV and V respectively. A good proportion of the shoppers in this study did not compare any alternatives--brands or stores--but purchased a brand from a store. This finding suggests the surrogate measure of time and effort, the number of alternatives compared, is "very low" because one can not get any lower than no comparisons of brands or stores. This description describes Group I products. Household durables are apparently not categorizable as a group based upon the above product attributes due to the wide range of behavior associated with purchasing these products. Either the theory needs to be modified to include market segments or the marketing man needs to overlook major deviations in the theory while concluding that the theory is still helpful since the theories represent ideal attributes (i.e., attributes with clear, clean categories). Since Bucklin and Holton's definitions do not result in a priori predictions on the products, conclusions above can not be readily applied. However, if purchasers of specific products can not be categorized a priori for predictive purposes, then serious questions can be raised on the efficacy of the theory to the marketing man.

The research findings, however, do shed additional insight into the goods-store matrix conceptualized by Bucklin.⁸ Bucklin suggested that certain cells could be distinguished by the preference maps of potential purchasers. The product-store matrix is adapted and presented in Figure 5-19. The matrix can be applied to these research data if the data after the purchase were indicative of the pre-purchase preference maps. The assumption of no difference between the start of the decision-making process and its problem resolution by purchasing can be challenged because of the conceivable changes from one theoretical cell to another cell by potential buyers prior to purchases because of inhibitors to the transaction. For example, a potential buyer originally in the specialty goods--speciality stores cell (X_4) might find that the preferred store, carrying the preferred brand, is out-of-stock of the chosen brand. Therefore, the potential buyer, assuming a transaction will take place, would usually reevaluate the evoked sets of brands and stores and (1) delay purchase until the preferred brand arrives, (2) reevaluate the evoked set of brands and select another brand, if the store carries other brands, from the preferred store, (3) reevaluate the evoked set of stores and purchase the preferred brand at another store, or (4) reevaluate the evoked sets of brands and stores and select a new brand and a new store. From the example it is obvious that the model, as stated, is unable to handle changes over time prior to

Products	Stores		
	Convenience	Shopping	Specialty
Convenience	No Searching X_1	Store Searching W_1	No Searching X_3
Shopping	Brand Searching Y_1	Brand and Store Searching Z	Brand Searching Y_2
Specialty	No Searching X_2	Store Searching W_2	No Searching X_4

where $\sum_{i=1}^4 X_i$ = No Shopping Purchasers

$\sum_{i=1}^2 Y_i$ = Brand Comparisons Only

$\sum_{i=1}^2 W_i$ = Store Comparisons Only

Z = Brand and Store Comparisons

Figure 5-19.--The Goods--Stores Matrix*

*The matrix was developed from Louis P. Bucklin, "Retail Strategy and the Classification of Consumer Goods," Journal of Marketing, XXVII (January, 1963), pp. 53-54.

purchase. The time dynamics are beyond the scope of this particular research but do offer research opportunities.

Given the assumption of no difference, then the empirical data can be categorized according to the degree of shopping activity hypothesized from the application of the model. The empirical data suggested that four of the nine cells contained relatively few household durable goods' buyers. Two of these cells are the shopping goods--convenience stores cell (Y_1) and the shopping goods--speciality stores cell (Y_2). These cells in combination accounted for 12 per cent of the brown goods buyers and 5 per cent of the white goods purchasers. The other two cells are the convenience goods--shopping stores cell (W_1) and the speciality goods--shopping stores cell (W_2); these two categories contained 4.5 per cent of the buyers of brown goods and 7 per cent of the purchasers of white goods. The four cells, signifying convenience products--convenience stores (X_1), speciality goods--convenience stores (X_2), convenience goods--specialty stores (X_3), and specialty goods--speciality stores (X_4), accounted for 27 per cent of the buyers of brown goods and 51 per cent of the buyers of white goods. If the purchasers in the aggregate were equally distributed among these four cells, then the proportion per cell is not large for brown goods. The remaining cell describing shopping goods--shopping stores (Z), accounted for 56 per cent of the purchasers of brown goods and 37 per cent of the buyers of white goods

(Table 5-1). For major household durables this latter category is the largest on relative size, but it may not be the most important based on potential market responses to a firm's marketing mix since the firm will need to first determine in which cell(s) its target market should be placed according to the model.

Although the above figures were more examples than substantial proof on the power of the goods--stores matrix, the proportions illustrated the differences between purchasers of different product types. The relatively small proportions in the brand shopping only cells and in the store shopping only cells questioned the need in market research to pursue brand shoppers only or store shoppers only unless a company is predicting for large aggregations of consumers. The largest proportion for brand and store shopping might be unintentionally inflated because of the possibility of consumers moving into that cell after beginning the purchasing process.

TABLE 5-1.--An Empirical Data for the Goods--Store Matrix.

Cells	Brown Goods	White Goods
$\sum_{i=1}^4 x_i$	27.3%	50.6%
$\sum_{i=1}^2 w_i$	12.2	5.0
$\sum_{i=1}^2 w_i$	4.5	7.0
Z	56.0	37.4
Total	100.0% (n=132)	100.0% (n=99)

Market Trends: A Comparison Among Researchers
on Brand and Store Shopping Behaviors Over Time

This section summarizes the results from several empirical researches on brand shopping activity and store shopping activity of buyers and household durables. The results from this study are compared on the same products to the published results reported by Coolsen,⁹ Dommermuth,¹⁰ and Bruce and Dommermuth.¹¹ If variations in behaviors existed between this research and one or more of the above researches, then the differences were statistically tested with a test of difference between two proportions. A difference was considered significant at plus or minus 1.96 standard errors or more which results in a .05 level or better of alpha confidence. The results are summarized by product for major household durables in Table 5-2 for brand shopping behaviors and Table 5-3 for store shopping behaviors.

Brand Shopping Activity.—The extensiveness of brand shopping activity by purchasers varied considerably among the research studies on refrigerators, cooking ranges, all white goods, and televisions. Three studies were compared for refrigerators. In 1962 Coolsen found that 32 per cent of his sample considered and purchased only one brand and 68 per cent examined two or more brands prior to buying. In 1965 Dommermuth found that 41 per cent of his sample examined and purchased only one brand and 59 per cent examined two

TABLE 5- 2.--A Summary of Major Research Findings on Brand Shopping Activity for Major Household Appliances.

Product	Researcher	n	Number of Brands		Totals
			Single Brand Considered and Purchased	% Multi-Brands Considered	
Refrigerators	Coolsen ^{a,b}	98	31.6 ^c	68.4 ^c	100.0
	Dommermuth ^d	152	41.4	58.6	100.0
	Sibley	71	49.3	50.7	100.0
Washers	Dommermuth	181	60.5	39.5	100.0
	Sibley	79	64.6	35.4	100.0
Dryers	Sibley	63	57.1	42.9	100.0
Washers and/or Dryers	Coolsen	127	34.6	65.4	100.0
	Sibley	142 ^e	61.3	38.7	100.0
Washers or Dryers	Sibley	58	63.8	36.2	100.0
Cooking Ranges	Coolsen	35	42.8	57.2	100.0
	Sibley	35	57.1	42.9	100.0
Refrigerators, Washers, Dryers, and/or Ranges	Coolsen ^f	260	34.6	65.4	100.0
	Sibley	248 ^e	57.3	42.7	100.0
Refrigerator, Washer, or Dryer	Sibley	99	57.6	42.4	100.0
	Dommermuth	204	49.4	50.6	100.0
Televisions	Bruce and Dommermuth ^g	891	62.0	38.0	100.0
	Sibley ^h	132	27.0	73.0	100.0

^aFrank G. Coolsen, The Consumer Market for Major Appliances in the Washington D.C. Metropolitan Area (Washington, D.C.: The American University School of Business Administration Publication Series, Marketing Studies, 1962).

^bCoolsen combined refrigerators and freezer purchases.

^cRead: Of the total purchasers of refrigerators 31.6 per cent considered and shopped one brand, including the purchased brand, and 68.4 per cent shopped for two or more brands, including the purchased brand.

^dWilliam P. Dommermuth, "The Shopping Matrix and Marketing Strategy," Journal of Marketing Research, II (May, 1965), pp. 129-130.

^eThe n in this case refers to the product purchases instead of different purchasers.

^fCoolsen's results on all white goods include freezers.

^gGrady D. Bruce and William P. Dommermuth, "Social Class Differences in Shopping Activities," Marquette Business Review, XII (Spring, 1968), p. 6.

^hPurchasers of color televisions only were researched.

TABLE 5- 3.--A Summary of Major Research Findings on Store Shopping Activity for Major Household Appliances.

Product	Researcher	n	Number of Stores		Totals %
			Single-Store Considered %	Multi-Stores Considered %	
Refrigerators	Dommermuth ^a	152	42.4 ^b	57.6 ^b	100.0
	Sibley	71	47.9	52.1	100.0
Washers	Dommermuth	181	62.4	37.6	100.0
	Sibley	79	63.3	36.7	100.0
Dryers	Sibley	63	61.9	38.1	100.0
Washers and/or Dryers	Sibley	142 ^c	62.7	37.3	100.0
Washers or Dryers	Sibley	58	63.8	36.2	100.0
Cooking Ranges	Sibley	35	57.1	42.9	100.0
Refrigerators Washers, Dryers, and/or Ranges	Coolsen ^{d,e}	366	39.6	60.4	100.0
	Sibley	248 ^c	57.7	42.3	100.0
Refrigerator, Washer, or Dryer	Sibley	99	55.6	44.4	100.0
Televisions	Dommermuth	204	58.3	41.7	100.0
	Bruce & Dommermuth ^f	891	62.0	38.0	100.0
	Sibley ^g	132	39.4	60.6	100.0

^aWilliam P. Dommermuth, "The Shopping Matrix and Marketing Strategy," Journal of Marketing Research, II (May, 1965), pp. 199-130.

^bRead: Of the total purchasers of refrigerators 42.4 per cent considered one store, including the store purchased from, and 57.6 per cent considered two or more stores, including the store purchased from.

^cIn this case n refers to product purchases instead of different purchasers.

^dFreezers and dishwashers were included in Coolsen's study.

^eFrank G. Coolsen, The Consumer Market for Major Appliances in the Washington, D. C. Metropolitan Area (Washington, D.C.: The American University School of Business Administration Publication Series, Marketing Studies, 1962).

^fGrady D. Bruce and William P. Dommermuth, "Social Class Differences in Shopping Activities," Marquette Business Review, XII (Spring, 1968), p. 6.

^gPurchasers of Color televisions only were studied.

or more brands before purchasing. The results from the current study suggested that 49 per cent of the sample examined and bought one brand and 51 per cent examined multi-brands before selecting a brand. The difference in percentages from the earliest study to the current one is 17 per cent for either the one brand examiner and buyer or the multi-brand consider and buyer. The difference between Coolsen's results and the current study's findings was found to be statistically significant at $< .02$.

Similar results can be also reported on brand shopping for purchasers of washers and dryers and of white goods. The difference of 26 per cent between Coolsen's study and the present one for washers and dryers was statistically significant at the $< .001$ level of confidence. The proportions of buyers for all white goods were also quite different between the studies. The 22 per cent difference between Coolsen's study and the present one on white goods was significant at better than $< .001$. Two products, washers and cooking ranges, had differences in purchaser brand shopping behaviors, but the differences could have happened by chance.

From the significant differences found between the studies on refrigerators, laundry durables, and all white goods a number of possible explanations can be suggested. The major reasons for the behavioral variation could include: (1) regional differences in shopper brand behaviors, (2) consumer behavioral changes over time between

the earliest study (1962) and the latest one (1972), (3) the movement from one stage in the product life-cycle to a subsequent stage for each of the products, and (4) socioeconomic or demographic differences other than geographical location of residence.

The differences in brand shopping behavior might contain a location bias. Coolsen conducted his research in Washington, D.C., this research was completed in Lansing, Michigan, but Dommermuth's location was not reported.

No evidence exists to measure this potential bias.

Dommermuth's study, which was conducted between 1962 and 1972 supports the contention that the differences in shopping behaviors are likely market trends without being dependent upon the geographical location of the market. However, at this time the only possible conclusion is that the variation could be because of the geographical locations of the samples but not very likely.

The time differences and consumer differences could be the general reason for the variation. Shopping behavior in other research studies tend to show that the time variable is frequently an important factor. An example is the differences in behaviors of purchasers of product innovations according to the relative earliness or lateness of adoption from the time the innovation is introduced.¹²

The reasons for less shopping in 1972 and 1962 could stem (1) from greater customer satisfaction from a previous purchase(s), (2) perceptions by purchasers of

better product quality and/or services for current brands of white goods, (3) greater use of consumer testing reports (e.g., Consumer Reports), (4) increasing affluence making the purchase of household white goods a less important purchase in the households' total purchases, (5) the greater availability of retail credit which could cause consumers needing financial retail assistance to forego brand alternatives at those retail sources of supply who did not offer this service or offered this service but were stringent in its use, (6) the belief that brands for these products are basically the same except for slight differences, and (7) other reasons based on the marketing mix variables of channel members.

The changes in the stages in the product life-cycle (e.g., from the growth stage to the market maturity stage) has particular appeal also for the explanation of differences. If the 1960's were characterized by rapidly increasing sales, increasing profits, and the emergence of new brand competitors, then these appliances were in the growth stage of the product life-cycle. Evidence cited in Appliance Manufacturer on sales results in units for these products from 1965-1969 suggested that the sales increased very slowly for three of the four products. The sales of refrigerators in 1965 were 4.7 million units and in 1969 were 5.3 million units; the sales for cooking ranges in 1965 were 4.3 million and in 1969 were 4.8 million units; the sales for automatic

washers in 1965 were 3.8 million units and in 1969 were 4.1 million units; and the sales of dryers were 2.0 million units in 1965 and were 3.0 million units in 1969.¹³

The only exception to the relatively small changes in annual unit sales was the dryer. Based upon limited statistics on unit sales, a reasonable conclusion is that three of the four products were in the late growth stage or the market maturity stage of the product life-cycle. An expected result of this stage is the lack of brand shopping activity by consumers because of the belief that the remaining brands in the market are basically the same with only minor differences.

The final explanation which appeared plausible is demographic differences among purchasers composing the samples. Dommermuth stated that his sample was homogeneous on geographical location and to some degree on socioeconomic characteristics, but no description of his sample other than shopping behaviors was given. Coolsen's sample classified by the number of family members was quite similar to the family member distribution in this sample for recent and non-recent purchasers (see Table 5-4). The other variables, however, might not be as consistent between the two studies.

Household appliance purchasing has definitely changed in the last ten years. The possible explanations all have some merit to explain why there were substantial variations mainly between Coolsen's study and the current

TABLE 5-4.--The Number of Family Members of Two Samples on Appliance Purchasing.

	Number of Family Members							Total
	1	2	3	4	5	6	7 or more	
Coolsen	12 3.4%	107 30.1%	73 20.3%	82 22.8%	44 12.3%	17 4.7%	24 6.7%	359 100.3%*
Sibley	91 10.4%	264 30.1%	169 19.3%	174 19.8%	99 11.3%	52 5.9%	29 3.4%	878 100.2%*

*Due to rounding to nearest one-tenth.

research. The changing consumer behaviors could result from one or more of the factors discussed previously.

Televisions.--The second major product area was brown goods. Significant differences were found between the reported brand shopping activity in the current study and the two studies by Dommermuth and Bruce and Dommermuth. The wide differences are probably attributed mainly to the operational definitions of televisions. The other two researches studied purchasing of all televisions, monochrome and color. The current study focused solely on color televisions. If compared to black and white televisions, color televisions are relatively a more recent product innovation with a relatively higher price which alone could account for the differences. In addition, color television purchasing is probably tempered (1) by the perceived changes in technology, (2) by the product

reliability and service cost problems associated with some television brands in the past, (3) by perceivable product differences in brands, (4) by the interest by some consumers in obtaining as much as possible for the dollar, and (5) perhaps by the belief all brands are alike but the stores are not. In this latter case, brand shopping is really store shopping in disguise. In the process the purchaser has likely surveyed a large range of brands but has engaged in little real comparison since the consumer in actuality was concerned more with the store than the brand. Once a store was selected, then the purchaser selected a brand sold by the store. These reasons and others would account for the greater brand shopping activity associated with buyers of color televisions only than with buyers of color or monochrome television.

Store Shopping Activity.—The results for refrigerators and for automatic washers concerning store shopping activity were quite similar in Dommermuth's study and this one. For example, Dommermuth found that 42 per cent of his sample were one store shoppers for refrigerators, and this researcher found that 48 per cent of the sample were in the same category. In addition, Dommermuth found that 62 per cent of his sample were one store shoppers for washing machines, and this researcher found that 63 per cent of the sample were also single store shoppers for automatic washing machines. Coolsen found that 40 per cent of his

sample were one-store shoppers for white goods including freezers, and this researcher found that 58 per cent of the sample were single store shoppers for white goods excluding freezers. The difference in proportions was significant at better than the .001 level.

The possible reasons for the differences are for the most part the same reasons given for the differences on brand shopping activity. An additional reason could be consumers deciding to purchase a particular brand first and then deciding upon the source of supply. Decisions on brand choice would appear to lead decisions on store choice for heterogeneous products, but whether there is a significant trend in the process over time is difficult to conclude without further research. In addition, the store decision could likely lead the brand decision for homogeneous products in the market maturity stage of the product life-cycle.

The extent of store shopping activity was also, as brand shopping, significantly different at the .001 level or better between the current study and the studies by Dommermuth and Bruce and Dommermuth. Again the differences are probably the result of the operational definitions of televisions. These research results do emphasize that televisions need to be considered at a minimum as two categories and should likely be researched in multi-categories, for example, portable versus console

televisions, color versus monochrome, or combination entertainment centers versus freestanding televisions.

Summary. The evidence among several studies suggest long-run market trends on the shopping behaviors of white goods' purchasers. Consumers are today more brand inactive shoppers and more store inactive shoppers for these individual products. The same trends might have been apparent for brown goods providing the same operational definitions had been used.

The possible reasons for the behavioral differences over time for selected products were numerous. In addition, the reasons for this difference reflect probably a longer run trend than 10 years as the products move through the product life-cycle and as many consumers move (1) from the extensive problem solving stage either to the limited problem solving stage or to the routinized response stage or (2) from the limited problem solving stage to the routinized response stage. In other words, for many household appliance purchasers the problem of selecting a brand or source of a supply is probably no longer a major problem and at best a minor problem.

Strategic Marketing Planning

The research has demonstrated the possibility of separating a heterogeneous market into more homogeneous submarkets resulting from the analysis of shopping

behaviors and knowledge levels associated with demographic and related independent variables. If the manufacturer and reseller adopted the market segmentation concept, then the research findings may be applicable for strategic and tactical planning by the firm's executives. The research findings appear to be useful when the firm is producing and/or selling household durables, when the objective is to penetrate existing markets, when the objective is to extend into new markets with existing products, and when the firm is monitoring current markets for future actions and reactions.

