To the Graduate Council:

I am submitting herewith a dissertation written by Cornelia Crabb Otnes entitled "A Study Of Consumer External Search Profiles Pertaining To Christmas Shopping." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Communications.

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A STUDY OF CONSUMER EXTERNAL SEARCH STRATEGIES PERTAINING TO CHRISTMAS SHOPPING

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Cornelia Crabb Otnes

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To my husband Mark

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ABSTRACT

Christmas gift-giving is a neglected topic by social scientists. This study explores whether consumers adopt information-use strategies while Christmas shopping. After reviewing the literature on external search and gift-buying, a conceptual framework examines how consumers might select search strategies. One hundred ninety-one people were asked about their use of eleven different external information sources. Nonhierarchical cluster analysis revealed that three types of information searchers existed. These were: selective searchers (use mainly print), non-searchers (use no sources) and eclectic searchers (use almost all sources). Stepwise discriminant analysis revealed that eight lifestyle, shopping, media use and demographic variables were good discriminators among clusters. With just these eight variables retained, discriminant analysis accurately classified 74% of consumers into their correct clusters. This classification rate was validated using the split-sample procedure. The differences between clusters were then interpreted more fully.

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CHAPTER I

INTRODUCTION

A. OVERVIEW

Gift-giving has been part of the Christmas celebration ever since the Wise Men visited the baby Jesus: "Then opening their treasures, they offered him gold, and frankincense and myrrh" (Matthew 2:11). Yet the generosity exhibited by those first Christmas gift-givers pales in comparison to the amount of time, effort and money currently expended by celebrants all over the world who engage in this same ritual. Furthermore, there is evidence that Christmas gift-giving has begun to shape the exchange rituals of other religious faiths. For example, Hirschman and LaBarbera (1989) note that while gift-giving during Hanukkah has not been as important an activity as for Christmas celebrants, "In many Jewish households children now are given gifts by their parents on each of the eight nights of the festival" (p. 145).

ECONOMIC SIGNIFICANCE

To gain an understanding of the economic impact of Christmas gift-giving in the United States, one need only examine three key indicators. The first of these is the total dollar amount spent on Christmas gifts annually. A survey conducted by the Conference Board of New York estimated that consumers would spend approximately $39 billion on Christmas gifts in 1989 alone (Eskey, 1989). This figure translates to an average of $335 expended by each American household.

The second indication of the economic importance of Christmas gifts in America is reflected in retailers' expected sales during the holiday season. Banks (1978) notes: "Some retailers estimate that 30-50% of total volume (and even higher percentages of their profits) occur in two months of the year, November and December" (p. 319). Pollay (1986) adds that sales in the month of December alone "account for 40% of annual sales of toys...28% of candy, 25% of cosmetics, 20% of tobacco and liquor and 25% or more of...toiletries, stationery, greeting cards, books and art" (p. 140). In addition, a news broadcast during the 1989 Christmas season noted

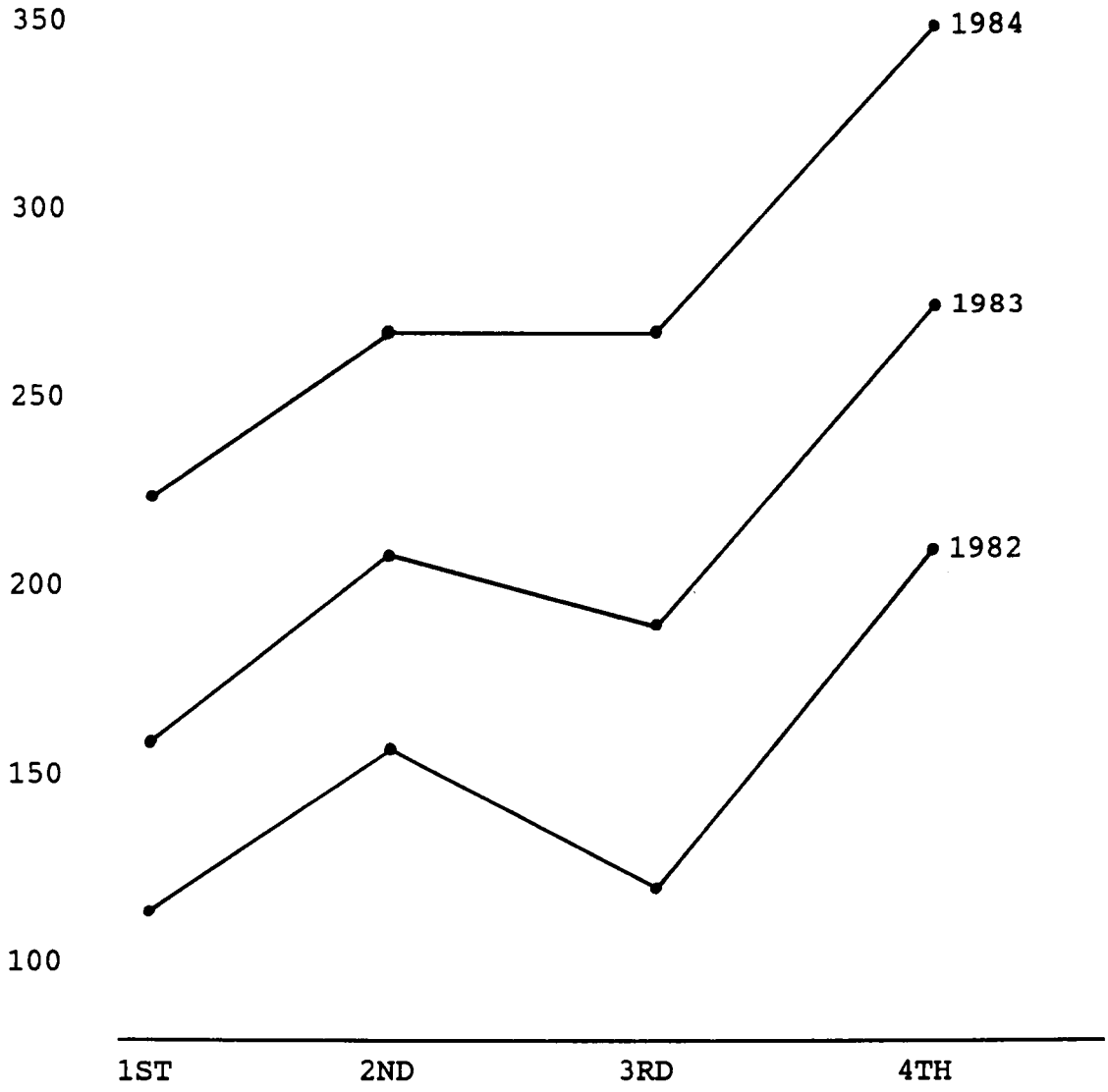
that mall retailers rely upon Christmas revenues for 35-40% of all business (La Motte, 1989).

Finally, the manner in which manufacturers and retailers allocate advertising and promotional budgets to the fourth quarter of the year reflects their dependence upon Christmas revenues. Figure I-1 illustrates the advertising expenditures of selected retailers from 1982 to 1984. On the average, fourth-quarter expenditures represented 38% of all advertising dollars spent by these retailers over the three-year period.

SOCIAL SIGNIFICANCE

In addition to the economic influences discussed above, it can hardly be denied that Christmas gift-giving serves as an important sociological mechanism for exchange in American culture. Two pieces of evidence support this statement.

While examining Christmas gift-giving in "Middletown," Caplow (1982) found that "110 respondents gave 2,969 gifts and received 1,318, for a mean of 27 given and 13 received" (p. 385). These figures indicate that gift exchange at Christmas is obviously much more complex than



Source: Leading National Advertisers, 1982-1984

Figure I-1

Selected Annual Advertising Expenditures

that which occurs within in the context of other occasions in America. Indeed, one can compare the nature of gift-giving occasions in America, to better understand why Christmas gift-giving activity is so much more intense.

Green and Alden (1988) asked consumers to list gift-giving occasions they thought were the most significant in American culture. Two other occasions -- housewarmings and hospitalizations -- were added to this list. The author of this dissertation then evaluated these occasions for the presence or absence of characteristics mentioned as useful in distinguishing one event from another (c.f., Caplow, 1982; Belk, 1979; Poe, 1977; Moschetti, 1979, Rook, 1985).

In addition to those suggested by the literature, other dimensions of gift-giving occasions -- such as media coverage of gift exchange activities and the extent to which products are marketed as gifts per se -- were also examined.

Table I-1 summarizes the evaluations of twelve gift-giving occasions occurring in American culture across seven dimensions. Each occasion was examined for the presence or absence of the following characteristics: 1) whether the event was recognized on an annual basis by the same givers and recipients; 2) whether givers typically

Table I-1

Examination of Gift-Giving Occasions Within American Culture

Event	Annual Event	More than One Recipient Per Giver	Media Coverage Of Giving	Marketing Of Gifts	Level of Cultural Recognition	Fixed Time Of Year	Immediate Reciprocity From Recipient
Anniversary	Y	N	N	M	H	Y	Y
Birthday	Y	N	N	L	H	Y	N
Christening	N	N	N	L	M	N	N
Christmas	Y	Y	Y	H	H	Y	Y
Graduation	N	N	N	M	H	Y	N
Hospitalization	N	N	N	L	M	N	N
Housewarming	N	N	N	L	M	N	N
Mother's/Father's Day	Y	N	Y	M	H	Y	N
New Year's	N	?	N	L	L	Y	?
Valentine's Day	Y	N	Y	M	H	Y	Y
Wedding	N	N	N	M	H	N	N

H= high level of activity; M= medium level of activity, L= low level of activity; Y= characteristic describes an occasion; L= characteristic does not describe the occasion.

exchanged gifts with more than one recipient; 3) whether the media specifically devoted noncommercial time to covering gift exchange activities of the occasion; 4) whether the occasion always occurred at a fixed time of year; and 5) whether immediate gift reciprocity was expected. In addition, two characteristics -- namely, the level of cultural recognition of a gift-giving occasion and the extent to which products are marketed as gifts -- were ranked as occurring in a high, medium or low fashion. No one characteristic was presumed to be more important than any other. However, it seems logical to assume that occasions possessing more characteristics than others could be sociologically more significant.

As Table I-1 indicates, the number of characteristics that describe occasions varies greatly. For example, the occasion of bringing a gift to the hospital has almost nothing in common with annual gift-giving events. Among the events that do occur annually -- Mother's and Father's Day, Hanukkah, Valentine's Day, Birthday and Anniversary -- all except Christmas and Hannukah typically feature exchange in which the giver offers a present to only one receiver (or joint receivers).

Furthermore, Christmas can be distinguished from other annual gift-giving occasions by the following characteristics:

1) Of all of the gift-giving occasions featuring more than one giver and receiver, Christmas has the highest level of cultural recognition;

2) Christmas gift-giving receives more media attention than other annual gift occasions;

3) Christmas gift-giving is the focus of substantially more marketing effort than giving for other occasions -- as evidenced by the presence of its own "shopping season";

4) Christmas gift-giving is the only pervasive exchange occasion where immediate reciprocity is expected among multiple givers and receivers.

Thus, because Christmas gift-giving appears to be the most intense type of gift-giving on both the individual and societal level, this type of exchange could be described as the most sociologically significant gift-giving in modern American culture.

CURRENT STATUS OF RESEARCH

While it is therefore obvious that Christmas gift-giving is important to retailers, manufacturers, advertising practitioners and consumers alike, it is

surprising how academics in almost all of the social science disciplines have, for the most part, overlooked this behavior.

Speaking about the discipline of marketing in particular, Pollay (1986) notes, "The richness and importance of the holiday custom in America is not well reflected in the academic literature of consumer research" (p. 140). Yet it seems logical to state that of all social scientists, marketing and advertising researchers have the most to gain from a practical understanding of consumer behavior during the Christmas season.

One could attribute the lack of attention paid to Christmas by these scholars to the relatively youthful stature of marketing and advertising among the social sciences. One might then assume that researchers in the more mature social science disciplines of anthropology, sociology and psychology surely would have examined so pervasive an aspect of American culture. Yet it appears that researchers in those disciplines have also said "Bah, Humbug!" to the study of Christmas. In fact, Caplow (1982) observes that one of the most famous sociological studies of community life, the "Middletown" study conducted in 1924-25 "ignored the matter of Christmas" (1982, p. 383).

CHRISTMAS AS RITUAL

One possible -- although hardly justifiable -- reason that researchers have neglected Christmas is that compared to some rituals in American society, the celebration of Christmas as a full-blown commercial event is a relatively new phenomenon. Barnett (1954) notes that it was not until 1890, when the last state had voted to make Christmas a legal holiday, that "various elements of Christmas had coalesced into a festival of great popularity and of considerable social significance" (p. 21).

In addition, while gift-giving had always been a part of the celebration of Christmas, Barnett (1954) notes that it was left to the industrialists who had geared up for mass production during World War I to "recognize the commercial potentialities of folk festivals" (p. 79). Thus, it appears quite reasonable to state that the transformation of Christmas from a primarily religious celebration to a secular, more commercial event is a twentieth-century phenomenon.

However, evidence points to the fact that the makings of this new "commercial Christmas" were in existence prior to this century. Belk (1989) notes that as early as 1874,

Macy's spent $10,000 on a window display of imported dolls, thus launching the tradition of creating elaborate holiday displays. In addition, commercial lending institutions began offering "Christmas Club" accounts as early as 1910 (Barnett, 1954).

Yet the fact that the commercial Christmas is a relatively new phenomenon should in no way imply that it is an undeveloped sociological ritual. Rook (1985) defined ritual as "expressive, symbolic activity constructed of multiple behaviors that occur in a fixed, episodic sequence and that tend to be repeated over time" (p. 252). The author then evaluated what he considered to be the most pervasive rituals in American culture across four dimensions: 1) the use of "ritual artifacts," or products "consumed in a ritual setting"; 2) the presence of a "ritual script" to specify behaviors and artifacts used in the ritual; 3) specific "ritual performance roles"; and 4) a "ritual audience" (p. 253). Based upon his evaluation, Rook concluded that Christmas is "assessed as a vigorous ritual occasion" (p. 256).

Christmas Gift-Giving as Ritual

If one accepts Rook's definition of ritual, then the act of Christmas gift-giving -- and all of the separate activities it entails -- could thus be viewed as a ritual within a ritual. The small amount of research that has examined Christmas gift-giving supports this assumption. For instance, Caplow (1984) found that Christmas gift-giving appears to be governed by highly complex rules of behavior. The author observed that people in Middletown seemed to adhere to such behavioral rules as "Christmas gifts must be wrapped before they are presented" and "Any room where Christmas gifts are distributed should be decorated" (pp. 1310-1311). These observations led Caplow to conclude that:

> We discover that the participants in this gift-giving system are themselves the agents who enforce its complex rules, although they do so unknowingly and without conscious reference to a system (pp. 1321-22).

In addition, Christmas gift-buying appears to be governed by its own rules of behavior. Belk (1979) found that people chose gifts with different attributes for different gift occasions. Namely, people stated that gifts which could be described as long-lasting and personal

were more appropriate at Christmas, while birthday gifts were more likely to be described as fun and inexpensive.

B. PURPOSE OF THIS STUDY

The discussion of the economic and sociological significance of Christmas gift-giving presented above lends support to the following statement: If Christmas gift-giving is so important in American culture, then consumers are highly likely to devote a great deal of effort and energy to activities that would allow them to participate in such exchange. For example, one type of behavior that obviously is related to Christmas giving is that of actual gift-buying. Given that consumers may be faced with a quite demanding Christmas shopping task, they might develop strategies for gathering information pertaining to potential gift purchases.

Typically, consumers have four such sources of information at their disposal. These are: 1) marketer-created information; 2) noncommercial information presented through the mass media; 3) information gleaned from interpersonal sources; and 4) information from the consumer's own memory.

The first three of these sources have been typically described as "external search" sources, and the last has been described as an "internal search" source.

Examining the use of both internal and external sources would be difficult within the confines of one study. For example, the study of internal search requires consumer behavioralists to make many assumptions about the nature of human memory structure. Thus, less is generally known about how consumers engage in internal search. Therefore, the purpose of this study is to gain a better understanding of whether -- and how -- consumers develop strategies for external information search, to aid them in the purchase of Christmas gifts.

C. PROBLEM STATEMENT AND OBJECTIVES

Having defined the purpose of this study, it is important to restate the problem in a scientific manner. Kerlinger (1986) notes that a problem statement should 1) express a relation between two or more variables; 2) be stated unambiguously in the form of a question; and 3) imply possibilities for empirical testing. With these criteria in mind, the following problem statement guides this study:

> Do statistically and managerially meaningful profiles exist, that 1) differentiate consumers on the type of external search strategies employed while Christmas shopping and; 2) relate these differences to relevant demographic, situational and media-usage variables?

After developing and empirically testing specific research questions that address this problem statement, the study will meet the following objectives:

> Objective 1: To achieve a greater understanding of the sources of information -- and methods of gathering information -- consumers use while Christmas shopping.
>
> Objective 2: To achieve a greater understanding of a pervasive sociological phenomenon in American society -- namely, Christmas shopping.
>
> Objective 3: To determine if those variables that have been found to influence gift-giving also affect gift-buying. While this study clearly focuses upon buying activities, it is obvious that gift exchange is what motivates the buyer to shop.

D. RATIONALE FOR THE STUDY

Understanding whether and how consumers develop strategies to help them gather information while Christmas shopping would obviously be of great benefit to marketers.

As much of the information available to consumers is created by marketers themselves, it would be extremely beneficial to understand exactly what type(s) of consumers seek out marketer-generated information. In addition, because of the pervasive nature of Christmas shopping in society, this study will yield a greater understanding of an interesting, yet somewhat overlooked, sociological phenomenon.

WHY STUDY EXTERNAL SEARCH?

It was noted previously that many marketers and advertisers devote the lion's share of their promotional budgets to the Christmas season. These expenditures are used to create such promotional materials as advertisements, catalogs, in-store displays and other types of marketing communications. Marketers rely on these materials to accomplish two objectives: 1) to provide consumers with information; and 2) to persuade consumers to consider a specific product or service when buying Christmas gifts.

Thus, it seems evident that if these marketing communications do affect consumer purchase behavior, they most likely have their initial effect at the stage in

which consumers are engaged in external information search.

Furthermore, consumers do not restrict their external information-gathering to sources stemming from marketers alone. Rather, information stemming from interpersonal interaction, and from noncommercial messages offered through the mass media, can also be salient during external search. Thus, by focusing upon external search, this study will gain a better understanding of the following: 1) how marketing communications are used by consumers during the Christmas shopping season and; 2) how consumers use other available external information sources while Christmas shopping.

WHY STUDY PROFILES?

This study examines whether profiles of consumers can be isolated, that differ with respect to the type of external search strategy employed while Christmas shopping. There are several reasons why such a study is warranted.

First, retailing and marketing scholars have consistently shown that types of consumers can be isolated that differ on the basis of the external search

strategies employed while shopping for a variety of goods. Table I-2 presents a summary of these studies. While it appears these studies have found a variety of searcher types, there is nonetheless a great deal of overlap across studies, with respect to the types of searchers found.

Second, by examining whether profiles of Christmas shoppers can be isolated -- who differ with respect to the type of information search they employ -- this study can integrate the research that has been conducted within the area of external search and the area of gift-giving and gift-buying as well.

Third, isolating external search profiles has immediate relevance for marketers interested in using market segmentation as a way to improve the efficiency and effectiveness of their communications efforts.

Finally, examining consumer search profiles means that the research design must include a diverse set of variables, across which consumer types could potentially differ. Researchers who have studied gift-buying have typically examined only a few variables per study. Therefore, examining profiles of consumers demands that many variables be examined concurrently. This procedure should ensure that a richer understanding of variables

Table I-2

External Search Types Previously Identified

Study	Types Of Searchers
Katona and Mueller, 1955	1. Deliberate 2. Moderate 3. Non-Deliberate
Claxton, et al., 1974	1. Thorough (Store-Intense) 2. Thorough (Balanced) 3. Non-Thorough
Miller and Zikmund, 1975	1. Thorough 2. Unplanned, Store-Only 3. One-Stop Shopper 4. Neighborhood 5. Single Moderate Planner
Jacoby, et al., 1978	1. Brand-Name Only 2. Within-Brand 3. Between-Brand 4. Complex
Westbrook and Fornell, 1979	1. Objective Shopper 2. Moderate Shopper 3. Store-Intense Shopper 4. Personal Advice Seeker
Kiel and Layton, 1981	1. High 2. Low 3. Selective 4. Selective 5. Selective
Midgely, et al., 1983	1. Minimal Deliberate 2. Peer-Assisted 3. Extensive 4. Spouse-Assisted 5. Minimal Decisive

Table I-2, continued

Study	Types Of Searchers
Furse, et al., 1984	<u>From Consumer Data</u>: 1. Low Search 2. Purchase-Pal Assisted 3. High Search 4. Self-Reliant Shopper 5. Retail Shopper 6. Moderate Search <u>From Salespeoples Reports</u>: 1. The Negotiator 2. The Inexperienced Shopper 3. The Lone Shopper 4. The Family Shopper 5. The Pain-In-The-Neck 6. The Moderate-Search Shopper

influencing consumer information search during the Christmas shopping season will be achieved.

In summary, examining profiles of consumers with respect to the external search strategies they employ while Christmas shopping will: 1) integrate the findings of previous studies on gift-buying and external search; 2) have direct implications for market segmentation; and 3) simultaneously study the effect of many variables on gift-buying.

E. ORGANIZATION OF THIS STUDY

The remainder of this dissertation is organized as follows: Chapter II will review the literature that has examined external search, gift-giving and gift-buying. This review draws from such disciplines as sociology, psychology, anthropology and consumer behavior. Variables that have been found to influence external search include perceived urgency of the purchase, prior product knowledge and enjoyment of shopping. Variables that have been found to influence gift-giving and gift-buying include social risk, time pressure and the desire for balanced gift-giving.

Chapter II will then present and evaluate models of gift-giving that have been published within the domain of consumer behavior. A model that specifically examines influences on consumer search strategies is then developed and offered as the framework for this study. Research questions stemming from this model are then specified.

Chapter III discusses the research design of this study. Findings from preliminary focus groups that aided in the development of the research instrument are presented. Next, the sampling method, design and administration of the research instrument, and selection of appropriate statistical measures are discussed.

Chapter IV discusses how the reliability and validity of the survey instrument were assessed. Chapter V presents the results of the statistical analyses conducted for this study, after explaining why both cluster analysis and discriminant analysis were appropriate statistical techniques to use in this study.

Finally, Chapter VI interprets the statistical findings of this study. Contributions and limitations of this study -- as well as future areas of research -- are also discussed.

CHAPTER II

LITERATURE REVIEW

This chapter presents a literature review of studies that have examined external search behavior, gift-giving and gift-buying. Furthermore, a conceptual framework is presented that will guide the research endeavors in this study.

The chapter is organized as follows: First, a review of the literature that has examined external search behavior is presented. Studies of influences on such behavior began with the now famous Katona and Mueller (1955) article. The study of variables influencing external search is now quite extensive.

Next, the theoretical paradigms that have examined motivations for gift-giving are discussed. These paradigms have been generated primarily within the discipline of anthropology. However, there has been some interest in gift-giving motivations in consumer behavior research as well.

The next three sections examine how certain situational, psychographic and demographic variables appear to influence gift-buying, respectively.

The sixth section reviews two models -- developed within the discipline of consumer behavior -- that have been created to guide the study of gift-giving and gift-buying.

After evaluating these models, this dissertation presents a new model of influences on Christmas shoppers' external search strategies. This framework integrates findings from the gift-giving, gift-buying and external search literature.

Finally, research questions that stem from this model -- and which will guide the survey design and data analysis for this study -- are offered.

A. LITERATURE PERTAINING TO EXTERNAL SEARCH

For almost fifty years, researchers have examined how a wide variety of variables can influence consumer information search. Recently, researchers have also become interested in examining whether typologies can be developed, which describe the prevalance of patterns of external search behavior.

External search is related to a wide variety of other topics in consumer behavior. Thus, it is necessary to enumerate which topics the following review does <u>not</u>

cover. Specifically, the literature that examines how consumers store or recall information learned via search is excluded, as is the body of work pertaining to family or joint decision-making.

Figure II-1 summarizes how this literature review on external search is organized. The first section examines situational (context-dependent) variables. Next, the effects of personal (enduring or intra-individual) characteristics are reviewed. The third category represents studies that have attempted to isolate patterns of consumer search behavior, and have examined how specific variables relate to patterns of external search. Finally, the literature pertaining to external search not related to purchase is reviewed.

SITUATIONAL VARIABLES INFLUENCING SEARCH

Perceived Economic Risk

Researchers have noted that a consumer's desire to search for information could be motivated by several factors. Moreover, some of these factors could stem from the purchase situation itself, while some are best

I. SITUATIONAL VARIABLES

A. Perceived Economic Risk
B. Perceived Social Risk
C. Satisficing Versus Optimizing
D. Type of Information Sought
E. Urgency of Need for Purchase
F. Perceived Time Pressure
G. Special Opportunity to Buy

II. PERSONAL VARIABLES

A. Perceived Physical Risk
B. Perceived Psychological Risk/ Involvement
C. Prior Product Knowledge/ Experience
D. Beliefs
E. Attitude Toward Shopping
F. Desire For Information
G. Personality Traits
H. Demographics

III. TYPOLOGIES OF EXTERNAL SEARCHERS

IV. NON-PURCHASE RELATED SEARCH

Figure II-1

Organization of the Literature
Pertaining to External Search

described as motivations stemming from within the individual. One of these situational variables is the perceived economic risk of engaging in (or not engaging in) search. The theory that consumers often engage in information search in order to minimize the economic risk involved in purchase was first advocated by Stigler (1951). According to this paradigm, consumers actively seek information until the "marginal value of additional enlightenment is equal to or greater than the cost of securing that knowledge" (Bucklin, 1969, p.416). However, perceived economic risk could also be defined in terms of how much the product -- rather than the information pertaining to that product -- costs. Studies examining both of these aspects of economic risk are summarized below.