The possible major strategies are geographical market extension and market penetration in current geographical markets. The first strategic possibility involves mainly (1) domestic producers in foreign markets, (2) domestic producers aspiring to expand internationally, (3) foreign producers in the domestic market, or (4) companies desiring to enter the domestic market. The second strategic possibility involves, more so than the first one, domestic producers selling in the domestic market, but it also includes domestic producers in foreign markets and foreign producers in domestic markets.

The manufacturer of brown goods or white goods should consider the possible major strategic alternatives for the marketing variables. However, not all of the marketing variables are equal for potential implementation. The product variable is a good example where very little

change, other than minor innovations and adaptations, can be expected for color television sets or for white goods. The other variables of promotion, distribution, and perhaps pricing are more apt to offer greater value as judged by the market segment's probable responses and to enhance more fully the successfulness of the firm concerning the two primary strategies for increased profits.

The foundation for marketing planning has to be recognition of the demographic and behavioral differences among purchasers of white goods and brown goods and of the close association between brand shopping and store shopping by prospective customers across products. The first consideration was discussed in previous sections of this chapter. The second consideration implies the necessity of brand-store planning by producers and resellers for mutual beneficial actions in the market place. In fact, in only restricted situations can the business enterprise focus completely on brand planning or store planning. Although this conclusion is far from a revelation, it does support the apparent necessary but difficult tasks of planning, executing, and coordinating channel behaviors.

Producers or resellers might already have a target market(s) which could be called the core market segment. The producers or resellers could still attempt to cater to the fringe market segments, namely these additional segment(s) which tends to be active or inactive shoppers. The level of unused knowledge has a direct bearing on the

fringe market segment(s) definition(s) since it would seem particularly useful to pursue the high knowers unless this group was composed of too few prospects. This conclusion ties in with other research on consumers who are most likely to be aware of a new product, and this same conclusion may be warranted for older, more established products.

For purposes of discussion the separation of prospective customers into active shoppers and inactive shoppers would be useful with the realization that these targets can be further defined by the demographic characteristics.

One strategic plan would be the attempt to attract the active shopper. Producers and resellers in the channel would need to emphasize personal selling at retail over producer or retail advertising since this potential customer is viewing the purchasing situation as extensive problem solving. These prospects must be persuaded either to return to the retail establishment after further brand and store comparisons or to discontinue the search process at this time by purchasing. The former persuasion problem for the salesman may be less difficult to accomplish than the latter persuasion problem. Both persuasion problems, however, will require competent salesmen who have excellent knowledge of competitive brands and stores, can present themselves as consumer problem solvers, and have empathetic

abilities. Advertising in this situation plays a supportive but informative role so active shoppers can make comparisons of brands and stores. Advertising which emphasizes persuasive but weak informational points or reminders to active shoppers would appear to be less effective on the active buyer.

The channel strategy in this situation would likely be exclusive or selective distribution since the active shopper would probably exert special efforts (distance traveled and time) to compare product--store offerings. If the channel leader were the manufacturer or the retailer, then this firm should probably seek a retailer in the former case or a manufacturer in the latter case whereby the retail outlet would be the exclusive dealer or one of very few dealers in a geographical territory. In short, instead of widespread availability of the brand in the geographical market, the emphasis should be on the quality of the retail people and the reputation of the retail outlet in the market.

If this shopper can be satisfied, then he might become an inactive shopper with brand and store loyalty for purchases of related products. The changing of the active shopper into an inactive loyal shopper should be the next goal of these firms seeking market stability. This conclusion implies prudent post-transaction communications and product servicing to reinforce the previous purchasing decision.

Producers and resellers attempting to attract those prospects who are relatively inactive brand and store shoppers need to rely more on producer and reseller advertising and less on retail personal selling than the firms approaching the active shoppers. Advertising, playing a primary role, needs to be persuasive for the undecideds and reminder for the loyal customers. Although retail salesmen still play an important role in closing the transaction, these salesmen probably do not need to be as competent in general as the salesmen who are communicating to the active shoppers.

If a producer were to center upon the non-loyal inactive shopper, then there should be an emphasis upon intensive distribution of the brands since many of these customer prospects probably will exert very little total shopping effort before deciding and purchasing.

Future Research

A number of potentially useful researchable areas are related to this study. These projects relate primary to utilizing key independent and intervening variables, to furthering the knowledge on the market segments, and to analyzing market responses resulting from changes in the marketing mix.

One research possibility is a replication of this study with a larger sample size to be able to analyze the purchasing groups who were brand active and store inactive

shoppers or were brand inactive and store active shoppers. Too few respondents were categorized into these two groups for comparisons and contrasts with the brand and store inactive group and the brand and store active group. Another replicative study is longitudinal where either respondents used in this study are requestioned to check on consistency of results over time and the reasons for inconsistencies, if any, or new respondents are interviewed to determine what changes are taking place in the market place.

One research approach which has not been attractive to most marketing researchers is experimentation. Four potentially useful general experiments include (1) implementing selective changes in the marketing variables and studying the responses between active and inactive brand and/or store shoppers, (2) comparing the productivity (completed sales) between retail salesmen who attempt to select out active and inactive shoppers and to tailor their presentation to the specific type of shopper and salesmen who do not attempt to group customers into actives or inactives, and (3) comparing outputs to input between geographical areas where at least two situations are compared by implementing the planned marketing mix in one area and comparing the results in a matched area by directing the promotion to potentially profitable submarkets, such as first time buyers, intracity mobiles and/or intercity mobiles, among others.

Additional research for different products than the ones analyzed in this study appears to be warranted for extending our knowledge on buyer behaviors and product attributes. Since many of the independent variables which distinguished purchasing groups were product-related, other products traditionally labeled within a broad product classification may need reevaluation. Also, more research comparing lower and higher valued (priced) products with consumer behavior for the purpose of adding to the reported research in the literature could be helpful. In addition to the above possible researches, the influence of environmentally related independent variables on purchasers' behavior and knowledge seems to be relevant for products related to the environment. Although low unit prices products such as soda pop, beer, and detergent products, or high unit priced products, such as automobiles, are frequently mentioned as environmental problem areas, among others one product--the washing machine--could also fall into the environmentally charged category.

Some intervening variables which could have utility for explaining shopping activity include (1) the degree and type of satisfaction with past purchases by the replacement buyer for the same product and for different products with the same family brand name, (2) the amount, type, and recall from information searches, and (3) types of stores visited and the number of visits to the same store.

A comprehensive research project includes the analysis of the triggering effect of specific inputs for specific responses by purchasers. For this latter project it seems that consumers might respond in a particular way on brand and/or store shopping because of a key input, such as a statement from a friend, a well received television commercial or perhaps just the announcer on a television commercial. This concept, of course, does not reject the usual conclusion that behavior is a function of a number of a variety of stimuli but does accept the idea that stimuli can be ordered in importance and probably one stimulus acts more than others to evoke the specific response.

Summary

The research accomplished several major objectives for assisting the marketing theoretician and practitioner. The research demonstrated rather conclusively that demographic variables can still be used for separating a heterogeneous market into more homogeneous markets. The research showed that purchasers of household durables can be separated into more homogeneous groups by analyzing the size (1) of the shopping sets of brands, stores, and brands and stores, (2) of the unused sets of brands, stores, and brands and stores, and (3) of the total knowledge of sets of brands, stores, brands and stores. The research demonstrated the potential fruitfulness of separating buyers based on the combination of shopping activity and

unused knowledge in association with selected independent variables for the application by the firm interested in product-channel behavioral systems.

Additional findings reported in the study included the efficacy of the independent variables across products and within products. The relationship of the empirical findings to product typologies resulted in serious questioning of the present product classifications. Long-run market trends of less consumer shopping for white goods were evident in the market place.

FOOTNOTES--CHAPTER 5

¹W. A. Belson, "Techniques for Measuring the Effects of Exposure to the Mass Media," Business Review of the London School of Economics and Political Science (May, 1961) and W. A. Belson, "Matching and Prediction on the Principle of Biological Classification," Applied Statistics, VIII (June, 1959), pp. 65-75, cited in John B. Stewart, Repetitive Advertising in Newspapers: A Study of Two New Products (Boston: Harvard University), p. 89.

²Ibid., pp. 89-93.

³Melvin T. Copeland, "Relation of Consumers' Buying Habits to Marketing Methods," Harvard Business Review, I (April, 1923), pp. 282-285.

⁴Leo Aspinwall, "The Characteristics of Goods and Parallel Systems Theories," in Eugene J. Kelley and William Lazer (ed.), Managerial Marketing: Perspectives and Viewpoints (Homewood, Illinois: Richard D. Irwin, Inc., 1958), pp. 437-441.

⁵Gordon E. Miracle, "Product Characteristics and Marketing Strategy," Journal of Marketing, XXIX (January, 1965), pp. 19-21.

⁶Richard H. Holton, "The Distinction Between Convenience Goods, Shopping Goods, and Speciality Goods," Journal of Marketing, XXIII (July, 1958), pp. 53-54.

⁷Louis P. Bucklin, "Retail Strategy and the Classification of Consumer Goods," Journal of Marketing, XXVII (January, 1963), pp. 53-54.

⁸Ibid.

⁹Frank G. Coolsen, The Consumer Market for Major Appliances in the Washington, D.C. Metropolitan Area (Washington, D.C.: The American University School of Business Administration Publication Series--Marketing Studies, 1962).

¹⁰William P. Dommermuth, "The Shopping Matrix and Marketing Strategy," Journal of Marketing Research, II (May, 1965), pp. 128-132.

¹¹Grady D. Bruce and William P. Dommermuth, "Social Class Differences in Shopping Activities," Marquette Business Review, XII (Spring, 1968), pp. 1-7.

¹²Note: For brand shopping activity similar conclusions for innovations could emerge on the inactivity of brand shopping for the innovator and early adopter for innovations but for a vastly different reason. For example, the early purchaser of a product innovation could be classified as an inactive brand shopper but the reason could be the lack of brand alternatives in the market place which is certainly quite different than the situation where a relatively larger number of brand alternatives were in the market place but the purchaser decided for a one or a variety of reasons not to compare actively the brand alternatives. Thus, the degree of newness of a product and the number of alternatives certainly should be factors to take into consideration for certain products.

¹³"Econographics," Appliance Manufacturer, XVIII (March, 1970), p. 12.

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APPENDICES

APPENDIX A

HANDBOOK FOR CONSUMER SURVEY

1. HOUSING AND TENURE See questionnaire.

2. APPLIANCE OWNERSHIP

Fill in table

- A. Col. 1 Do you own any of the following home appliances?
 ... a refrigerator? ... automatic washing machine?
 ... clothes dryer (gas or electric)? ... range (gas
 or electric)? ... color TV (portable or console)?

IF NONE, SKIP TO #5

- B. Col. 2 (For those owned) Did you buy your (product) in
new condition?

IF NONE, SKIP TO #5

Now ask the following questions for each product which has "qualified" by being owned and purchased in new condition. These questions should be asked one product at a time, moving horizontally across the "Appliance Buying Experience" table.

- C. Col. 3 What is the brand or make of your (product)?
- D. Col. 4 What store did you buy it from?
- E. Col. 5 Can you tell me what year you bought it in?

3. REPLACEMENT VS. F T-TIME PURCHASES
 RECENT PURCHASING EXPERIENCE

Fill in Table

- A. Col. 6 Did you purchase your (product) as a replacement for one you already had?

RECENT PURCHASES
<p>Check the "year purchased" (Col. 5) to determine whether purchase occurred in 1970 or 1971. If purchase is recent, continue below. If purchase is <u>not</u> recent, skip to the replacement question (Col. 6) and continue.</p> <p>Use Col. 7 to match (#) the awareness boxes with the recently purchased product.</p> <p>The "brand/store awareness" questions are asked for any or all recent purchases to a maximum of 3. For respondents having 3 or more recent purchases, it is up to the discretion of the interviewer to choose the products for which the awareness questions will be asked. (Always do TV if recent purchase.)</p>

- B. Col. 8 What other brands of (product) did you shop for before you bought a (brand)?

C. Brand awareness - lower right

Were you aware of any other brands of (product)? ... What were they?

(Probe: Were there any others you were aware of?)

D. Col. 9 Can you recall what other stores you shopped in before you bought your (product)?

E. Store awareness - lower right

Were you aware of any other stores selling (product)? ... What were they?

(Probe: Were there any others you were aware of?)

F. Col. 10 See "buying influences" sheet for questions.. Place a check (✓) in Col. 10 to indicate that these questions have been asked.

DETAILED REPLACEMENT QUESTIONS

If product is refrigerator or washing machine and was purchased as a replacement, continue below. If these conditions are not met, move to next qualified product until completed. Then skip to #5.

G. Col. 11 What was the brand of your old (product)?

H. Col. 12 Do you recall what store you bought it from?
(Probe: If store name is not familiar, ask what type of store it is. See store types on the following page. If a chain store, ask at which branch the product was purchased.)

I. Col. 13 Do you remember what year you bought your old one?
(Probe: About how old was it when you decided to buy a new one?)

FOR REMAINDER OF INTERVIEW, SEE QUESTIONNAIRE.

CONSUMER SURVEY QUESTIONNAIRE

Respondent # _____	First Call	Second Call	Third Call
Scheduled for (Date, Time)			
Interviewer Initial			
Date and Time of Call			
Interview Completed Person Interviewed Refusal Best Time to Call Back No Responsible Adult Best Time to Call Back	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No Answer			
Disconnected			

Telephone No. _____

Name _____

Street Address _____

City _____

MARKET AREA:

<input type="checkbox"/> Lansing	<input type="checkbox"/> Delta	
<input type="checkbox"/> E. Lansing	<input type="checkbox"/> Meridian	
<input type="checkbox"/> Watertown	<input type="checkbox"/> Windsor	
<input type="checkbox"/> Dewitt	<input type="checkbox"/> Delhi	
<input type="checkbox"/> Bath	<input type="checkbox"/> Alameda	
	<input type="checkbox"/> Lansing Township	

Hello, my name is _____. I'm with a research firm in Lansing and we're asking people in this general area about how and where they shop for large household appliances like refrigerators, washing machines, and television sets. Do you have a free minute to answer some questions?

1. **HOUSING AND TENURE**

A. Do you own the place in which you live or do you rent?

Own Rent, lease

B. What kind of place is it? ... a house? ... duplex? ... townhouse? ... apartment?

Single-family house
 Apartment Mobile home
 Duplex Group Quarters
 Townhouse Other (Specify: _____)

C. How long have you lived at your present address?

Years or less
 Don't know, no answer

D. How long have you lived in this general Lansing area?

Years or less
 Don't know, no answer

APPLIANCE BUYING EXPERIENCE

None owned

Product	(1) Own (✓)	(2) Bgt New (✓)	(3) Brand	(4) Store	(5) Year Pur.	(6) Rplc. (✓)	(7) #	(8) RECENT PURCHASES ONLY		(11) Original Brand	(12) Original Store	(13) Orig Year
								Brands Shopped	Stores Shopped			
REF						Yes <input type="checkbox"/> No <input type="checkbox"/>						
AUTO WH						Yes <input type="checkbox"/> No <input type="checkbox"/>						
DRY E G	<input type="checkbox"/> <input type="checkbox"/>					Yes <input type="checkbox"/> No <input type="checkbox"/>						
RNG E G	<input type="checkbox"/> <input type="checkbox"/>					Yes <input type="checkbox"/> No <input type="checkbox"/>						
COL TV Port Cons	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>					Yes <input type="checkbox"/> No <input type="checkbox"/>						

Brand (A)		Store	
<input type="checkbox"/> None		<input type="checkbox"/> None	
1.		1.	
2.		2.	
3.		3.	
4.		4.	
5.		5.	

Brand (B)		Store	
<input type="checkbox"/> None		<input type="checkbox"/> None	
1.		1.	
2.		2.	
3.		3.	
4.		4.	
5.		5.	

BUYING INFLUENCES

E. A major purpose of this study is to learn what things most influence people when they buy home appliances. Which of the three sentences I'm going to read best describes your decision to purchase a (brand/product) at (store)?

1. After I decided to buy a (brand), I looked around for stores which carried that brand.
2. After I decided to shop at (store), I looked at the brands carried by (store) and bought one.
3. Before I decided to buy a (product/brand) at (store), I really didn't have any particular brands or stores in mind.

What were some of your reasons for preferring (store) over other stores in this area carrying that brand?

What most influenced you to buy your (product) at (store)?

PRODUCT	SEN. #	REASONS
REFRIG-ERATOR	1.	_____
	2.	_____
	3.	_____
AUTO WASHING MACHINE	1.	_____
	2.	_____
	3.	_____
DRYER	1.	_____
	2.	_____
	3.	_____
RANGE	1.	_____
	2.	_____
	3.	_____
COLOR TV	1.	_____
	2.	_____
	3.	_____

AWARENESS (Suppl.)

BRAND	(C)	STORE
<input type="checkbox"/> None		<input type="checkbox"/> None
1.		1.
2.		2.
3.		3.
4.		4.
5.		5.

5. CLASSIFICATION DATA

We would like to ask you some questions about yourself so that we can learn how other households like yours shop for appliances.

a. Are you married?
 Yes No

b. Including yourself, how many people are currently living in your household?
 Number of people

c. Would you mind if I ask you the age of the head of the household?
 Years No answer

d. What kind of job does the head of the household have?
Be specific: _____
 No answer

e. Can you tell me what is the highest school grade completed by the head of the household?
 Years of formal schooling

f. I will certainly understand if you do not want to answer, but can you tell me if your household's total yearly income is more than \$15,000, or less than \$15,000?

Don't know, no answer
 More than \$15,000
Is it more than \$20,000?
 No answer
 Yes
 No

Less than \$15,000
Is it more than \$10,000?
 No answer
 Yes

No
Is it more than \$5,000?
 No answer
 Yes
 No

Thank you. You've been very helpful. We're hoping to get from this a better idea of how people shop for home appliances.

APPENDIX B

A COMPARISON OF THE SAMPLE WITH
THE 1970 CENSUS DATA ON
DEMOGRAPHIC CHARACTERISTICS

A COMPARISON OF THE SAMPLE WITH
THE 1970 CENSUS DATA ON
DEMOGRAPHIC CHARACTERISTICS

The total sample of households completing the interviews were compared on the same demographic characteristics used in the first count summary of 1970 Census of Population and Housing.¹ The comparisons were made on (1) marital status, (2) home ownership, (3) type of housing, and (4) number of persons in the households.

To compare the sample data with the census data, several steps were necessary to insure that the comparisons were made on the same geographical population since the Michigan Bell Telephone Company services only portions of certain townships. Systems Research Incorporated processed the magnetic tapes from the census bureau to derive the correct geographical aggregations of the population. Once the population was delineated, then the tables containing the sample data and census data were constructed on the four demographic variables.

Table B-1 contains the distribution of the sample and the census population on marital status. The sample data included 5.9 per cent more married households and 5.9 per cent less non-married households than the census.

TABLE B-1.--A Comparison Between the Sample and the 1970
Census on Marital Status.

	Married	Non-Married	Total
Sample (n=887)	76.1%	23.9%	100.0%
Census (n=79,569)	70.2	29.8	100.0
Difference (sample-census)	5.9	- 5.9	

Table B-2 contains the distribution of the sample and the census on home ownership. The sample data included 4.7 per cent more home owners and 4.7 per cent less renters than the census.

TABLE B-2.--Comparison Between the Sample and the 1970
Census on Home Ownership.

	Home Owners	Renters	Total
Sample (n=895)	70.2%	29.8%	100.0%
Census (n=79,564)	65.5	34.5	100.0
Difference (sample-census)	4.7	4.7	

Table B-3 contains the distribution of the sample and the census on type of housing. The sample data included 5.5 per cent more single household building dwellers and 5.1 less multi-household building dwellers than the census. The sample data had .4 per cent fewer mobile home dwellers than the census.

TABLE B-3.-- A Comparison Between the Sample and the 1970 Census on Type of Housing.

	One Unit Building Dwellers	Multi-Unit Building Dwellers	Mobile Home Dwellers	Total
Sample (n=896)	73.7%	24.2%	2.1%	100.0%
Census (n=83,526)	68.1	29.3	2.6	100.0
Difference (sample-census)	5.5	- 5.1	- .4	

Table B-4 contains the distribution of the sample and the census on household size. The sample included 3.3 per cent more four-member households and 5.4 per cent less single member households. Other differences were under 2 per cent.

TABLE B-4.--A Comparison Between the Sample and the 1970 Census on Household Size.

		Number of Persons in the Household								
		1	2	3	4	5	6	7	8 or more	Total
Sample (n=878)		10.4%	30.1%	19.3%	19.8%	11.3%	5.9%	2.4%	0.9%	100.1%
Census (n=79,564)		15.8	30.4	17.5	16.5	10.0	5.3	2.5	2.0	100.0
Difference (sample- census)		- 5.4	- 0.3	1.8	3.3	0.6	0.6	-0.1	-1.1	

The comparative differences between the sample data and the census data suggest that the sample included more marrieds, more homeowners, more single household building dwellers, and more three to six member households than the census. The sample also contained fewer singles, fewer renters, fewer multi-household building dwellers, and fewer one, two, and seven or more member households. The differences between the two studies could be attributed to chance or to the people not interviewed because of unlisted households, households without telephones, or refusals for the sample data. These differences, however, between the total sample and the census may not be of the same magnitude or direction as the subsample of recent purchasers. The noted differences between the data should not invalidate the findings on the individual segments, but the differences do limit the generalizations on the population in the Lansing, Michigan market area.

FOOTNOTES--APPENDIX B

¹U. S. 1970 Census of Population and Housing,
First Count Summary, Files A and B (Washington, D.C.:
Bureau of the Census, Department of Commerce, 1971).
(Magnetic Tape.)

APPENDIX C

MATRICES ON BEHAVIORS AND KNOWLEDGE OF
PURCHASERS OF HOUSEHOLD DURABLE GOODS

		Stores					
		1	2	3	4	5 or more	Sums
Brands	5 or more	.8	.8	.8	.8	1.5	4.5
	4	1.5	3.0	4.5	3.0	2.3	14.3
	3	2.3	8.3	9.8	3.0	3.8	27.2
	2	7.6	9.1	4.5	--	.8	22.0
	1	27.3	3.0	1.5	--	--	31.8
	Sums	39.5	24.2	21.1	6.8	8.4	100.0% (n=132)

Figure C-1.--The Product-Store Shopping Matrix for Purchasers of Brown Goods.

		Stores					
		1	2	3	4	5 or more	Sums
Brands	5 or more	1.5	--	--	1.5	1.5	4.5
	4	--	6.2	4.6	3.1	1.5	15.4
	3	1.5	7.7	10.8	6.2	3.1	29.3
	2	10.8	6.2	7.7	--	1.5	26.2
	1	21.5	3.1	--	--	--	24.6
	Sums	35.3	23.2*	23.1*	10.8	7.6	100.0% (n=65)

*Due to rounding to nearest one-tenth in each cell.

Figure C-2.--The Product-Store Shopping Matrix for Purchasers of Console Color Televisions.

	Stores					Sums
	1	2	3	4	5 or more	
5 or more	--	1.5	1.5	--	1.5	4.5
4	3.0	--	4.5	3.0	3.0	13.5
3	3.0	9.0	9.0	--	4.5	25.5*
2	4.5	11.9	1.5	--	--	17.9
1	32.8	3.0	3.0	--	--	38.8
Sums	43.3	25.4*	19.5	3.0	9.0	100.0% (n=67)

*Due to rounding to nearest one-tenth in each cell.

Figure C-3.--The Product-Store Shopping Matrix for Purchasers of Portable Color Television.

	Stores					Sums
	1	2	3	4	5 or more	
5 or more	--	--	--	--	1.7	1.7
4	--	--	--	--	--	--
3	--	8.6	5.2	1.7	--	15.5
2	3.4	12.1	1.7	--	1.7	18.9
1	60.3	3.4	--	--	--	63.7
Sums	63.7	24.1	6.9	1.7	3.4	99.8%* (n=58)

*Due to rounding to nearest one-tenth in each cell.

Figure C-4.--The Product-Store Shopping Matrix for Purchasers of Laundry Durables.

	Stores					Sums
	1	2	3	4	5 or more	
5 or more	--	--	1.4	4.2	1.4	7.0
4	--	1.4	9.9	1.4	1.4	14.1
3	2.8	1.4	7.0	7.0	--	18.2
2	4.2	4.2	2.8	--	--	11.2
1	40.8	4.2	2.8	--	1.4	49.2
Sums	47.8	11.2	23.9	12.6	4.2	99.7%* (n=71)

*Due to rounding to nearest one-tenth in each cell.

Figure C-5.--The Product-Store Shopping Matrix for Purchasers of Refrigerators.

	Stores					Sums
	1	2	3	4	5 or more	
5 or more	--	--	--	2.9	--	2.9
4	--	--	--	--	--	--
3	--	2.9	2.9	2.9	--	8.7
2	8.6	11.4	11.4	--	--	31.4
1	48.6	--	8.6	--	--	57.2
Sums	57.2	14.3	22.9	5.8	--	100.2%* (n=35)

*Due to rounding to nearest one-tenth in each cell.

Figure C-6.--The Product-Store Shopping Matrix for Purchasers of Cooking Ranges.

	Stores					Sums
	1	2	3	4	5 or more	
5 or more	--	--	1.3	1.3	2.5	5.1
4	1.3	1.3	2.5	--	--	5.1
3	1.3	6.3	5.1	1.3	--	14.0
2	2.5	5.1	1.3	1.3	1.3	11.5
1	58.2	5.1	1.3	--	--	64.6
Sums	63.3	17.8	11.5	3.9*	3.8*	100.3%* (n=79)

*Due to rounding to nearest one-tenth in each cell.

Figure C-7.--The Product-Store Shopping Matrix for Purchasers of Automatic Washers.

	Stores					Sums
	1	2	3	4	5 or more	
5 or more	--	--	1.6	1.6	1.6	4.8
4	--	--	3.2	--	--	3.2
3	3.2	3.2	4.8	--	--	11.2
2	6.3	11.1	4.8	1.6	--	23.8
1	52.4	3.2	1.6	--	--	57.2
Sums	61.9	17.5	16.0	3.2	1.6	100.2%* (n=63)

*Due to rounding to nearest one-tenth in each cell.

Figure C-8.--The Product-Store Shopping Matrix for Purchasers of Automatic Dryers.

	Stores					Sums
	0	1	2	3	4 or more	
4 or more	--	1.0	3.1	1.0	5.1	10.2
3	2.0	1.0	3.1	6.1	4.1	16.3
2	8.2	5.1	7.1	6.1	2.0	28.5
1	6.1	8.2	7.1	4.1	1.0	26.5
0	11.2	3.1	1.0	2.0	1.0	18.3
Sums	27.5	18.4	21.4	19.3	13.2	99.8%* (n=98)

*Due to rounding to nearest one-tenth in each cell.

Figure C-9.--The Product-Store Unused Knowledge Matrix for Purchasers of White Goods.

	Stores					Sums
	0	1	2	3	4 or more	
4 or more	--	3.6	3.6	--	3.6	10.8
3	1.8	--	--	5.4	8.9	16.1
2	5.4	7.1	3.6	7.1	--	23.2
1	7.1	1.8	10.7	5.4	1.8	26.8
0	10.7	8.9	1.8	1.8	--	23.2
Sums	25.0	21.4	19.7	19.7	14.3	100.1%* (n=56)

*Due to rounding to nearest one-tenth in each cell.

Figure C-10.--The Product-Store Unused Knowledge Matrix for Purchasers of Laundry Durables.

	Stores					Sums
	0	1	2	3	4 or more	
4 or more	1.4	--	4.3	2.9	4.3	12.9
3	2.9	2.9	7.2	5.8	1.4	20.2
2	7.2	4.3	7.2	7.2	2.9	28.8
1	5.8	11.6	1.4	1.4	--	20.2
0	13.0	1.4	--	1.4	1.4	17.2
Sums	30.3	20.2*	20.1*	18.7	10.0	99.3%* (n=69)

*Due to rounding to nearest one-tenth in each cell.

Figure C-11.--The Product-Store Unused Knowledge Matrix for Purchasers of Refrigerators.

	Stores					Sums
	0	1	2	3	4 or more	
4 or more	--	3.1	--	--	9.4	12.5
3	--	--	--	9.4	3.1	12.5
2	--	9.4	--	6.3	--	15.7
1	3.1	18.8	6.3	--	--	28.2
0	12.5	15.6	--	--	3.1	31.2
Sums	15.6*	46.9	6.3	15.7*	15.6	100.1%* (n=32)

*Due to rounding to nearest one-tenth in each cell.

Figure C-12.--The Product-Store Unused Knowledge Matrix for Purchasers of Cooking Ranges.

	Stores					Sums
	0	1	2	3	4 or more	
4 or more	--	5.4	2.7	--	1.4	9.5
3	2.7	1.4	4.1	4.1	10.8	23.1*
2	4.1	5.4	8.1	6.8	--	24.4
1	5.4	2.7	8.1	4.1	2.7	23.0*
0	12.2	4.1	2.7	--	1.4	20.4
Sums	24.4	19.0	25.7	15.0	16.3	100.4%* (n=74)

*Due to rounding to nearest one-tenth in each cell.

Figure C-13.--The Product-Store Unused Knowledge Matrix for Purchasers of Automatic Washers.

	Stores					Sums
	0	1	2	3	4 or more	
4 or more	--	1.9	3.7	--	1.9	7.5
3	1.9	1.9	3.7	11.1	5.6	24.2*
2	5.6	7.4	7.4	3.7	--	24.1*
1	3.7	5.6	9.3	3.7	1.9	24.2
0	13.0	3.7	--	1.9	1.9	20.5
Sums	24.2	20.5*	24.1	20.4*	11.3	100.5%* (n=54)

*Due to rounding to nearest one-tenth in each cell.

Figure C-14.--The Product-Store Unused Knowledge Matrix for Purchasers of Automatic Dryers.

	Stores					Sums
	0	1	2	3	4 or more	
4 or more	3.1	3.1	1.5	4.6	6.2	18.5
3	1.5	4.6	4.6	4.6	3.1	18.4
2	4.6	9.2	4.6	6.2	4.6	29.2
1	1.5	7.7	9.2	6.2	1.5	26.1
0	4.6	--	1.5	1.5	--	7.0
Sums	15.3	24.6	21.4	23.1	15.4	99.8%* (n=65)

*Due to rounding to nearest one-tenth in each cell.

Figure C-15.--The Product-Store Unused Knowledge Matrix for Purchasers of Console Color Televisions.

	Stores					Sums
	0	1	2	3	4 or more	
4 or more	--	1.5	4.5	1.5	10.4	17.9*
3	3.0	4.5	4.5	1.5	4.5	18.0*
2	7.5	7.5	9.0	6.0	3.0	33.0
1	3.0	6.0	3.0	3.0	6.0	21.0
0	6.0	3.0	--	1.5	--	10.5
Sums	19.5	22.5	21.0	13.5	23.9	100.4%* (n=67)

*Due to rounding to nearest one-tenth in each cell.

Figure C-16.--The Product-Store Unused Knowledge Matrix for Purchasers of Portable Color Televisions.

Brands	Stores									Sums	
	1	2	3	4	5	6	7	8	9 or more		
9 or more	--	--	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--	--	--	--	--
6	--	--	--	1.8	--	1.8	--	--	--	--	3.6
5	--	5.4	1.8	1.8	7.1	1.8	--	--	--	--	17.9*
4	1.8	1.8	--	8.9	8.9	--	--	--	--	--	21.4
3	3.6	7.1	8.9	5.4	--	--	--	--	--	--	25.0
2	1.8	1.8	7.1	3.6	3.6	--	1.8	--	--	--	19.7*
1	3.6	7.1	--	1.8	--	--	--	--	--	--	12.5
Sums	10.8	23.2*	17.8*	23.3*	19.6*	3.6	1.8	--	--	--	100.18* (n=56)

*Due to rounding to nearest one-tenth in each cell.

Figure C-17.--The Product-Store Total Knowledge Matrix for Purchasers of Laundry Durables.

	Stores									
	1	2	3	4	5	6	7	8	9 or more	Sums
9 or more	--	--	--	--	.8	--	--	--	.8	1.6
8	--	--	--	--	--	--	--	.8	--	.8
7	--	.8	.8	3.0	1.5	--	--	.8	--	6.9
6	--	1.5	3.0	3.8	1.5	.8	--	.8	1.5	12.9
5	.8	3.8	6.1	3.8	8.3	2.3	2.3	.8	--	28.2
4	.8	1.5	3.8	9.1	6.8	3.8	.8	--	--	26.6
3	2.3	--	3.8	3.0	4.5	1.5	--	--	--	15.1
2	.8	3.0	--	.8	1.5	--	--	--	--	6.1
1	--	.8	.8	.8	--	--	--	--	--	2.4*
Sums	4.7	11.4	18.3	24.3	24.9	8.4	3.1*	3.2*	2.3*	100.68* (n=132)

*Due to rounding to nearest one-tenth in each cell.

Figure C-18.--The Product-Store Total Knowledge Matrix for Purchasers of Brown Goods in Percentages.

	Stores									Sums
	1	2	3	4	5	6	7	8	9 or more	
9 or more	--	--	--	--	--	--	--	--	1.5	1.5
8	--	--	--	--	--	--	--	--	--	--
7	--	1.5	--	--	1.5	--	--	--	--	3.0
6	--	3.0	1.5	6.0	3.0	1.5	--	--	1.5	16.5
5	--	6.0	6.0	1.5	10.4	4.5	--	1.5	--	29.9
4	--	--	1.5	11.9	3.0	3.0	--	--	--	19.4
3	4.5	--	6.0	4.5	6.0	1.5	--	--	--	22.5
2	--	3.0	--	--	1.5	--	--	--	--	4.5
1	--	1.5	--	1.5	--	--	--	--	--	3.0
Sums	4.5	15.0	15.0	25.4	25.4	10.5	--	1.5	3.0	100.38* (n=67)

*Due to rounding to one-tenth in each cell.

Figure C-19.---The Product-Store Total Knowledge Matrix for Purchasers of Portable Televisions.

Brands	Stores									Sums
	1	2	3	4	5	6	7	8	9 or more	
9 or more	--	--	--	--	1.5	--	--	--	--	1.5
8	--	--	--	--	--	--	--	1.5	--	1.5
7	--	--	1.5	6.2	1.5	--	--	1.5	--	10.7
6	--	--	4.6	1.5	--	--	--	1.5	1.5	9.1
5	1.5	1.5	6.2	6.2	6.2	--	4.6	--	--	26.2
4	1.5	3.1	6.2	6.2	10.8	4.6	1.5	--	--	33.9
3	--	--	1.5	1.5	3.1	1.5	--	--	--	7.6*
2	1.5	3.1	--	1.5	1.5	--	--	--	--	7.6
1	--	--	1.5	--	--	--	--	--	--	1.5
Sums	4.5	7.7*	21.5	23.1	24.6	6.1	6.1	4.5	1.5	99.68* (n=65)

*Due to rounding to one-tenth in each cell.

Figure C-20.--The Product-Store Total Knowledge Matrix for Purchasers of Console Televisions.

	Stores									Sums
	1	2	3	4	5	6	7	8	9 or more	
9 or more	--	--	--	--	--	--	--	--	--	--
8	--	--	--	--	1.4	1.4	--	--	--	2.8*
7	--	--	1.4	1.4	1.4	--	--	2.9	--	7.1
6	--	--	4.3	1.4	4.3	--	--	--	--	10.0
5	1.4	--	2.9	10.1	5.8	--	--	--	--	20.2
4	1.4	2.9	2.9	4.3	2.9	2.9	1.4	--	--	18.7
3	1.4	5.8	7.2	8.7	1.4	--	1.4	--	--	25.9
2	1.4	5.8	--	--	--	--	1.4	--	--	8.6*
1	2.9	1.4	--	1.4	--	--	--	--	--	5.7
Sums	8.5*	15.9	18.7	27.3	17.2	4.3*	4.2*	2.9*	--	99.0%* (n=69)

*Due to rounding to one-tenth in each cell.

Figure C-21.---The Product-Store Total Knowledge Matrix for Purchasers of Refrigerators.