While not precisely defining a construct known as economic risk, Katona and Mueller (1955) examined how the level of perceived financial pressures influenced consumers' external search behavior for both durables and nondurables. They assumed that consumers who had children and who bought more products by installment credit were under more financial pressure than others. They found that regardless of their income level, younger families with children tended to be under more financial pressures

than families with older heads of households. Furthermore, among young people with children, "15 percent were active information seekers as against 5 percent among young people without children" (Katona and Mueller, 1955, p. 60).

Across the other measures of perceived economic pressure -- namely, payment by credit card and the perception that one's economic well-being was not improving -- there were no differences in the degree of external search employed.

Bucklin (1966) tested the hypothesis that shoppers would search more extensively for nonfood items if the perceived cost of shopping was low. He operationalized the cost of shopping as the distance between competing retail establishments. He hypothesized that consumers would regard traveling to establishments located farther away from each other as more "costly," and would thus use in-store information less.

Bucklin found that consumers who shopped where competing stores were located closer together did spend more time gathering in-store information than other consumers.

Bucklin (1969) also examined whether the "household's perception of risk" could influence search behavior (p. 418). He operationalized this risk as relating to consumers' attitudes towards the value of money. He hypothesized that "Where such valuations are high, the marginal value of a dollar saved through shopping should similarly be high, and such households should engaged in greater levels of search" (p. 424).

After correlating these search measures with attitudes toward money, Bucklin concluded that only two economic variables -- price dispersion of products and lack of spending money as a child -- consistently correlated positively with higher levels of search.

Furthermore, when he tested the effect of economic risk in a model that contained other motivations, lack of spending money as a child was positively related to search, and accounted for 19 percent of the variance in search behavior.

Moore and Lehmann (1980) operationalized consumers' perceived economic risk of purchase as their perceptions of whether they felt they were on a tight budget. They hypothesized that the tighter the budget, the more consumers would search for information. However, this hypothesis was not supported.

Punj and Staelin (1983) also examined whether the motivation of perceived economic risk appeared to influence the level of search behavior. They found that among new car buyers, there was a significant negative relationship between the perceived economic cost of search, and the amount of search activity undertaken. The authors also noted that the relationship between the perceived cost savings on a new car that could be gained through search, and the amount of actual search activity undertaken, was significant and positive. The authors concluded that "Taken together, these findings provide support for a cost-benefit framework used (but normally not tested) in several marketing studies" (1983, p. 378).

Perceived Social Risk

Another type of risk that has been hypothesized to influence search is social risk. Jacoby and Kaplan (1972) operationally defined social risk as a consumer's belief that purchase of a product may influence the way others perceive them.

The assumption that social risk could influence the purchase of products was indirectly postulated by

Martineau (1958), when he noted that social class pressures could influence purchase behavior. Specifically:

> In a very real sense, every one of us in his [sic] consumption patterns and style of life shows an awareness that there is some kind of a superiority-inferiority system operating, and that we must observe the symbolic patterns of our own class (Martineau, 1958. p.122).

Although he did not use the term "social risk," Bucklin (1969) tested the hypothesis that households with different social aspirations would exhibit varying degrees of external search activities. Thus, homemakers who were in the upper social classes should search less frequently for grocery products, because of the belief that "intensive shopping for food is an activity that is beneath their social dignity" (1969, p. 418). Conversely, consumers in the lower classes but with higher social aspirations would exhibit low levels of search because they may "parrot the expected behavior of the upper classes, and hence, not shop" (1969, p. 418).

Bucklin found general support for the hypothesis that the higher an individual's social class (or aspirations to a class), the less the tendency to search for information. However, when social class was entered into a model with

four other motivations to search, this variable did not explain a significant portion of search behavior.

In the same study, Bucklin also examined how another form of perceived social risk could influence search behavior. Specifically, he examined whether a woman who regarded herself as fulfilling a more domestic role within the family would search for more information. He noted that for these women:

> Shopping...becomes a major extension of the role of tending the home, and some food buyers may find considerable opportunity to enhance the esteem and regard that other family members hold for them by vigorously enacting that role (p. 418).

A factor analysis of women's responses pertaining to their roles in the home revealed that three of eight women could be described as domestically-oriented. However, only one of these three types of women -- namely, the "Epicure" who prided herself on her flair for cooking and decorating -- searched more than the other types of women. Thus, the perceived social risk of making a bad purchase did not seem to be any higher for domestically-oriented women than for those with other orientations.

Perry and Hamm (1969) examined the combined effect of perceived "socioeconomic" risk on external search. They

hypothesized that the more risk that consumers perceived to be associated with a purchase, the more external search they would employ. Their hypothesis was supported across all product categories.

Claxton, et al. (1974), indirectly measured the influence of perceived social risk on search, by examining whether the "social visibility" of a product appeared to influence the nature and extent of information search. After isolating clusters of shoppers, they found that for both furniture and appliance buyers, those consumers who were more concerned with making a socially correct choice were more likely to be classified as "thorough" searchers (e.g., shoppers who used a wide variety of information and who spent the most time gathering this information).

Capon and Burke (1977) hypothesized that the greater the perceived risk involved in purchasing a durable good, the greater the depth of search (e.g., the more items of information would be gathered about a product). The authors found that those consumers who rated the purchase of durable goods as "riskier" did indeed gather information across more dimensions than those who did not.

Moore and Lehmann (1980) conceptualized social risk in an intriguing manner. Specifically, they designed an

experiment where consumers were allowed to gather information on various brands of bread. They hypothesized that those consumers who perceived themselves to be overweight (and hence, perhaps more subject to social criticism) would be more conscientious in their external search efforts than those consumers who rated their weight as normal. This hypothesis was supported.

Midgely, et al. (1989), examined how the personal influence of peers was related to the extent of search for a symbolic product. The authors asked consumers to examine nine dress styles, and to indicate how their friends would react if that consumer purchased each style. Next, the authors examined whether this "perceived normative influence" was related to the use of interpersonal sources of information.

They found that consumers who perceived that their peers would be more supportive of their choices were more likely to "seek reinforcement for their decision by involving their peers in selection" (p. 142). However, if peers gave negative feedback, consumers were not likely to consult them when shopping.

"Satisficing" Versus "Optimizing"

The third type of situational motivation that has been examined with respect to its effect on external search behavior pertains to whether consumers are motivated to select the "best" of all possible products available, or merely to choose a "good" product. While this variable could be regarded as a personality characteristic, the decision to select an optimal or satisfactory product has typically been manipulated by researchers in an experimental setting.

For example, Swan (1969) instructed consumers to gather all of the information they desired, before making a simulated purchase of a men's sports shirt. Consumers were instructed either to select the "best" buy among four brands (the optimizing condition), or to choose a "good" shirt from among brands of "similar quality" (what Swan and others after him have termed the "satisficing" condition).

Swan found that consumers in the "optimizing" group selected a mean number of 6.63 information items before selecting a shirt, while those in the "satisficing" group selected 4.44 items, a significantly lower amount.

Jacoby, et al. (1978), also examined how consumers' desire to make an optimal or satisfactory purchase decision affected external search behavior. They hypothesized that not only would optimizers engage in more search, but they would also seek out more "intrinsic cues" about a product (p. 534). That is, consumers motivated to make the "best" decision would be less inclined to rely upon such peripheral information cues such as price, positioning statements or package design.

The authors used a novel method of examining search behavior called an Information Display Board (IDB). The IDB featured a matrix of concealed information on cards. Each row and column of the matrix was labelled, so that consumers knew what type of information they would get when they selected a card.

The authors found that of the 560 possible dimensions of information pertaining to 16 cereal brands that were on the IDB, consumers selected an average of only about 2 percent of this information. However, there were significantly more "satisficers" in the "light search" and "brand name only" groups, and significantly more "optimizers" in the medium and heavy search groups. Thus, the tendency of a consumer to optimize or satisfice

appeared significanty related to the amount of external search employed.

Type of Information Sought

Another variable thought to influence external search behavior is the type of information sought by consumers. This stream of research generally focuses upon whether consumers who are specifically interested in certain product attributes -- such as price or brand names -- search differently than consumers who are not so attribute-loyal. Several studies have examined this topic.

Katona and Mueller (1955) examined how the search behavior of three types of consumers varied, who differed with respect to the types of information they sought most often. The three groups were: 1) consumers who had based their decision primarily on price; 2) consumers who chose products because of the brand name and 3) consumers who had "considered a number of other features other that price or brand" (1955, p. 47).

The authors found that people who claimed they chose with respect to price neverthless acquired as much

information about the other dimensions as those who did not choose a product on this attribute alone. Specifically:

> People who indicated they knew from the beginning how much they would have to spend on the durable good tended to investigate models in different price classes at least as thoroughly as those who had no such knowledge at the outset (p.48).

However, the influence of brand-name shopping on external search behavior was more profound. The authors noted that "Brand consciousness quite frequently caused consumers to confine their choice to a limited number of makes. Less frequently, it led to complete brand rigidity" (p. 48).

For the final type of searcher -- those who considered a number of features besides price and brand, consumers not only mentioned seeking information on a wide variety of attributes, but also mentioned using a wider array of sources than price-only and brand-only shoppers.

Bucklin (1965) examined whether consumers who used ads in making non-food purchases used this source differently, depending upon whether they already had decided upon the brand of product to buy.

He found that, "Twenty-four percent of those who checked advertisements expressed a brand preference, compared with 22 percent where advertising had not been checked," a nonsignificant difference (p. 561). However, Bucklin did find that consumers' use of advertising varied, depending upon whether they had acquired knowledge on all of the product features they desired. Specifically:

> Of those consumers who used ads, 51 percent knew all the features wanted, 30 percent knew some and only 19 percent were aware of a few or none. On products for which the respondents had not checked advertisements, just 38 percent knew all the features they wanted to learn about, 29 percent knew some and 33 percent were aware of just a few. These differences clearly suggest that advertisements aided the respondent in selecting the product characteristics that she most desired, without prejudicing her to brand (1965, p. 561).

Jacoby, et al. (1977), examined both the amount and types of information consumers sought during external search. Basing their study on the assumption from psychology that consumers would only seek a few information "chunks," the authors offered the following hypotheses:

> 1. Consumers would select brand name information over any other available attribute, because brand names themselves represent "chunks" of information about product quality;

2. If brand names were missing from an available set of information, then consumers would select price information;

3. Consumers who selected brand names during external search would arrive at their decision earlier than those who did not.

The authors reported the following results: 1) brand name and price attributes accounted for more than one-third of all attributes acquired, in the conditions where such information was available; 2) brand name appeared to be the single most important type of information sought by consumers; 3) consumers did not appear to take less time to make a choice if they knew brand names than if they did not.

Thus, it appears that "Consumers select only limited amounts of information from available arrays...and tend to place substantial importance on price and particularly brand name information" (Jacoby et al, 1977, p. 214).

Sheluga, et al. (1979), also investigated the issue of whether consumers' preference for different product attributes influenced the nature of their search activities. The authors first asked consumers to indicate which product attributes they preferred to know about when making a purchase. They then hypothesized that the more positively a consumer evaluated the utility of a product

attribute, the more often a consumer would seek out that attribute during search, and the earlier in the search process consumers would acquire that attribute.

The authors found only limited support for their hypothesis. Specifically, two of the three measures used to assess consumers' search for preferred attributes failed to reach significance. Furthermore, in testing whether preferred attributes were accessed earlier in search, only one measure proved significant. Thus, it appeared that preferred attributes were not necessarily the ones sought after the most, nor were they accessed any earlier in the search process.

Urgency of Need

The effect of consumers' urgent need to replace a product on their external search behavior has also been examined. Katona and Mueller (1955) found that the more urgently a consumer needed to replace a product, the less external effort was undertaken by the consumer. The authors noted that buyers who were not pressured to select because of an urgent need "tended to make the selection

with greater care and deliberation than those whose primarily motivation...was to obtain immediate possession" (p. 73).

Likewise, Newman and Staelin (1972) found that the more urgently a consumer needed a product, the less time they devoted to external search. However, in a later study (Newman and Staelin, 1973) the authors found that urgency accompanying purchase was not significant, once other search determinants were examined in the same model.

Finally, Claxton, et al. (1974), found that one type of furniture shopper who was classified as a "non-thorough" searcher appeared to be reacting to the perceived urgent need of purchasing a product. This same subcluster was also found among the "non-thorough" appliance searchers.

Perceived Time Pressure

The effect of the amount of time pressure consumers believe themselves to be under while searching for information has also been examined. Stamm (1969) manipulated the amount of time consumers had available to search for product-related information. Interestingly, he found that consumers in the high-time pressure condition

tended to request information about only one brand. In the moderate time-pressure condition, consumers tended to request information across brands.

Moore and Lehmann (1980) also hypothesized that time pressure would be negatively related to external search. They operationalized this construct by having consumers indicate their agreement with the statement: "I feel especially rushed for time this week" (p. 300). However, time pressure was not associated with the number of brands or attributes sought. The authors offer the explanation that "Possibly, people who are rushed for time acquire slightly less information on each brand and on slightly fewer brands" (p. 302).

Beatty and Smith (1987) defined time availability as the amount of time consumers believe they can devote to a particular purchase decision. After examining the amount of consumers's use of media, retailer, interpersonal and "neutral" sources of information, the authors created a total search index for each consumer. Time availability correlated positively with higher amounts of total search. Furthermore, the more time a consumer had available for purchase, the more the person tended to use mass media sources for information.

Ability to Acquire a "Special Deal"

Only one study (Katona and Mueller, 1955) has examined how external search may be influenced by a consumer's opportunity to acquire a product through a "special deal." Not surprisingly, the authors found that when consumers are offered such an opportunity, external search was curtailed. However, the term "special opportunity" appears to be reserved for those purchases they can make through connections with friends or family. In other words, the ability to buy a product on sale or to acquire a trade-in allowance was not regarded as "special" enough to curtail search behavior.

PERSONAL CHARACTERISTICS INFLUENCING SEARCH

In addition to situational variables, the effect of a number of personal characteristics on search behavior has also been examined. These findings will now be reviewed.

Perceived Physical Risk

The effect of perceived physical risk on external search has been assessed in only one study. Jacoby, et al.

(1978), asked consumers how likely they thought any "new" brand of breakfast cereal would be harmful to their health or low in nutrition. They then hypothesized that any consumers who regarded the purchase of cereal as more physically risky would acquire more information during their simulated purchase of cereals.

Using the "information display board" procedure, the researchers allowed consumers to acquire as much information on cereal brands as they desired. They found no support for the predicted positive relationship between perceived physical risk and search. Specifically, the correlation between physical risk and search was .11, and the correlation between "nutritional risk" and search was .02.

Perceived Psychological Risk

Researchers who have examined the effect of psychological risk on search have tended to define this construct in terms of the amount of ego disturbance that would be felt if a bad purchase was made. However, one could also state that consumers who find the purchase of some products more involving than others could also be prone to higher levels of perceived psychological risk.

Indeed, some researchers have observed that the construct of involvement would best be treated as a psychological state variable, rather than a variable that is tied to the cost or the extrinsic nature of a product. Therefore, both ego involvement and product involvement will be treated as forms of psychological risk.

Katona and Mueller (1955) operationalized consumer involvement with a purchase in terms of the amount of money spent on an item. They found that there was "some evidence that the consideration that buyers give to alternatives becomes more thorough the higher the price of the model which they purchase" (p. 66).

Beatty and Smith (1987) noted:

> Most consumer behavior theories explicity or implicitly suggest that under low involvement conditions, e.g., where the consumer has little interest in the product, individuals engage in minimal search, while under high involvement conditions, individuals engage in extensive search....However, there appears to be very little empirical evidence of this linkage (p. 85).

The authors set out to examine the relationship between involvement and search, hypothesizing that when a consumer feels that "a product is closely related to his or her self-concept, values and ego, s/he will seek out more information in order to make the appopriate choice"

(p. 85). The authors found, however, that ego involvement did not produce higher total search across product categories. Instead, ego involvement only appeared linked to the amount of neutral (non-marketer generated) information that would be used.

Product Knowledge/ Experience

Intuitively, one would expect that the amount of prior knowledge a consumer has about the product should be related to the amount of external search effort in which they engage. Indeed, product knowledge is one of the variables most often studied by consumer behaviorists interested in the determinants of search. In addition, Newman (1977) notes that many researchers have used consumers' prior experience with a product as a proxy measure for product knowledge. Thus, the effect of these two variables will be examined together.

Nine studies were found that examined the effect of prior knowlege or experience on external search behavior. These findings will be summarized briefly.

Katona and Mueller (1955) made the assumption that consumers with more knowledge about a product prior to purchase would search for less information. However, they

did not find evidence to support this assumption. Bucklin (1966) hypothesized that consumer search would be greater among those shoppers who 1) knew little about a product; and 2) knew little about the retailers that carried the products under consideration. These hypotheses were supported.

Swan (1969) hypothesized that the more consumers saw the same product during an experimental setting, the more experience they would have with the product and the less search they would employ. He found that this so-called "brand experience" did reduce consumers' external search activities.

Hempel (1969) measured home buyers' knowledge of the communities or towns they were considering as future sites, as well as their previous experience in purchasing homes. He found that

> Previous home buying and moving experience were not related to the indices of search behavior, but knowledge of the town was positively correlated with the degree of search. Buyers acquiring their second home were more deliberative in all dimensions of search that those purchasing their first or third home (p. 246)

Moore and Lehmann (1980) hypothesized that prior experience with a product would be negatively related to

external search. They found generally strong support for this hypothesis. Specifically, although prior experience with a retailer did not reduce search, prior experience with a brand did.

Punj and Staelin (1983) found that of the five situational and personal constructs they retained as predictors of external search, prior relevant knowledge "was the most important factor in search activity, i.e., those who had the least need conducted the least amount of search" (p. 378).

Brucks (1985) noted that product knowledge had been operationalized a variety of ways in the literature. She proposed that a useful way to examine this construct would be to break it into the components of "objective" and "subjective" knowledge.

She defined objective knowledge as what the consumer stored in memory, and subjective knowledge as what consumers thought they knew about a product. The author provided subjects access to external search information via a computerized information data base. Subjects were allowed to request information on whatever attributes of a sewing machine they desired, before making a simulated purchase.

Brucks proposed several hypotheses to examine the relationship between objective and subjective knowledge and search. Specifically, she posited that consumers possessing more objective product knowledge would tend to search more when the alternatives presented to them were considered inappropriate, but less when alternatives were considered appropriate. However, subjective knowledge (what consumers thought they knew about a product) would be less strongly related to the number of attributes examined.

The author found support for these hypotheses, concluding that:

> Some evidence was generated for the conceptual distinction between objective and subjective knowledge. Specifically, it was found that only objective knowledge was significantly related to the number of attributes examined, and only subjective knowledge was significantly related to the tendency to request dealer opinions, rather than attribute information (p. 12).

Beatty and Smith (1987) hypothesized that recent purchasers of consumer electronic products would search less if they had prior knowledge of the product class. They found support for this hypothesis.

Srinivasan and Agrawal (1987) noted that competing hypotheses could explain the relationship between

information search and product knowledge. Namely, the "enrichment hypothesis" states that consumers who know more about a product before deciding to purchase it will still seek more information, because they enjoy being informed. However, the "inverted U" hypothesis states that consumers who have moderate levels of knowledge will seek more information than high-knowledge consumers, because they are not yet saturated with all of the knowledge they might require.

To test these alternative hypotheses, the authors devised separate measures of product knowledge, and compared them with search activities reported by consumers. They found that across all three measures, there was more support for the enrichment hypothesis -- or for a positive relationship between prior knowledge and the level of external search -- than there was for the inverted U hypothesis.

Beliefs

Certainly one concept that is related to consumers' prior knowledge about a product is their set of beliefs about the product, product class, and/or the marketplace.

Duncan and Olshavsky (1982) examined whether these beliefs would influence external search behavior. They offered the following hypothesis: "Variations in the quantity of prepurchase information seeking...will be significantly correlated with differences in individual marketplace beliefs" (p. 33).

The authors found that 50% of the variance in search behavior could be explained by consumers' responses to 27 belief statements. Furthermore, consumers who searched more tended to hold the following beliefs: 1) that they were unable to judge the quality of certain products; 2) that external search ensured that a better product choice would be made and 3) that certain attributes of products -- such as brand names -- were good indicators of product quality.

Muncy (1986) replicated the above study, by testing the influence of the same 27 belief statements on the search behavior of recent automobile purchasers. He found that beliefs explained a significant amount of the variance in external search behavior. However, in his study, they accounted for only 19 percent of the variance. Nevertheless, the author concluded that "specific beliefs are strongly related to the degree of external information search" (p. 64).

Attitudes Toward Shopping

It seems highly plausible that consumers' attitudes toward shopping could influence their tendency to engage in -- or not engage in -- external search behavior. Katona and Mueller (1955) asked consumers how much they enjoyed shopping for durables and nondurables. They then compared these responses to the amount of search activity in which consumers reported they had engaged.

Interestingly, they found that families who liked to shop tended to engage in more search for a durable good than for a nondurable good. However, for both product categories, the relationship between the amount of external search and attitude toward shopping was positive.

Beatty and Smith (1980) examined whether attitude toward shopping was a potential determinant of search behavior. They defined the construct not only as one reflecting consumers' perceived level of shopping enjoyment, but also as reflecting their belief that shopping could help them make wiser purchases. Again, the hypothesis that attitude toward shopping would be positively related to search was supported.

Desire For Information

One construct that could perhaps be related both to "objective knowledge" and consumers' attitude toward shopping is what has been termed "desire for information." Hirschman (1980) notes that this variable could actually be representative of what she calls "novelty seeking," whereby "through some internal drive or motivating force the individual is activated to seek out novel information" (p. 284). Although the term has not been used in the external search literature, this variable seems similar to the construct known as "need for cognition."

Katona and Mueller (1955) offer some preliminary evidence that some consumers simply desire more information than others when making a purchase, regardless of whether that purchase is a durable or a nondurable. They observed:

> Utilization of only one source of information was positively correlated with utilization of other sources....Those who went for information say, to friends, frequently consulted other sources as well, while those who sought no information from this popular source were less likely to consult other sources (p. 46).

Punj and Staelin (1983) examined the influence of the desire to seek information on search behavior for new automobiles. After ranking each of the five variables that were retained in their model as good predictors of search, the authors concluded this variable ranked second behind prior knowledge as the one most positively related to external search.

Personality Variables

Newman (1977) notes that: "The relationship of personality to search has received little research attention" (p. 89). However, the influence of a few personality constructs has been examined.

Green (1966) found that consumers participating in a simulated information-gathering game and who tended to seek out more information were also more confident in their beliefs that they could control their environment. In contrast, those consumers who did not actively seek out information tended to be more fatalistic.

More recently, Schaninger and Bass (1984) explored how a personality construct they termed "cognitive capacity" influenced external search behavior. They operationalized this construct as being composed of five attributes.

Specifically, consumers high in cognitive capacity tended to 1) express low levels of trait anxiety; 2) have a high tolerance for stimulus ambiguity; 3) have high self-esteem; 4) clarify concepts in their minds; and 5) reflect low levels of "concept rigidity" -- or the need for concepts to be concretely defined.

The authors hypothesized that high-cognitive individuals would be more likely to search for information than low-cognitive respondents, because they would be more confident in their ability to make sense of the incoming information. Consumers were given a series of information-display board tasks. Bivariate correlations between each search aspect and each aspect of cognitive capacity showed "no meaningful or consistent pattern of relationships between depth of search and cognitive capacity" (p. 241).

Demographics

Most studies of consumer information search processes have examined how selected demographics are related to different levels of external search. The demographics examined have included age, education, income and occupation.

Age

Katona and Mueller found that the older a consumer, the less likely s/he would engage in external search for a durable good. Similarly, Hempel (1969) found that the age of the husband "was closely related to variations in the degree of search -- the older the head of the family, the lower the search effort" (p. 246).

Most of the studies that have developed typologies of consumers' external search activity (c.f., Newman and Staelin, 1972; Claxton, et al., 1974; Kiel and Layton, 1981) have found that the age of the consumer tends to vary with level of external information search. These findings will be discussed in the next section of this review.

Education/Income

Most researchers who have examined education and income have found these variables to be highly correlated. However, studies of the influence of these variables on search have found conflicting results. Katona and Mueller (1955) found that the more years of education a consumer had completed, the greater their amount of search:

"Circumspectness was greater among durable goods purchasers if they attended high school...and it was still higher for those who went to college" (p. 54).

The authors also found that educational level influenced the kinds of information sources used. For example, people with more education tended to use interpersonal sources more than people with lower levels of education. The authors stated that consumers with higher educational levels may discuss products "in a more critical frame of mind with friends, family members and relatives" (p. 56).

Newman and Staelin (1972) also found that education was related to search behavior, but the relationship was not as clear-cut as it appeared. For example, consumers who reported holding advanced college degrees searched the same amount as the group with less than a high school education. Those repondents who had completed high school, as well as those with some college, searched the most. The authors note that they could not explain why education appeared to be in an "inverted U" relationship with search. However, one fact was clear to them: "The relationship between education and information seeking is neither monotonic nor linear" (p. 252).

Occupation

Newman (1977) noted that researchers who have examined occupational influence on external search have found that the relationship depends upon the nature of the product. He noted that both Katona and Mueller (1955) and Newman and Staelin (1972) found that managerial and professional workers exhibited higher tendencies to search for information than workers in the service sector, or than unskilled laborers.

However, Katona and Mueller found that with respect to nondurables, it was the blue-collar sector of the labor force that tended to search more. The authors noted that 40% of unskilled workers were "active information seekers" of sports shirts, compared to 28% of sales and clerical personnel, and 32% of skilled workers.

Hempel (1969) noted that when consumers gathered information prior to purchasing a home, their level of search varied with occupational status, but not consistently. For example, managerial or administrative employees ranked real estate agents as a more positive source of information than did professional/technical and "other" workers. These "other" workers ranked friends, relatives and business associates more positively than

either the managerial or the technical groups. However, both the managerial and "other" groups rated newspaper advertising in the same manner, when assessing its usefulness for home buying information.

Accomplishments and Gaps of the External Search Literature

The literature review above reveals that external search has been a widely researched area by consumer behaviorists. Thus, it is useful to summarize the major accomplishments and gaps of this body of literature.