	Stores									Sums	
	1	2	3	4	5	6	7	8	9 or more		
9 or more	--	--	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--	--	--
7	--	--	--	--	--	1.4	--	--	--	1.4	1.4
6	--	--	2.7	1.4	--	2.7	--	--	--	6.8	6.8
5	--	6.8	2.7	5.4	2.7	1.4	--	--	--	19.0	19.0
4	2.7	4.1	2.7	4.1	10.8	--	--	--	--	24.4	24.4
3	--	5.4	9.5	5.4	--	1.4	--	--	--	21.7	21.7
2	2.7	2.7	5.4	5.4	4.1	--	1.4	--	--	21.7	21.7
1	1.4	4.1	--	--	--	--	--	--	--	5.5	5.5
Sums	6.8*	23.1	23.0	21.7	17.6	6.9*	1.4	--	--	100.58*	(n=74)

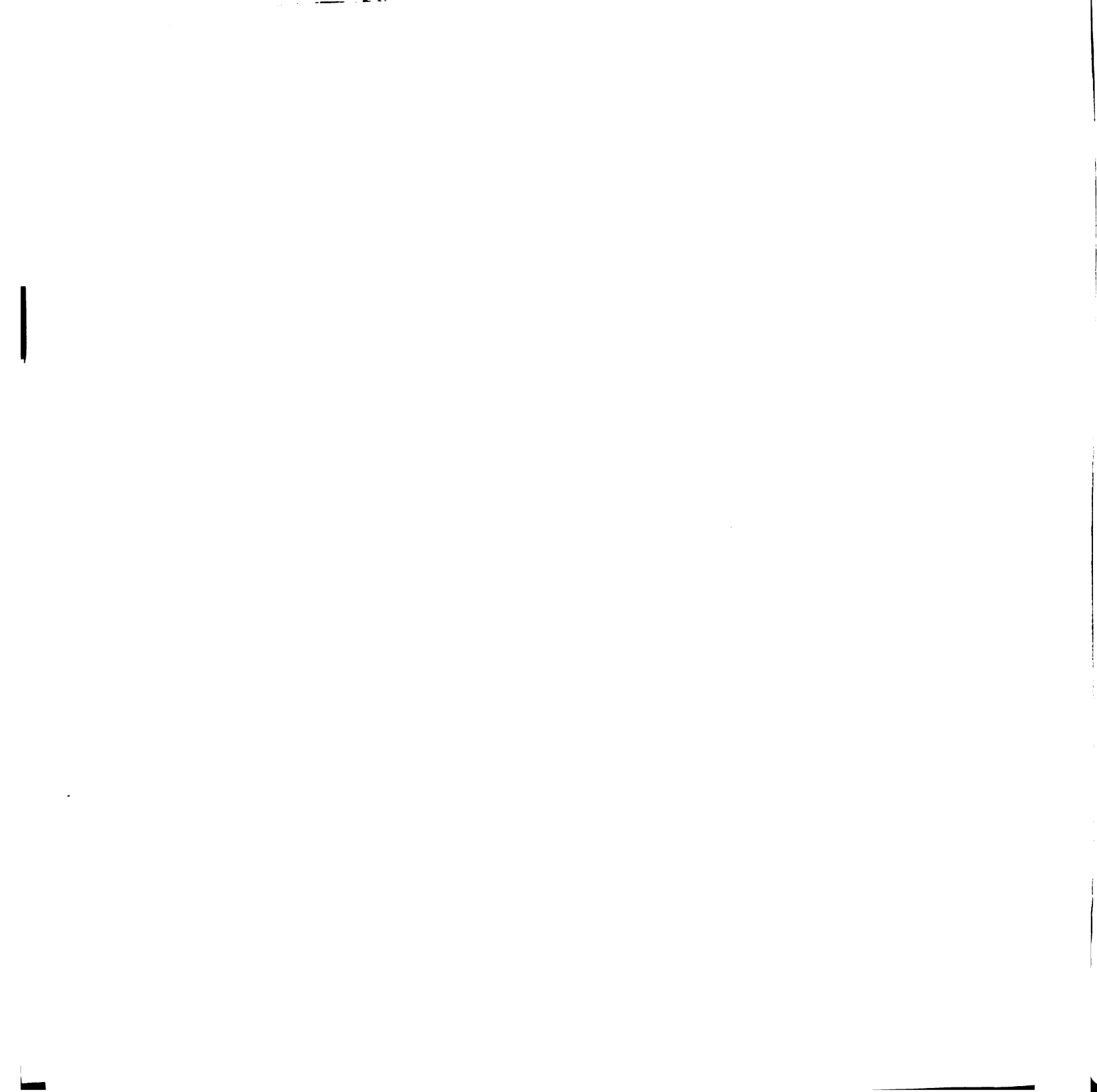
*Due to rounding to one-tenth in each cell.

Figure C-22.--The Product-Store Total Knowledge Matrix for Purchasers of Automatic Washers.

	Stores									
	1	2	3	4	5	6	7	8	9 or more	Sums
9 or more	--	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--	--
7	--	--	--	--	--	1.9	--	--	--	1.9
6	--	--	3.7	3.7	--	1.9	--	--	--	9.3
5	--	1.9	--	5.6	7.4	--	--	--	--	14.9*
4	1.9	1.9	3.7	11.1	5.6	--	--	--	--	24.2
3	5.6	3.7	7.4	3.7	--	1.9	--	--	--	22.3*
2	1.9	5.6	7.4	5.6	1.9	--	--	--	--	22.4*
1	1.9	1.9	--	1.9	--	--	--	--	--	5.7
Sums	11.3	15.0*	22.2	31.5	14.9	5.7	--	--	--	100.7%* (n=54)

*Due to rounding to one-tenth in each cell.

Figure C-23.--The Product-Store Total Knowledge Matrix for Purchasers of Automatic Dryers.



	Stores									Sums	
	1	2	3	4	5	6	7	8	9 or more		
9 or more	--	--	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--	--	--	--	--
6	--	--	--	--	3.1	--	--	--	--	3.1	3.1
5	--	3.1	--	3.1	9.4	3.1	3.1	3.1	--	21.8	21.8
4	--	--	3.1	--	3.1	3.1	--	--	--	9.3	9.3
3	--	6.3	6.3	9.4	--	3.1	--	--	--	25.1*	25.1*
2	3.1	12.5	6.3	--	--	--	3.1	--	--	25.0*	25.0*
1	9.4	6.3	--	--	--	--	--	--	--	15.7	15.7
Sums	12.5	28.2	15.7*	12.5	15.6*	9.3	6.2	--	--	100.0%	(n=32)

*Due to rounding to one-tenth in each cell.

Figure C-24.--The Product-Store Total Knowledge Matrix for Purchasers of Cooking Ranges.

APPENDIX D

TABLES

TABLE D-1.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Type of Housing for Brown Goods.

Brand Shopping Activity*	Single-Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	61	61.0	12	34.3	73	54.1
Actives	39	39.0	23	65.7	62	45.9
Total	100	100.0	35	100.0	135	100.0

*Significant at the .005 Level of Confidence.

TABLE D-2.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Type of Housing for Portable Televisions.

Brand Shopping Activity*	Single-Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	31	68.9	7	30.4	38	55.9
Actives	14	31.1	16	69.6	30	44.1
Total	45	100.0	23	100.0	68	100.0

*Significant at the .005 level of confidence.

TABLE D-3.--Numbers and Percentages of Purchasers According to Store Shopping Activity and Type of Housing for Portable Televisions.

Store Shopping Activity*	Single-Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	36	76.6	13	56.5	49	70.0
Actives	11	23.4	10	43.5	21	30.0
Total	47	100.0	23	100.0	70	100.0

*Significant at the .05 level of confidence.

TABLE D-4.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Mobility for Brown Goods.

Brand Shopping Activity*	Mobiles		Immobiles		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	20	43.5	53	59.6	73	54.1
Actives	26	56.5	36	40.4	62	45.9
Total	46	100.0	89	100.0	135	100.0

*Significant at the .05 level of confidence.

TABLE D-5.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Mobility for Portable Televisions.

Brand Shopping Activity*	Mobiles		Immobiles		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	11	42.3	27	64.3	38	55.9
Actives	15	57.7	15	35.7	30	44.1
Total	26	100.0	42	100.0	68	100.0

* Significant at the .05 level of confidence.

TABLE D-6.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Mobility for White Goods.

Brand Shopping Activity*	Mobiles		Immobiles		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	24	82.8	47	66.2	71	71.0
Actives	5	17.2	24	33.8	29	29.0
Total	29	100.0	71	100.0	90	100.0

* Significant at the .10 level of confidence with a two-tailed test.

TABLE D-7.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Mobility for Refrigerators.

Brand Shopping Activity*	Mobiles		Immobiles		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	21	80.8	23	50.0	44	61.1
Actives	5	19.2	23	50.0	28	38.9
Total	26	100.0	46	100.0	72	100.0

* Significant at the .02 level of confidence with a two-tailed test.

TABLE D-8.--Numbers and Percentages of Purchasers According to Store Shopping Activity and Mobility For Washers.

Store Shopping Activity*	Mobiles		Immobiles		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	24	96.0	41	74.5	65	81.3
Actives	1	4.0	14	25.5	15	18.7
Total	25	100.0	55	100.0	80	100.0

* Significant at the .025 level of confidence.

TABLE D-9.--Numbers and Percentages of Purchasers According to Store Shopping Activity and Length of Stay in the Market Area for White Goods.

Store Shopping Activity*	Few Years		Many Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	14	63.6	64	79.0	78	75.7
Actives	8	36.4	17	21.0	25	24.3
Total	22	100.0	81	100.0	103	100.0

*Significant at the .10 level of confidence.

TABLE D-10.--Numbers and Percentages of Purchasers According to Store Shopping Activity and Length of Stay in the Market Area for Refrigerators.

Store Shopping Activity*	Few Years		Many Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	9	45.0	37	66.1	46	60.5
Actives	11	55.0	19	33.9	30	39.5
Total	20	100.0	56	100.0	76	100.0

*Significant at the .05 level of confidence.

TABLE D-11.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Marital Status for Refrigerators.

Brand Shopping Activity*	Married		Non-Married		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	35	56.5	8	100.0	43	61.4
Actives	27	43.5	0	0	27	38.6
Total	62	100.0	8	100.0	70	100.0

*Significant at the .01 level of confidence.

TABLE D-12.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Marital Status for Portable Televisions.

Brand Shopping Activity*	Married		Non-Married		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	34	63.0	4	30.8	38	56.7
Actives	20	37.0	9	69.2	29	43.3
Total	54	100.0	13	100.0	67	100.0

*Significant at the .05 level of confidence with a two-tailed test.

TABLE D-13.--Numbers and Percentages of Purchasers According to Store Shopping Activity and Marital Status for Refrigerator.

Store Shopping Activity*	Married		Non-Married		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	37	56.9	8	88.9	45	60.8
Actives	28	43.1	1	11.1	29	39.2
Total	65	100.0	9	100.0	74	100.0

* Significant at the .05 level of confidence.

TABLE D-14.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Household Size for Console Televisions.

Brand Shopping Activity*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	13	65.0	22	47.8	35	53.0
Actives	7	35.0	24	52.2	31	47.0
Total	20	100.0	46	100.0	66	100.0

* Significant at the .10 level of confidence.

TABLE D-15.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Household Size for Portable Televisions.

Brand Shopping Activity*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	13	44.8	25	65.8	38	56.7
Actives	16	55.2	13	34.2	29	43.3
Total	29	100.0	38	100.0	67	100.0

* Significant at the .10 level of confidence with a two-tailed test.

TABLE D-16.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Household Size for Dryers.

Brand Shopping Activity*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	7	63.6	43	86.0	50	82.0
Actives	4	36.4	7	14.0	11	18.0
Total	11	100.0	50	100.0	61	100.0

* Significant at the .10 level of confidence with a two-tailed test.

TABLE D-17.--Numbers and Percentages of Purchasers According to Store Shopping Activity and Household Size for Console Televisions.

Store Shopping Activity*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	13	72.2	25	54.3	38	59.4
Actives	5	27.8	21	45.7	26	40.6
Total	18	100.0	46	100.0	64	100.0

*Significant at the .10 level of confidence.

TABLE D-18.--Numbers and Percentages of Purchasers According to Store Shopping Activity and Age of Household Head for Ranges.

Store Shopping Activity*	Younger		Older		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	6	42.9	19	79.2	25	65.8
Actives	8	57.1	5	20.8	13	34.2
Total	14	100.0	24	100.0	38	100.0

*Significant at the .025 level of confidence.

TABLE D-19.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Occupation of Household Head for Brown Goods.

Brand Shopping Activity*	White Collar		Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	20	41.7	40	61.5	60	53.1
Actives	28	58.3	25	38.5	53	46.9
Total	48	100.0	65	100.0	110	100.0

*Significant at the .025 level of confidence.

TABLE D-20.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Occupation of Household Head for Console Televisions.

Brand Shopping Activity*	White Collar		Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	7	36.8	24	63.2	31	54.4
Actives	12	63.2	14	36.8	26	45.6
Total	19	100.0	38	100.0	57	100.0

*Significant at the .05 level of confidence.

TABLE D-21.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Annual Family Income for Refrigerators.

Brand Shopping Activity*	Less Affluent		More Affluent		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	27	73.0	5	41.7	32	65.3
Actives	10	27.0	7	58.3	17	34.7
Total	37	100.0	12	100.0	49	100.0

* Significant at the .05 level of confidence with a two-tailed test.

TABLE D-22.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Recent Purchase for Dryers.

Brand Shopping Activity*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	16	94.1	35	76.1	51	81.0
Actives	1	5.9	11	23.9	12	19.0
Total	17	100.0	46	100.0	63	100.0

* Significant at the .10 level of confidence.

TABLE D-23.--Numbers and Percentages of Purchasers According to Store Shopping Activity and Recent Purchase for Dryers.

Store Shopping Activity*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	18	100.0	33	70.2	51	78.5
Actives	0	0	14	29.8	14	21.5
Total	18	100.0	47	100.0	65	100.0

* Significant at the .005 level of confidence.

TABLE D-24.--Numbers and Percentages of Purchasers According to Brand Shopping Activity and Replacement Purchase for Laundry Durables.

Brand Shopping Activity*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	38	84.4	10	66.7	48	80.0
Actives	7	15.6	5	33.3	12	20.0
Total	45	100.0	15	100.0	60	100.0

* Significant at the .10 level of confidence.

TABLE D-25.--Numbers and Percentages of Purchasers According to Store Shopping Activity and Replacement Purchase for White Goods.

Store Shopping Activity*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	67	81.7	11	52.4	78	75.7
Actives	15	18.3	10	47.6	25	24.3
Total	82	100.0	21	100.0	103	100.0

*Significant at the .005 level of confidence.

TABLE D-26.--Numbers and Percentages of Purchasers According to Store Shopping Activity and Replacement Purchase for Laundry Durables.

Store Shopping Activity*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	41	93.2	12	75.0	53	88.3
Actives	3	6.8	4	25.0	7	11.7
Total	44	100.0	16	100.0	60	100.0

*Significant at the .05 level of confidence.

TABLE D-27.--Numbers and Percentages of Purchasers According to Store Shopping Activity and Replacement Purchase for Ranges.

Store Shopping Activity*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	23	76.7	2	25.0	25	65.8
Actives	7	23.3	6	75.0	13	34.2
Total	30	100.0	8	100.0	38	100.0

*Significant at the .005 level of confidence.

TABLE D-28.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Type of Housing for Dryers.

Unused Brand Knowledge*	Single-Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	24	51.1	2	22.2	26	46.4
High Knowers	23	48.9	7	77.8	30	53.6
Total	47	100.0	9	100.0	56	100.0

*Significant at the .10 level of confidence.

TABLE D-29.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Type of Housing for Dryers.

Unused Store Knowledge*	Single-Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	22	46.8	2	22.2	24	42.9
High Knowers	25	53.2	7	77.8	32	57.1
Total	47	100.0	9	100.0	56	100.0

* Significant at the .10 level of confidence.

TABLE D-30.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Type of Housing for Brown Goods.

Unused Store Knowledge*	Single-Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	37	35.6	20	55.6	57	40.7
High Knowers	67	64.4	16	44.4	83	59.3
Total	104	100.0	36	100.0	140	100.0

* Significant at the .05 level of confidence with a two-tailed test.

TABLE D-31.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Type of Housing for Portable Televisions.

Unused Store Knowledge*	Single-Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	17	34.0	14	58.3	31	41.9
High Knowers	33	66.0	10	41.7	43	58.1
Total	50	100.0	24	100.0	74	100.0

*Significant at the .05 level of confidence with a two-tailed test.

TABLE D-32.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Mobility for Portable Television.

Unused Brand Knowledge*	Mobiles		Immobiles		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	12	44.4	11	23.4	23	31.1
High Knowers	15	55.6	36	76.6	51	68.9
Total	27	100.0	47	100.0	74	100.0

*Significant at the .10 level of confidence with a two-tailed test.

TABLE D-33.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Mobility for Portable Televisions.

Unused Store Knowledge*	Mobiles		Immobiles		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	14	51.9	17	36.2	31	41.9
High Knowers	13	48.1	30	63.8	43	58.1
Total	27	100.0	47	100.0	74	100.0

* Significant at the .10 level of confidence.

TABLE D-34.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Length of Stay in the Market Area for White Goods.

Unused Brand Knowledge*	Few Years		Many Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	7	31.8	40	49.4	47	45.6
High Knowers	15	68.2	41	50.6	56	54.4
Total	22	100.0	81	100.0	103	100.0

* Significant at the .10 level of confidence.

TABLE D-35.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Length of Stay in the Market Area for Refrigerators.

Unused Brand Knowledge*	Few Years		Many Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	4	19.0	24	44.4	28	37.3
High Knowers	17	81.0	30	55.6	47	62.7
Total	21	100.0	54	100.0	75	100.0

* Significant at the .025 level of confidence.

TABLE D-36.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Length of Stay in the Market Area for Brown Goods.

Unused Store Knowledge*	Few Years		Many Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	21	53.8	35	35.0	56	40.3
High Knowers	18	46.2	65	65.0	83	59.7
Total	39	100.0	100	100.0	139	100.0

* Significant at the .05 level of confidence with a two-tailed test.

TABLE D-37.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Length of Stay in the Market Area for Portable Televisions.

Unused Store Knowledge*	Few Years		Many Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	13	56.5	18	35.3	31	41.9
High Knowers	10	43.5	33	64.7	43	58.1
Total	23	100.0	51	100.0	74	100.0

* Significant at the .10 level of confidence with a two-tailed test.

TABLE D-38.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Marital Status for Portable Televisions.

Unused Brand Knowledge*	Married		Non-Married		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	16	26.7	7	53.8	23	31.5
High Knowers	44	73.3	6	46.2	50	68.5
Total	60	100.0	13	100.0	73	100.0

* Significant at the .05 level of confidence.

TABLE D-39.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Marital Status for White Goods.

Unused Store Knowledge*	Married		Non-Married		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	40	44.0	9	81.8	49	48.0
High Knowers	51	56.0	2	18.2	53	52.0
Total	91	100.0	11	100.0	102	100.0

* Significant at the .01 level of confidence.

TABLE D-40.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Marital Status for Refrigerators.

Unused Store Knowledge*	Married		Non-Married		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	33	51.6	7	77.8	40	54.8
High Knowers	31	48.4	2	22.2	33	45.2
Total	64	100.0	9	100.0	73	100.0

* Significant at the .10 level of confidence.

TABLE D-41.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Household Size for Portable Televisions.

Unused Brand Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	12	40.0	11	25.6	23	31.5
High Knowers	18	60.0	32	74.4	50	68.5
Total	30	100.0	43	100.0	73	100.0

* Significant at the .10 level of confidence.

TABLE D-42.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Household Size for Refrigerators.

Unused Brand Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	14	56.0	14	29.8	28	38.9
High Knowers	11	44.0	33	70.2	44	61.1
Total	25	100.0	47	100.0	72	100.0

* Significant at the .025 level of confidence.

TABLE D-43.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Household Size for White Goods.

Unused Store Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	17	60.7	32	43.8	49	48.5
High Knowers	11	39.3	41	56.2	52	51.5
Total	28	100.0	73	100.0	101	100.0

* Significant at the .10 level of confidence.

TABLE D-44.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Household Size for Laundry Durables.

Unused Store Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	9	75.0	20	41.7	29	48.3
High Knowers	3	25.0	28	58.3	31	51.7
Total	12	100.0	48	100.0	60	100.0

* Significant at the .025 level of confidence.

TABLE D-45.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Household Size for Washers.

Unused Store Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	11	64.7	24	40.7	35	46.1
High Knowers	6	35.3	35	59.3	41	53.9
Total	17	100.0	59	100.0	76	100.0

* Significant at the .05 level of confidence.

TABLE D-46.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Household Size for Dryers.

Unused Store Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	8	72.7	16	37.2	24	44.4
High Knowers	3	27.3	27	62.8	30	55.6
Total	11	100.0	43	100.0	54	100.0

* Significant at the .025 level of confidence.

TABLE D-47.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Household Size for Brown Goods.

Unused Store Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	24	49.0	32	36.0	56	40.6
High Knowers	25	51.0	57	64.0	82	59.4
Total	49	100.0	89	100.0	138	100.0

* Significant at the .10 level of confidence.

TABLE D-48.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Household Size for Portable Televisions.

Unused Store Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	17	56.6	14	32.6	31	42.5
High Knowers	13	43.3	29	67.4	42	57.5
Total	30	100.0	43	100.0	73	100.0

* Significant at the .025 level of confidence.

TABLE D-49.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Age of Household Head for Washers.

Unused Store Knowledge*	Younger		Older		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	11	28.2	23	62.2	34	44.7
High Knowers	28	71.8	14	37.8	42	55.3
Total	39	100.0	37	100.0	76	100.0

* Significant at the .01 level of confidence with a two-tailed test.

TABLE D-50.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Age of Household Head for Dryers.

Unused Store Knowledge*	Younger		Older		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	7	28.0	17	56.7	24	43.6
High Knowers	18	72.0	13	43.3	31	56.4
Total	25	100.0	30	100.0	55	100.0

* Significant at the .05 level of confidence with a two-tailed test.

TABLE D-51.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Occupation of Household Head for Portable Televisions.

Unused Brand Knowledge*	White Collar		Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	14	42.4	6	21.4	20	32.8
High Knowers	19	57.6	22	78.6	41	67.2
Total	33	100.0	28	100.0	61	100.0

* Significant at the .10 level of confidence with a two-tailed test.

TABLE D-52.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Education of Household Head for Washers.

Unused Brand Knowledge*	Less Educated		More Educated		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	20	54.1	13	35.1	33	44.6
High Knowers	17	45.9	24	64.9	41	55.4
Total	37	100.0	37	100.0	74	100.0

* Significant at the .10 level of confidence.

TABLE D-53.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Annual Family Income for Brown Goods.

Unused Store Knowledge*	Less Affluent		More Affluent		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	15	27.3	21	48.8	36	36.7
High Knowers	40	72.7	22	51.2	62	63.3
Total	55	100.0	43	100.0	98	100.0

*Significant at the .025 level of confidence.

TABLE D-54.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Annual Family Income for Portable Televisions.

Unused Store Knowledge*	Less Affluent		More Affluent		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	6	20.7	12	60.0	18	36.7
High Knowers	23	79.3	8	40.0	31	63.3
Total	29	100.0	20	100.0	49	100.0

*Significant at the .005 level of confidence.

TABLE D-55.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Recent Purchase for Laundry Durables.

Unused Brand Knowledge*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	25	58.1	6	35.3	31	51.7
High Knowers	18	41.9	11	64.7	29	48.3
Total	43	100.0	17	100.0	60	100.0

*Significant at the .10 level of confidence.

TABLE D-56.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Recent Purchase for Washers.

Unused Brand Knowledge*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	14	56.0	21	39.6	35	44.9
High Knowers	11	44.0	32	60.4	43	55.1
Total	25	100.0	53	100.0	78	100.0

*Significant at the .10 level of confidence.

TABLE D-57.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Recent Purchase for Dryers.

Unused Brand Knowledge*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	11	61.1	15	39.5	26	46.4
High Knowers	7	38.9	23	60.5	30	53.6
Total	18	100.0	38	100.0	56	100.0

* Significant at the .01 level of confidence.

TABLE D-58.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Recent Purchase for White Goods.

Unused Store Knowledge*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	42	52.5	7	30.4	49	47.6
High Knowers	38	47.5	16	69.6	54	52.4
Total	80	100.0	23	100.0	103	100.0

* Significant at the .05 level of confidence.

TABLE D-59.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Replacement Purchase for Portable Televisions.

Unused Brand Knowledge*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	9	47.4	13	24.1	22	30.1
High Knowers	10	52.6	41	75.9	51	69.9
Total	19	100.0	54	100.0	73	100.0

* Significant at the .05 level of confidence.

TABLE D-60.--Numbers and Percentages of Purchasers According to Unused Brand Knowledge and Replacement Purchase for Dryers.

Unused Brand Knowledge*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	18	60.0	8	30.8	26	46.4
High Knowers	12	40.0	18	69.2	30	53.6
Total	30	100.0	26	100.0	56	100.0

* Significant at the .025 level of confidence.

TABLE D-61.--Numbers and Percentages of Purchasers According to Unused Store Knowledge and Replacement Purchase for Laundry Durables.

Unused Store Knowledge*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	17	37.8	12	80.0	29	48.3
High Knowers	28	62.2	3	20.0	31	51.7
Total	45	100.0	3	100.0	60	100.0

* Significant at the .01 level of confidence with a two-tailed test.

TABLE D-62.--Numbers and Percentages of Purchasers According to Total Brand Knowledge and Type of Housing for Washers.

Total Brand Knowledge*	Single Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	47	77.0	8	57.1	55	73.3
High Knowers	14	23.0	6	42.9	20	26.7
Total	61	100.0	14	100.0	75	100.0

* Significant at the .10 level of confidence.

TABLE D-63.--Numbers and Percentages of Purchasers According to Total Brand Knowledge and Type of Housing for Dryers.

Total Brand Knowledge*	Single Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	35	77.8	5	55.6	40	74.1
High Knowers	10	22.2	4	44.4	14	25.9
Total	45	100.0	9	100.0	54	100.0

* Significant at the .10 level of confidence.

TABLE D-64.--Numbers and Percentages of Purchasers According to Total Brand Knowledge and Type of Housing for Portable Televisions.

Total Brand Knowledge*	Single Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	25	55.6	9	39.1	34	50.0
High Knowers	20	44.4	14	60.9	34	50.0
Total	45	100.0	23	100.0	68	100.0

* Significant at the .10 level of confidence.

TABLE D-65.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Length of Stay in the Market Area for White Goods.

Total Store Knowledge*	Few Years		Many Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	13	61.9	62	76.5	75	73.5
High Knowers	8	38.1	19	23.5	27	26.5
Total	21	100.0	81	100.0	102	100.0

* Significant at the .10 level of confidence.

TABLE D-66.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Length of Stay in the Market Area for Refrigerators.

Total Store Knowledge*	Few Years		Many Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	12	60.0	41	75.9	53	71.6
High Knowers	8	40.0	13	24.1	21	28.4
Total	20	100.0	54	100.0	74	100.0

* Significant at the .10 level of confidence.

TABLE D-67.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Marital Status for White Goods.

Total Store Knowledge*	Married		Non-Married		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	64	71.1	10	90.9	74	73.3
High Knowers	26	28.9	1	9.1	27	26.7
Total	90	100.0	11	100.0	101	100.0

* Significant at the .10 level of confidence.

TABLE D-68.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Marital Status for Portable Televisions.

Total Store Knowledge*	Married		Non-Married		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	37	66.1	5	38.5	42	60.9
High Knowers	19	33.9	8	61.5	27	39.1
Total	56	100.0	13	100.0	69	100.0

* Significant at the .10 level of confidence with a two-tailed test.

TABLE D-69.--Numbers and Percentages of Purchasers According to Total Brand Knowledge and Household Size for Refrigerators.

Total Brand Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	18	75.0	23	53.5	41	61.2
High Knowers	6	25.0	20	46.5	26	38.8
Total	24	100.0	43	100.0	67	100.0

*Significant at the .05 level of confidence.

TABLE D-70.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Households Size for Laundry Durables.

Total Store Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	10	90.9	34	72.3	44	75.9
High Knowers	1	9.1	13	27.7	14	24.1
Total	11	100.0	47	100.0	58	100.0

*Significant at the .10 level of confidence.

TABLE D-71.--Numbers and Percentages of Purchasers According to Total Brand Knowledge and Age of Household Head for White Goods.

Total Brand Knowledge*	Younger		Older		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	28	80.0	39	63.9	67	69.8
High Knowers	7	20.0	22	36.1	29	30.2
Total	35	100.0	61	100.0	96	100.0

* Significant at the .10 level of confidence with a two-tailed test.

TABLE D-72.--Numbers and Percentages of Purchasers According to Total Brand Knowledge and Age of Household Head for Refrigerators.

Total Brand Knowledge*	Younger		Older		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	17	77.3	23	52.3	40	60.6
High Knowers	5	22.7	21	47.7	26	39.4
Total	22	100.0	44	100.0	66	100.0

* Significant at the .10 level of confidence with a two-tailed test.

TABLE D-73.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Age of Household Head for White Goods.

Total Store Knowledge*	Younger		Older		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	22	59.5	51	81.0	73	73.0
High Knowers	15	40.5	12	19.0	27	27.0
Total	37	100.0	63	100.0	100	100.0

* Significant at the .02 level of confidence with a two-tailed test.

TABLE D-74.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Age of Household Head for Laundry Durables.

Total Store Knowledge*	Younger		Older		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	15	60.0	28	87.5	43	75.4
High Knowers	10	40.0	4	12.5	14	24.6
Total	25	100.0	32	100.0	57	100.0

* Significant at the .02 level of confidence with a two-tailed test.

TABLE D-75.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Occupation of Household Head for Washers.

Total Store Knowledge*	White Collar		Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	18	64.3	33	84.6	51	76.1
High Knowers	10	35.7	6	15.4	16	23.9
Total	28	100.0	39	100.0	67	100.0

* Significant at the .05 level of confidence.

TABLE D-76.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Occupation of Household Head for Portable Televisions.

Total Store Knowledge*	White Collar		Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	21	70.0	13	46.4	34	58.6
High Knowers	9	30.0	15	53.6	24	41.4
Total	30	100.0	28	100.0	58	100.0

* Significant at the .10 level of confidence with a two-tailed test.

TABLE D-77.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Education of Household Head for Console Televisions.

Total Store Knowledge*	Less Educated		More Educated		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	25	62.5	10	45.5	35	56.5
High Knowers	15	37.5	12	54.5	27	43.5
Total	40	100.0	22	100.0	62	100.0

* Significant at the .10 level of confidence.

TABLE D-78.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Annual Family Income for Brown Goods.

Total Store Knowledge*	Less Affluent		More Affluent		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	25	46.3	26	61.9	51	53.1
High Knowers	29	53.7	16	38.1	45	46.9
Total	54	100.0	42	100.0	96	100.0

* Significant at the .10 level of confidence.

TABLE D-79.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Annual Family Income for Portable Televisions.

Total Store Knowledge*	Less Affluent		More Affluent		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	13	44.8	14	73.7	27	56.3
High Knowers	16	55.2	5	26.3	21	43.7
Total	29	100.0	19	100.0	48	100.0

* Significant at the .025 level of confidence.

TABLE D-80.--Numbers and Percentages of Purchasers According to Total Brand Knowledge and Recent Purchase for Ranges.

Total Brand Knowledge*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	11	91.7	13	65.0	24	75.0
High Knowers	1	8.3	7	35.0	8	25.0
Total	12	100.0	20	100.0	32	100.0

* Significant at the .05 level of confidence.

TABLE D-81.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Recent Purchase for White Goods.

Total Store Knowledge*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	63	79.7	12	52.2	75	73.5
High Knowers	16	20.3	11	47.8	27	26.5
Total	79	100.0	23	100.0	102	100.0

* Significant at the .005 level of confidence.

TABLE D-82.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Recent Purchase for Refrigerators.

Total Store Knowledge*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	31	83.8	22	59.5	53	71.6
High Knowers	6	16.2	15	40.5	21	28.4
Total	37	100.0	37	100.0	74	100.0

* Significant at the .025 level of confidence.

TABLE D-83.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Replacement Purchase for White Goods.

Total Store Knowledge*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	63	76.8	12	60.0	75	73.5
High Knowers	19	23.2	8	40.0	27	26.5
Total	82	100.0	20	100.0	102	100.0

* Significant at the .10 level of confidence.

TABLE D-84.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Replacement Purchase for Brown Goods.

Total Store Knowledge*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	14	42.4	65	64.4	79	59.0
High Knowers	19	57.6	36	35.6	55	41.0
Total	33	100.0	101	100.0	134	100.0

* Significant at the .05 level of confidence with a two-tailed test.

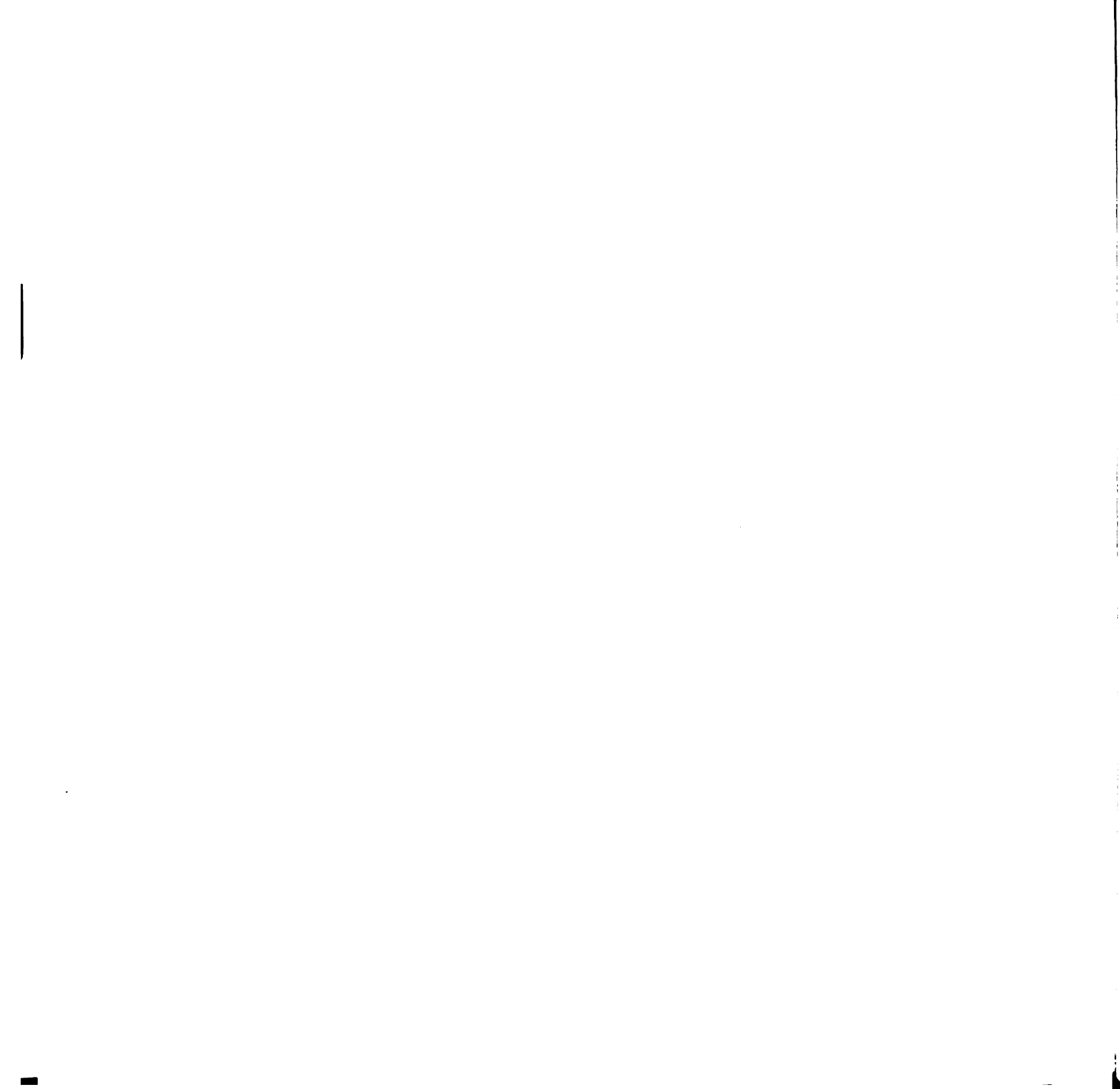


TABLE D-85.--Numbers and Percentages of Purchasers According to Total Store Knowledge and Replacement Purchase for Portable Televisions.

Total Store Knowledge*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	7	36.8	35	70.0	42	60.9
High Knowers	12	63.2	15	30.0	27	39.1
Total	19	100.0	50	100.0	69	100.0

* Significant at the .02 level of confidence with a two-tailed test.

TABLE D-86.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Type of Housing for Brown Goods.

Brand and Store Shopping Activity*	Single Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	53	54.1	9	26.5	62	47.0
Actives	45	45.9	25	73.5	70	53.0
Total	98	100.0	34	100.0	132	100.0

* Significant at the .01 level of confidence.

TABLE D-87.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Type of Housing for Portable Televisions.

Brand and Store Shopping Activity*	Single Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	30	66.7	5	22.7	35	52.2
Actives	15	33.3	17	77.3	32	47.8
Total	45	100.0	22	100.0	67	100.0

* Significant at the .001 level of confidence.

TABLE D-88.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Length of Stay at Present Address for Portable Televisions.

Brand and Store Shopping Activity*	One Year or Less		Two to Three Years		Four to Six Years		Seven to Fifteen Years		Over Fifteen Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	6	40.0	6	33.3	8	72.7	6	50.0	9	81.8	35	52.2
Actives	9	60.0	12	66.7	3	27.3	6	50.0	2	18.2	32	47.8
Total	15	100.0	18	100.0	11	100.0	12	100.0	11	100.0	67	100.0

* Significant at the .10 level of confidence.

TABLE D-89.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Length of Stay in Market Area for Cooking Ranges.

Brand and Store Shopping Activity*	Six Years or Less		Over Six Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives**	2	20.0	15	60.0	17	48.6
Actives	8	80.0	10	40.0	18	51.4
Total	10	100.0	25	100.0	35	100.0

* Significant at the .05 level of confidence.

** Inactives in this table are defined as no brands and stores considered other than the actual brand purchased at the preferred store.

TABLE D-90.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Length of Stay in Market Area for Console Televisions.

Brand and Store Shopping Activity*	Six Years or Less		Over Six Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives**	6	37.5	8	16.7	14	21.9
Actives	10	62.5	40	83.3	50	78.1
Total	16	100.0	48	100.0	64	100.0

* Significant at the .10 level of confidence.

** Inactives in this table are defined as no brands and stores considered other than the actual brand purchased at the preferred store.

TABLE D-91.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Length of Stay in Market Area for Automatic Washers.

Brand and Store Shopping Activity*	Fifteen Years or Less		Over Fifteen Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	26	83.9	18	64.3	44	74.6
Actives	5	16.1	10	35.7	15	25.4
Total	31	100.0	28	100.0	59	100.0

*Significant at the .10 level of confidence.

TABLE D-92.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Marital Status for Brown Goods.

Brand and Store Shopping Activity*	Married		Non-Married		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	57	50.9	5	26.3	62	47.3
Actives	55	49.1	14	73.7	69	52.7
Total	112	100.0	19	100.0	131	100.0

*Significant at the .05 level of confidence.