First, researchers have succeeded in examining a wide variety of variables that could potentially influence external search. As such, the complexity of these influences is obvious. Furthermore, researchers have begun to replicate and extend the findings of early studies that have examined the influences on external search. A third accomplishment is that researchers have devised several interesting methods -- both in naturalistic and experimental settings -- of examining external search literature. Fourth, researchers have found that certain variables consistently appear to influence external search in the same way across situations, while others do not.

With respect to the gaps in this literature, it is clear that the study of external search influences must proceed by examining different types of purchase circumstances. However, with the exception of Midgely, researchers have adopted the position of examining external search by making the basic -- and probably oversimplified -- distinction between search associated with the purchase of durable and nondurable goods. Furthermore, researchers have not extended the examination of external search into the area of how this behavior relates to consumption rituals, such as gift shopping. Next, researchers have neglected to offer up any conceptual frameworks that could explain consumers' external search behavior across studies. Finally, little research has examined how differences in consumers' external search behavior also relate to different behaviors in the other stages of the consumer decision-making process. For example, little is known about precisely how differences in external search behavior influence alternative evaluation and choice, or satisfaction with a purchase.

However, as the next section indicates, some researchers have begun to take the complexity of external search into account, as they attempt to isolate search strategies employed.

TYPOLOGIES OF INFORMATION-SEARCHERS

The review presented above indicates that many complex relationships exist between the variables that can influence external search and actual search behavior. Researchers' recognition of the complex factors influencing search, as well as recent advances with modern computers, have led many consumer behaviorists to conduct multivariate analyses of the influences of external search. Furthermore, these researchers all share the objective of determining whether consumers can be grouped together, according to the external search patterns they employ.

Katona and Mueller (1955) employed the first index to assess whether consumer patterns of information search existed. Based upon their "index of deliberation," the authors found that about 25% of the their sample could be classified as "deliberate" searchers, 25% as "non-deliberate" and the remaining half of the sample as

"moderate" searchers. However, they neglected to provide an overall summary of how each group differed with respect to situational and personal characteristics.

Newman and Staelin (1972) also created an index of search behavior, which was based upon the extent of consumers' in-store and out-of-store information seeking. Scores on the index could range from 0 to 26. The authors found the mean search for their consumers to be 9.06, with a standard deviation of 5.19. Furthermore, their analysis showed that "by using demographic and situational variables consumers can be put into groups which differ markedly in average amount of information seeking" (p. 256).

Specifically, the authors found that consumers with high information search scores tended to 1) seek out information about fewer brands initially; 2) have the wife as the major decision-maker for a product; 3) be younger; and 4) be unmarried. Furthermore, city size was also positively related to the search for automobile information, but not to the search for appliance information. Urgency of purchase and buying experience also predicted that a consumer would have a lower information search score.

Claxton, et al. (1974), employed cluster analysis to examine whether patterns of external search could be found among durable goods buyers. They identified three major clusters of furniture buyers: thorough (store-intense), thorough (balanced) and non-thorough. Balanced searchers spent as much time as the store-intense searchers in considering information, but consulted a wider variety of sources. Non-thorough buyers were described as using "on the average...one source of information, two stores, and deliberating on their purchase for a few weeks" (p. 39). These same three clusters were also identified for appliance buyers.

With respect to differences in cluster characteristics, the authors noted that:

> Respondent income, education and concern with selecting the right product were positively associated with thoroughness. Situational factors such as immediacy of need and financial constraints were respectively negatively and positively related to search duration. Appliance buyers were less deliberate than furniture buyers in both their range of information sources consulted and search duration (p. 42).

Miller and Zikmund (1975) conducted a multivariate examination of consumers' search behavior for grocery products.

They addressed the question, "Are there personal characteristics of households that relate significantly to various prepurchase deliberation and search behavior processes?" (p. 188) After examining relationships among seven criterion search variables and fourteen demographic predictor variables, they found that five of the seven canonical roots extracted (each reflecting a different pattern of search behavior) were significant at the .05 level or below. These roots were as follows:

> Root One: The "Thorough Searcher." Every search variable, such as advertising readership and store visitation, was higher for this type of shopper. Personal characteristics of this shopper included: married, above average education/income, multiple car ownership (presumably leading to more mobility while searching).
>
> Root Two: The "Unplanned, Store-Only Searcher." Demographic characteristics include: renter, young wife with less education, with children in the home.
>
> Root Three: The "One-Stop Shopper." These shoppers tended to bring lists to one store only. Their demographic profile was similar to Root Two, except that they were better educated and had no children.
>
> Root Four: The "Neighborhood Shopper." These searchers tended to gather information at stores within a close proximity of their home. Searchers in this category tended to be white, young married females with no children.

> Root Five: The "Single Moderate-Planner." Searchers use some newspaper ads and visit a variety of stores. This searcher tends to be a single female with no children, who probably rents her residence and lives alone.

The authors concluded that: "The total search process should be viewed as a 'system' of activities and that market segmentation, perhaps, may be more fruitful when two or more variables are utilized" (p. 195).

Jacoby, et al. (1976), identified four clear-cut search patterns relating to cereal purchase. They found that among their sample of undergraduates, 12 subjects could be classified as "brand-name only" searchers, 17 could be described as "within-brand searchers" (seeking attributes within only one brand), 17 could be classified as "between-brand" searchers and 12 subjects could be classified as "complex" searchers. The authors then examined the effect of what they termed "causal factors," to predict which strategy a consumer might employ.

They found that consumers who were either brand-only or within-brand searchers tended to use the product more. Between-brand searchers were more likely to be "non-loyal consumers having a low frequency of consumption" (p. 312).

However, those employing complex strategies were non-loyal consumers with a high frequency of consumption.

Westbrook and Fornell (1979) also examined whether durable goods purchasers exhibited distinct patterns of information search. They examined whether usage of media, retail and interpersonal sources was related to six criterion variables: age, education, satisfaction with a product, condition of the product (if previously purchased), number of alternatives considered and whether the purchase decision was made jointly by a husband or wife. After employing canonical correlation, they found that four types of shoppers emerged. Segment I was the "objective shopper," who used both retail and neutral sources, but not personal sources. Segment II was the "moderate shopper," who did not go to any great extremes to use any source, but dabbled in information from all sources. Segment III, the "store intense shopper," used in-store information and some advice from personal sources. Segment IV, the "personal advice seeker," relied primarily on advice from friends, family members and neighbors.

These four segments could also be differentiated in part by the six predictor variables. For example, Segment I shoppers were more highly educated, and considered more

brands before purchase. Segment II -- the "moderate shoppers" -- were older, and more likely to urgently need to replace a product. Searchers in Segment III, who gathered most of their inforamion in the store, were younger and also considered many alternative brands. Finally, those "personal advice seekers" in Segment IV were less educated, less urgent in their need to replace a product, and considered fewer brands.

Kiel and Layton (1981) examined whether recent buyers of new cars could be grouped, based upon the information-gathering techniques they had employed prior to purchase. The authors identified five clusters of shoppers. Two of these clusters were the high search (25%) and low search (13%) groups. Three of these clusters were variants of what the authors termed "selective" searchers. The authors found that one of the strongest determinants of group membership was the level of an individual's experience in the market. Namely, those car buyers who had purchased more cars in the past tended to be in the "low search" group.

Furthermore, desire to gather information also led to greater search. Other variables that appeared related to increased search included attitude toward shopping, lack

of self-confidence in making a good purchase decision and price of the product.

Midgely (1983) found evidence that clusters of information-seekers existed among buyers of "symbolic" products. Specifically, the author examined how purchasers of men's suits gathered information. He postulated that such variables as age, attitude toward fashion, income, gregariousness and purchase frequency would predict membership in a search pattern group (if indeed, they existed).

The author found five types of searchers for suits. These were: minimal deliberate (26% of the sample), peer-assisted (14%), extensive (17%), spouse-assisted (21%) and minimal decisive (22%). The difference between minimal deliberate and minimal decisive searchers is that while both exhibited moderate levels of search, the deliberate group relied less upon peer group norms and assistance within the store. The author also found that the minimal/deliberate searchers tended to be less involved in the purchase of a suit.

Furthermore, peer-assisted shoppers were single, and least likely to care about fashion. In contrast, extensive external searchers cared the most about fashion. Minimal searchers who were in the "decisive" category

tended to have the highest socioeconomic status of all groups.

Finally, Punj et al. (1984), conducted an intriguing study, when comparing the types of searchers that appeared to exist wiithin new car buyers and the types of searchers that experienced salespeople perceived to exist among buyers. Among the consumers, they found six types of searchers: 1) a low-search group (26%); 2) a "purchase-pal" group (19%); 3) a high-search group (5%); 4) a high self-search group (12%); 6) a retail shopper group (5%); and 7) a moderate-search group (32%). They also found that more intense seekers (Cluster 3) tended to be female, the best educated and sharing the belief that information search is necessary in order to make a prudent purchase.

Moderate searchers were "older males with incomes higher than average...who believed they could obtain a good deal without information search" (p. 422). Low-searchers tended to be older, have the highest levels of income, and have had more experience owning cars.

Salespeople were then asked to describe the types of information-seekers they encountered. After performing a cluster analysis on their responses, the authors again found six types of information searchers.

These searchers were quite similar to those in the consumer sample. This similarity of cluster identification prompted the authors to note:

> There does appear to be a reasonable degree of congruence between the two independent sets of clusters...Both sets of data manifest low-search clusters, retail shoppers, inexperienced shoppers, high-search shoppers and moderate-search shoppers, confirming what has been found in previous studies (p. 427).

The clusters that were found in the studies discussed above are summarized on Table I-2, p. 19. One fact is certainly noticeable from this figure. That is, there appears to be a good deal of consistency in the types of searchers found, regardless of the types of products consumers were purchasing.

NON-PURCHASE RELATED SEARCH

The review provided above shows that the researchers who have examined external search have usually examined this behavior by simulating a purchase situation, or by asking consumers how they searched after a purchase situation. Yet in recent years there has been an interest in examining consumer information search that is not tied to making a specific purchase.

This search was termed "browsing behavior," by Bloch and Richins (1983).

In their study, the authors hypothesized that several variables may be correlated with a consumer's increased tendency to browse. Namely, the degree of interest in products, the propensity to engage in search behavior, knowledge of the product class and word-of-mouth activity were thought to be potential influences on this behavior. The authors found that all of these variables were positively correlated with increased browsing.

A later study by Bloch, et al. (1986), examined 1) which information and recreational motives influence the level of browsing behavior and 2) the nature of the relationship between ongoing search and product involvement.

The motives that seemed particularly correlated with high levels of ongoing search were those that related to consumers' hedonic enjoyment of shopping. The authors noted that "when enjoyment ratings are used in conjunction with informativeness ratings, approximately 25 to 30 percent of the variance in browsing behavior is explained" (p. 123).

Furthermore, the relationship between product involvement and ongoing search was also highly positive.

Thus, both the recreational and informational motives for search and product involvement appear to be positively related to browsing behavior.

Summary

Table II-1 summarizes the findings on the variables that have been examined as potential influences on external search, and which were reviewed above. From this summary, it appears that the influence of some variables -- namely, the tendency to choose an optimal or satisfactory product, the urgency surrounding replacement of a product, attitude toward shopping and desire for information -- is consistent. However, for other variables -- such as perceived economic risk, involvement and education -- the findings are less conclusive. Furthermore, the sheer number of variables examined in relation to external search indicates that this behavior is highly complex. Thus, any methods used to examine this behavior should take such complexity into account.

While there is much less literature pertaining to gift-buying behavior than there is on external search in general, some studies have found that the variables influencing the external search for durables or

Table II-1

Variables Studied In External Search Literature

Variable	Relationship To Increased Search
Situational Variables	
Perceived Economic Risk	Positive Katona and Mueller, 1955; Bucklin, 1966; Punj and Staelin, 1983 No Effect Moore and Lehmann, 1980
Cost of Search	Negative Bucklin, 1966; Punj and Staelin, 1983
Perceived Social Risk	No Effect (Social aspirations) Bucklin, 1969 No Effect (Desire for family approval) Bucklin, 1969 Positive Percy and Hamm, 1969; Capon and Burke, 1977 Claxton, et al., 1984 Moore and Lehmann, 1980 Midgely, et al., 1989

Table II-1, Continued

Variable	Relationship To Increased Search
Optimizing Versus Satisficing	Positive Swan, 1969; Jacoby, et al., 1978
Type of Information Sought	Positive when many features desired Katona and Mueller, 1955
	Negative when sought brand-name only Jacoby et al, 1978
	No effect when attributes weighted by importance Sheluga, et al, 1980
Urgency of Need	Negative Katona and Mueller, 1955;Newman and Staelin, 1972; Newman and Staelin, 1973; Claxton, et al., 1974
Time Pressure	Negative Stamm, 1969; Beatty and Smith, 1987
	No effect Moore and Lehmann, 1980
Special Opportunity to Buy	Negative Katona and Mueller, 1955

Table II-1, Continued

Variable	Relationship To Increased Search
Personal Variables	
Perceived Physical Risk	No effect Jacoby, et al., 1978
Perceived Psychological Risk/ Involvement with the Product	Positive Katona and Mueller 1955; Midgely, 1983
	No effect Beatty and Smith, 1987
Product Knowledge/ Experience	No effect Katona and Mueller, 1955
	Negative Bucklin, 1966; Swan, 1969 Moore and Lehmann, 1980 Punj and Staelin, 1983 Brucks, 1985 (Objective Knowledge) Beatty and Smith, 1987
	Positive Hempel, 1969 Brucks, 1985 (Subjective Knowledge) Srinivasan and Agrawal, 1987

Table II-1, Continued

Variable	Relationship To Increased Search
Beliefs	Positive Duncan and Olshavsky, 1982 Muncy, 1986
Attitude Toward Shopping	Positive Katona and Mueller, 1955, Beatty and Smith 1987
Desire For Information	Positive Katona and Mueller, 1955; Punj and Staelin, 1987 Kiel and Layton, 1981
Personality Traits	Positive (Confidence) Green, 1966 No effect (Cognitive Capacity) Schaninger and Bass, 1984
Age	Negative Katona and Mueller, 1955; Hempel 1969; Newman and Staelin, 1972
Education/Income	Positive Katona and Mueller, 1955; Miller and Zikmund, 1975 Inverted-U

Table II-1, Continued

Variable	Relationship To Increased Search
Education/ Income	Newman and Staelin, 1972
Profession	Positive (for blue-collar workers) Katona and Mueller, 1955
	Inconsistent (Hempel, 1969)
Marital Status	Negative Newman and Staelin, 1972; Miller and Zikmund, 1975
Children at Home	Negative Miller and Zikmund, 1975

nondurables also influence search related to gift-buying. These studies will now be reviewed.

B. MOTIVATIONS FOR GIFT-GIVING

FINDINGS FROM THE STUDY OF PRIMITIVE SOCIETIES

Because gift-giving is an inherently complex behavior, it should interest social scientists in many disciplines. However, the study of what may actually motivate gift-giving has, until recently, remained within the domain of cultural anthropology. Specifically, most studies examined this behavior within the context of "primitive" tribes.

Malinowski (1932) indirectly addressed the issue of gift exchange in primitive cultures, by examining why people ascribe to social norms. He rejected the commonly held belief that people conformed to norms because they share a "collective conscience" (in Gouldner, 1960, p. 168). Instead, explained Malinowski, people "give" each other compliance to social norms because of what he termed

the "principle of reciprocity." He believed this principle to be so powerful that:

> Beyond reciprocity as a pattern of exchange and beyond folk beliefs about reciprocity as a fact of life, there is another element: a generalized moral norm of reciprocity which defines certain actions and obligations as repayment for benefits received (Gouldner, 1963, p. 170).

Mauss (1954) conducted a famous study of the exchange rituals shared by members of a Pacific Island tribe known as the Maori. Mauss suggested that tribe members exchanged gifts in order to bestow honor and respect upon each other. Exchange thus appeared to be motivated by "affection, admiration, deference or appreciation" (Fischer, 1989, p. 38).

Gouldner (1960) offered another explanation for why members of society participate in exchange rituals. He based his "norm of reciprocity" upon Merton's functionalist theory. Merton stated that any behavior occurs after the consequences of engaging in -- or not engaging in -- that behavior are evaluated.

Gouldner stated that reciprocity can help people control the consequences of their actions, because reciprocity adheres to two standards: 1) people should

help others who have helped them; and 2) people should not injure those who have helped them.

Finally, Gouldner observed that incorporating reciprocity into functionalist theory extends the scope of this theory. Specifically, reciprocity not only provides functionalist theory with a mechanism for the maintenance of social relations, but it also can serve as a "starting mechanism" -- one that initiates social interaction between individuals or groups.

Shurmer (1971) also commented on the role of reciprocity in primitive tribes, noting:

> In theory, we give gifts in a spirit of pure altruism to those whom we love or esteem...but the anthropologists see few exchanges in simple terms of altruism or sentiment...the process in primitive tribes are of power and prestige, political alliances, indebtedness, speculation and brinkmanship...A gift sets up a debt relationship between donor and recipient. All gifts demand reciprocation. (emphasis added) (1971, p. 1242).

In contrast, Moschetti (1979) adopted the perspective first proposed by Levi-Strauss (1969). In their view, gift-giving could be understood as a form of "potlatch," a custom common among such tribes as the Kwakiutl of the Pacific Northwest. During this ritual, tribal chiefs would destroy goods hoarded over a period of time. Destroying

these goods would take place in front of other tribal chiefs, as a way of showing the tribe's affluence, and how unimportant the goods were to survival. Levi-Strauss even described Christmas as a giant potlatch, because of the "destruction of wealth" that occurs when a Christmas gift-buyer spends money for a present (Moschetti, 1979).

FINDINGS FROM THE STUDY OF MODERN GIFT-GIVING

The observation that gift-giving establishes a debt relationship between giver and receiver has not been made merely among researchers of primitive cultures. Rather, sociologists and psychologists have noted the pressure for reciprocity is characteristic of modern society as well. Barnett noted that failure to observe the convention of reciprocity during the holiday season "may be interpreted as evidence that the person is a 'Scrooge,'...or that he is financially strapped or has poor taste" (Barnett, 1954, p. 82).

Furthermore, Sherry observed of gift-giving in Western societies that, "Pressure to reciprocate is great...To avoid feeling inferior and to safeguard reputation, the recipient must reciprocate" (Sherry, 1983, p. 159).

Yet while the social pressure to reciprocate in modern society may be as intense as in more primitive cultures, it is doubtful that modern gift-givers are motivated by the same forces as primitive ones. Rather, one function of gift-giving in a modern culture could be to reinforce one's feeling of belonging to a unified group or family. Bossard and Boll (1950) observed "It can be readily seen why the ritualistic exchanging of gifts is so important in a modern family where affectional ties are few and comparatively intermittent" (p. 98).

Barnett (1954) affirmed this statement, noting that gift exchange within the family "appears to be an evidence of solidarity relations" (p. 58). And Caplow took this notion one step further, noting, "Overall, Christmas gift-giving is the mechanism whereby families resist the tendency of distance to dissolve close relationships" (Caplow, 1982, p. 387).

Schwartz (1967) examined the motivation to exchange gifts from a purely psychological perspective, stating that gifts become tools for the "development and maintenance of identity" (Schwartz, 1967, p. 1). As such, the selection of any gift may either reinforce some aspect of the receiver's identity, or be an actual attempt to shape a person's identity.

Schwartz notes further that if the receiver accepts the gift, then that receiver implicity accepts the identity that the giver bestows upon him. If, he rejects the gift, then he also rejects the giver's assessment of his identity.

In addition, Schwartz makes the somewhat cynical observation that gift exchange does not always occur with sincerity. He notes:

> The very nature of gift exchange provides a condition for unfriendliness. Although a gift is rewarding, it is accompanied by obvious deprivation, for the giver presents to another that which could have been employed for self-gratification (1967, p.5).

Poe (1977) offered three other theoretical frameworks from social psychology that might help explain the motivation for gift exchange. Equity theory states that individuals involved in a relationship seek to balance their rewards of being in the relationship with their investments in the relationship. Psychological reactance theory states that an individual reciprocates when a gift is given because until reciprocation occurs, his psychological and behavioral freedom is threatened.

Finally, attribution theory states that when a person receives a gift, he or she will seek to determine why a gift was given in the first place.

Likewise, Belk (1979) offered multiple explanations of what can motivate gift exchange between individuals. He stated that gift-giving could serve up to four functions. First, gift-giving can be used as a means of communication between the giver and the recipient. However, Belk notes that because it is often difficult to decode messages inherent in a gift, "The communication function of gift-giving must be regarded as symbolic" (Belk, 1979, p. 97).

Second, Belk notes that gift-giving may serve to facilitate social exchange, the kind of exchange that "aids in establishing, defining and maintaining interpersonal relationships" (Belk, 1979, p. 100). Third, gift-giving could serve as a vehicle for economic exchange, so that givers and recipients received goods that they needed. Belk offers monetary gifts to charities as an example of this type of exchange.

Finally, gift-giving could serve as a socializing agent -- thus providing the giver with a mechanism for

educating or reinforcing certain social values in the receiver.

Empirical Examinations of Gift-Giving Motivations

It is encouraging that so many paradigms have been offered to explain the importance of gift exchange in both primitive and modern societies. However, few studies have examined whether -- or how -- these motivations actually may affect gift exchange. In fact, the only studies found to empirically examine these motivations were conducted by Belk.

In his first study (Belk, 1976), the author tested the hypothesis that consumers seek "balanced" gift-giving situations -- or those where each member of the exchange dyad receives equivalent rewards. Applying the Newcomb and Heider models of balanced communication, Belk classified 193 gift-giving activities reported by consumers as balanced or imbalanced. He found that 40 percent of all exchanges examined could be classified into one of eight balanced patterns, higher than was expected by chance.

Equally significant, however, was the finding that "three-fourths of the givers were satisfied with gift

selection in balanced configurations, whereas only about one-third were satisfied in the unbalanced configurations" (Belk, 1976, p. 160).

In his second examination of the influence of gift-giving motivations, Belk (1979) examined whether parents use toys given at Christmas as socializing agents for their children. Specifically, he tested whether parental purchases of Christmas gifts differed, depending upon whether they wished their children's sex role identities to be more traditional or more liberal. He found that "parental selection of toys as gifts play a direct and effective role in communicating potential expectations for their children's sex role preferences" (Belk, 1979, p. 125).

One study by Kunz and Woolcott (1976) examined motivations for a different type of exchange that occurs during the Christmas season. Specifically, they examined whether consumers who received Christmas cards from "socially prominent" (albeit fictitious) people would feel more obligated to reciprocate than those who received cards from non-prominent "people." They found that the status of the sender had a significant main effect upon the number of cards returned. Notably, "High status on the part of the sender increased the response rate to a

very significant degree, especially for 'blue-collar' receivers" (p. 278).

Thus, while many paradigms have been offered to explain motives for gift-giving, few of these have ever been empirically examined. This topic therefore represents an excellent opportunity for researchers interested in the influences on gift-buying and gift-giving activities.

C. SITUATIONAL VARIABLES PERTAINING TO GIFT-GIVING AND GIFT-BUYING

PERCEIVED SOCIAL RISK

Vincent and Zikmund (1975) asked consumers about the amount of social risk they perceived while making different types of purchases. Consumers stated that they perceived the social risk to be much greater when they were buying a gift than when they were buying something for their own use. Weigl (1975) also found that gift-buyers were more concerned with the consequences of making a bad choice than were buyers of products for their own use.

In addition, Heeler et al. (1979) found that there were "behavioral differences between purchasing an item

for personal use and purchasing it as a gift" (p. 328). Specifically, the authors found that while price became a more important attribute in the purchase of an item for one's own use, brand name purchasing was considered more crucial when buying a gift. Thus, the authors conclude that consumers incorporate more "overt indicators" of quality when purchasing gifts (p. 327). Certainly, one reason why consumers might choose these indicators is to make a gift more acceptable.

Mattson (1982) found that people tended to choose stores with a broader selection of products when shopping for presents. He also found that gift-buyers shopped in stores with a higher-quality image, tended to set prices in advance of purchasing, and tended to spend less time in decision-making.

Mattson noted that shopping at a store with more breadth offers the buyer more choices, and thus could increase the chance that he or she will select an acceptable gift. He concluded that gift shoppers "modify their behavior in an attempt to reduce social and financial risks" (p. 48).

Undoubtedly, the level of social risk a consumer perceives to be inherent in gift exchange varies, depending upon the nature of his or her relationship with

the receiver. Indeed, Caplow (1982) notes that certain relationships represent special potential stress points. He notes that the husband-wife relationship, and those that exist between different generations within a family, are particularly likely to be viewed as risky. Caplow observed that five "Middletown" couples had expressed dissatisfaction with the Christmas gifts they received from their spouses. Two months later, two of these couples were separated.

The author also noted that the salience of an interpersonal relationship appears to be overtly expressed in the amount of gift-giving effort that is undertaken by the giver and receiver. For example, a husband and wife will give each other more elaborate and/or expensive gifts than they will give anyone else in their gift-giving circle. In addition, children will receive more presents than secondary kin, such as aunts or uncles. Caplow notes that one reason children continue to receive a substantial amount of presents even after they become adults is because "parents use gift-giving to ensure that the goodwill of their children will continue" (Caplow, 1982, p. 391).

NATURE OF THE GIFT-GIVING OCCASION

Belk (1979) examined the importance consumers attached to different gift characteristics across occasions. He found that consumers rated the attributes of "high quality," "fashionableness," "long-lasting ability" and "personal versus impersonal" as significantly more desirable attributes for a Christmas gift than for gifts offered at birthdays, weddings and anniversaries. In addition, consumers stated they would tend to spend more for presents offered at Christmas, weddings and anniversaries.

Thus, it appears that another situational variable which may influence external search and gift-shopping behavior is the actual occasion for which the gift is being purchased.

TIME PRESSURE

In their model of consumer behavior, Howard and Sheth (1969) define time pressure as the inverse of the amount of time available for purchase and consumption, and the information-seeking activities associated with the purchase.

Barnett (1954) notes that time pressure may affect Christmas shopping behavior because "everyone is urged to get his Christmas shopping done early, lest he be unable to buy the 'correct' gift or cause late delivery or his presents" (p. 85).