TABLE D-93.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Marital Status for Portable Televisions.

Brand and Store Shopping Activity*	Married		Non-Married		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	31	58.5	4	30.8	35	53.0
Actives	22	41.5	9	69.2	31	47.0
Total	53	100.0	13	100.0	66	100.0

* Significant at the .10 level of confidence.

TABLE D-94.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Household Size for Portable Televisions.

Brand and Store Shopping Activity*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	11	37.9	24	64.9	35	53.0
Actives	18	62.1	13	35.1	31	47.0
Total	29	100.0	37	100.0	66	100.0

* Significant at the .05 level of confidence.

TABLE D-95.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Occupation for Laundry Durables.

Brand and Store Shopping Activity*	White Collar		Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives**	13	46.4	20	71.4	33	58.9
Actives	15	53.6	8	28.6	23	41.1
Total	28	100.0	28	100.0	56	100.0

* Significant at the .10 level of confidence.

** Inactives in this table are defined as no brands and stores considered other than the actual brand purchased at the preferred store.

TABLE D-96.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Number of Recent Purchases for Dryers.

Brand and Store Shopping Activity*	One Purchase		Two Purchases		Three or More Purchases		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	16	94.1	15	68.2	15	62.5	46	73.0
Actives	1	5.9	7	21.8	9	37.5	17	27.0
Total	17	100.0	22	100.0	24	100.0	63	100.0

* Significant at the .10 level of confidence.

TABLE D-97.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Number of Recent Purchases for Console Televisions.

Brand and Store Shopping Activity*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives**	8	16.3	6	37.5	14	21.5
Actives	41	83.7	10	62.5	51	78.5
Total	49	100.0	16	100.0	65	100.0

* Significant at the .10 level of confidence.

** Inactives in this table are defined as no brands and stores considered other than the actual brand purchased at the preferred store.

TABLE D-98.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Replacement Purchase for White Goods.

Brand and Store Shopping Activity*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	57	74.0	9	42.9	66	67.4
Actives	20	26.0	12	57.1	32	32.6
Total	77	100.0	21	100.0	98	100.0

* Significant at the .01 level of confidence.

TABLE D-99.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Replacement Purchase for Laundry Durables.

Brand and Store Shopping Activity*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	37	86.1	9	60.0	46	79.3
Actives	6	13.9	6	40.0	12	20.7
Total	43	100.0	15	100.0	58	100.0

* Significant at the .05 level of confidence.

TABLE D-100.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Replacement Purchase for Cooking Ranges.

Brand and Store Shopping Activity*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	22	81.5	1	14.3	23	67.7
Actives	5	18.5	6	85.7	11	32.3
Total	27	100.0	7	100.0	34	100.0

* Significant at the .001 level of confidence.

TABLE D-101.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity and Replacement Purchase for Console Televisions.

Brand and Store Shopping Activity*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives**	6	42.9	8	15.7	14	21.5
Actives	8	57.1	43	84.3	51	78.5
Total	14	100.0	51	100.0	65	100.0

* Significant at the .05 level of confidence.

** Inactives in this table are defined as no brands and store considered other than the actual brand purchased at the preferred store.

TABLE D-102.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Age and Household Size for White Goods.

Brand and Store Shopping Activity*	Younger and Smaller Households		Younger and Larger Households		Older and Smaller Households		Older and Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives	1	20.0	22	71.0	18	78.3	24	63.2	65	67.0
Actives	4	80.0	9	29.0	5	21.7	14	36.8	32	33.0
Total	5	100.0	31	100.0	23	100.0	38	100.0	97	100.0

* Significant at the .10 level of confidence.

TABLE D-103.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Age and Household Size for Refrigerators.

Brand and Store Shopping Activity*	Younger and Smaller Households		Younger and Larger Households		Older and Smaller Households		Older and Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives	0	0	10	58.8	14	73.7	12	46.2	36	53.7
Actives	5	100.0	7	41.2	5	26.3	14	53.8	31	46.3
Total	5	100.0	17	100.0	19	100.0	26	100.0	67	100.0

* Significant at the .05 level of confidence.

TABLE D-104.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Age and Number of Recent Purchases for Brown Goods.

Brand and Store Shopping Activity*	Younger and Single Product Purchaser		Younger and Multi-Product Purchaser		Older and Single Product Purchaser		Older and Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives**	11	24.4	2	22.2	15	23.8	7	58.3	35	27.1
Actives	34	75.6	7	77.8	48	76.2	5	41.7	94	72.9
Total	45	100.0	9	100.0	63	100.0	12	100.0	129	100.0

*Significant at the .10 level of confidence.

**Inactives in this table are defined as no brands and store considered other than the actual brand purchased at the preferred store.

TABLE D-105.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Age and Home Ownership for Portable Televisions.

Brand and Store Shopping Activity*	Younger and Home Owner		Younger and Renter		Older and Home Owner		Older and Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Inactives	7	53.9	7	43.8	20	66.7	0	0	34	52.3
Actives	6	46.1	9	56.2	10	33.3	6	100.0	31	47.7
Total	13	100.0	16	100.0	30	100.0	6	100.0	65	100.0

*Significant at the .05 level of confidence.



TABLE D-106.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Education and Household Size for Brown Goods.

Brand and Store Shopping Activity*	Less Educated and Smaller Household		Less Educated and Larger Household		More Educated and Smaller Household		More Educated and Larger Household		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives	13	59.1	20	50.0	6	25.0	21	51.2	60	47.2
Actives	9	40.9	20	50.0	18	75.0	20	48.8	67	52.8
Total	22	100.0	40	100.0	24	100.0	41	100.0	127	100.0

* Significant at the .10 level of confidence.

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TABLE D-107.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Education and Household Size for Portable Televisions.

Brand and Store Shopping Activity*	Less Educated and Smaller Household		Less Educated and Larger Household		More Educated and Smaller Household		More Educated and Larger Household		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives	6	60.0	8	66.7	4	22.2	16	64.0	34	52.3
Actives	4	40.0	4	33.3	14	77.8	9	36.0	31	47.7
Total	10	100.0	12	100.0	18	100.0	25	100.0	65	100.0

* Significant at the .05 level of confidence.

TABLE D-108.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Education, and Length of Stay in Market Area for Automatic Washers.

Brand and Store Shopping Activity*	Less Educated and Shorter Time in Market		Less Educated and Longer Time in Market		More Educated and Shorter Time in Market		More Educated and Longer Time in Market		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives	10	100.0	16	55.2	13	72.2	13	76.5	52	70.3
Actives	0	0	13	44.8	5	27.8	4	23.5	22	29.7
Total	10	100.0	29	100.0	18	100.0	17	100.0	74	100.0

* Significant at the .10 level of confidence.

TABLE D-109.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Education and Length of Stay at Present Address for Automatic Washers.

Brand and Store Shopping Activity*	Less Educated and Shorter Time at Resid.		Less Educated and Longer Time at Resid.		More Educated and Shorter Time at Resid.		More Educated and Longer Time at Resid.		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives**	11	52.4	10	55.6	11	45.8	10	90.9	42	56.8
Actives	10	47.6	8	44.4	13	54.2	1	9.1	32	43.2
Total	21	100.0	18	100.0	24	100.0	11	100.0	74	100.0

* Significant at the .10 level of confidence.

** Inactives in this table are defined as no brands and stores considered other than the actual brand purchased at the preferred store.

TABLE D-110.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Education and Home Ownership for Brown Goods.

Brand and Store Shopping Activity*	Less Educated and Home Owner		Less Educated and Renter		More Educated and Home Owner		More Educated and Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives**	14	26.9	4	44.4	14	34.2	1	4.2	33	26.2
Actives	38	73.1	5	55.6	27	65.8	23	95.8	93	73.8
Total	52	100.0	9	100.0	41	100.0	24	100.0	126	100.0

*Significant at the .05 level of confidence.

**Inactives in this table are defined as no brands and store considered other than the actual brand purchased at the preferred store.

TABLE D-111.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Education and Home Ownership for Portable Televisions.

Brand and Store Shopping Activity*	Less Educated and Home Owner		Less Educated and Renter		More Educated and Home Owner		More Educated and Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives**	6	35.3	2	50.0	11	44.0	1	5.6	20	31.3
Actives	11	64.7	2	50.0	14	56.0	17	94.4	44	68.7
Total	17	100.0	4	100.0	25	100.0	18	100.0	64	100.0

*Significant at the .05 level of confidence.

**Inactives in this table are defined as no brands and store considered other than the actual brand purchased at the preferred store.



TABLE D-112.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Income and Household Size for White Goods.

Brand and Store Shopping Activity*	More Affluent and Smaller Household		More Affluent and Larger Household		Less Affluent and Smaller Household		Less Affluent and Larger Household		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives**	6	100.0	5	29.4	5	38.5	20	57.1	36	50.7
Actives	0	0	12	70.6	8	61.5	15	42.9	35	49.3
Total	6	100.0	17	100.0	13	100.0	35	100.0	71	100.0

*Significant at the .02 level of confidence.

**Inactives in this table are defined as no brands and store considered other than the actual brand purchased at the preferred store.

TABLE D-113.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Income and Length of Stay at Present Address for White Goods.

Brand and Store Shopping Activity*	More Affluent and Shorter Time at Resid.		More Affluent and Longer Time at Resid.		Less Affluent and Shorter Time at Resid.		Less Affluent and Longer Time at Resid.		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives**	9	69.2	2	20.0	13	44.8	12	63.2	36	50.7
Actives	4	30.8	8	80.0	16	55.2	7	36.8	35	49.3
Total	13	100.0	10	100.0	29	100.0	19	100.0	71	100.0

*Significant at the .10 level of confidence.

**Inactives in this table are defined as no brands and store considered other than the actual brand purchased at the preferred store.

TABLE D-114.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Household Size and Length of Stay at Present Address for Portable Televisions.

Brand and Store Shopping Activity*	Smaller Household and Shorter Time at Residence		Larger Household and Shorter Time at Residence		Larger Household and Longer Time at Residence		Total			
	No.	Per Cent	No.	Per Cent	No.	Per Cent				
Inactives	5	25.0	6	66.7	14	63.6	10	66.7	35	53.0
Actives	15	75.0	3	33.3	8	36.4	5	33.3	31	47.0
Total	20	100.0	9	100.0	22	100.0	15	100.0	66	100.0

* Significant at the .05 level of confidence.

TABLE D-115.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Household Size and Home Ownership for Portable Televisions.

Brand and Store Shopping Activity*	Smaller Household and Home Owner		Smaller Household and Renter		Larger Household and Home Owner		Larger Household and Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives	6	46.2	4	26.7	21	70.0	3	42.9	34	52.3
Actives	7	53.8	11	73.3	9	30.0	4	57.1	31	47.7
Total	13	100.0	15	100.0	30	100.0	7	100.0	65	100.0

* Significant at the .05 level of confidence.

TABLE D-116.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Household Size and Occupation for Portable Televisions.

Brand and Store Shopping Activity*	Smaller Household and White Collar		Smaller Household and Non-White Collar		Larger Household and White Collar		Larger Household and Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives	2	18.2	4	36.4	10	58.8	11	68.8	27	49.1
Actives	9	81.8	7	63.6	7	41.2	5	31.2	28	50.9
Total	11	100.0	11	100.0	17	100.0	16	100.0	55	100.0

* Significant at the .05 level of confidence.

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TABLE D-117.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Number of Recent Purchases and Length of Stay at Present Address for Brown Goods.

Brand and Store Shopping Activity*	Single Product Purchaser and Shorter Time at Residence		Single Product Purchaser and Longer time at Residence		Multi-Product Purchaser and Shorter Time at Residence		Multi-Product Purchaser and Longer Time at Residence		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives	27	38.6	22	55.0	10	71.4	3	37.5	62	47.0
Actives	43	61.4	18	45.0	4	28.6	5	62.5	70	53.0
Total	70	100.0	40	100.0	14	100.0	8	100.0	132	100.0

* Significant at the .10 level of confidence.

TABLE D-118.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Number of Recent Purchases and Occupation for Console Televisions.

Brand and Store Shopping Activity*	Single Product White Collar		Single Product Non-White Collar		Multi-Product White Collar		Multi-Product Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives	5	31.3	10	38.5	0	0	8	72.7	23	41.8
Actives	11	68.7	16	61.5	2	100.0	3	27.3	32	58.2
Total	16	100.0	26	100.0	2	100.0	11	100.0	55	100.0

* Significant at the .10 level of confidence.

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TABLE D-119.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Length of Stay in Market Area and Home Ownership for Brown Goods.

Brand and Store Shopping Activity*	Shorter Time in Market and Home Owner		Shorter Time in Market and Renter		Longer Time in Market and Home Owner		Longer Time in Market and Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives**	14	41.2	3	12.5	16	26.2	2	18.2	35	26.9
Actives	20	58.8	21	87.5	45	73.8	9	81.8	95	73.1
Total	34	100.0	24	100.0	61	100.0	11	100.0	130	100.0

* Significant at the .10 level of confidence.

** Inactives in this table are defined as no brands and store considered other than the actual brand purchased at the preferred store.

TABLE D-120.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity for Portable Televisions.

Brand and Store Shopping Activity*	Shorter Time in Market and Home Owner		Shorter Time in Market and Renter		Longer Time in Market and Home Owner		Longer Time in Market and Renter		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives	9	64.3	6	35.3	18	62.1	1	16.7	34	51.5
Actives	5	35.7	11	64.7	11	37.9	5	83.3	32	48.5
Total	14	100.0	17	100.0	29	100.0	6	100.0	66	100.0

* Significant at the .10 level of confidence.

TABLE D-121.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Length of Stay in Market Area and Occupation for Automatic Washers.

Brand and Store Shopping Activity*	Shorter Time in Market and White Collar		Shorter Time in Market and Non-White Collar		Longer Time in Market and White Collar		Longer Time in Market and Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives**	5	35.7	12	85.7	10	71.4	15	50.0	42	58.3
Actives	9	64.3	2	14.3	4	28.6	15	50.0	30	41.7
Total	14	100.0	14	100.0	14	100.0	30	100.0	72	100.0

*Significant at the .05 level of confidence.

**Inactives in this table are defined as no brands and store considered other than the actual brand purchased at the preferred store.

TABLE D-122.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Length of Stay at Present Address and Home Ownership for Portable Televisions.

Brand and Store Shopping Activity*	Shorter Time at Resid. and Home Owner		Shorter Time at Resid. and Renter		Longer Time at Resid. and Home Owner		Longer Time at Resid. and Renter.		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives	12	60.0	7	30.4	15	65.2	0	0	34	51.5
Actives	8	40.0	16	69.6	8	34.8	0	0	32	48.5
Total	20	100.0	23	100.0	23	100.0	0	100.0	66	100.0

* Significant at the .10 level of confidence.

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TABLE D-123.--Numbers and Percentages of Purchasers According to Brand and Store Shopping Activity, Length of Stay at Present Address and Occupation for Automatic Washers.

Brand and Store Shopping Activity*	Shorter Time at Resid. and White Collar		Shorter Time at Resid. and Non-White Collar		Longer Time at Resid. and White Collar		Longer Time at Resid. and Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Inactives**	7	36.8	16	64.0	8	88.9	11	57.9	42	58.3
Actives	12	63.2	9	36.0	1	11.1	8	42.1	30	41.7
Total	19	100.0	25	100.0	9	100.0	19	100.0	72	100.0

* Significant at the .10 level of confidence.

** Inactives in this table are defined as no brands and store considered other than the actual brand purchased at the preferred store.

TABLE D-124.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Type of Housing for Console Televisions.

Unused Brand and Store Knowledge*	Single Family Housing		Multi-Family Building		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	20	37.7	8	66.7	28	43.1
High Knowers	33	62.3	4	33.3	37	56.9
Total	53	100.0	12	100.0	65	100.0

* Significant at the .10 level of confidence.

TABLE D-125.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Length of Stay at Present Address for Portable Televisions.

Unused Brand and Store Knowledge	One Year or Less		Two to Three Years		Four to Six Years		Seven to Fifteen Years		Over Fifteen Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	4	26.7	8	44.4	9	81.8	5	41.7	4	36.4	30	44.8
High Knowers	11	73.3	10	55.6	2	18.2	7	58.3	7	63.6	37	55.2
Total	15	100.0	18	100.0	11	100.0	12	100.0	11	100.0	67	100.0

* Significant at the .10 level of confidence.

TABLE D-126.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Length of Stay at Present Address for Refrigerators.

Unused Brand and Store Knowledge	One Year or Less		Two to Three Years		Four to Six Years		Seven to Fifteen Years		Over Fifteen Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	6	37.5	8	50.0	3	27.3	11	73.3	8	72.7	36	52.2
High Knowers	10	62.5	8	50.0	8	72.7	4	26.7	3	27.3	33	47.8
Total	16	100.0	16	100.0	11	100.0	15	100.0	11	100.0	69	100.0

* Significant at the .10 level of confidence.

TABLE D-127.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Length of Stay at Present Address for Cooking Ranges.

Unused Brand and Store Knowledge	Five Years or Less		Over Five Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	8	50.0	13	81.3	21	65.6
High Knowers	8	50.0	3	18.7	11	34.4
Total	16	100.0	16	100.0	32	100.0

*Significant at the .10 level of confidence.

TABLE D-128.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Length of Stay in Market Area for Refrigerators.

Unused Brand and Store Knowledge	Six Years or Less		Over Six Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	6	33.3	30	58.8	36	52.2
High Knowers	12	66.7	21	41.2	33	47.8
Total	18	100.0	51	100.0	69	100.0

*Significant at the .10 level of confidence.

TABLE D-129.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Length of Stay in Market Area for Brown Goods.

Unused Brand and Store Knowledge	Fifteen Years or Less		Over Fifteen Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	29	50.0	12	27.3	41	40.2
High Knowers	29	50.0	32	72.7	61	59.8
Total	58	100.0	44	100.0	102	100.0

* Significant at the .05 level of confidence.

TABLE D-130.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Length of Stay in Market Area for Portable Televisions.

Unused Brand and Store Knowledge	Fifteen Years or Less		Over Fifteen Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	16	51.6	4	20.0	20	39.2
High Knowers	15	48.4	16	80.0	31	60.8
Total	31	100.0	20	100.0	51	100.0

* Significant at the .05 level of confidence.

TABLE D-131.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Household Size for Dryers.

Unused Brand and Store Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	9	81.8	21	51.2	30	57.7
High Knowers	2	18.2	20	48.8	22	42.3
Total	11	100.0	41	100.0	52	100.0

* Significant at the .10 level of confidence.

TABLE D-132.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Household Size for Refrigerators.

Unused Brand and Store Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	16	66.7	19	45.2	35	53.0
High Knowers	8	33.3	23	54.8	31	47.0
Total	24	100.0	42	100.0	66	100.0

* Significant at the .10 level of confidence.

TABLE D-133.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Occupation for Brown Goods.

Unused Brand and Store Knowledge*	White Collar		Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	26	56.5	23	35.9	49	44.6
High Knowers	20	43.5	41	64.1	61	55.4
Total	46	100.0	64	100.0	110	100.0

* Significant at the .05 level of confidence.

TABLE D-134.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Occupation for Portable Televisions.

Unused Brand and Store Knowledge*	White Collar		Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	16	57.1	8	29.6	24	43.6
High Knowers	12	42.9	19	70.4	31	56.4
Total	28	100.0	27	100.0	55	100.0

* Significant at the .05 level of confidence.

TABLE D-135.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Number of Recent Purchases for White Goods.

Unused Brand and Store Knowledge*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	47	62.7	9	39.1	56	57.1
High Knowers	28	37.3	14	60.9	42	42.9
Total	75	100.0	23	100.0	98	100.0

* Significant at the .05 level of confidence.

TABLE D-136.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Number of Recent Purchases for Dryers.

Unused Brand and Store Knowledge*	One Purchase		Two Purchases		Three or More Purchases		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	11	64.7	7	33.3	12	75.0	30	55.6
High Knowers	6	35.3	14	66.7	4	25.0	24	44.4
Total	17	100.0	21	100.0	16	100.0	54	100.0

* Significant at the .05 level of confidence.

TABLE D-137.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Replacement Purchase for Cooking Ranges.

Unused Brand and Store Knowledge*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	18	75.0	2	28.6	20	64.5
High Knowers	6	25.0	5	71.4	11	35.5
Total	24	100.0	7	100.0	31	100.0

*Significant at the .05 level of confidence.

TABLE D-138.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge and Replacement Purchase for Laundry Durables.

Unused Brand and Store Knowledge*	Replacement Purchaser		First-Time Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	21	50.0	11	78.6	32	57.1
High Knowers	21	50.0	3	21.4	24	42.9
Total	42	100.0	14	100.0	56	100.0

*Significant at the .10 level of confidence.

TABLE D-139.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Education and Number of Recent Purchases for White Goods.

Unused Brand and Store Knowledge*	Less Educated and Single Product Purchaser		Less Educated and Multi-Product Purchaser		More Educated and Single Product Purchaser		More Educated and Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	20	62.5	7	58.3	22	57.9	1	12.5	50	55.6
High Knowers	12	37.5	5	41.7	16	42.1	7	77.5	40	44.4
Total	32	100.0	12	100.0	38	100.0	8	100.0	90	100.0

* Significant at the .10 level of confidence.

TABLE D-140.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Education and Length of Stay in Market Area for White Goods.

Unused Brand and Store Knowledge*	Less Educated and Shorter Time in Market		Less Educated and Longer Time in Market		More Educated and Shorter Time in Market		More Educated and Longer Time in Market		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	3	30.0	24	70.6	12	52.2	11	47.8	50	55.6
High Knowers	7	70.0	10	29.4	11	47.8	12	52.2	40	44.4
Total	10	100.0	34	100.0	23	100.0	23	100.0	90	100.0

* Significant at the .10 level of confidence.



Table D-141.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Education and Length of Stay in Market Area for Laundry Durables.

Unused Brand and Store Knowledge*	Less Educated and Shorter Time in Market		Less Educated and Longer Time in Market		More Educated and Shorter Time in Market		More Educated and Longer Time in Market		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	0	0	14	70.0	8	57.1	4	36.4	26	52.0
High Knowers	5	100.0	6	30.0	6	42.9	7	63.6	24	48.0
Total	5	100.0	20	100.0	14	100.0	11	100.0	50	100.0

* Significant at the .05 level of confidence.

Table D-142.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Education and Length of Stay in Market Area for Automatic Washers.

Unused Brand and Store Knowledge*	Less Educated and Shorter Time in Market		Less Educated and Longer Time in Market		More Educated and Shorter Time in Market		More Educated and Longer Time in Market		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	2	22.2	19	73.1	8	44.4	8	47.1	37	52.9
High Knowers	7	77.8	7	26.9	10	55.6	9	52.9	33	47.1
Total	9	100.0	26	100.0	18	100.0	17	100.0	70	100.0

* Significant at the .05 level of confidence.

TABLE D-145.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Household Size and Length of Stay at Present Address for Refrigerators.

Unused Brand and Store Knowledge*	Smaller Households and Shorter Time at Residence		Larger Households and Shorter Time at Residence		Larger Households and Longer Time at Residence		Total			
	No.	Per Cent	No.	Per Cent	No.	Per Cent				
Low Knowers	7	50.0	9	90.0	10	35.7	9	64.3	35	53.0
High Knowers	7	50.0	1	10.0	18	64.3	5	35.7	31	47.0
Total	14	100.0	10	100.0	28	100.0	14	100.0	66	100.0

* Significant at the .05 level of confidence.

TABLE D-146.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Household Size and Occupation for Brown Goods.

Unused Brand and Store Knowledge*	Smaller Households and White Collar		Smaller Households and Non-White Collar		Larger Households and White Collar		Larger Households and Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	9	69.2	10	43.5	17	51.5	13	31.7	49	44.6
High Knowers	4	30.8	13	56.5	16	48.5	28	68.3	61	55.4
Total	13	100.0	23	100.0	33	100.0	41	100.0	110	100.0

* Significant at the .10 level of confidence.

TABLE D-147.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Number of Recent Purchases and Length of Stay in Market Area for White Goods.

Unused Brand and Store Knowledge*	Single Product Purchaser and Shorter Time in Market		Single Product Purchaser and Longer Time in Market		Multi-Product Purchaser and Shorter Time in Market		Multi-Product Purchaser and Longer Time in Market		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	17	63.0	30	62.5	1	10.0	8	61.5	56	57.1
High Knowers	10	37.0	18	37.5	9	90.0	5	38.5	42	42.9
Total	27	100.0	48	100.0	10	100.0	13	100.0	98	100.0

* Significant at the .02 level of confidence.

TABLE D-148.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Number of Recent Purchases and Length of Stay in Market Area for Refrigerators.

Unused Brand and Store Knowledge*	Single Product Purchaser and Shorter Time in Market		Single Product Purchaser and Longer Time in Market		Multi-Product Purchaser and Shorter Time in Market		Multi-Product Purchaser and Longer Time in Market		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	8	57.1	13	65.0	4	25.0	11	57.9	36	52.2
High Knowers	6	42.9	7	35.0	12	75.0	8	42.1	33	47.8
Total	14	100.0	20	100.0	16	100.0	19	100.0	69	100.0

* Significant at the .10 level of confidence.

TABLE D-149.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Number of Recent Purchases and Length of Stay at Present Address for White Goods.

Unused Brand and Store Knowledge*	Single Product Purchaser and Shorter Time at Residence		Single Product Purchaser and Longer Time at Residence		Multi-Product Purchaser and Shorter Time at Residence		Multi-Product Purchaser and Longer Time at Residence		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	25	61.0	22	64.7	2	15.4	7	70.0	56	57.1
High Knowers	16	39.0	12	35.3	11	84.6	3	30.0	42	42.9
Total	41	100.0	34	100.0	13	100.0	10	100.0	98	100.0

* Significant at the .02 level of confidence.

TABLE D-150.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Number of Recent Purchases and Length of Stay at Present Address for Refrigerators.

Unused Brand and Store Knowledge*	Single Product Purchaser and Shorter Time at Residence		Single Product Purchaser and Longer Time at Residence		Multi-Product Purchaser and Shorter Time at Residence		Multi-Product Purchaser and Longer Time at Residence		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	11	55.0	10	71.4	6	26.1	9	75.0	36	52.2
High Knowers	9	45.0	4	28.6	17	73.9	3	25.0	33	47.8
Total	20	100.0	14	100.0	23	100.0	12	100.0	69	100.0

* Significant at the .02 level of confidence.

TABLE D-151.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Number of Recent Purchases and Length of Stay at Present Address for Brown Goods.

Unused Brand and Store Knowledge*	Single Product Purchaser and Shorter Time at Residence		Single Product Purchaser and Longer Time at Residence		Multi-Product Purchaser and Shorter Time at Residence		Multi-Product Purchaser and Longer Time at Residence		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	34	48.6	15	37.5	3	21.4	6	75.0	58	43.9
High Knowers	36	51.4	25	62.5	11	78.6	2	25.0	74	56.1
Total	70	100.0	40	100.0	14	100.0	8	100.0	132	100.0

* Significant at the .10 level of confidence.

TABLE D-152.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Length of Stay in Market Area and Present Address for Refrigerators.

Unused Brand and Store Knowledge*	Shorter Time in Market and Shorter Time at Resid.		Shorter Time in Market and Longer Time at Resid.		Longer Time in Market and Shorter Time at Resid.		Longer Time in Market and Longer Time at Resid.		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	9	36.0	3	60.0	8	44.4	16	76.2	36	52.2
High Knowers	16	64.0	2	40.0	10	55.6	5	23.8	33	47.8
Total	25	100.0	5	100.0	18	100.0	21	100.0	69	100.0

* Significant at the .05 level of confidence.

TABLE D-153.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Length of Stay in Market Area and Present Address for Portable Televisions.

Unused Brand and Store Knowledge*	Shorter Time in Market and Shorter Time at Resid.		Longer Time in Market and Shorter Time at Resid.		Longer Time in Market and Longer Time at Resid.		Total
	No.	Per Cent	No.	Per Cent	No.	Per Cent	
Low Knowers	12	44.4	4	100.0	8	50.0	30
High Knowers	15	55.6	0	0	8	50.0	37
Total	27	100.0	4	100.0	16	100.0	67

* Significant at the .10 level of confidence.

TABLE D-154.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Length of Stay in Market Area and Occupation for Brown Goods.

Unused Brand and Store Knowledge*	Shorter Time in Market and White Collar		Shorter Time in Market and Non-White Collar		Longer Time in Market and White Collar		Longer Time in Market and Non-White Collar		Total
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	
Low Knowers	17	63.0	11	44.0	9	47.4	11	29.0	48
High Knowers	10	37.0	14	56.0	10	52.6	27	71.0	61
Total	27	100.0	25	100.0	19	100.0	38	100.0	109

* Significant at the .10 level of confidence.

TABLE D-155.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Length of Stay in Market Area and Occupation for Portable Televisions.

Unused Brand and Store Knowledge*	Shorter Time in Market and White Collar		Shorter Time in Market and Non-White Collar		Longer Time in Market and White Collar		Longer Time in Market and Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	11	61.1	5	50.0	5	50.0	3	17.7	24	43.6
High Knowers	7	38.9	5	50.0	5	50.0	14	82.3	31	56.4
Total	18	100.0	10	100.0	10	100.0	17	100.0	55	100.0

* Significant at the .10 level of confidence.

TABLE D-156.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Length of Stay in Market Area and Occupation for Automatic Washers.

Unused Brand and Store Knowledge*	Shorter Time in Market and White Collar		Shorter Time in Market and Non-White Collar		Longer Time in Market and White Collar		Longer Time in Market and Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	5	35.7	4	33.3	8	57.1	19	70.4	36	53.7
High Knowers	9	64.3	8	66.7	6	42.9	8	29.6	31	46.3
Total	14	100.0	12	100.0	14	100.0	27	100.0	67	100.0

* Significant at the .10 level of confidence.

TABLE D-157.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Length of Stay at Present Address and Occupation for Brown Goods.

Unused Brand and Store Knowledge*	Shorter Time at Resid. and White Collar		Shorter Time at Resid. and Non-White Collar		Longer Time at Resid. and White Collar		Longer Time at Resid. and Non-White Collar		Total
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	
Low Knowers	21	61.8	10	27.8	5	41.7	13	46.4	49
High Knowers	13	38.2	26	72.2	7	58.3	15	53.6	61
Total	34	100.0	36	100.0	12	100.0	28	100.0	110

* Significant at the .05 level of confidence.

TABLE D-158.--Numbers and Percentages of Purchasers According to Unused Brand and Store Knowledge, Length of Stay at Present Address and Occupation for Refrigerators.

Unused Brand and Store Knowledge*	Shorter Time at Resid. and White Collar		Shorter Time at Resid. and Non-White Collar		Longer Time at Resid. and White Collar		Longer Time at Resid. and Non-White Collar		Total
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	
Low Knowers	7	50.0	9	39.1	6	85.7	10	71.4	32
High Knowers	7	50.0	14	60.9	1	14.3	4	28.6	26
Total	14	100.0	23	100.0	7	100.0	14	100.0	58

* Significant at the .10 level of confidence.

TABLE D-159.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge and Length of Stay at Present Address for Dryers.

Total Brand and Store Knowledge*	Five Years or Less		Over Five Years		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	17	56.7	18	78.3	35	66.0
High Knowers	13	43.3	5	21.7	18	34.0
Total	30	100.0	23	100.0	53	100.0

* Significant at the .10 level of confidence.

TABLE D-160.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge and Household Size for Refrigerators.

Total Brand and Store Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	15	62.5	17	40.5	32	48.5
High Knowers	9	37.5	25	59.5	34	51.5
Total	24	100.0	42	100.0	66	100.0

* Significant at the .10 level of confidence.

TABLE D-161.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge and Household Size for Automatic Washers.

Total Brand and Store Knowledge*	Smaller Households		Larger Households		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	12	75.0	29	51.8	41	56.9
High Knowers	4	25.0	27	48.2	31	43.1
Total	16	100.0	56	100.0	72	100.0

* Significant at the .10 level of confidence.

TABLE D-162.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge and Occupation for Portable Televisions.

Total Brand and Store Knowledge*	White Collar		Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	11	39.3	5	18.5	16	29.1
High Knowers	17	60.7	22	81.5	39	70.9
Total	28	100.0	27	100.0	55	100.0

* Significant at the .10 level of confidence.

TABLE D-163.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge and Number of Recent Purchases for White Goods.

Total Brand and Store Knowledge*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	48	64.0	7	30.4	55	56.1
High Knowers	27	36.0	16	69.6	43	43.9
Total	75	100.0	23	100.0	98	100.0

* Significant at the .01 level of confidence.

TABLE D-164.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge and Number of Recent Purchases for Refrigerators.

Total Brand and Store Knowledge*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	20	58.8	13	37.1	33	47.8
High Knowers	14	41.2	22	62.9	36	52.2
Total	34	100.0	35	100.0	69	100.0

* Significant at the .10 level of confidence.

TABLE D-165.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge and Number of Recent Purchases for Dryers.

Total Brand and Store Knowledge*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	14	82.4	21	56.8	35	64.8
High Knowers	3	17.6	16	43.2	19	35.2
Total	17	100.0	37	100.0	54	100.0

* Significant at the .10 level of confidence.

TABLE D-166.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge and Number of Recent Purchases for Cooking Ranges.

Total Brand and Store Knowledge*	Single Product Purchaser		Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	10	83.3	10	50.0	20	62.5
High Knowers	2	16.7	10	50.0	12	37.5
Total	12	100.0	20	100.0	32	100.0

* Significant at the .10 level of confidence.

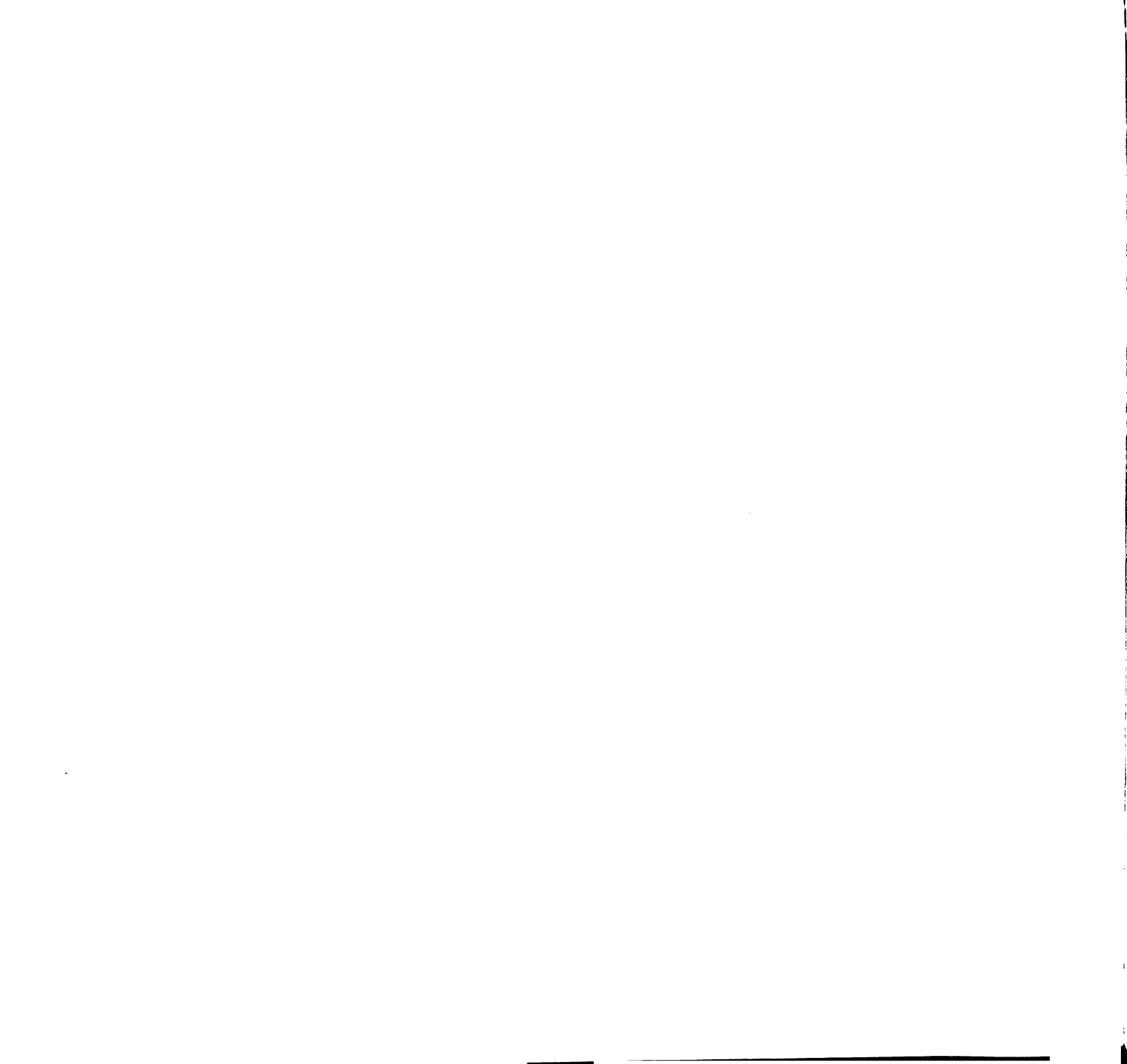


TABLE D-167.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Age and Number of Recent Purchases for White Goods.

Total Brand and Store Knowledge*	Younger and Single Product Purchaser		Younger and Multi-Product Purchaser		Older and Single Product Purchaser		Older and Multi-Product Purchaser		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	15	62.5	3	27.3	33	64.7	3	30.0	54	56.3
High Knowers	9	37.5	8	72.7	18	35.3	7	70.0	42	43.7
Total	24	100.0	11	100.0	51	100.0	10	100.0	96	100.0

* Significant at the .05 level of confidence.