Only one study has measured the effect of time pressure on gift-buying, albeit indirectly. Berry (1979) found evidence that as the number of working women has increased, the amount of catalog sales that have occurred during the Christmas season has also risen. Specifically, he noted that during the 1978 holiday season, "A number of large general merchandise chains experienced unprecedented levels of catalog sales, even though total retail sales were relatively unchanged" (Berry, 1979, p. 65).

ANXIETY

Given that a person may be motivated to fulfill several social objectives through gift exchange, it should come as no surprise that some researchers have found gift-buying and gift-giving to be accompanied by a high level of anxiety. Granted, anxiety may best be regarded as a personality "trait" variable rather than a situational "state" variable.

However, it is possible that people who are not normally anxious may experience Christmas-induced anxiety.

Green and Alden (1988) noted that participants in their focus group exhibited quite a bit of anxiety about the prospect of selecting gifts. Consumers made such statements as "I worry about (gift buying) so much" and "I'm so terrible at (buying gifts)." Green and Alden also make the observation that "the Christmas holiday search, which typically involved multiple gift purchases, was particularly anxiety producing and exhausting" (p. 163),

Hirschman and LaBarbera (1989) asked consumers to describe what Christmas meant to them. With respect to Christmas shopping, some consumers wrote "I have become increasingly tense over how much money we spend," "I feel duty bound to buy, buy, buy" and " and "Christmas shopping is like going to war" (pp. 140-141). However, others wrote such statements as "Christmas gives me a chance to give presents to those I enjoy" and "We give presents to each other to represent the gladness and celebration of Christ's birth" (p. 141).

Finally, Sherry and McGrath (1989) each spent almost three weeks observing shopper behavior in different stores during the Christmas season. Among their findings, the authors noted that "Search behavior...appears to be driven

in large measure by 'longing' and a 'permanent unfocused satisfaction'" (p. 164). Thus, while not directly measuring the presence of anxiety, the authors seemed to affirm the findings of other researchers, that some consumers feel they must find the "perfect" gift.

D. PSYCHOGRAPHIC VARIABLES

Psychographics have been traditionally defined as containing three types of measures: lifestyle variables, personality traits, and product usage measures. Given that Christmas giving activities pervade almost every subculture in modern American society, it is surprising that little attention has been paid as to how psychographics influence these activities. In fact, no studies have examined how such lifestyle variables as attitude toward shopping, attitude toward Christmas and actual participation in the Christmas ritual influence external search and other aspects of Christmas shopping. Yet it seems intuitively appealing that these constructs might influence the various stages in the consumer behavior process.

For example, the construct that has been termed "recreational shopping" (Bellenger and Korgaonkar 1980)

might determine the scope and magnitude of a consumer's search and shopping activities.

Therefore, the study of how lifestyle variables can influence gift-buying and gift-giving represents a potentially fruitful avenue for research.

PERSONALITY VARIABLES

Self- Versus Other-Directed Giving

Presumably, the choice of gift could be either "self-directed" or "other-directed." Specifically, a "self-directed" giver could be defined as one who tends to buy gifts reflecting his or her own tastes. Conversely, an "other-directed" giver buys gifts that reflect the tastes of the recipient, regardless of what his or her personal preferences might be.

Belk (1979) examined whether the tendency for self- versus other-directed giving might influence actual gift selection. He studied how each of the following influenced gift selection: 1) the giver's self-concept; 2) the giver's ideal self-concept; and 3) the giver's perception of the recipient.

Belk found that the symbolic message that dominated gift-giving most often was the message that the giver wished to portray ideally about himself, rather than any reflection of the receiver's self-concept. Belk concluded:

> It appears that while the giver's actual self-concept and perceptions of the recipient are both important to gift selection and the characteristics which the giver believes the gift conveys, the strongest determinant of the message is the self-concept the giver would ideally like to project. (Belk, 1979, p.115)

Findings from Green and Alden (1988) seem to indicate that whether a giver is self- or other-directed may depend upon his or her cultural environment. The authors found that American gift-givers are much more reluctant to give a present that belies their own personal tastes, while Japanese gift-givers were not reluctant to contradict their own tastes, if the gift would make the recipient happy.

Emotionality

One of the other findings of the Sherry and McGrath (1989) study was the fact that some consumers appeared to exhibit a great deal of emotion when they selected a

Christmas present for someone on their list. The authors note that:

> Not only do our informants "'love to shop' or (hate to shop)...but they also 'fall in love' with the items they select. The bonding that occurs is not merely, or even chiefly, between gift exchange partners, but rather as well between consumer and object (p. 163).

While these findings have not been corroborated by other gift-giving and gift-buying researchers, it is quite possible that emotionality -- as a personality trait -- influences the kinds of external search and shopping behaviors employed by consumers.

Experiential Shopping

Distinct from emotionality is the potential influence of a personality trait that can be called "experiential shopping." This trait refers to the consumer's need to receive sensory stimulation while Christmas shopping. Hirschman and LaBarbera's (1989) respondents wrote that what Christmas meant to them was "the scent of spices," "a roaring fire" and "bright twinkling lights and festive decorations" (p. 142).

While these findings do not relate to shopping per se, it seems possible that shoppers differ according to the amount of sensory pleasure they wish to enjoy while Christmas shopping. As such, this desire could influence their choice of external search and shopping activities.

The variables described above represent the psychographics that have been examined by researchers studying gift-giving and gift-buying. Another set of variables -- that pertaining to demographics -- has also been briefly examined. The findings pertaining to these variables will now be presented.

E. DEMOGRAPHIC VARIABLES

Retailers and advertisers have long examined differences in their patrons across age, gender, income, education, marital status and other demographic variables. Yet little is known about how specific demographic variables influence the search processes that consumers employ when Christmas shopping. This section will review the few findings that exist in this area.

GENDER

Some studies have noted that the sex of the consumer will influence the amount and nature of participation in the Christmas ritual. After observing preparations during the holiday season in Middletown, Caplow (1982) observed that "the full-scale Christmas ritual is...performed for the most part by women...in nearly every household" (p. 388). Furthermore, "the role of men is to bear the larger share of the cost, to admire and applaud the women's performance and to lend unskilled assistance when it is needed" (p. 388).

Sherry and McGrath (1989) support these findings, noting that "gift giving is the work of women" (p. 162). In elaborating upon this statement, the authors note that gift giving (and consequently, gift-buying) remains primarily in the territory of women because gift-giving represents "the social reproduction of intimacy" (p. 162). Thus, because intimacy and nurturing have typically been left to females in a culture, the authors were not surprised to note that many gift store owners and employees were women. Sherry and McGrath describe these women as "meta-givers... who establish the bounds of

propriety for consumers selecting a gift" (Sherry and McGrath, 1989, p. 162).

Fischer (1989) tested the hypothesis that in fact, it may not be the sex of a person that influences gift-buying, but rather their attitudes toward male and female gender roles. In a study of Christmas gift-buying in Canada, the author found that gender role attitudes moderated performance on such variables as the number of gifts given, the extent of external search and derivation of extrinsic rewards from Christmas shopping.

Thus, it seems that Christmas gift-giving -- and most of the shopping, wrapping and presentation that accompanies that ritual -- is primarily regarded as a feminine-oriented ritual.

AGE

Caplow (1982) observed that the mean number of gifts given and received by a person did not vary throughout most of their life cycle. However, when a person reached the age of 60, the number dropped from 40-45 to 28. Johnson (1975) also noted that older members of society become excluded from the gift relationship "and are no longer accorded the privelege of reciprocation" (p. 639).

MARITAL STATUS

Caplow (1982) notes that the "modal gift" in his Middletown study could be described as a joint gift (usually offered by a husband and wife) to a single relative. Sherry and McGrath (1989) noted that the task of giving jointly seemed to affect gift shopping behavior. The authors noted that several times, if husbands or wives shopped for gifts by themselves, they delayed purchase until their spouses could come in and approve the purchase.

Thus, it appears that certain demographic variables -- namely gender of the buyer, age and marital status -- could influence external search patterns. However, other variables -- such as number of children, income and educational status -- could also be influential.

F. MODELS OF GIFT-GIVING BEHAVIOR

In addition to examining the influence of one or a few variables, consumer behavior researchers have also proposed two models of gift-giving and gift-buying. These models will now be presented and evaluated.

BANKS' GIFT-GIVING MODEL

Banks (1979) suggests that gift-givers and recipients go through four stages of behavior: 1) Purchase: featuring recognition of the gift occasion, search for and preparation of the gift; 2) Interaction: during which actual gift exchange occurs; 3) Consumption: where the gift is used or disposed of by the receiver and 4) Communication: where the receiver provides the giver with feedback as to the appropriateness of a gift.

Banks' model is useful for gaining insight into the complexity of gift exchange, yet it is generally considered incomplete. For instance, the model lacks "motivational constructs to explain why the giver is giving the gift" (Lutz, 1979, p. 329). Furthermore, Sherry (1983) notes that Banks does not allow for giver/recipient interaction and communication throughout gift exchange.

SHERRY'S GIFT-GIVING MODEL

To address these problems, Sherry (1983) developed his own model of the gift-giving process, which features three distinct yet dependent stages (Figure II-2).

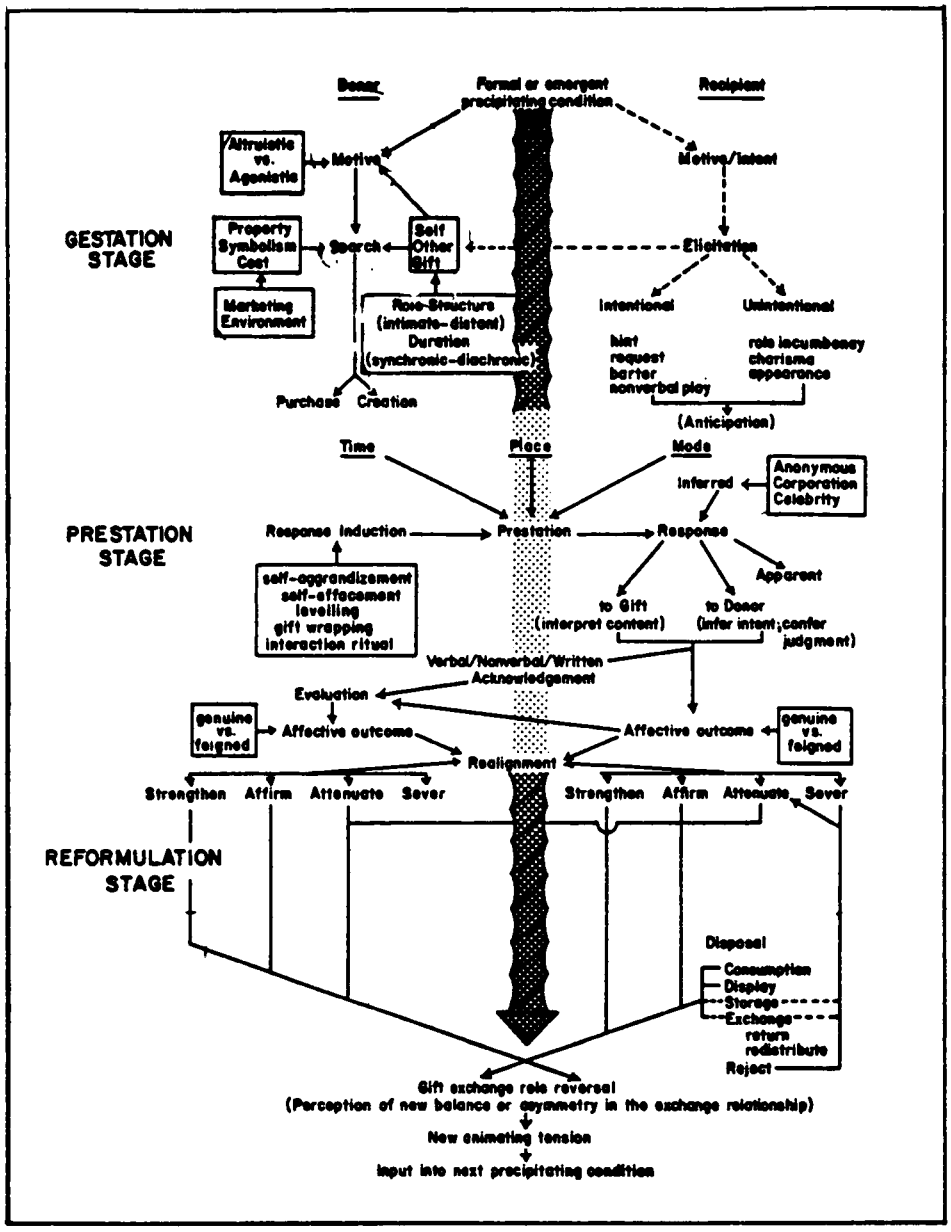


Figure II-1

Sherry's (1983) Model of Gift-Giving

Source: John Sherry, "Gift-Giving in Anthropological Perspective," Journal of Consumer Research 10 (September, 1983)

During "Gestation," the giver recognizes a gift-giving occasion, and must therefore select a gift for the occasion. Several variables -- including giver motivation, the giver's self-concept, attitudes toward both the receiver and toward potential gifts -- can influence selection. Receiver involvement during Gestation is limited to directly or indirectly communicating gift desires to the donor.

The second stage, "Prestation," is where actual gift exchange occurs. Sherry notes:

> Both donor and recipient are attentive to the time, place and mode of transaction; ritual or ceremonial ambiance may heighten the impact of the giving, or increase the value of the gift (1983, 165).

Finally, during "Reformulation," both the giver and receiver assess the short- and long-term effects of the gift exchange. For the most part, both parties experience the same outcomes, with the relationship strengthened, maintained or made weaker as a result of the exchange.

By recognizing giver/receiver communication at each stage, and by including some of the variables that have been shown to influence gift-buying and exchange, Sherry's model represents a more comprehensive depiction

of gift-giving behavior than was presented by Banks. Yet as a guide for further research on gift-buying and gift-giving, Sherry's model can be regarded as limited in several respects.

First, in "Gestation," Sherry describes the gift-buying process as consisting primarily of two main stages, information search and purchase (or creation) of the gift. However, the author does not specifically elaborate as to what these stages actually entail. Specifically, many consumer behavioralists share the belief that not all consumer search relates immediately to purchase. Rather, some search may be similar to what Bloch, et al. (1986) have termed "browsing behavior" -- whereby the consumer merely acquires general information about stores and/or products, and files that information away for future use.

A second weakness of the Sherry model is that it assigns those variables that have been found to influence gift-buying a rather limited role in the model. For example, in Sherry's model, donor personality, demographic and psychographic variables appear to exert their influence only upon search, and not upon other important features of Gestation, such as the motives behind the actual gift-giving itself.

Finally, the Sherry model is limited in that it does not specifically address the issue of whether consumers employ search strategies while Christmas shopping. Keeping in mind the statement by Miller and Zikmund that search should be viewed as a system of activities, having a model designed to examine consumer's search strategies while Christmas shopping could have important ramifications for the way in which marketing information is designed and implemented.

G. AN INTEGRATIVE MODEL OF CONSUMER SEARCH STRATEGIES

Figure II-3 presents a model of how the situational and individual-difference variables reviewed in this paper could influence consumer selection of a search strategy. (1) By focusing upon such behavior, this model is meant to complement, rather than replace, a broader model of gift-giving and gift-buying behavior such as Sherry's. Therefore, its contributions are: 1) it specifically recognizes that the selection of a search strategy while

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1. I am indebted to Dr. Robert Woodruff for his help with this model.

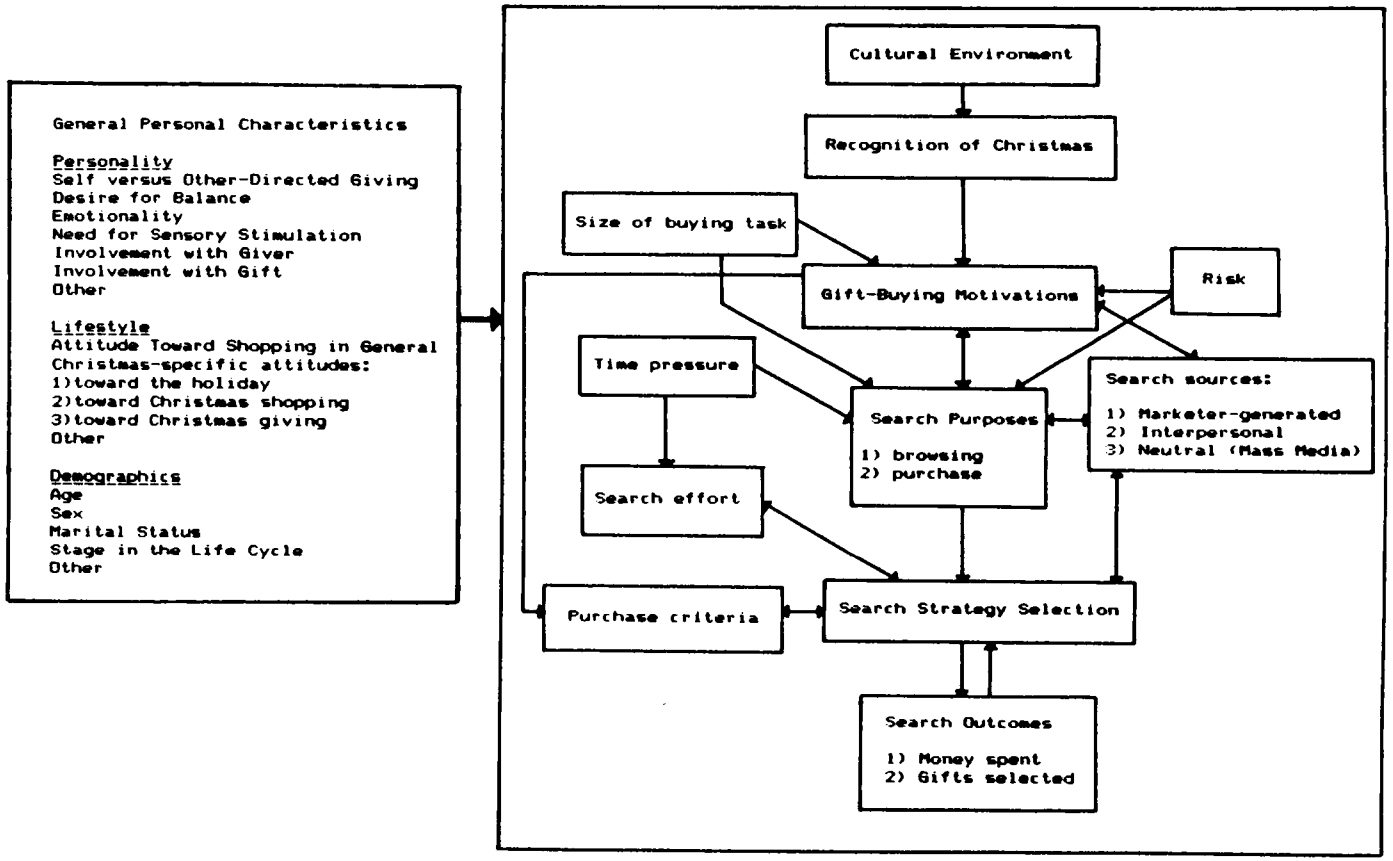


Figure II-3

A Model of Search Strategy Selection
During the Christmas Buying Season

Christmas shopping is a viable activity on the part of consumers; and 2) it recognizes that a wide range of situational and individual-difference variables can influence selection of such a strategy.

Reflecting upon the influences of variables discussed in the external search literature, it appears that external search relating to Christmas shopping can be divided into five stages: 1) the recognition of Christmas as a gift occasion; 2) the triggering of a motive or motives to buy a Christmas gift; 3) the designation of the purpose(s) of information search; 4) the selection of a search strategy, and 5) the outcome of search. Each stage will now be discussed.

The model begins by recognizing that cultural environment is the main trigger for the Christmas gift-giving occasion. The fact that Christmas is a fixed event within a certain culture should therefore lead the majority of individuals within that culture to formally recognize Christmas as an occasion for gift-giving.

Assuming that a consumer thus feels compelled to buy Christmas gifts, one or many motives for buying such gifts -- such as reciprocity or the desire for social bonding -- can influence all future gift-buying and gift-giving activities.

Indeed, the external search literature suggests that other types of perceived risk could motivate Christmas searching as well. For example, a consumer could consider the financial risk that would be incurred if an appropriate gift was not purchased for an employer (e.g., in that this oversight could result in the loss of a job).

Many situational variables can also moderate the influence of any or all gift-giving motivations. For example, a consumer could be motivated to use gift-giving (and therefore gift-buying) as a way of initiating or reinforcing social bonds. However, he or she may ultimately decide that the risk of offending someone with an inappropriate or undesired gift could outweigh the potential benefits of giving.

In addition, it seems logical that other situational variables discussed in the external search literature -- such as time pressure and the importance of certain attributes of gifts to consumers -- could also influence whether a certain motive ultimately directs gift-buying behavior. For example, consumers with a great number of people on their Christmas list may decide to sacrifice some gift exchanges which they had been previously motivated to maintain, because of time constraints.

Once these motives for gift-buying are consciously or unconsciously recognized, a consumer may proceed to the third stage in the selection of a a search strategy, that of identifying the purpose of information search. As previously mentioned, consumer researchers such as Bloch and Richins (1983) have recognized that not all search need be directly related to purchase. Specifically, consumers may deliberately set aside some search effort for the express purpose of "learning what's out there." However, it is equally true that some search will be highly related to a specific purchase intention. For example, once a consumer has decided upon what gifts to purchase, he or she may deliberately seek out the best price on a particular item.

As is the case with gift-buying motivations, search purpose could likewise be influenced by situational variables. Again, size of the buying task, risk and the availability of information sources could be salient to allocating time and effort across these purposes.

The amount of time and effort that consumers allocate to the different search purposes will have a direct effect upon their ultimate selection of a search strategy. All of those variables that can influence the stages prior to the selection of a search strategy can likewise influence the

strategy itself. For example, some consumers may prefer to ask recipients of gifts what they would like for Christmas. However, some recipients may feel that to tell people what they would like is greedy. Thus, information from that recipient would be unavailable for use.

In addition to the variables mentioned above, consumers must also devise a search strategy that allows them to take into account any a priori purchase criteria they may have defined. For example, Belk (1979) showed that consumers tend to pick products with different characteristics, depending upon the gift occasion.

As the left-hand side of the model indicates, any and all of the stages mentioned above -- and the situational variables influencing these stages -- can be affected by individual-difference variables in three general categories: personality traits, demographics and lifestyle variables. Many of the variables listed in the model -- such as the need for sensory stimulation while shopping, and consumers' attitudes toward various aspects of Christmas -- surfaced during the focus group interviews conducted for this study, which will be discussed in the next chapter. This finding emphasizes that additional research should focus upon finding other variables that can influence consumers' selection of a search strategy.

However, the findings pertaining to external search in general also suggest a number of personal variables that could influence search. For example, consumers' confidence in their ability to select gifts -- or their involvement with either the receiver of the gift or the gift themselves -- were suggested as possible influences. Furthermore, demographics such as stage in the life cycle and education -- which were relevant to external search behavior in general -- may also influence the search that occurs while consumers Christmas shop.

Regardless of what search strategy is ultimately selected (and indeed, it is possible that one consumer search strategy is to conduct minimal or no information search), the outcome of these strategies is ultimately the same. Namely, a number of gifts will be selected, and a certain amount of money will be spent. However, it is possible that after assessing these outcomes, consumers could feel the need to begin their information search anew.

H. RESEARCH QUESTIONS

A model has now been presented which narrows the focus of this study on external search strategies employed when consumers are engaged in Christmas gift-buying tasks.

Obviously, several research questions and hypotheses could be generated from this model. Given that the study of Christmas gift-buying is still in its infancy, it is perfectly appropriate to examine general research questions, rather than specific hypotheses. Furthermore, more research questions emerge from the model than could be examined in one study.

Therefore, four research questions will be examined in this study. The final chapter of this dissertation contains other research questions that stem from the model presented above.

The four research questions that will be examined in this study are as follows:

1. Are there real differences in consumers' external search behavior while Christmas shopping? If so, what are these differences?

2. To what extent are differences in search behavior explained by motivations for gift-giving?

3. To what extent are differences in search behavior attributable to demographic, situational and lifestyle characteristics?

4. To what extent do different types of shoppers use communications media differently?

These questions guided both the creation of the research instrument and the selection of statistical procedures. The methods and procedures used in generating the research instrument are addressed in Chapter III.

CHAPTER III

METHOD AND PROCEDURES

This chapter focuses upon the methods used for developing and implementing the research instrument used in this study. Specifically, it discusses how the sample and sampling method were chosen, and how the survey was structured and administered. This chapter begins by summarizing the findings of two focus groups that were conducted at an early stage of this study.

A. FOCUS GROUPS

Before the sampling instrument for this study was developed, two focus groups were conducted. The purposes of these sessions were: 1) to determine if any other variables <u>besides</u> those mentioned in the previous chapter might influence gift-buying; 2) to help generate ideas that could aid in the construction of items on the research instrument and 3) to shed light upon the issue of whether consumers appeared to employ information search strategies while Christmas shopping.

The focus groups were held on September 10 and December 18, 1989. Each was comprised of a convenience sample of graduate students enrolled in the College of Communications at The University of Tennessee. In addition, some spouses participated in the second session. While the sample was homogeneous with respect to education and income, it was nonetheless relatively diverse on other important criteria. Specifically, the demographic composition of both groups was as follows: 1) Sex: eight female, four male; 2) Marital Status: five married, five single, two divorced; 3) Parental Status: two were parents; 4) Age: five were in their late 20's, three were in their early 30's and four were in their late 30's.

Each focus group was conducted in a conference room at the University of Tennessee Library, and lasted approximately one hour. The sessions were taped and transcribed, to ensure accuracy in interpretation.

The agenda for each session was basically the same. Primarily, participants were asked to discuss the following topics: 1) whether they had begun their Christmas shopping; and 2) whether -- and how -- they gathered information to help them Christmas shop. The researcher also took advantage of the fact that the last

focus group was one week before Christmas. Thus, this session examined the topic of consumers' holiday plans, to aid in the understanding of what activities, interests and opinions might shape their celebration of Christmas.

Likewise, because Christmas was three months away from the time of the earlier session, respondents were asked to discuss Christmas shopping in a more abstract sense. Specifically, they described their idea of an "ideal" Christmas shopping experience.

Participants also raised several additional topics during the sessions. Where the researcher felt elaboration upon these topics would lead to a richer understanding of Christmas gift-buying and gift-giving, these discussions were encouraged.

FINDINGS OF THE FOCUS GROUPS

The focus group sessions both reaffirmed the findings of previous gift-giving and gift-buying studies and provided clues as to what other variables might influence such behavior. For example, one of the variables mentioned throughout the literature as influencing gift-giving is risk. The following statements by

participants indicate that risk did seem to influence respondents' attitudes toward gift-buying:

> It's very difficult to get things for people because if they want it, they've gotten it. And I have a real problem getting things they want....It's just a bigger risk, you just take a chance more....So I'm just taking a gamble that there's something they've overlooked or just don't know they want yet. (male, mid-thirties).

> [Christmas] is horrible because I think it's the most stressful and depressing time of the year. It drives me insane, you know? The fear of getting the wrong thing, or not getting enough for people or forgetting someone or hurting someone's feelings. I just think, "Oh my God, what am I gonna do? (female, late twenties).

In addition, the issue of balanced gift-giving that was examined by Belk (1979) was raised by the participants. However, consumers did not appear to agree upon the actual definition of this construct. For example, balance was defined both as the number of gifts and the amount of money spent on gifts, as indicated by the following discussions:

> I don't keep track of how much [money spent], but [how many] gifts . If I have two for one of the nieces, then I have to have two for the other....My grandmother, when she used to buy presents, if she spent $1.76 more on my

> brother, she would give me the present and then she would give me the $1.76....One year I got three cents in an envelope, because she spent three cents more on my brother. It was ridiculous. (female, early thirties)

> When I go out shopping I can't remember how many [gifts] I get. I just keep adding until they [the respondent's parents] have the same amount....I try to be fair. (male, late twenties).

Finally, it was clear that attitudes toward shopping could influence gift-buying as well:

> I don't like the crowds. I really feel claustrophobic in large groups in department stores, and people who walk so damn slow. And people in malls who are smoking cigarettes, and you have to walk through all that, and kids who scream a lot. (male, early thirties).

> I hate to shop. The first thing is the feet. You have to wear comfortable shoes because you walk about 15 miles...So first thing is good, flat shoes. Second thing is a machete (laughs). How do I shop? Begrudgingly. (male, late twenties).

The discussion above focused upon those variables that had been mentioned in the literature as influencing gift-buying behavior. However, other variables <u>not</u> previously examined within the gift-buying context also surfaced during these sessions. One such variable could be called "sensory arousal." Specifically, some consumers

seemed to desire stimulation of some or all of their senses while Christmas shopping. The following discussions of the "ideal Christmas shopping experience" exhibit this need:

> It has to be Chicago, it has to be snow, it has to be downtown...To me, that's Christmas. And the guy with the bell that's driving you crazy. It just smells like Christmas. This summer, where I worked, there was this old lady wearing this cologne. And she kept reminding me of Christmas. This old lady smelled like Marshall Fields. (male, late twenties).

> All the decorations, cold weather, even in Florida. Even in Florida I wanted it to snow. (female, late thirties).

> Well, my friend across the street. She and her mother would come home with trunkloads full of bags of presents that they had gift-wrapped at the store...Yes, yes, with the tags. And they were always wrapped in gold paper with maroon velvet ribbons....To me, that was always so wonderful. (female, early thirties).

A third and final way in which the focus groups were useful was in their preliminary examination of consumer shopping strategies. For example, some participants were intent on keeping track of the amount on money spent and presents bought. Others indicated that they would consult others buying for the same person, so they wouldn't buy them the same gift. In addition, these discussions

provided preliminary evidence that information sources were also used purposefully. The examples provided below provide evidence of this fact:

> Sometimes radio and TV advertising can give me an idea of a product that's on sale, that I've already thought about, that I want to buy...They simply let me know a gift is available at a certain price. (male, early thirties)

> My father...tends to be a tool collector. So I always try to find out what the latest tools are, and look at the advertising. That was about the only time I ever used it. (female, early thirties).

> I use ads particularly for the children that we're responsible for, where I am less conscious of the right thing to get or have something in mind. I'm talking about nieces and nephews we see a couple of times a year. (female, late thirties).

> [I use] catalogs. I also seek out newspaper ads, and television, starting about now [September]. They give me good ideas. (female, late twenties).

Thus, the focus groups conducted for the three objectives listed on the first page of this chapter, in that they 1) provided evidence that variables which have yet to be studied can influence Christmas gift-buying and giving; 2) showed that some consumers do employ shopping strategies when they buy Christmas gifts, and 4) helped

shed light on what activities, interests and opinions influenced participation in the Christmas ritual.

B. RESEARCH PROCEDURES

In order to examine the research questions stated at the end of Chapter II, it was necessary to 1) determine the most appropriate research method for this study; 2) select a sample; 3) discuss the develop of research instruments and 4) devise means of enhancing reliability and validity for this study.

SPECIFIC RESEARCH METHOD CHOSEN

After specifying the research questions, the first major decision to be made was what type of methodological procedure to use to examine whether types of consumers existed, who differed with respect to the external search strategies employed while Christmas shopping. A set of six criteria was established, to guide selection of the procedures. A method was sought that:

1. Allows for a large number of variables to be examined simultaneously;

2. Could be sufficienty implemented, given the constraints of time, money, and manpower;

3. Could provide the type of information desired, e.g., profiles or types of consumers;

4. Could be subjected to tests for reliability and validity;

5. Is regarded as a respected technique for data analysis;

6. Requires relatively little effort on the part of respondents.

Three procedures were believed to be the best candidates for this study. These were: qualitative analysis, Q-factor analysis and other cluster analytic procedures.

Qualitative research fared well in several respects. First, while it is not designed to group specific types of observations per se, data from qualitative research could reveal whether certain patterns of information search exist. Furthermore, qualitative research could have proved enlightening with respect to what other variables <u>besides</u> those examined influence Christmas information search. However, because of its emphasis upon generating context-laden research, the analysis of qualitative techniques can be quite time-consuming. Furthermore, while methods of validating qualitative findings exist, the best use of these methods typically requires both an

abundance of time and a team of researchers. Neither of these criteria could be met for this study.

Moving to the examination of quantitative methods, both Q-factor analysis (Stephenson, 1953) and other cluster analytic procedures are designed to produce mathematically created solutions that group observations together, based upon their similarity of responses to a set of salient variables. However, Q-factor analysis is unfortunately unavailable through the most popular computer statistical packages. In fact, the QUANL program -- which is the only Q-factor analytic program familiar to the researcher -- is an independent computer program. Thus, it is difficult to interface this program with other programs that can perform other statistical analyses (such as factor analysis).

However, other cluster analytic procedures -- which share the same basic philosophy as Q-factor analysis -- are available through SAS, SPSS and BMDP. As a result, cluster analysis that is conducted through one of these programs can produce an output data set that can be used to conduct further analysis. In this case, the variable that specifies cluster membership can be created, with values ranging from 1 to the number of optimal clusters discovered. This variable can then be used as a classification variable in discriminant analysis. The

demographic, psychographic, media usage and shopping variables that were measured can be tested, to determine whether their values distinguish members of different clusters. Therefore, it was determined that cluster analysis would be most appropriate for analyzing these data. The steps used in this research design are summarized in Figure III-1. This figure indicates that the input into the cluster analysis will be the factors generated by the principal components analysis upon the 77 information search variables. Factors are more appropriate for use than raw data because high correlations were found to exist among the variables measuring information search activity. Thus:

> The uncritical use of highly correlated variables to compute a measure of similarity is essentially an implicit weighting of these variables. That is, if three highly correlated variables are used, the effect is the same as using only one variable that has a weight three times greater than any other variable. Principal components analysis can create new, uncorrelated variables that can be used as raw data for the calculation of similarity between cases (Aldenderfer and Blashfield, 1989, p.21).

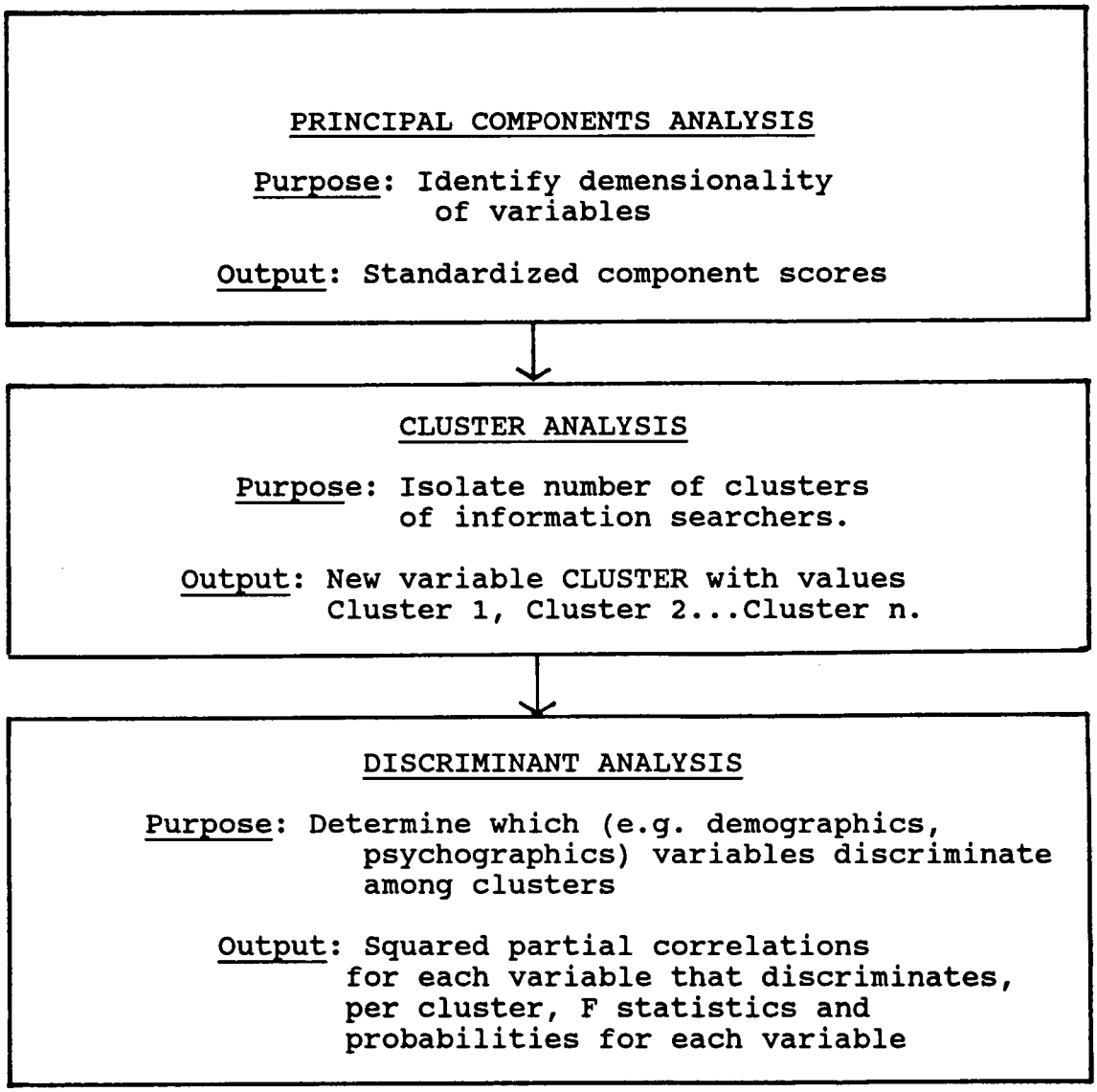


Figure III-1

Statistical Procedures Used in This Study

TYPE OF SAMPLE USED

Once the methods for data analysis had been determined, the next step was to acquire a sample of adults who would be willing and able to participate in this research. Given the nature and purpose of this research, a convenience sample of adults was deemed sufficient. Three sources of respondents were considered: 1) members of local chapters of Weight Watchers; 2) students enrolled in University of Tennessee Evening School; and 3) undergraduate students at the University of Tennessee, Knoxville.

Evening School students were deemed superior to undergraduates in at least two respects. First, the sample would be demographically diverse. According to Dr. Sam Bills, director of the UT Evening School, students' ages range from the early 20's to the 70's, with a median age of 31. This range is clearly wider than could be achieved with a sample of traditional undergraduates.

In addition, it is likely that more Evening School students would be married and have children than would undergraduates. Thus, the task of Christmas shopping is

probably more complex for an Evening School student than for an undergraduate.

The Evening School sample also was considered superior to the Weight Watchers sample, primarily because most Weight Watchers members are female. Thus, males would have been severely underepresented by this sample. Furthermore, with their concern for weight loss, Weight Watchers members may have more similar psychographic profiles than Evening School students.

While the sample above was indeed a convenience sample, its use was not deemed inappropriate because of several factors. First, almost anyone in America does some amount of Christmas shopping. Therefore, any sample would be appropriate in examining search behavior in an exploratory context. Next, this sample offered the added advantage of allowing the researcher to control for outside distractions while respondents completed the survey, because of the controlled nature of the classroom setting.

SPECIFIC SAMPLING FRAME

Once Evening School students were chosen as the sample, the task became to gain access to these students.

Courses were selected from the Spring 1990 Evening School catalog that met the following criteria: 1) the course should be 400-level or lower, to assure that full-time graduate students, whose courses were also listed in the catalog, were excluded; 2) the course should be relatively large (to require fewer courses to be sampled; 3) the courses should be acquired from a cross-section of academic departments, so that a diverse sample of adults could be acquired and 4) if at all possible, course instructors should be willing to provide class time for their students to complete the survey. This procedure was desired to assure an adequate response rate.

During January and February of 1990, instructors were contacted and asked if they would be willing to approach their class about participation in the study. While many instructors indicated they would do so, not all were willing to allocate class time for completion of the survey.

Furthermore, fewer instructors were willing to cooperate than had been anticipated. Thus, the sampling frame was expanded to include adult extension and evening courses taught through three other universities in the Knoxville area (Lincoln Memorial University, Walters State and Pellissippi State).

After consulting instructors from UT and the above schools, three courses -- two from communications and one from business -- were chosen for the pretest. Six courses -- with a total enrollment of 208 -- committed to taking part in the administration of the final instrument. These were primarily introductory courses in the areas of speech, liberal arts and business.

In two of the classes, students were given the surveys, asked to complete them at home, and then return them the following week. Unfortunately, this procedure -- as well as the low level of class attendance -- was detrimental to achieving the desired sample size. The procedures used to remedy this problem will be discussed in the final section of this chapter.

SPECIFIC SURVEY INSTRUMENT CHOSEN

In order to gather the data for this study, respondents were provided with a self-administered questionnaire consisting primarily of structured, undisguised questions. Self-administration was chosen over other survey methods for several reasons. First, the length of the survey made telephone administration impossible. Likewise, the cost of return postage and

follow-up procedures would have made the survey very expensive to mail. Finally, personal interviews were considered. However, it was determined that this procedure would have taken up too much time and manpower resources than were available for this study.

STRUCTURE OF THE QUESTIONNAIRE

Appendix A contains a copy of the final survey instrument used in this study. In order to address the research questions listed in Chapter II, five distinct sets of items were required.

Part I consisted of 77 statements designed to measure consumers' use of external information sources while Christmas shopping. Respondents were asked how frequently they used eleven sources of information: 1) newspaper advertising; 2) magazine advertising; 3) radio advertising; 4) television advertising; 5) catalogs; 6) in-store displays; 7) newspaper and/or magazine articles; 8) television and/or radio programs; 9) salespeople; 10) friends and family; and 11) actual receivers of gifts.

Furthermore, respondents were asked to indicate how often they used these sources to acquire seven different dimensions of gift information. These were: 1) prices; 2)

product features; 3) ideas of what to buy; 4) location of gifts; 5) brand names; 6) evaluating the appropriateness of a gift; and 7) learning what new gifts were available for Christmas.

By examining which information sources were used for which dimensions, Part I was designed to specifically examine if different search strategies were used by different consumers. However, the measures in Part II examined the extent of consumers' actual shopping behavior (e.g., the amount of money spent on gifts, how they paid for gifts and where they bought gifts). As discussed previously, the intent of this study was to cluster analyze the responses to Part I of the survey. However, cluster analysis is not guided by hypotheses. Thus, some way to validate the findings of the cluster analysis procedure was needed.

Some authors have noted that one way to validate the findings of such procedures is to "perform significance tests that compare the clusters on variables not used to generate the cluster solution" (Aldenderfer and Blashfield, 1989, p. 66). Therefore, Part II of this survey contained variables relating to consumers' Christmas shopping behavior. Analysis of these variables

could then serve to help validate those findings yielded by the cluster algorithms.

Thus, Part II included questions that asked consumers to recall several aspects of their shopping behavior during the 1989 Christmas season. Specifically, they were asked to indicate the number of people for whom they bought Christmas gifts, how much money they spent on gifts, how they paid for gifts and where gifts were ultimately purchased.

In addition, consumers were presented with a list of shopping and information search strategies and were instructed to place a check by each activity they had used. For each consumer, the number of activities could then be summed, to create an index that could indicate "tendency to strategize."

Part III of the questionnaire contained items designed to measure Christmas-related lifestyle differences among consumers. It was hoped that these differences would help variation in information search strategies. The first set of statements in this section consisted of an exhaustive list of Christmas activities. Consumers were instructed to check all of the activities in which they engaged. As with the "strategizing" variable described above, the

number of activities could be totalled to yield an index of overall Christmas activity.

The second set of questions within Part III consisted of 24 statements designed to measure the effect of eight situational and motivational variables. The five situational variables were culled from the literature on Christmas gift-buying, and from the focus group findings discussed earlier. These were: 1) attitude toward shopping in general; 2) attitude toward Christmas shopping; 3) perceived social risk; 4) perceived time pressure; and 5) attitude toward Christmas.

The remaining three variables measured the influence of gift-giving motivations discussed in the previous chapter. These motives were: 1) giving in order to shape a person's identity; 2) giving in order to strengthen social bonds; and 3) giving in order to fulfill a sense of obligation.

Each of these eight variables was measured by three separate Likert statements. Respondents were instructed to indicate whether they strongly agreed, agreed, were neutral, disagreed, or strongly disagreed with respect to each statement.

Part IV of the survey addressed the research question: "Do different types of shoppers use communications media

differently?" Consumers were provided with closed-ended questions, requesting such information as the types of media they received in their homes and the amount of time they spent with different media. All of the major media -- e.g., newspapers, radio, magazines, network television and cable television -- were examined.

Part V requested standard demographic information. Where possible, response categories for such variables as age, income and education were devised to correspond with the categories used by the U.S. Census. This format would allow the demographics of the sample to be compared with both the adult populations in Knoxville and in the United States as a whole.

In addition to the demographics mentioned above, respondents were also asked about the following characteristics: 1) gender; 2) marital status; 3) number and ages of children; 4) number of people in their household; 5) number of hours per week they engaged in various activities; 6) religion; and 7) occupation.

The questionnaire used ten and one-half pages of 8 1/2" by 11" paper, and took respondents approximately thirty minutes to complete. A cover letter explained the purpose and benefits of the study. The letter integrated recommendations for such letters made by Dillman (1978)

and the wording for implied consent required by the Office of Research Administration at the University of Tennessee.

C. ADMINISTRATION OF THE SURVEY

Survey administration will be discussed in terms of its four phases: Pretest 1, Pretest 2, Pretest 3, and administration of the final version. Each pretest was designed to generate specific information for the researcher, and each led to revision of the questionnaire.

PRETEST 1

The first pretest for this study was conducted in early February, 1989. The survey was administered to 37 undergraduates in a Mass Media Research course at the University of Tennessee. The main purpose of this pretest was to determine how much time was required to complete the survey, which was originally twelve pages in length. Knowledge of the time required for the survey could serve two purposes. First, it could help determine whether the number of questions should be reduced. Second, Evening School instructors could be told how much class time would be needed for survey completion.

A second purpose of this pretest was to determine if some questions were difficult for respondents to understand. This information could be deduced if respondents asked for clarification of an item, or if a question was consistently left unanswered.

Third, cluster analysis of the information-search variables included on the survey could provide evidence that types of consumers could be identified, who differed according to the information search strategies they use while Christmas shopping. If such strategies were found within a homogeneous sample, then there was reason to believe that clusters would be even more pronounced in a heterogeneous sample of adults.

The results of this first pretest were as follows:

1) The survey required approximately 20-25 minutes to complete. Only one respondent took longer than thirty minutes.

2) Respondents appeared to have little difficulty with the content of the survey. Even while respondents were encouraged to ask questions if they were confused, only one question clarification was requested. Furthermore, few items were left blank.

3) The clustering technique known as Q-factor analysis isolated eight different types of information searchers among the undergraduate sample. These eight types accounted for 79% of the total variance in information search behavior.

Furthermore, these different types of information searchers proved to be interpretable. For example, each type could be characterized as employing fairly distinct strategies when shopping for gifts. Table III-1 summarizes the statistics pertaining to the isolated shopper types. Table III-2 indicates which statements met the criteria of 1) having a Z-score of greater than 1.0; and 2) loading higher on that type than on any other type. This table indicates that the students in this sample differed, with respect to the information sources they used in deciding upon Christmas gifts.

Therefore, the first pretest offered evidence that the survey was both manageable for respondents and indicative of information search clusters within the sample.

PRETEST 2

While the above pretest proved enlightening with respect to some issues, additional pretesting among Evening School students was needed. The purpose of this pretest was to determine if respondents who were actually similar to those in the final sample could understand the survey. Additional review by expert judges (primarily committee members) indicated that certain sections might best be revised. Therefore, the effect of these revisions -- both in terms of time and understanding -- needed to be established.

Table III-1

Q-Factor Analysis Statistics:
Pretest 1

Cluster Number	Number In Cluster	Eigenvalue	Variance Explained
1	9	16.17	44%
2	13	3.28	9
3	4	2.49	7
4	1	1.96	5
5	1	1.56	4
6	3	1.39	4
7	5	1.20	3
8	1	1.02	3

N= 37 Total: 79

Table III-2

Unique Search Statements For Each Cluster:
Pretest 1

Cluster	Statement
1	Use newsp. and/or mag. articles for price.
	Use newsp. and/or mag. arts. for features.
	Use newsp. and/or mag. articles for brands.
	Use TV commercials for features.
	Use TV commercials for brand names.
	Use catalogs for location of products.
2	Use in-store displays for gift location.
	Use receivers of gifts for gift ideas.
3	Use newspaper ads for brand names.
	Use magazine ads for price.
	Use TV news/interv. shows for gift location.
	Use newsp. and/or mag.articles for gift location.
	Use newsp. and/or mag. arts. for gift ideas.
	Use friends/ family for price information.
	Use friends/family for product features.
4	Use receivers of gifts for price.
	Use receivers of gifts for features.
	Use receivers of gifts for brand names.
5	Use catalogs in general.
	Use catalogs for price.
	Use catalogs for product features.
	Use catalogs for gift ideas.
	Use catalogs for brand names.
	Use in-store displays for price.
	Use in-store displays for gift location.
	Use TV news/interv. shows for brand names.
	Use receivers for information in general.

Table III-2, Continued

Cluster	Statement
6	Use newspaper ads in general.
	Use newspaper ads for price.
	Use newspaper ads for gift ideas.
	Use newspaper ads for gift location.
	Use salespeople in general.
	Use TV news/interview shows in general.
	Use TV news/interview shows for price.
	Use TV/news interview shows for features.
	Use TV news/interview shows for gift ideas.
	Use TV shopping channels for gift ideas.
	Use TV shopping channels for features.
7	Use salespeople for gift ideas.
	Use newsp. and/or mag. articles in general.
8	Use magazine ads for gift ideas.
	Use radio commercials in general.
	Use radio commercials for price.
	Use TV commercials in general.
	Use TV commercials for gift ideas.
	Use TV commercials for gift location.
	Use salespeople for brand names.
	Use TV shopping channels in general.
	Use TV shopping channels for price.
	Use TV shopping channels for features.
	Use TV shopping channels for brand names.

Finally, the reliability of some of the measures -- specificially, those examining the situational and motivational variables -- needed to be examined. This assessment was critical because at this stage in the survey development, eleven constructs were being measured by two Likert-style statements each. Principal components analysis on these measures could reveal whether the statements that were supposed to measure the same constructs were in fact doing so.

Three Evening School courses, providing a total sample of 34 students, participated in the pretest. The results are as follows:

1) The questionnaire again took between 20-30 minutes to complete. Furthermore, respondents did not appear to have difficulty with any of the test items. Few items were left blank.

2) Principal components analysis revealed that the reliability of some of the Likert-scale measures was questionable. Figure III-2 indicates the components isolated with an eigenvalue greater than 1.0, and the variables that had the highest loadings on each. This table indicates that measures of three constructs -- namely, the gift-giving motivation of social bonding, the desire for balanced gift-giving and self- versus other-directed giving -- were especially problematic.