TABLE D-168.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Age and Length of Stay in Market Area for Portable Televisions.

Total Brand and Store Knowledge*	Younger and Shorter Time in Market		Younger and Longer Time in Market		Older and Shorter Time in Market		Older and Longer Time in Market		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	6	30.0	1	11.1	7	63.6	9	34.6	23	34.9
High Knowers	14	70.0	8	88.9	4	36.4	17	65.4	43	65.1
Total	20	100.0	9	100.0	11	100.0	26	100.0	66	100.0

* Significant at the .10 level of confidence.

TABLE D-169.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Education and Number of Recent Purchases for White Goods.

Total Brand and Store Knowledge*	Less Educated and Single Product Purchaser		Less Educated and Multi-Product Purchaser		More Educated and Single Product Purchaser		More Educated and Multi-Product Purchaser		Total
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	
Low Knowers	19	59.4	4	33.3	24	63.2	2	25.0	49
High Knowers	13	40.6	8	66.7	14	36.8	6	75.0	41
Total	32	100.0	12	100.0	38	100.0	8	100.0	90

* Significant at the .10 level of confidence.

TABLE D-170.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Education and Length of Stay in Market Area for White Goods.

Total Brand and Store Knowledge*	Less Educated and Shorter Time in Market		Less Educated and Longer Time in Market		More Educated and Shorter Time in Market		More Educated and Longer Time in Market		Total
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	
Low Knowers	1	10.0	22	64.7	13	56.5	13	56.5	49
High Knowers	9	90.0	12	35.3	10	43.5	10	43.5	41
Total	10	100.0	34	100.0	23	100.0	23	100.0	90

* Significant at the .05 level of confidence.

TABLE D-171.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Household Size and Number of Recent Purchases for White Goods.

Total Brand and Store Knowledge*	Smaller Households and Single Product Purchaser		Larger Households and Single Product Purchaser		Larger Households and Multi-Product Purchaser		Total			
	No.	Per Cent	No.	Per Cent	No.	Per Cent				
Low Knowers	15	75.0	2	25.0	33	60.0	4	30.8	54	56.3
High Knowers	5	25.0	6	75.0	22	40.0	9	69.2	42	43.7
Total	20	100.0	8	100.0	55	100.0	13	100.0	96	100.0

* Significant at the .05 level of confidence.

TABLE D-172.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Household Size and Length of Stay in Market Area for Automatic Washers.

Total Brand and Store Knowledge*	Smaller Household and Shorter Time in Market		Smaller Household and Longer Time in Market		Larger Household and Shorter Time in Market		Larger Household and Longer Time in Market		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	2	40.0	10	90.9	11	47.8	18	54.6	41	56.9
High Knowers	3	60.0	1	9.1	12	52.2	15	45.4	31	43.1
Total	5	100.0	11	100.0	23	100.0	33	100.0	72	100.0

* Significant at the .10 level of confidence.

TABLE D-173.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Household Size and Length of Stay at Present Address for Automatic Washers.

	Smaller Households and Shorter Time at Residence		Larger Households and Longer Time at Residence		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Low Knowers	2	40.0	10	90.9	22	55.0
High Knowers	3	60.0	1	9.1	18	45.0
Total	5	100.0	11	100.0	40	100.0
					7	43.8
					41	56.9

* Significant at the .10 level of confidence.

TABLE D-174.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Household Size and Occupation for Brown Goods.

	Smaller Household and White Collar		Larger Household and White Collar		Larger Household and Non-White Collar		Total
	No.	Per Cent	No.	Per Cent	No.	Per Cent	
Low Knowers	2	15.4	8	34.8	14	42.4	30
High Knowers	11	84.6	15	65.2	19	57.6	80
Total	13	100.0	23	100.0	33	100.0	110
					41	100.0	110
					6	14.6	30
					35	85.4	80
					41	100.0	110

* Significant at the .05 level of confidence.

TABLE D-175.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Household Size and Occupation for Portable Televisions.

Total Brand and Store Knowledge*	Smaller Household and White Collar		Smaller Household and Non-White Collar		Larger Household and White Collar		Larger Household and Non-White Collar		Total
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	
Low Knowers	1	9.1	3	27.3	10	58.8	2	12.5	16
High Knowers	10	90.9	8	72.7	7	41.2	14	87.5	39
Total	11	100.0	11	100.0	17	100.0	16	100.0	55

* Significant at the .01 level of confidence.

TABLE D-176.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Household Size and Occupation for Refrigerators.

Total Brand and Store Knowledge*	Smaller Household and White Collar		Smaller Household and Non-White Collar		Larger Household and White Collar		Larger Household and Non-White Collar		Total
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	
Low Knowers	6	75.0	9	64.3	3	23.1	11	47.8	29
High Knowers	2	25.0	5	35.7	10	76.9	12	52.2	29
Total	8	100.0	14	100.0	13	100.0	23	100.0	58

* Significant at the .10 level of confidence.

TABLE D-177.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Number of Recent Purchases and Length of Stay in Market Area for White Goods.

Total Brand and Store Knowledge*	Single Product Purchaser and Shorter Time in Market		Single Product Purchaser and Longer Time in Market		Multi-Product Purchaser and Shorter Time in Market		Multi-Product Purchaser and Longer Time in Market		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	16	59.3	32	66.7	1	10.0	6	46.2	55	56.1
High Knowers	11	40.7	16	33.3	9	90.0	7	53.8	43	43.9
Total	27	100.0	48	100.0	10	100.0	13	100.0	98	100.0

* Significant at the .01 level of confidence.

TABLE D-178.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Number of Recent Purchases and Length of Stay at Present Address for White Goods.

Total Brand and Store Knowledge*	Single Product Purchaser and Shorter Time at Residence		Single Product Purchaser and Longer Time at Residence		Multi-Product Purchaser and Shorter Time at Residence		Multi-Product Purchaser and Longer Time at Residence		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	27	65.9	21	61.8	2	15.4	5	50.0	55	56.1
High Knowers	14	34.1	13	38.2	11	84.6	5	50.0	43	43.9
Total	41	100.0	34	100.0	13	100.0	10	100.0	98	100.0

* Significant at the .02 level of confidence.

TABLE D-179.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Number of Recent Purchases and Occupation for White Goods.

Total Brand and Store Knowledge*	Single Product Purchaser and White Collar		Single Product Purchaser and Non-White Collar		Multi-Product Purchaser and White Collar		Multi-Product Purchaser and Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	23	65.7	23	65.7	3	33.3	3	30.0	52	58.4
High Knowers	12	34.3	12	34.3	6	66.7	7	70.0	37	41.6
Total	35	100.0	35	100.0	9	100.0	10	100.0	89	100.0

* Significant at the .10 level of confidence.

TABLE D-180.--Numbers and Percentages of Purchasers According to Total Brand and Store Knowledge, Number of Recent Purchases and Occupation for Refrigerators.

Total Brand and Store Knowledge*	Single Product Purchaser and White Collar		Single Product Purchaser and Non-White Collar		Multi-Product Purchaser and White Collar		Multi-Product Purchaser and Non-White Collar		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent		
Low Knowers	8	57.1	11	68.8	1	14.3	9	42.9	29	50.0
High Knowers	6	42.9	5	31.2	6	85.7	12	57.1	29	50.0
Total	14	100.0	16	100.0	7	100.0	21	100.0	58	100.0

* Significant at the .10 level of confidence.

TABLE D-181.--Number of Significant Relationships Between the Independent Variables and Store Shopping Activity by Product.

Independent Variables ¹	Products ²							Totals
	Portable Televisions	Console Televisions	White Goods	Laundry Durables	Washers Dryers	Refrigerators	Ranges	
Replacement Purchase			1	1			1	3
Length of Stay in Market Area			1			1		2
Type of Housing	1							1
Mobility					1			1
Marital Status						1		1
Household Size								1
Age							1	1
Recent Purchases							1	1
Totals	1	1	2	1	1	2	2	11

¹Independent variables not showing at least one meaningful relationship were excluded.

²The purchasers of brown goods were not differentiated on the variables.

TABLE D-182.--Number of Significant Relationships Between the Independent Variables and Unused Brand Knowledge by Product.

Independent Variables ¹	Products ²							Totals
	Brown Goods	Portable Televisions	White Goods	Laundry Durables	Washers	Dryers	Refrigerators	
Home Ownership	1*	1*			1			3
Recent Purchases				1	1	1		3
Length of Stay in Market Area			1				1	2
Household Size		1					1	2
Replacement Purchase		1				1		2
Type of Housing						1		1
Mobility		1*						1
Marital Status		1						1
Occupation		1						1
Education					1			1
Totals	1	6	1	1	3	3	2	17

¹Independent variables not showing at least one meaningful relationship were excluded.

²The purchasers of console televisions and ranges were not differentiated on the variables.

*The relationship was in the opposite direction of the hypothesis.

TABLE D-183.--Number of Significant Relationships Between the Independent Variables and Unused Store Knowledge By Product.

Independent Variables ¹	Products ²							Totals
	Brown Goods	Portable Televisions	White Goods	Laundry Durables	Washers	Dryers	Refrigerators	
Household Size	1	1	1	1	1	1	1	6
Type of Housing	1*	1*				1		3
Home Ownership	1*	1*						2
Length of Stay in Market Area	1*	1*						2
Marital Status			1				1	2
Age					1*	1*		2
Income	1	1						2
Mobility		1						1
Recent Purchases			1					1
Replacement Purchase				1*				1
Totals	5	6	3	2	2	3	1	22

¹Independent variables not showing at least one meaningful relationship were excluded.

²The purchasers of console televisions and ranges were not differentiated on these variables.

* The relationship was in the opposite direction of the hypothesis.

TABLE D-184.--Number of Significant Relationships Between the Independent Variables and Total Brand Knowledge by Product.

Independent Variables ¹	Products ²						Totals
	Portable Televisions	White Goods	Automatic Washers	Dryers	Refrigerators	Cooking Ranges	
Type of Housing	1		1	1			3
Home Ownership			1	1			2
Age		1			1		2
Household Size					1		1
Recent Purchases						1	1
Totals	1	1	2	2	2	1	9

¹Independent variables not showing at least one meaningful relationship were excluded.

²The purchasers of brown goods, console color televisions, and laundry durables were not differentiated on the dependent and independent variables.

TABLE D-185.--Number of Significant Relationships Between the Independent Variables and Total Store Knowledge by Product.

Independent Variables	Products ²							Totals
	Brown Goods	Portable Televisions	Console Televisions	White Goods	Laundry Durables	Automatic Washers	Refrigerators	
Replacement Purchase	1*	1*		1				3
Length of Stay in Market Area				1		1		2
Marital Status		1*		1				2
Age				1	1			2
Occupation		1*				1		2
Income	1	1						2
Recent Purchases				1			1	2
Household Size					1			1
Education			1					1
Totals	2	4	1	5	2	1	2	17

¹Independent variables not showing at least one meaningful relationship were excluded.

²The purchasers of dryers and ranges were not differentiated on the variables.

* The relationship was in the opposite direction of the hypothesis.

TABLE D-186.--Number of Significant Relationships Between the Independent Variables and Brand and Store Shopping Activity by Product.

Independent Variables	Products							Totals	
	Brown Goods	Portable Televisions	Console Televisions	White Goods	Laundry Durables	Washers	Dryers		Refrigerators
<u>Single Variables</u>									
Replacement Purchase			1	1	1			1	4
Length of Stay in Market Area			1			1		1	3
Home Ownership	1	1							2
Type of Housing	1	1							2
Marital Status	1	1							2
Recent Purchases			1			1			2
Length of Stay at Present Address		1							1
Household Size		1							1
Occupation					1				1
Subtotals	3	5	3	1	2	2	0	2	18
<u>Dual Variables</u>									
Age-Income				1		1		1	3
Age-Household Size								1	2
Education-Household Size				1					2
Education-Home Ownership	1	1							2
Length of Stay in Market Area-Home Ownership	1	1							2
Age-Recent Purchases	1								2
Age-Home Ownership									1
Education-Length of Stay in Market						1			1

TABLE D-186.--Continued.

Independent Variables	Products										Totals
	Brown Goods	Portable Televisions	Console Televisions	White Goods	Laundry Durables	Washers	Dryers	Refrigerators	Ranges		
Education-Length of Stay at Present Address					1						1
Income-Household Size				1							1
Income-Length of Stay at Present Address				1							1
Household Size- Length of Stay at Present Address	1										1
Household Size- Home Ownership	1										1
Household Size- Occupation	1										1
Recent Purchase- Length of Stay at Present Address	1										1
Recent Purchase- Occupation			1								1
Length of Stay in Market- Occupation						1					1
Length of Stay at Present Address- Home Ownership											1
Length of Stay at Present Address- Occupation								1			1
Subtotals	5	8	1	4	0	5	1	1	0	25	
Grand Totals	8	13	4	5	2	7	1	1	2	43	

TABLE D-187.--Number of Significant Relationships Between the Independent Variables and Unused Brand and Store Knowledge by Product.

Independent Variables	Products									
	Brown Goods	Portable Televisions	Console Televisions	White Goods	Laundry Durables	Washers	Dryers	Refrigerators	Ranges	Totals
<u>Single Variables</u> ¹										
Length of Stay at Present Address		1						1	1	3
Length of Stay in Market Area	1	1						1		3
Household Size						1		1		2
Occupation	1	1								2
Recent Purchases				1			1			2
Replacement Purchase					1				1	2
Home Ownership									1	1
Type of Housing			1							1
Subtotals	2	3	1	1	1	1	2	3	2	16
<u>Dual Variables</u> ¹										
Education-Length of Stay in Market Area				1						3
Recent Purchases-Length of Stay at Present Address	1							1		3
Occupation-Length of Stay in Market Area		1					1			3
Recent Purchases-Length of Stay in Market Area				1						2

TABLE D-187.--Continued.

Independent Variables	Products									
	Brown Goods	Portable Televisions	Console Televisions	White Goods	Laundry Durables	Washers	Dryers	Refrigerators	Ranges	Totals
Occupation- Length of Stay in Market Area	1							1		2
Length of Stay in Market Area- Length of Stay at Present Address		1						1		2
Age-Length of Stay at Present Address								1		1
Education-Recent Purchases				1						1
Education-Length of Stay at Present Address								1		1
Income-Occupation	1									1
Household Size- Length of Stay at Present Address								1		1
Household Size- Occupation								1		1
Subtotals	4	2	0	4	1	2	0	8	0	21
Grand Totals	6	5	1	5	2	3	2	11	2	37

¹The independent variables with at least one significant relationship are included in this table; all other independent variables are omitted.

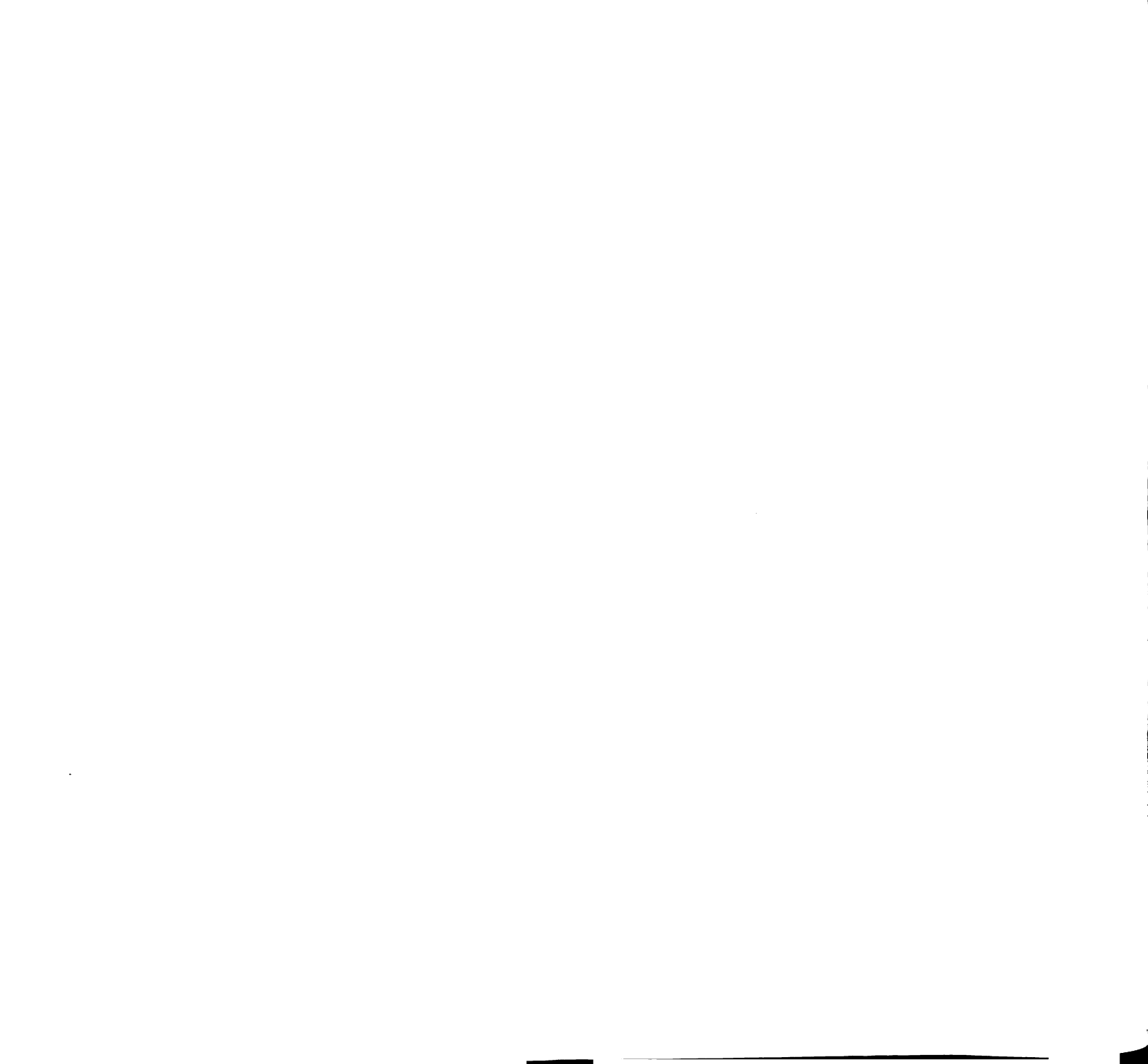


TABLE D-188.--Continued.

Independent Variables	Products								
	Brown Goods	Portable Televisions	Console Televisions	White Goods	Laundry Durables	Washers Dryers	Refrigerators	Ranges	Totals
Education-Length of Stay in Market Area				1					1
Household Size-Recent Purchases				1					1
Household Size-Length of Stay in Market Area						1			1
Household Size-Length of Stay at Present Address									482
Recent Purchases-Length of Stay in Market Area						1			1
Recent Purchases-Length of Stay at Present Address									1
Subtotals	1	2	0	7	0	1	3	0	15
Grand Totals	1	3	0	8	0	2	5	1	23

¹The independent variables with at least one significant relationship are included in this table; all other independent variables are omitted.

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