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7
LOVSHP1	0.91917	0.09853	0.17749	0.08891	-0.07744	-0.02114	0.01002
LOVSHP2	0.88735	0.03955	0.03523	-0.10992	0.03694	-0.06702	0.18615
XMASHOP1	0.69443	0.26468	-0.21226	0.46626	-0.00915	-0.02387	-0.19356
XMASHOP2	-0.58956	-0.44011	0.13081	-0.42888	-0.03357	0.06373	0.33913
SENSORY1	0.28539	0.76803	0.28680	0.17684	-0.04132	0.29499	0.01747
LOVXMAS1	-0.04748	0.72116	-0.19203	0.12131	0.01485	-0.12149	0.12110
LOVXMAS2	0.35257	0.70474	-0.08671	-0.07544	0.10505	-0.29106	-0.37943
SENSORY1	0.17831	0.66158	0.33851	0.46326	-0.11474	-0.01431	-0.16064
BOND2	0.05462	0.07119	0.77304	0.02121	-0.18588	-0.03637	0.01535
BALANCE2	-0.04316	-0.00468	0.76357	-0.05972	0.18749	-0.08520	0.15500
TIME2	0.10107	-0.00605	0.69326	0.20253	0.13353	0.28702	0.00517
TIME1	-0.08539	-0.13959	0.54158	-0.13068	0.08863	0.49631	0.33803
TASTE2	0.18886	0.24487	-0.05676	0.81138	-0.02140	-0.04879	-0.06588
IDENT2	-0.13373	-0.37344	0.40182	0.54028	0.10371	0.00574	-0.35989
TASTE1	0.05072	-0.35276	-0.15000	-0.59838	0.29501	0.14272	-0.25201
IDENT1	0.05821	-0.14924	0.08598	0.44353	0.70988	0.19384	0.18753
BOND1	0.14243	0.10545	-0.04538	-0.05048	0.70923	0.04463	0.14098
OBLIG1	-0.33761	-0.05407	0.32677	-0.31357	0.69319	0.10399	-0.20983
OBLIG2	-0.17055	-0.07054	0.05533	-0.18532	0.66794	0.42804	-0.28238
RISK2	0.02586	-0.06686	0.16979	-0.09550	0.08993	0.78848	-0.17423
RISK1	-0.16077	0.02385	-0.18130	0.05112	0.40267	0.70056	-0.02674
BALANCE1	0.05446	-0.03788	0.17978	-0.03637	0.06107	-0.16662	0.84051

Figure III-2

Factor Loadings: Pretest 2

Thus, the second pretest suggested that some of the motivation and lifestyle measures of this study needed to be revised, or perhaps even eliminated entirely.

PRETEST 3

While the first and second pretests seemed to suggest relatively few changes for the survey, there were some compelling reasons to subject the instrument to yet a third pretest. Specifically, the scale used to measure the extent of information search had been modified after the second pretest. Originally, the scale had asked consumers to rate how often they used a medium on the following scale: Always, Often, Occassionally, Rarely and Never. This scale was subsequently modified to ask consumers how much they used a medium on a <u>percentage</u> basis (e.g., 81-100% of the time, 61-80% of the time). It was suggested that this new scale circumvented the problem that "Always" and "Never" could be considered <u>point</u> estimates of behavior, while "Rarely, Occasionally, and Often" represented <u>ranges</u> of behavior.

Finally, while the meaning of survey items seemed self-evident to the researcher, it was not clear whether consumers were interpreting these items in the same

manner. It was felt that consumers' honest and accurate assessment of these questions could only be deduced from a pretest consisting of personal interviews.

The revised version of the questionnaire was presented to a convenience sample of seven adults who provided feedback on sections of the questionnaire that either had proved problematic or had been revised since the second pretest. All respondents were asked to read the instructions pertaining to the first part of the survey, which measured consumers' use of media for various types of information. Consumers were then asked to state in their own words how they interpreted the instructions for this section.

Second, respondents were asked whether the wording on the survey made the distinction between three general items relating to gift evaluation clear. These items were: 1) acquiring general ideas for gifts; 2) deciding whether a gift was appropriate and 3) learning what new gifts were on the market.

Finally, respondents were asked to discuss how they interpreted specific questions within problematic sections of the survey. Consumers' responses to the Likert items measuring situational variables and gift-giving motivations were especially desired.

Results of Pretest 3

Results of the third pretest were as follows:

1) All participants interpreted the instructions for Part I of the survey in a similar manner, each stating that the instructions asked them to check what percent of the time they had used a particular information source for a particular information dimension.

2) Respondents indicated that statements relating to gift evaluation -- specifically, ideas for gifts, appropriateness of gifts and knowledge of what new gifts were available -- were all perceived as distinct constructs.

3) Respondents provided feedback on their interpretation of questions previously identified as problematic. Specifically, it became clear why the reliability of the lifestyle and gift-giving motivations had been so low in the second pretest. In two cases, respondents interpreted three statements designed to measure the same construct in three different ways. Needless to say, these measures were subsequently reworded.

Overall, however, this final pretest confirmed that the survey instructions were clear, and that the majority of questions previously identified as problematic had been successfully revised. Those few measures still yielding inconsistent responses were either eliminated or modified.

ADMINISTRATION OF THE SURVEY

Data collection for this study was conducted from March 5 to March 29, 1990. Three Evening School classes took part in the first week of the survey administration. During that time, it became apparent that only about half of the students enrolled in an Evening School course attended on a given night. Therefore, it was determined that additional respondents were needed to achieve the desired sample size of between 175 and 200 adults. The researcher compiled a list of additional respondent pools, which included: 1) a touring motorcycle enthusiast's club; 2) an adult Sunday school class; 3) an aerobics class provided for employees of the University of Tennessee; 4) employees of a local advertising agency; and 5) non-student employees at the Center for Educational Assessment at the University of Tennessee. To ensure cooperation from these groups, incentives were offered. These were designed to appeal to the special interests of each group. For example, the motorcycle club received a check in the amount of $50 for its favorite charity. Each of these groups was contacted and each agreed to be a part of the study.

By the end of the data collection phase, a total of 194 surveys was collected. The number of respondents derived from each source is provided in Table III-3. One survey was returned entirely blank, and two contained so many missing values that they were deemed useless.

Most of the statistical procedures that were to be used in this study would eliminate an entire observation from the analysis if any missing values were present. Therefore, for those surveys that were returned with one or a few missing values, the following procedure was followed. If the question was measured on an ordinal, interval or ratio scale, the blank item was given the code for the mid-range value. For the categorical questions, values were either coded "Other" or "None," depending upon which of these values occurred within a particular item. Primarily, nonresponse bias was limited to two questions; those asking for a respondent'income and religious preference. As respondents often regard these issues to be sensitive, omissions to these questions were not to be unexpected.

One hundred and ninety-one usable surveys were thus procured. This sample size was within the original range proposed for this study, and was deemed more than adequate

Table III-3
Number of Respondents Procured/ All Sources

Source	N
Evening School Students*	122
Gold Wing Motorcycle Club	38
UT Aerobics Class	10
Advertising Agency Employees	10
Center For Assessment	7
Adult Sunday School Class	7
	194**

* Students were enrolled at the University of Tennessee, Pellissippi State and Walters State University.

** Two surveys were returned incomplete, and another respondent bought no Christmas presents. Thus, the final number of useable surveys was 191.

for the majority of the statistical analyses to be performed upon the data.

After the data were collected, responses were transferred to data sheets in preparation for inputting by the University of Tennessee Computing Center. A data file was ready for examination by the first week of May, 1990. Entries in this file were hand-checked against the original surveys. Input errors were subsequently corrected, and the data were then ready for analysis.

Chapter IV will discuss the procedures used to assess the reliability and validity of this study. Chapter V presents the results of the statistical analyses conducted for this study.

CHAPTER IV

RELIABILITY AND VALIDITY ASSESSMENT

This chapter presents a discussion of the methods used for assessing the reliability and validity of the survey instrument used in this study. Each section of the survey will be discussed in turn.

A. VALIDITY OF PART I

Part I of the survey consisted of seven information dimensions across eleven external search sources, that consumers could find salient when shopping for Christmas gifts.

Three types of validity were assessed for these items. The first of these was face validity, which has been described as "the quality of an indicator that makes it seem a reasonable measure of some variable" (Babbie, 1979, p. 578). To assure that salient information dimensions were included in the survey, several steps were taken. First, studies that explored the concept of information dimensionality were consulted. Many of these studies (c.f., Bucklin, 1965; Green, 1966; Houston, 1979) examined

what information dimensions (e.g., price, quality) consumers found to be relevant.

However, Resnik and Stern (1979) took this type of analysis a step further by devising a scale of 14 information cues used to evaluate the informativeness of television commercials. Table IV-1 portrays this scale, which has been used by researchers who have explored the informativeness of other message types, including magazine and newspaper advertising (c.f. Marquez, 1977; Laczniak, 1979; Stern, Krugman and Resnik, 1981).

The Resnik and Stern scale has proven to be applicable to a variety of studies examining informativeness. The fact that this scale was relevant across a wide variety of situations meant that it would also probably be useful in helping to construct a list of information dimensions that would be relevant to Christmas shoppers.

However, several conditions of the present study dictated that the number of dimensions on the original version be reduced. First, researchers employing this scale had typically examined only <u>one</u> type of information source at a time. However, this study examines a wide <u>range</u> of information sources that consumers could use while seeking information to help them Christmas shop.

Table IV-1

Resnik And Stern's Scale Of Information Dimensions

Number	Criterion
1	Price or Value
2	Quality
3	Performance
4	Components or Contents
5	Availability
6	Special Offers
7	Taste
8	Packaging or Shape
9	Guarantees or Warranties
10	Safety
11	Nutrition
12	Independent Research
13	Company-Sponsored Research
14	New Ideas

Source: Resnik and Stern (1979)

Furthermore, some of the information dimensions included on the scale were thought inapplicable to gift-buying situations. Specifically, dimensions pertaining to warranties, safety, nutrition, and independent or company research to back up claims were not thought particularly relevant to Christmas gift buying. This assumption was supported by Caplow's (1982) finding that the most popular categories of Christmas gifts are clothing (35%), toys (10%), holiday food and beverages (9%) and decorations and ornaments (7%).

Finally, focus group findings revealed that consumers might also consider other information dimensions to be salient within a Christmas gift-buying context. Specifically, consumers appeared to seek information relating to whether a gift was an appropriate choice, what new gifts were on the market for that Christmas season and what brand names were available. This finding illustrates the importance of using a scale of information dimensions that is relevant to the buying situation being examined.

With these considerations in mind, four items from the Resnick and Stern scale were adapted for use in this study. The three dimensions mentioned in the focus groups were also included. Furthermore, some of the items in the

original Resnik and Stern scale were combined for use in this study. Notably, all of the items that related to product features (items 2,3,4, and 8) were treated as one "features" items. Items 1 (price or value) and 6 (special offers) were regarded as one price dimension.

Thus, the validity of the information dimensions included in Part I was enhanced by two factors: 1) four items were adapted from a widely used and tested scale of information dimensionality (Resnik and Stern, 1979); and 2) three items were derived from qualitative research conducted in conjunction with this study.

As was previously mentioned, Part I examined consumers' use of a wide variety of external information sources. These sources are often divided into three categories: 1) marketer-generated; 2) interpersonal; and 3) "neutral" (non-marketer generated) mass media.

On the original version of the survey, those sources mentioned most often in the external search literature were included. However, the number of sources included was reduced from 16 to eleven because: 1) asking consumers to evaluate 16 sources of information across seven dimensions proved too time-consuming; and 2) pretests indicated consumers ignored some sources of information (such as home shopping networks).

The eleven information sources thus retained for this section of the survey can be classifed as follows: 1) marketer-generated: newspaper advertising, magazine advertising, radio advertising, television advertising, in-store displays, catalogs and salespeople; 2) interpersonal: information from friends and family, and information from intended recipients of gifts; and 3) "neutral": newspaper and/or magazine articles, television and/or radio programs.

The second type of validity assessed for Part I was content validity. Content validity addresses the issue of whether "the substance or content of (the) measure is representative of the content or the universe of content of the property being measured" (Kerlinger, 1986, p.417). This type of validity is different from face validity in that when a researcher assesses content validity, it is with the intent that the measures included are not only measuring what one hopes to measure, but that theses variables are relevant to the study at hand. To assure content validity, Kerlinger notes that expert judges should evaluate the relevance of each item. To enhance the content validity of Part I, dissertation committee members assessed the relevance of both the

information dimensions and the information sources themselves.

These judges pointed out that the characteristics of some information sources originally included in Part I made them unlikely candidates for use by consumers while Christmas shopping. For example, the Yellow Pages will not publish prices, nor can they provide timely information for Christmas shoppers per se.

The final type of validity assessed in Part I was predictive validity. This type of validity was assessed as follows. Many researchers have postulated that the consumer problem-solving process into distinct behavioral stages. For example, one widely accepted model (Engel, et al., 1978) discusses consumer behavior in terms of five stages: 1) problem recognition; 2) information search (internal and external); 3) alternative evaluation; 4) choice; and 5) postchoice. Because consumer behavior is therefore conceptualized as a process-oriented activity, one can assume that consumer behavior in one stage is influenced by behavior in previous stages, and will likewise influence behavior in future stages. Therefore, consumers who report using different external search stategies should also report different behavior in the choice stage. Measures of choice behavior could

therefore be included in a separate section of the survey, and tests can be conducted to see if different types of information searchers shop differently as well.

B. RELIABILITY OF PART I

Several techniques were used to enhance the reliability of the information-search measures contained in Part I. First, the scale of the measures and the means of data collection were greatly simplified from that which were originally proposed. Therefore, it was believed that respondents would be able to give more accurate responses to the questions they were being asked.

Specifically, the original data collection procedure called for Q-sorts of the individual statements pertaining to information search across a 9-point scale. However, a pretest revealed that completing this part of the survey alone required approximately 30 minutes. Thus, little time (and respondent energy) would be available to gather demographic and psychographic information.

Furthermore, Part I was initially designed such that questions addressing the information dimensions for each source were placed in random order throughout the section. Therefore, a question asking consumers how much they

relied upon television advertising for price information could be followed by one asking them how much they relied upon catalogs for information about product features.

However, consumers appeared to find this version of the survey too time-consuming and tiring. Subsequently, all items pertaining to each information source were grouped together, to provide a sense of logic and continuity to the survey.

Upon reflection, the best way to enhance reliability might have been to provide alternative forms of the survey to minimize any response patterns that may have existed. However, extensive pretesting of the instrument indicated that consumers considered each item carefully, especially since most of them completed the surveys in a relatively controlled classroom setting. Therefore, creating alternative versions of the survey was not believed to be absolutely crucial, and the time necessary to do so could have pushed data collection even further from the previous Christmas season.

Including additional measures of each information dimension for each information source could have also enhanced reliability. However, so much additional time would have been required for respondents to address these items that they would have undoubtedly been bored and

fatigued with the survey before reaching the psychographic and demographic questions.

In addition to these a priori measures for enhancing reliability, statistical means of assessing the reliability of these information search measures were also employed. The first measure involved the procedure of principal components factor analysis. As Carmines and Zeller (1988) point out, this statistic is appropriate when the researcher assumes that not all scale items "measure a single phenomenon equally" (p.59). While this scale purported to measure 77 different variables, it was also recognized that these seven dimensions across eleven information types might actually represent fewer variables than were originally assumed. In other words, consumers might gather information by either 1) relying upon a medium for <u>all</u> types of information -- in which case all dimensions relating to a specific information <u>source</u> would factor together; or 2) seeking the same <u>types</u> of information across all information sources, in which case the information dimensions across the eleven sources would factor together. Or, the variables could also factor in ways completely different than suggested above.

PRINCIPAL COMPONENTS ANALYSIS

Kim and Mueller (1989) note that principal components analysis produces a set of linear combinations of variables, such that the first linear combination represents the most variance explained, the second component represents the next most variance explained after accounting for what is explained by the first component, and so on. Kerlinger (1983) notes that the number of components will always equal the number of variables in any given analysis. However, the usual way to determine the optimal number of components is to accept only those components whose eigenvalues are greater than 1.0.

To examine how many salient factors existed in the data, the SAS factor analytic procedure was employed. Among the options available in this procedure are the type of factor analysis and the type of rotation to be specified. In this case, the default factor analytic procedure, which specified principal components analysis, was employed.

Orthogonal rotation was chosen as the means to yield the final pattern solution. Another option, oblique rotation, creates a solution which recognizes that the

components themselves may be correlated. Therefore, this rotation is often described as generating a more realistic solution. However, oblique solutions are generally regarded as much more statistically complex, and for that reason are often shunned by researchers. For example, Kerlinger (1983) warns that oblique solutions "contain peculiarities and subtleties not present in orthogonal solutions" (p. 582).

Table IV-2 presents the eigenvalues and proportion of variance explained by each factor for the 13 factors that had an eigenvalue greater than 1. Factors 12 and 13 were eliminated from further analysis because they were found to lack sufficient explanatory power for this data set. Specifically, Factor 12 contained only one item that loaded higher on this factor than any previous factor. Kerlinger (1986) recommends that a factor should contain at least two to three unique loadings to be considered meaningful.

Factor 13 was eliminated from the analysis because the variables that loaded highest on that factor loaded higher on other factors that accounted for more variance. However, it is interesting that all of the statements that loaded heavily on Factor 13 related to the information dimension of appropriateness. Thus, while this factor was

Table IV-2

Eigenvalues And Variance Explained
By Eleven Information-Search
Related Factors

Factor	Eigenvalue	Percent Variance Explained	Cumulative Variance Explained
1	21.00	27	27
2	6.02	8	35
3	5.54	7	42
4	4.95	7	49
5	3.71	5	54
6	3.28	4	58
7	3.21	4	62
8	2.57	3	65
9	2.33	3	68
10	1.91	3	71
11	1.68	2	73

interesting from a theoretical point of view, it did not contribute enough additional explanatory power to be retained.

Two pieces of evidence support belief that the solution produced by the principal components analysis was meaningful. First, Kaiser's Measure of Sampling Adequacy (MSA) is a "summary of how small the correlations are relative to the ordinary correlations" (SAS Institute, 1985, p. 356). Values greater than .80 are generally considered to be acceptable. For this analysis, Kaiser's MSA was .87.

Second, one can examine how the actual items loaded within the factors, to determine if the solution appears to be meaningful. Specifically, each retained factor contained seven statements that loaded highest on that factor. Furthermore, each of these seven statements pertained to the same information source. Thus, it seems that consumers examined information dimensions within the same information source, rather than search for the same dimension (e.g., price) across information sources. This finding is intriguing, given that consumer researchers have often found consumers look across media for specific information dimensions. Appendix B contains the loadings for the eleven retained factors.

The principal components analysis conducted on the responses to Part I thus indicates that the 77 original variables actually comprise eleven separate scales, each measuring consumers' use of a different information source.

While principal components analysis provides a set of variables that are essentially uncorrelated and unweighted, it is also desirable to assess the reliability of the scale as a whole.

Carmines and Zeller (1988) discuss a statistic called theta, which can be used to assess the reliability of a scale created as a result of principal components analysis. Theta is calculated as follows:

$$\emptyset = (N/N-1)\ (1-1/l)$$

The authors note that "$\emptyset$ represents theta, N equals the [total] number of items [on the scale] and l is the largest (i.e., the first) eigenvalue" (p. 61). They further explain that the best way to interpret theta is as a "special case of Cronbach's alpha," which assesses the internal consistency of responses to a set of items on a scale.

It should be noted that Cronbach's alpha itself is not an appropriate statistic to use in assessing the reliability of the eleven factors. This is because Cronbach's alpha is based upon the average raw correlations between items, and not upon the factor loadings.

Values of theta can range from 0 (least consistency) to 1 (most consistency). For Part I, theta is found to be:

$$\emptyset=(77/77-1)\ (1-1/21.00) = .96$$

Thus, theta indicates that the scale created through principal components analysis -- which essentially reduces the 77 original variables to eleven -- exhibits a high degree of internal consistency.

C. VALIDITY AND RELIABILITY OF PART II

Part II of the survey consisted of items designed to measure consumers' shopping (as opposed to information search) behavior. As mentioned earlier, these items will serve as means of validating the existence of meaningful types of information searches. Questions in this section

required different formats and different levels of measurement. Therefore, assessing the validity and reliability was not as clear-cut as for Part I.

To enhance face and content validity, two procedures were conducted. First, the literature pertaining to consumer choice was examined to ensure that behaviors representative of this stage were included on the survey. Kotler (1984) notes that during the choice phase, "A consumer who decides to execute a purchase intention will be making up to five purchase subdecisions" (p. 156). He further notes these decisions relate to the following behaviors: 1) choice of brands; 2) choice of vendors; 3) choice of quantity; 4) choice of when to buy; and 5) choice of payment method.

Furthermore, consumers also engage in other activities during choice, such as determining their ultimate satisfaction or dissatisfaction with the purchase. However, because these behaviors do not usually occur during shopping per se, they were not examined in this study.

In addition to including measures of these five choice decisions, consumers were also asked to check which of several shopping strategies they employed when selecting Christmas gifts. These items were included because focus

groups revealed that consumers often employ a wide range of strategies while Christmas shopping. Thus, including these measures within Part II was a means of enhancing the content validity of this study.

With respect to reliability, the actual formats of the questions were tested, revised and retested based upon the reactions of both judges (committee members) and the consumers involved in the pretests. For example, one consumer pointed out that she completed a good deal of her Christmas shopping after Christmas. This category was therefore added to the question asking consumers when they had finished their Christmas shopping in 1989.

D. VALIDITY AND RELIABILITY OF PART III

The third section of this instrument focused upon consumer activities, interests and opinions that pertained to aspects of the Christmas season. The majority of this section was presented in the form of Likert-style statements. Furthermore, items measuring three motivations for gift-giving were measured on this scale.

Consumers were asked to indicate in which of 30 Christmas-related activities they had engaged. Based upon

the few changes suggested by judges and consumers, these items appeared to be straightforward. However, wording was modified where suggestions for improvement were made. Furthermore, care was taken to generate as complete a list of Christmas activities as possible, after consulting literature pertaining to the Christmas ritual, focus group information, intuition and judges' suggestions.

The final version of the survey contained 24 Likert-scale items, with three items designed to measure one of eight constructs each. The content validity of these items was addressed primarily by having committee members and consumers serve as judges.

As noted in Chapter III, the final pretest for this study consisted of conducting personal interviews with eight consumers, and asking them to interpret various sections of the survey. This pretest proved to be enlightening, especially when consumers reacted to the activity, interest and opinion statements. Specifically, those statements examining abstract constructs -- such as using gifts to shape a person's identity or using gifts as a way to enhance social bonding -- were especially improved by consumers' expressions of those constructs in their own words. Thus, the low reliability reflected in

the principal components analysis after the second pretest could hopefully be improved.

To assess the reliability of the final AIO scale, the same procedures were followed that were used for Part I. First, a principal components analysis was conducted to determine if variables designed to measure the same construct loaded on the same factor. It was hoped these statements would not load with any others.

Figure IV-1 contains the rotated factor solution resulting from the final principal components analysis. Table IV-3 contains the eigenvalues and proportion of variance explained by each factor. As Table IV-3 indicates, seven factors had an eigenvalue greater than 1.0. For the most part, these seven factors all contained loadings that reflected the desired pattern. However, all of the statements measuring liking to shop <u>in general</u> loaded on the same factor as those measuring liking to shop for Christmas gifts. Thus, there appears to be one global shopping enjoyment variable, instead of one general and one situational variable.

Furthermore, all statements with high negative factor loadings were also worded in the reverse on the original survey. In fact, the only statement that did not load as expected was one statement relating to Christmas shopping

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7
LIKSHOP1	0.91919	0.07904	0.08059	-0.02332	0.00453	0.10732	0.04276
LIKSHOP3	0.89245	0.19708	0.05401	-0.01013	0.05849	-0.03673	0.02726
LIKSHOP2	0.88190	0.03027	-0.02144	-0.05195	0.10257	-0.04035	0.08217
XMASSHP3	0.72021	0.46893	0.05802	-0.09317	0.04452	-0.13715	-0.03357
XMASSHP1	0.71751	0.43525	0.13001	-0.11783	-0.01097	-0.04924	-0.05428
LOVXMAS1	0.09952	0.86078	0.11976	-0.07408	-0.06553	0.05347	0.00585
LOVXMAS2	0.17195	0.85237	0.03477	-0.03954	0.11681	-0.00995	0.10570
LOVXMAS3	0.31553	0.84379	-0.02715	-0.08676	0.00868	-0.00133	0.04905
XMASSHP2	-0.46289	-0.52649	-0.18129	0.22241	0.16090	0.21022	0.06098
BOND1	0.12056	0.03873	0.77316	0.01117	0.28485	-0.01494	0.08838
BOND2	0.01561	0.17500	0.76513	0.08675	0.21953	0.07587	-0.00417
BOND3	-0.05066	0.00574	-0.73644	0.10190	0.02645	-0.04264	-0.15779
TIME3	-0.02334	-0.02274	0.01842	0.84351	-0.04172	0.16689	0.06688
TIME2	-0.02587	-0.04405	0.04087	0.79155	0.16290	-0.03259	0.03790
TIME1	-0.18093	-0.23261	-0.08040	0.69465	-0.12783	0.14756	0.09197
IDENT3	0.03979	0.05000	0.11996	-0.05657	0.79239	0.08734	-0.07406
IDENT1	0.02186	-0.05113	0.11740	0.03747	0.79057	0.03228	0.09822
IDENT2	0.09014	0.02123	0.48565	0.09960	0.61670	0.03106	-0.05811
RISK2	0.00690	-0.02379	0.01590	0.28882	0.07514	0.79973	0.16117
RISK1	-0.19560	-0.05778	-0.12302	0.18084	0.06777	0.76837	0.06740
RISK3	-0.10022	-0.05430	-0.30203	0.17921	-0.01418	-0.67035	-0.08295
OBLIG1	0.26440	0.10137	-0.01257	0.05633	0.07121	0.12587	0.71943
OBLIG2	-0.04180	-0.06342	0.07595	0.29579	0.16828	0.27863	0.61637
OBLIG3	0.13519	-0.06210	-0.21581	0.03121	0.20891	0.00619	-0.78365

Figure IV-1

Rotated Factor Solution/ Lifestyle Variables

Table IV-3

Eigenvalues And Variance Explained,
Principal Components Analysis Of
Lifestyle Measures

Factor	Eigenvalue	Variance Explained	Cumulative Variance
1	5.80	.24	.24
2	3.35	.14	.38
3	2.24	.09	.47
4	1.82	.08	.55
5	1.43	.06	.61
6	1.32	.06	.67
7	1.00	.04	.71

Kaiser's Measure of Sampling Adequacy: .79

enjoyment. This statement loaded with other items pertaining to liking the Christmas season, rather than with those pertaining to Christmas shopping. However, because the first factor contained five measures of shopping enjoyment, this statement could be eliminated from further analysis without any detriment to the study.

The ultimate objective in examining these measures was to determine whether new variables could be created that represented a summation (index) of two or more measures of the same variable. Therefore, calculating theta for the principal components scale was not necessary. Rather, Cronbach's alpha was calculated for each scale. Appendix C lists the values of Cronbach's alpha for these seven scales, as well as the values that would result if items in each scale were deleted.

This analysis suggested several ways of improving internal consistency. First, items in scales 2,3,4, and 6 could be eliminated to improve internal consistency. Second, the last scale -- which measured whether consumers felt obligated to reciprocate while gift-giving -- did not achieve a sufficiently high value of Cronbach's alpha to warrant its retention for further analysis. Furthermore, no elimination of any single item on this scale would have improved its reliability.

Therefore, the reliability tests of the activity, interest and opinion scales led to the elimination of one statement on four separate scales, and of one scale in its entirety. Those statements that remained on each scale were then summed, and divided by the number of remaining statements, to create an index of each activity, interest or opinion that remained on the original scale on which the variables were measured.

E. VALIDITY AND RELIABILITY OF PARTS IV AND V

Parts IV and V of the survey contained questions measuring consumer media use and demographic characteristics. For the most part, each statement examined a different variable. Thus, measures of internal consistency were inappropriate in assessing reliability. The enhancement of reliability was therefore attempted by careful wording and revision of each question.

For example, rather than asking consumers how many magazines they read per month, respondents were asked two separate questions pertaining to magazine readership. The first of these asked consumers to indicate how many magazines they bought by subscription, and the second asked them how many magazines they bought at a newsstand

or store. Responses to these questions could then be summed, to provide an index of magazine readership. Hopefully, these two separate measures would provide a more accurate measure of this behavior than one general question.

However, one question -- which involved asking consumers to specify the number of hours they participated in various activities -- apparently could have been more clear. Most consumers interpreted this question as intended, but 28 consumers (or 14.6% of the sample) placed a check mark by the activities in which they participated, or left the question blank. Where this occurred, the researcher exercised careful judgment in translating these marks into numbers of hours for each activity. For example, if a person checked "work outside the home" and supplied a profession beside "student" or "housewife" in a later question, the number of hours worked was presumed to be 40.

Perhaps the reliability of this section would have been enhanced by including multiple measures of variables. However, the trade-off between including more measures and boring or tiring respondents was again considered. Because this survey had been pretested three times, and because it already required about 30 minutes to

complete, adding more measures might actually have decreased rather than enhanced reliability.

With respect to validity, the questions in these two sections were fairly standard measures of media use and of demographic characteristics. To aid in the construction of valid measures, other surveys measuring these constructs (such as a newspaper readership survey and the U.S. Census) were consulted. Thus, a comprehensive and clearly worded set of questions was ensured.

The discussion of reliability and validity for the entire survey indicates that almost every item on the survey was judged worthy of retention for the data collection phase of this study. Overall, the reliability measures for this survey -- especially the principal components analyses and internal consistency measures -- offered strong evidence that respondents were consistent in their responses.

The next chapter discusses the selection of appropriate statistics for this project, and then presents the results of these analyses.

CHAPTER V

RESULTS

This chapter presents the results of the statistical analyses that examined the research questions posed in Chapter II. The data describing the composition of the sample will first be examined. Next, a rationale for the statistical procedures chosen is provided. This chapter will then focus upon the findings of each statistical method employed. Ways of validating these findings will also be addressed.

A. DESCRIPTIVE STATISTICS

The statistics describing the sample were examined for two main purposes: 1) to determine if any of the variables exhibited a sufficient lack of response variance to dictate their elimination from the analysis; and 2) to describe the demographic composition of the sample.

Two SAS procedures were employed to generate these statistics. Appendix D presents the means of the variables that were ordinal-level or above.

To determine whether a variable would be retained for analysis, it was decided that if 90% or more of the values of any variable fell into one response category, that variable would be eliminated from further analysis. Although this rule is rather arbitrary, it certainly is the case that a variable with 90% of its values in one category is not exhibiting a very high degree of variance. As a result of this rule, six variables were eliminated. They are listed on Table V-1. These variables were: 1) consumers' use of "other" payment methods when shopping for Christmas gifts; 2) consumers' purchases of gifts through mail order advertising; 3) consumers' purchase of gifts from "other" places; 4) consumers' use of a file of gift ideas; 5) consumers' use of "other" shopping strategies; and 6) consumers' purchase of Christmas catalogs to be sent to their homes.

Half of these variables asked consumers to indicate whether they engaged in activities within a category labelled "other." Therefore, eliminating these variables from further analysis did not appear to result in any loss of information.

Next, the demographic composition of the sample was examined. Most of the demographic questions took the form

Table V-1

Variables Eliminated From Analysis

Variable Name	Values	Frequency	Percent
Pay for gifts by other means	0-20%	188	98.4
	21-40%	1	0.5
	81-100	2	1.0
Buy gifts through mail order	0-20%	181	94.8
	21-40	5	2.6
	41-60	2	1.0
	61-80	2	1.0
	81-100	1	0.5
Buy gifts at "other" places	0-20%	181	94.8
	21-40	3	1.6
	41-60	3	1.6
	61-80	1	0.5
	81-100	3	1.6
Kept a file of gift ideas	Did Not Use	186	97.4
	Used	5	2.6
Used "other" strategy	Did Not Use	182	95.3
	Used	9	4.7
Pay for catalogs to be sent to home	Yes	12	6.3
	No	179	93.7

of nominal or ordinal variables. In addition, some ratio-level questions -- which pertained to household size and the number and ages of children -- were also included. Table V-2 presents the frequencies or, where more appropriate, the means for these demographic variables.

To summarize this table, respondents exhibited the following demographic characteristics:

1) Age: Most of the respondents were between 20 and 54 years old. In fact, almost 77% of all respondents were between the ages of 20 and 44.

2) Sex: The majority (62.3%) of the sample was female.

3) Marital Status: Only slightly over half (53.9%) of the sample was currently married. About one-third of the sample had never been married, and 12.5% of the sample was separated, widowed or divorced.

4) Household Income: Although the sample was relatively young, respondents tended to have fairly high household incomes. Fifty-seven percent of the sample reported an income of $25,000+ a year. However, almost one-fifth of the sample (21.6%) reported incomes of less than $14,999 annually.

5) Number In Household: Household sizes tended to be small. Two-thirds of all respondents lived in households with three people or less. Almost one-half of all respondents lived in households with two people or less.

Table V-2

Demographic Composition,
Sample Of Consumers

Variable	Value	Percent
Age	<20	6.8%
	20-24	23.0
	25-34	29.8
	35-44	24.1
	45-54	11.0
	55-64	5.2
	65+	0.0
Sex	Male	37.7%
	Female	62.3
Marital Status	Never Married	33.5%
	Married	53.9
	Sep'd/Wid'd/Divorced	12.6
Income	<$14,999	21.5%
	$15,000-19,999	8.9
	$20,000-24,999	12.0
	$25,000-34,999	18.8
	$35,000-49,999	19.4
	$50,000+	19.4
Number In Household	1	14.7%
	2	35.6
	3	16.2
	4	18.8
	5	6.8
	6+	7.8
Religion	Catholic	6.8%
	Protestant	57.6
	Jewish	0.0
	Other/No religion	35.6

Table V-2, continued

Variable	Value	Percent
Profession	Managerial/ Professional	25.1%
	Technical/Sales	23.0
	Service	7.3
	Farm/Forestry,Fishing	1.0
	Production	2.6
	Machine Operator	5.8
	Other	35.1
Education	1-3 Yrs. High School	2.1%
	4 Yrs. High School	12.6
	1-3 Yrs. College	56.0
	4+ Yrs. College	29.3
Number Of Children	0	51.8%
	1	14.7
	2	17.3
	3	8.9
	4	4.7
	5+	2.6

6) Religion: The majority of the respondents (57.6%) are Protestant. Twenty-four percent reported an "other" religion.

7) Profession: Almost one-half of the sample reported occupations in the managerial/professional or technical/sales categories. In addition, over one-third of the sample indicated an "other" profession. Many respondents offered clues as to what this occupation might be, writing "student" or "housewife" on the survey.

8) Education: The majority of the sample (84.8%) reported having at least some college. Considering that about half of the sample was enrolled in the University of Tennessee Evening School, this finding is not too surprising. However, almost 30% of the sample indicated they had completed at least four years of college.

9) Number Of Children: Over one-half of the sample indicated they had no children. Another 32% indicated they had 1-2 children.

In summary, the "typical" respondent appears to be female, between the ages of 20-44, upper-income, with at least some college education, Protestant, and with about an equal likelihood of being married and having at least one child.

These findings were then compared with the 1980 demographics for the Knoxville SMSA (Table V-3). The differences that exist among the respondents to this study and the Census figures are as follows:

Table V-3

Selected Demographics, Knoxville SMSA

Variable	Value	Percent
Age	Less than 19 yrs.	6.2%
	20-24 yrs.	13.6
	25-34 yrs.	22.6
	35-44 yrs.	15.7
	45-54 yrs.	13.8
	55-64 yrs.	13.2
	65+ yrs.	15.1
Sex	Male	47.0%%
	Female	53.0
Marital Status	Never Been Married	23.7%
	Married	59.5
	Separated/ Widowed/ Divorced	16.8%
Income	<$14,999	50.2
	$15,000-19,999	14.2
	$20,000-24,999	11.4
	$25,000-34,999	14.3
	$35,000-49,999	6.6
	$50,000+	3.3
Average HH Size:		2.7
Education*	1-3 Yrs. High School	19.4%
	4 Yrs. High School	41.1%
	1-3 Yrs. College	17.4%
	4+ Yrs. College	22.1%
Average Number Of Children Per Family:		1.2

Source: U.S. Bureau Of The Census, 1984
Base: Adults 18+

1. The sample obviously overrepresented females. However, research indicates that the majority of Christmas shopping is done by women, so this result was not disconcerting.
2. The sample is also scaled toward upper-income, college-educated consumers;
3. The sample also features more single adults, as well as more adults in the "other" occupational category. However, the Census did not contain this category. Nevertheless, it is possible that a good number of Evening School students were enrolled either full or part-time, and considered their occupation to be that of "college student."
4. With respect to the number of people per household, and the number of children per family, the means for both the Census data and the sample were similar.

Having thus described the sample, the remainder of this chapter examines the results of each statistical procedure used for data analysis in this study.

B. CLUSTER ANALYSIS

"Cluster analysis" is somewhat of a misnomer, in that it implies there is one statistical procedure to perform clustering. Rather, the term is used to describe a diverse group of techniques that have been developed within a wide variety of disciplines. However, each clustering technique does tend to share the following characteristic:

> A clustering method is a multivariate statistical procedure that starts with a data set containing information about a sample of entities and attempts to reorganize them into relatively homogenous groups (Aldenderfer and Blashfield, 1989, p.7).

With the above definition in mind, clustering techniques can further be divided into techniques that cluster variables according to some specified similarities, or those that cluster observations. The former techniques are usually described under the rubric of "factor analysis," the latter under "cluster analysis" (SAS User's Guide: Statistics, 1985).

Because this study will cluster observations (consumers), discussion focuses upon cluster analysis. As

mentioned earlier, cluster procedures have been developed within a wide variety of disciplines, with relatively little overlap and to suit different research needs. Anderberg (1973) notes that six fields of study have simultaneously developed and employed cluster analytic techniques to aid classification of phenomena. These fields, and their uses of clustering, are listed below:

1) The life sciences, primarily to develop taxonomies and examine subspecies of flora and fauna. Anderberg (1979) notes that within these disciplines, cluster analysis is usually referred to as "numerical taxonomy" (p.6).

2) The medical sciences, to determine economical means for the diagnosis of disease;

3) The behavioral and social sciences, which have "provided the setting for an extraordinary variety of cluster analysis applications....[Topics have included] human judgment, test items, drug users, families, neighborhoods...languages, artifacts of ancient peoples and excavation sites" (Anderberg, 1978, p.5).

4) The earth sciences, to examine geological formations;

5) The engineering sciences, to examine similarities in formation of waves, signals, and circuits;

6) The information policy and decision sciences, to examine clusters of political and personnel decision and configurations.

The list above illustrates that while clustering techniques appear to be widely applicable, it could be difficult to compare and classify cluster procedures. Nevertheless, almost every clustering procedure provided by the popular computer statistical packages falls into one of two basic categories. These categories have been called "hierarchical" and "nonhierarchical." An understanding of their theoretical and practical assumptions is crucial, in order to determine which is appropriate for a given study. Therefore, each technique is described below.

HIERARCHICAL CLUSTER ANALYSIS

All clustering techniques that can be described as hierarchical share one common assumption -- that "every natural grouping of the objects can be expected to be an element of another grouping at a higher level" (Hawkins, et.al, 1982, p.307, emphasis added).

Hierarchical techniques can either begin with all observations in the same cluster, divide the data into clusters which share fewer and fewer common traits. These methods are called "divisive." Or, hierarchical cluster

techniques can begin with all observations in individual clusters, and end by placing them within the same cluster, as subclusters are combined along more general grounds. These methods are termed "agglomerative."

Furthermore, several divisive and agglomerative techniques are often available to the researcher. For example, SAS offers the user eleven agglomerative algorithms, which differ in the manner in which they calculate distances between clusters. Often researchers can examine the clusters generated by one or more of these algorithms and determine -- by examining a number of "stopping rules" -- the optimal number of clusters in the data.

NONHIERARCHICAL CLUSTER ANALYSIS

The second type of cluster analysis is "nonhierarchical" or "iterative partitioning." These techniques do not assume that subclusters of observations are nested among larger clusters. These methods calculate the Euclidean distances between cases. Unlike hierarchical methods, iterative partitioning techniques can reassign data to different clusters if the analysis

determines it is desirable to do so, in order to provide an optimal solution.

Anderberg (1973) notes that there are basically four steps to any iterative partitioning technique. These are:

> 1) Begin with an initial partition of the data set into some set number of clusters; compute the centroids (means) of these clusters;
>
> 2) Allocate each data point to the cluster that has the nearest centroid;
>
> 3) Compute the new centroids of the clusters; clusters are not updated until there has been a complete pass through the data;
>
> 4) Alternate steps 2 and 3 until no data points change clusters.

HIERARCHICAL VS. NONHIERARCHICAL TECHNIQUES

Clearly, the first major task facing any researcher is to decide whether to use hierarchical or nonhierarchical clustering techniques, or both. Before this decision could be made with respect to the present study, it was necessary to carefully evaluate and compare the assumptions of each technique.

Table V-4 summarizes the major theoretical assumptions, strengths and limitations of hierarchical and non-hierarchical methods in general. A few of these

Table V-4

Comparison Of Nonhierarchical Vs. Hierarchical Techniques

Hierarchical	Nonhierarchical
Theoretical Assumptions	
Assumes smaller clusters to be nested (evolutionarily related) within larger clusters	Assumes distinct, non-overlapping clusters
Strengths	
1. Results of many algorithms can be compared	1. Will make more than one pass through the data to find optimum solution
2. Requires only one pass through the data to generate a solution	2. Does not assume any nested structure of cluster
3. Can construct dendograms (tree diagrams) of clusters	3. Does not allow for overlap in clusters
4. Can use output for further analysis	4. Tend to be consistently superior at uncovering existing clusters, even with errors present
	5. Efficient means of clustering large data sets (n=100 to 100,000)
	6. Can use output for further analysis

Table V-4, continued

Hierarchical	Nonhierarchical
Weaknesses	
1. Hierarchical methods are not appropriate for data not nested (subspecies of greater species)	1. Must specify number of clusters in advance
2. Inconsistent at producing known cluster structure across different types of error-laden data	2. Sensitive to outliers
3. Cannot make more than pass through the data	3. Computationally impossible to perform all possible iterations of a data set
4. Unsure which hierarchical method appropriate for any specific type of data	4. Cluster centroid (seed) selection highly influences results
5. Clustering solutions are unstable if cases dropped from the analysis	5. Can only provide information about one cluster structure at a time

observations -- beginning with the theoretical assumptions of each -- deserve additional comment.

First, it is clear that the theoretical assumptions for each method are vastly different, and therefore should be carefully considered when deciding which technique is appropriate for a particular research problem.

In other words, the fact that hierarchical clustering assumes all data points share similarities at a higher level is not an assumption that should be easily dismissed. In fact, Hawkins, et. al (1982) note that with many data sets, "There is no apparent reason to insist on hierarchy" (p. 307). They offer the following example of what can occur if hierarchical clustering is imposed upon a data set where no cluster hierarchies exist:

> Consider the following objects, each with a single measurement:
>
> -2.2, -2, -1.8, -0.1, 0.1, 1.8, 2, 2.2
>
> which quite clearly displays three clusters. If however, we were to proceed hierarchically by first splitting the two "samples" so formed, the central cluster would be split yielding the clusters -2.2, 2, -1, -0.1 and 0.1, 1.8, 2 and 2.2. Further hierarchic splitting could not recover the clearly visible, compact, three clusters. To recover them using this hierarchic method, it

> would be necessary to continue to a four cluster solution...and then fuse these two clusters , which would run counter to the hierarchic approach.
>
> ...This trivial example illustrates a danger of using a hierarchic method when it is not appropriate for the data -- a poor allocation made at one stage of the analysis cannot be rectified later. Thus users should be very wary of using hierarchic methods if they are not clearly necessary. (Hawkins et al, 1982, p. 307)

Even if hierarchical methods were deemed suitable for a data set, researchers have found they are inconsistent in their ability to recover known clusters within data sets. Granted, some hierarchical algorithms -- notably, average linkage and Ward's minimum variance -- have consistently performed better than other hierarchical methods in Monte Carlo studies where cluster structure is known (Milligan and Cooper, 1985).

However, Milligan (1980) examined the performance of hierarchical and nonhierarchical techniques when subjected to five different error conditions. These were: 1) data sets with outliers; 2) error perturbation of the distances between clusters; 3) additon of random noise dimensions; 4) computation of the distances using a noneuclidean distance matrix and 5) standardization of the variables.

He found that the eleven hierarchical procedures examined were very inconsistent in their ability to recover the actual number of clusters within the various data sets. In other words, those techniques that could uncover the correct number of clusters within one error situation could not recover the correct number in another situation.

However, Milligan also noted that:

> The K-means [iterative] procedures were found to produce excellent recovery of cluster structure when the starting seeds were chosen using valid a priori information....In addition, the procedure was robust with respect to all types of error which were examined (1980, p.339).

Furthermore, one of the computational strengths of hierarchical techniques -- that it uncovers clusters after only one pass through the data -- is also one of its weaknesses. As noted above, several scholars (Hawkins, et al., 1982; Aldenderfer and Blashfield, 1989) warn that if a hierarchical method creates a poor initial partitioning of the data set, this condition can never be corrected to create a more valid cluster structure.

A final drawback to the hierarchical methods is that each algorithm is biased toward finding clusters with a particular shape, size and density. For example, the SAS

Institute (1985) notes that the average linkage algorithm "tends to join clusters with small variances and is slightly biased toward producing clusters with the same variance." (p.263). Conversely, "Complete linkage is strongly biased toward producing clusters with roughly equal diameters and can be severely distorted by moderate outliers" (p. 264). With these criticisms about hierarchical methods duly noted, the limitations of the iterative partitioning methods must also be examined.

Aldenderfer and Blashfield (1989) note that what they regard to be the most serious of all criticisms against these techniques is that it would be computationally impossible to examine all possible partitions of a data set for an optimal solution. The authors note that "for 15 cases and 3 clusters, this approach requires the examination of 217,945,728,000 unique partitions, clearly beyond the capacity of modern computers" (p. 46).

Furthermore, another problem -- specifying the number of clusters in advance -- is perplexing. One could state that if the cluster number was known in advance, there would be no need to conduct a cluster analysis!

Finally, iterative partitioning methods are highly sensitive to outliers. This is because the method selects

points from within its own data set to serve as initial "seeds," or the "first guess of the means of the cluster" (SAS User's Guide: Statistics, 1985, p.378). Therefore, if an outlier is chosen as an initial seed, the cluster solution can be invalid. Indeed, Milligan (1980) notes that if care is not taken to select accurate seeds, the number of clusters suggested by iterative partitioning can be as erroneous as that offered by the most ineffectual hierarchical methods.

Upon examining the weaknesses of both methods, the researcher may be tempted to feel "damned if you do, and damned if you don't." Fortunately, however, many of the limitations of iterative partitioning can be tempered by procedures designed to eliminate outliers and help the computer "sample a small subset of all possible partitions of a data set in the hope of finding, or at least approximating, the optimal partition of a data set" (Aldenderfer and Blashfield, 1989, p.46). In contrast, the problems with hierarchical analyses are more ingrained within those techniques.

Therefore, this discussion now turns to addressing the major weaknesses of iterative partitioning -- namely,

its sensitivity to outliers and the need to specify the number of clusters in advance.

SAS User's Guide: Statistics discusses a procedure to ensure that seeds are chosen which will more accurately represent the structure of the data. It recommends that a new data set be created that excludes outliers. Cluster seeds can then be selected from this set. The procedure for creating this new data set is as follows:

1. Conduct a preliminary iterative partitioning analysis, specifying a larger number of clusters than is believed to actually exist. This analysis can serve as a diagnostic tool, because clusters with only one member or few members can be interpreted as containing outliers.

2. Create a new data set, which eliminates clusters with one or a few members from analysis at this point. The SAS manual notes that "it often helps in seed selection to remove all clusters with small frequencies, even though the clusters may not be remote enough to be considered outliers" (SAS User's Guide: Statistics, 1985, p.385). It is from this new data set that initial cluster seeds will be selected.

3. Specify a value which "prevents an observation from being assigned to a cluster if its distance to the nearest cluster exceeds the value of the STRICT=option" (p.380). Therefore, outliers are not only prevented from being selected as seeds, but also from being assigned to clusters if they do not truly belong to one, or if they would severely distort the shape of the cluster.

With this new, outlier-free data set from which to select cluster seeds, the researcher can then determine the optimal number of clusters within the data set. SAS provides values of two "stopping rules" or heuristics that help the researcher know when the optimal clustering solution is found. These statistics are known as the "pseudo-F" and the "Cubic Clustering Criterion" (CCC). One can examine how the values of these "stopping rules" change with the number of clusters requested.

The pseudo-F statistic (Calinski and Harabasz, 1974) is computed as:

$$[\text{trace } B/(k-1)][\text{trace } W/(n-k)]$$

> where n and k are the total number of items and the number of clusters in the solution, respectively. The B and W terms are the between and pooled within cluster sum of squares and cross products matrices (Milligan and Cooper, 1985, p. 163).

SAS Institute explains this statistic has been labelled "pseudo-F" because it is not distributed as an F random variable. Rather, SAS User's Guide: Statistics (1985) points out:

> If the data were independently sampled from a multivariate normal distribution with a scalar covariance matrix, and if the clustering method allocated observations to clusters randomly (which no clustering method actually does), then the pseudo F statistic would be distributed as an F random variable (p. 268).

The pseudo-F statistic is generally interpreted such that the highest value indicates the optimal number of clusters. The statistic was also compared for its ability to uncover actual cluster structure in a Monte Carlo study performed by Milligan and Cooper (1985). The authors compared the performance of this method to 29 other "stopping rules." The authors found that the pseudo-F statistic accurately predicted the number of clusters 390 out of 432 times, for data containing 2, 3, 4, or 5 distinct overlapping clusters.

This 90.2% accuracy rate in predicting cluster structure was the highest among all 30 stopping rules tested, leading the authors to describe its recovery as "performing consistently across the varying number of clusters" (Milligan and Cooper, 1985, p. 169).

Finally, Sarle (1983) described a method he titled the "Cubic Clustering Criterion," which he noted is

> obtained by comparing the observed R-squared to the approximate expected R-squared using an approximate variance-stabilizing transformation. Positive values of the CCC mean that the obtained R-square is greater than would be expected of sampling from a uniform distribution and therefore indicate the possible presence of clusters (Sarle, 1983, p. 4).

Furthermore, the author gave more specific rules for interpretation of the CCC. Three of the most salient of these rules are as follows: 1) Like the pseudo-F statistic, peaks in positive values of the CCC indicate possible clusters; 2) the higher the value of the CCC (especially when it has achieved a level of 2.0 or greater), the more likely "good" clusters exist in the data and 3) CCC values are very sensitive to the presence of ouliers in the data, and will also vary depending upon the shape of the clusters. For example:

> Very distinct nonhierarchical spherical clusters usually show a sharp rise before the peak followed by a gradual decline... very distinct non-hierarchical elliptical clusters often show a sharp rise to the correct number of clusters followed by a further gradual decline (p.49).

The performance of the Cubic Clustering Criterion was also examined in the aforementioned Milligan and Cooper (1985) study. The criterion predicted cluster membership successfully in 321 of 432 tests. While this success rate of 74.3% is not nearly as high as that recorded for the pseudo-F statistic, the CCC nevertheless did place sixth among the 30 stopping rules examined. Milligan and Cooper note that

> It is reassuring to find that the index used in the SAS package... performed at a

> competitive rate. The criterion exhibited the highest rate of determining too many clusters seen so far, but it did produce a relatively low number of solutions with too few clusters. Thus, of the index makes a decision error, it is more likely to result in an incomplete clustering of the data (p. 169, 1985).

Therefore, the Cubic Clustering Criterion could be used as an indication of the number of clusters. However, because of its superior performance, the pseudo-F statistic should be viewed as a more reliable means of isolating the correct cluster structure within a given algorithm. Nevertheless, the Cubic Clustering Criterion has the added feature of providing information on the actual shape of the clusters.

From the discussion above and the nature of the data, it seems evident that nonhierarchical techniques should yield a more appropriate and valid clustering solution for this study. This conclusion is supported by the fact that there is no a priori theoretical reason why one type of Christmas searcher should be assumed to be "nested" within other types of searchers, as the theoretical basis for hierarchical clustering would imply. To take this argument to its extreme, using hierarchical cluster analysis solution for this data set would be similar to stating the assumption that there is one general

"species" of information-searcher, with several sub-species of searchers nested within it.

It is true that if certain types of information searchers exist, one type of searcher (e.g., one who uses newspaper and magazine advertising) might be similar to another (e.g., to one who uses the print editorial material). However, there is no reason to assume at this point that all information-searchers must be similar at some high level, with respect to the manner in which they use information sources.

However, it should be remembered that many authors warn against harboring the belief that any clustering procedure can produce a "best" solution. Rather, a researcher can only hope he or she has selected a clustering algorithm that is the most appropriate for a given project and produces interpretable and intuitively pleasing results.

RESULTS OF THE ITERATIVE PARTITIONING CLUSTER ANALYSIS

Having thus determined which cluster analytic procedure would be most appropriate, the next step is to actually conduct an iterative partitioning analysis, and

determine the optimal number of clusters that appear to exist.

Creation of a New Seed Data Set

The SAS procedure for iterative partitioning analysis was employed, specifying thirty clusters for the initial run (the exact number of clusters can vary, as long as it is vastly greater than the number of clusters actually expected to exist). Those clusters with one or a few members were presumed to contain outliers. These observations were then withheld from the new data set used to select cluster seeds.

Next, plots of two variables -- one measuring the gap between clusters and one relating to the frequency of observations within the clusters -- were requested. Examining the values of these variables can also prove enlightening, when attempting to determine where good cluster seeds might lie. Specifically:

> Outliers appear in the upper left area of the plot, with large values of _GAP_ and small _FREQ_ values. Good clusters appear in the upper right area, with large values of both _GAP_ and _FREQ_. Good potential cluster seeds appear in the lower right, as well as in the upper right, since large _FREQ_ values

indicate high-density regions (SAS User's Guide: Statistics, 1985, p. 385).

The results of this initial nonhierarchical cluster analysis are found on Table V-5. Plots of the values reflecting the size of the clusters and the gaps between clusters (with an overlay of the gaps between clusters by the radii of the clusters) are contained in Figure V-1. As Table V-5 indicates, the 30-cluster solution yielded 17 clusters that contained fewer than five observations. These 17 clusters contained a total of 42 observations. Therefore, 28% of the original observations were identified as outliers, and were eliminated from placement within the data set used to select initial cluster seeds.

Figure V-1 confirms that clusters with five or more observations are the cluster seed candidates. Obviously, the cluster with 41 members would contain a choice cluster seed. However, other clusters -- namely, those with 10 to 17 members -- should not be excluded from the analysis, because the behavior of their members with respect to information search could be quite interesting to examine.

Furthermore, it was noted that plots of gaps between clusters and of the size of cluster radii could be helpful in determining how much to control for the presence of

Table V-5

Statistics For Initial Cluster Analysis

Cluster Number	Frequency	RMS Std. Deviation*	Max. Distance From Seed To Observation	Centroid Distance
1	5	0.6166	2.1064	2.44
2	14	0.8111	3.4643	2.53
3	2	0.6288	1.4746	3.51
4	5	0.6862	2.2543	3.22
5	1		0	4.78
6	2	0.5387	1.2634	3.22
7	11	0.7752	3.4217	2.68
8	11	0.8106	3.4640	2.19
9	2	0.7218	1.6927	3.76
10	3	0.6645	1.9529	3.59
11	12	0.7221	3.0552	2.19
12	2	0.6185	1.4505	4.24
13	8	0.7024	3.0478	2.23
14	1		0	4.20
15	3	0.7820	2.2717	3.19
16	4	0.7217	2.4894	2.77
17	41	0.5888	2.8526	2.23
18	4	0.7806	2.6406	3.03
19	5	0.7872	2.6771	2.72
20	3	0.7928	2.2495	3.18
21	2	0.6797	1.5941	3.95
22	1		0	5.05
23	3	0.78779	2.3900	3.18
24	17	0.6479	2.5239	2.32
25	5	0.7305	2.4838	3.45
26	5	0.7305	2.4838	3.45
27	4	0.8325	3.2148	3.05
28	4	0.7289	2.3804	2.94
29	10	0.7896	3.2766	2.45
30	1		0	4.43

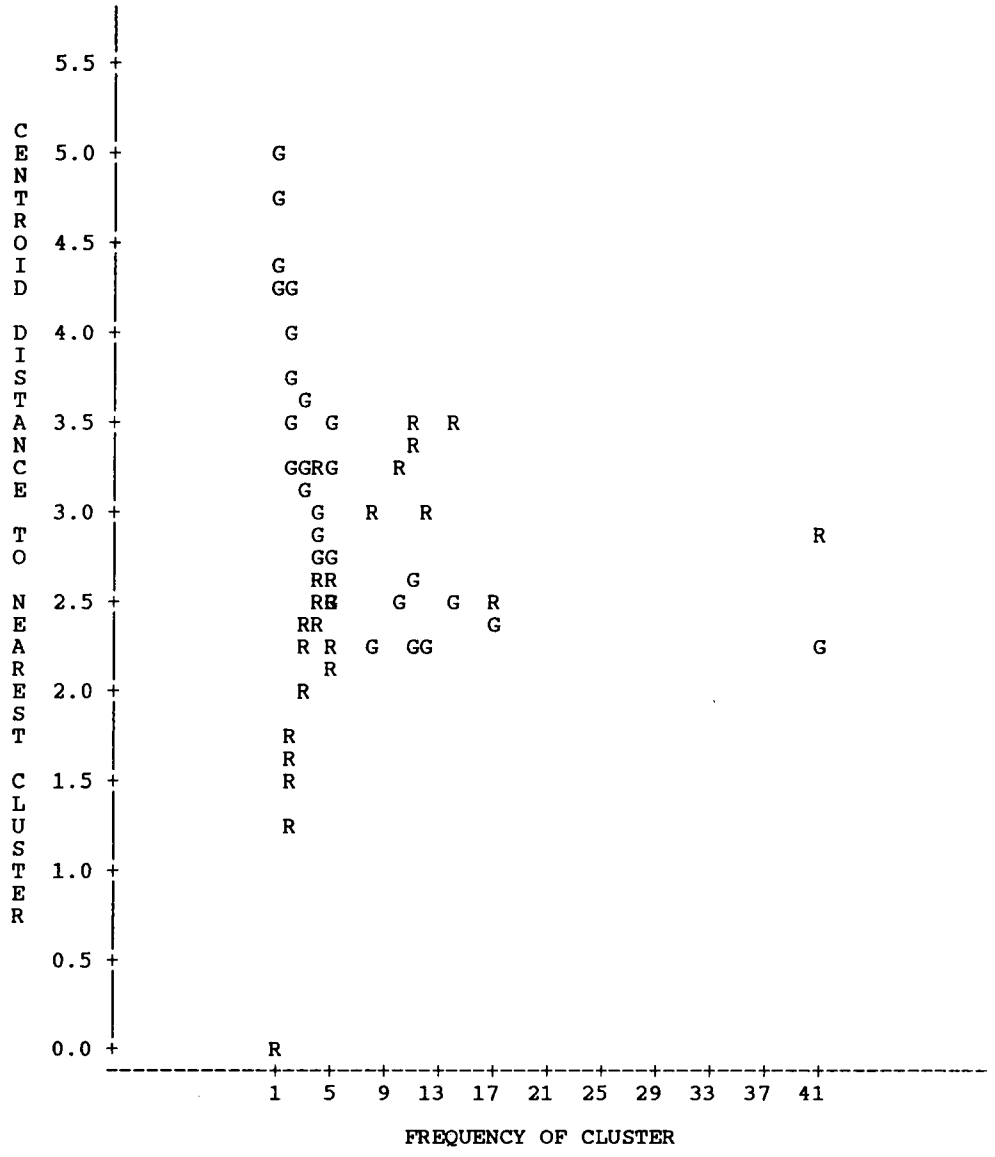


Figure V-1

Plot of Cluster Gaps By Cluster Frequencies

outliers in the analysis. Specifically, the value which permits data points to remain in the analysis if they are within a specified distance to a cluster mean, "is chosen to be close to the _GAP_ and _RADIUS_ values of the larger clusters in the diagnostic plot; the exact value is not critical" (SAS User's Guide: Statistics, 1985, p.394). This value was set at 3.5, slightly larger than the radius of the largest cluster.

The Optimal Number of Clusters

After creating a new data set consisting of good cluster seeds, the next step in the data analysis was to examine the optimal number of clusters selected by the iterative partitioning process. Again, it was recognized that there is no such thing as a "best" cluster solution because the cluster seeds selected and the restrictions upon the outliers always influence the final analysis. However, if representative cluster seeds are chosen and outliers controlled, the cluster solution produced will certainly be more representative and reliable than if these steps had not been taken.

In order to determine which number of clusters best described the data, the following steps were taken. The iterative partitioning procedure was run 20 separate times, with the maximum number of clusters specified ranging from 1 to 20 clusters. Outliers were excluded from the clusters formed by these runs.

Furthermore, SAS allows the user several options in selection of the data seed points to be used for every cluster run. For this first run, the default option was selected. This option will not consider an observation as a cluster seed unless it exceeds a specified minimum distance to previous seeds. In this case, the minimum distance was specified as the default (0). Thus, all values within the new seed data set were considered "fair game" as cluster seeds.

Furthermore, the number of iterations specified was set at 1 for this analysis. SAS User's Guide notes that it is perfectly acceptable to specify a few (or even no) iterations of the data because

> The initialization method of FASTCLUS guarantees that if there exist clusters such that all distances between observations in the same cluster are less than all distances between observations in different clusters, and if you tell FASTCLUS the correct number of clusters to find, it will always find such a

> clustering without iterating. Even with clusters that are not as well separated, FASTCLUS usually finds sufficiently good initial seed such that few iterations are required. (1985, p.378).

For each run, the values of the pseudo-F statistic and the CCC were compared. These values were then plotted on an overlay, to determine if they appeared to concur in identifying an optimal cluster solution. Figure V-2 contains this plot. It indicates that both of these values peak at a three-cluster solution. Furthermore, the fact that the CCC value is positive and greater than 3.0 supports the high F-value seen at three clusters.

In addition to examining how the values of the stopping rules changed, the observed R-squared produced by each cluster solution was also examined. This value can be plotted against the expected R-squared, to determine how much more variance was accounted for by a cluster solution than the null hypothesis predicted. As Figure V-3 indicates, the observed R-squared is almost 4% higher than expected for the three-cluster solution. This represents the greatest improvement in the observed over the expected R-squared for all eight cluster solutions generated.

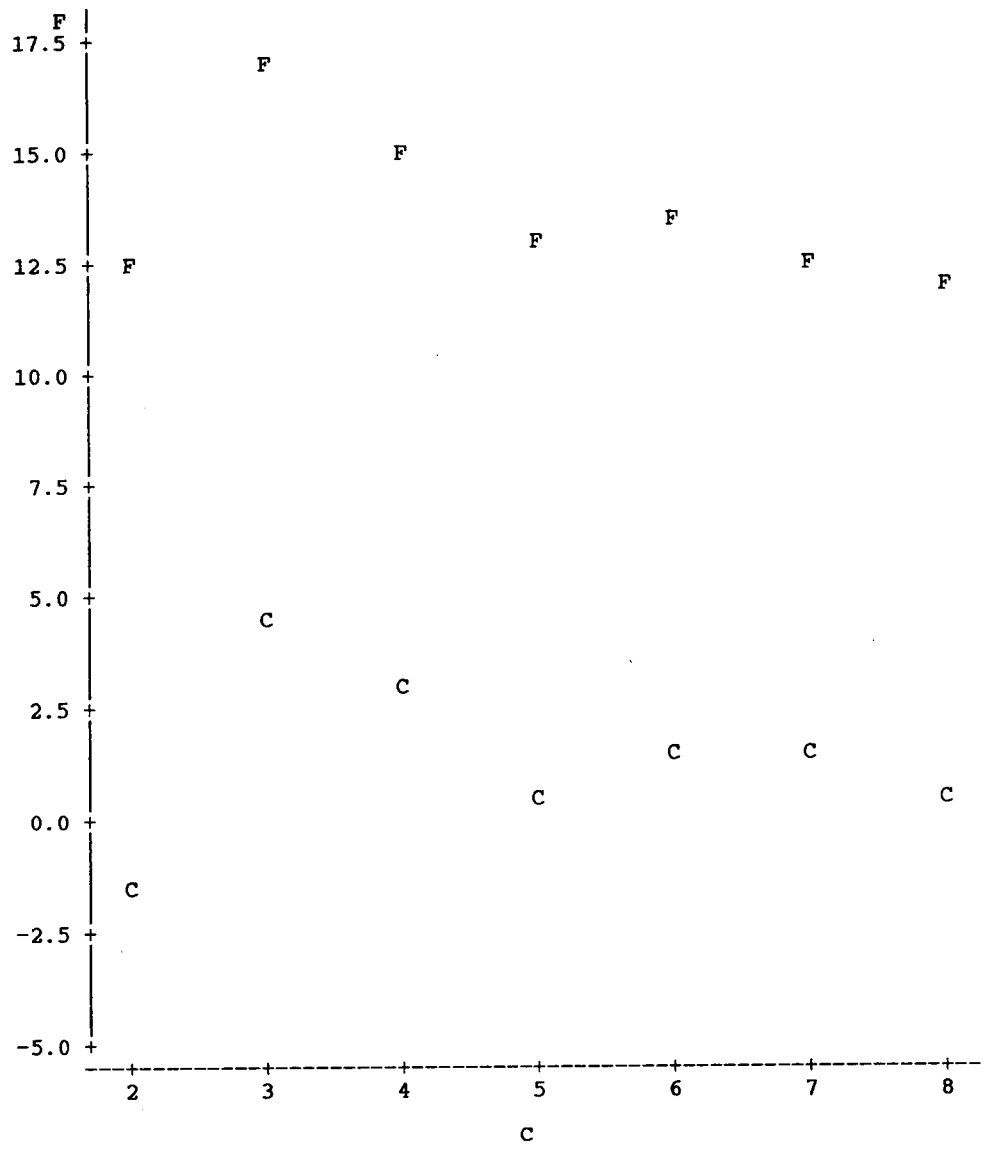


Figure V-2

Plot of Pseudo-F Statistics
and Cubic Clustering Criteria

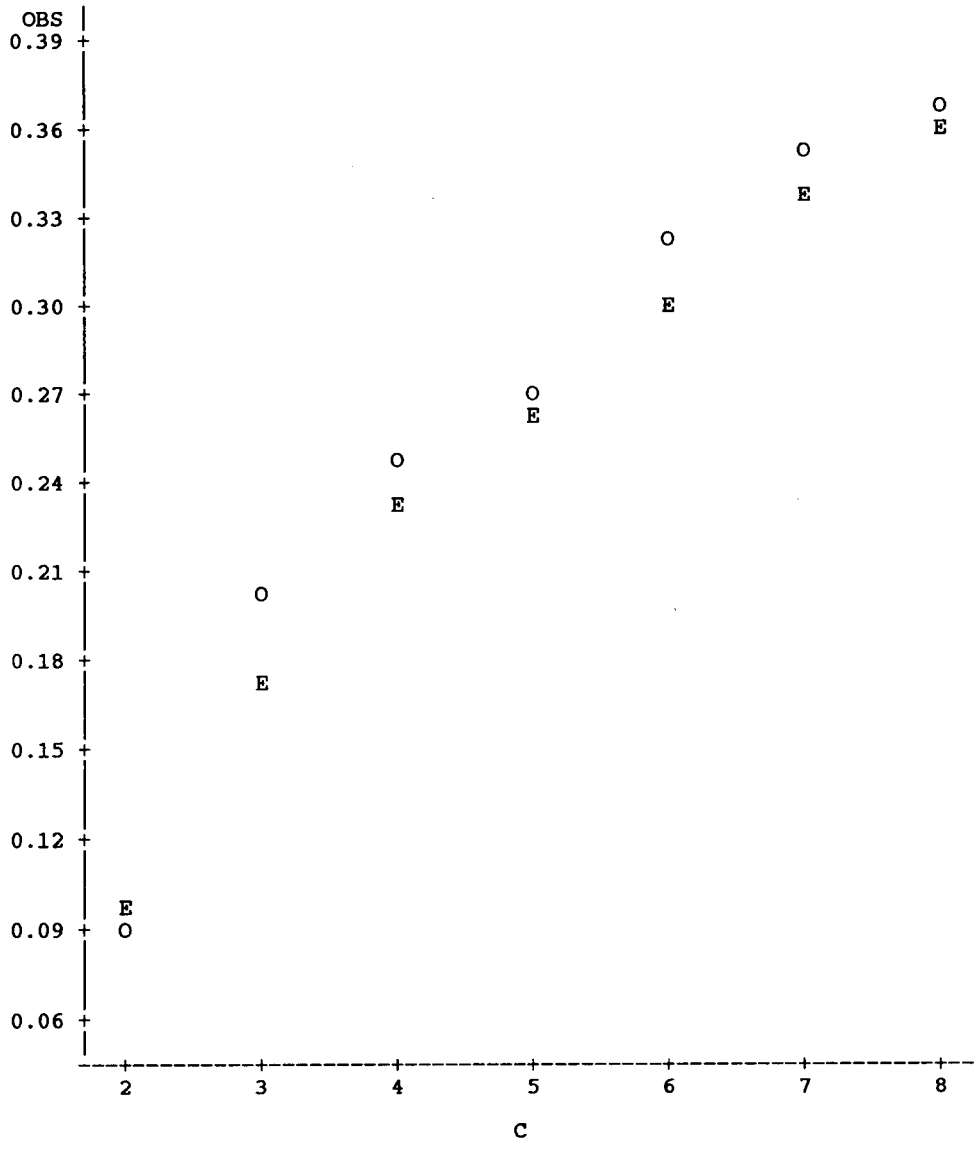


Figure V-3

Plot of Observed and Expected R-squared

Furthermore, as Figure V-3 indicates, the increase in variance explained jumps almost 12% from a two to a three-cluster solution. After this point, the proportion of variance explained builds slowly, and levels off at 37% for eight clusters.

Even though the analysis could have examined the formation of up to 20 clusters, the most that iterative partitioning analysis uncovered with the outliers excluded was eight. Thus, the solutions that requested from nine to twenty clusters were identical to the solution requesting eight clusters.

Therefore, the stopping rules and R-squared values all support a three-cluster solution. The frequency of observations in each cluster, as well as other relevant statistics -- are contained in Figure V-4. Before interpreting these statistics, a discussion of the validation procedures for this three-cluster solution is presented.

Validation of the Cluster Solution

Even though a three-cluster solution received the most support from the procedure described above, it is possible

CLUSTER NUMBER	FREQUENCY	RMS STD DEVIATION	MAXIMUM DISTANCE FROM SEED TO OBSERVATION	NEAREST CLUSTER	CENTROID DISTANCE
1	65	0.8003	3.4357	2	1.8906
2	54	0.7252	3.3246	1	1.8906
3	18	0.6984	3.0800	1	2.7548

54 OBSERVATION(S) WERE NOT ASSIGNED TO A CLUSTER
BECAUSE THE MINIMUM DISTANCE TO A CLUSTER SEED
EXCEEDED THE STRICT= VALUE

FASTCLUS PROCEDURE

PSEUDO F STATISTIC = 17.03
OBSERVED OVER-ALL R-SQUARED = 0.20270
APPROXIMATE EXPECTED OVER-ALL R-SQUARED = 0.16733
CUBIC CLUSTERING CRITERION = 4.311
WARNING: THE TWO ABOVE VALUES ARE INVALID FOR CORRELATED VARIABLES

Figure V-4

Statistics for the Three-Cluster Solution

that this solution could misrepresent the actual cluster structure, since cluster seeds were selected from 146 data points. To examine whether this was the case, the following procedure was implemented.

Ten separate computer runs were conducted to select initial seed points randomly. This option had the effect of randomly selecting cluster seeds from the available data set of 146 observations. Furthermore, for each computer run, the maximum number of clusters desired ranged from two to twelve. Therefore, the end result was the creation of ten separate runs -- each of which independently recommended the number of optimal clusters to accept for this data. If most of these runs supported a three-cluster solution, then that solution could be described as the most valid (given the number of iterations and restrictions on the outliers specified) for this data set.

The reason that the maximum number of clusters to be examined was set at twelve was because the original cluster analysis had found no more than eight clusters. Thus, to save computer resources, it was believed that specifying a maximum of twelve clusters would be sufficient.

Based upon the values of the Cubic Clustering Criterion and the Pseudo-F statistics, the ten computer runs chose optimal cluster solutions as follows: one solution identified two clusters, five solutions identified three clusters, two solutions identified four clusters, one solution identified five clusters and one solution identified two or five clusters (values of the stopping rules were quite close for both of these solutions). Plots of the CCC and pseudo F values for these solutions are found in Appendix E.

Thus, in terms of generating the same number of clusters as the original solution, the runs with randomly selected seeds appeared to support a three-cluster solution. In addition, all runs that did not specify three clusters as optimal selected cluster solutions that were close to this number.

However, a better way to validate this three-cluster solution is to examine whether the six runs that suggested three clusters (the original run plus the five random-seed runs) assigned the same members to these clusters. Thus, a list of the assignment of observations to clusters was requested for each of these six solutions. These lists could be compared, to determine the percentage of

observations assigned to the same cluster across solutions.

Table V-6 lists the number of observations in each of the three clusters. Table V-7 lists the percent agreement in the assignment of observations to clusters. This table reveals that such assignment is fairly consistent. The average percent agreement for all cluster solutions is 72% In addition, the solution generated by original seed specification procedure seems to exhibit consistent agreement with each of the clusters.

However, some of the cluster solutions with random seeds exhibit less agreement with each other. This condition is due mainly to the difference in the cluster structures of solutions 5 and 6.

Thus, half of the cluster solutions with randomly generated seeds support a three-cluster solution, both in terms of the number of clusters found and their agreement as to actual cluster membership. The original solution specifying full seed replacement agreed highly with the membership of all random solutions. Therefore, the output of the original solution was retained.

Table V-6

Number Of Observations Assigned To Each Cluster: Six Three-Cluster Solutions

Solution	Cluster 1	Cluster 2	Cluster 3
Original	65	54	18
Random Solution 1	90	24	17
Random Solution 4	82	33	19
Random Solution 5	80	36	17
Random Solution 6	90	24	17
Random Solution 8	71	41	21

Table V-7

Calculation Of Overall Agreement Among
Full And Random Cluster Solutions

	CL1	CL2	CL3	Overall
Full/Random 1	58%	68%	90%	68%
Full/Random 4	59%	68%	92%	73%
Full/Random 5	79%	80%	94%	81%
Full/Random 6	72%	63%	97%	73%
Full/Random 8	75%	73%	90%	76%
Random 1/Random 4	100%	99%	93%	98%
Random 1/Random 5	67%	42%	85%	60%
Random 1/Random 6	58%	67%	85%	65%
Random 1/Random 8	69%	90%	91%	84%
Random 4/Random 5	73%	12%	91%	60%
Random 4/Random 6	83%	13%	94%	69%
Random 5/Random 6	89%	68%	97%	85%
Random 5/Random 8	22%	60%	87%	53%
Random 6/Random 8	75%	12%	89%	61%
Average Agreement:	70%	58%	91%	72%

Interpretation Of Clusters

Now that evidence has been offered which supports the validity of a three-cluster solution, the issue becomes whether -- from a research and managerial point of view -- this solution offers interpretable and interesting results. To answer this question, the means of the factor scores for each cluster generated by the original solution were examined. These means are included in Table V-8. The means of these standardized factor scores can be interpreted such that the higher the mean, the more a factor (here, an information source) was deemed important by consumers within a given cluster. Conversely, factor means that are high but negative indicate that consumers avoided certain information sources.

Given this explanation, the three clusters of information searchers do appear to exhibit distinct patterns of behavior. Specifically, consumers in Cluster 1 could be described as "selective" information users. High positive cluster means for this group occur for catalogs, newspaper ads, television commercials and newspaper and/or magazine articles. While three out of four of these sources are print media, it is interesting

Table V-8

Cluster Means/ Original Three-Cluster Solution

Cluster	N	Factor	Factor No.	Mean
1	65	Catalogs	3	.58
		Newspaper Ads	9	.24
		TV Commercials	11	.19
		Newspaper and/ or Magazine Articles	4	.13
		Friends and/ or Family	7	.03
		In-store Displays	5	-.15
		Receivers	10	-.24
		Salespeople	6	-.25
		TV Shows	1	-.30
		Radio Ads	2	-.31
		Magazine Ads	8	-.39
2	54	Salespeople	6	-.03
		Magazine Ads	8	-.03
		Receivers	10	-.06
		Radio Ads	2	-.06
		Friends and/ or Family	7	-.07
		In-store Displays	5	-.15
		TV Shows	1	-.30
		TV Commercials	11	-.42
		Newspaper and/ or Magazine Articles	4	-.49

Table V-8, continued

Cluster	N	Factor	Factor No.	Mean
		Catalogs	3	-.66
		Newspaper Ads	9	-.75
3	18	TV Shows	1	1.80
		Newspaper Ads	9	.61
		Magazine Ads	8	.60
		Radio Ads	2	.47
		Salespeople	6	.45
		Receivers	10	.36
		In-store Displays	5	.23
		Newspaper and/or Magazine Articles	4	.20
		Catalogs	3	.14
		TV Commercials	11	-.25
		Friends and/or Family	7	-.27

to note that this cluster appears to clearly avoid magazine ads. Likewise, members in this cluster do not appear to use information available in stores (from salespeople or displays), nor do they use information available from interpersonal sources.

Cluster 2 clearly displays what could be called "non-searching" behavior. Specifically, the cluster mean for every information search variable is negative. In addition, those media that receive the highest negative ratings were the ones rated most used by the members in Cluster 1. Therefore, consumers in Cluster 2 appear almost to be avoiding all of the media used by consumers in Cluster 1.

Finally, Cluster 3 can be described as containing "eclectic" searchers. Members of this group apparently use almost all media sources -- except friends and family and television commercials -- available to them. Furthermore, this cluster reported a great dependence upon television news and/or information programs for information. In addition, they reported high use of newspaper ads, magazine ads, radio commercials, receivers and display information. This cluster was very stable across the randomly generated three-cluster solutions.

One other way to interpret these factor means across clusters was to examine whether all of the clusters agreed with respect to their use of an information source. If so, then that source could be viewed as redundant to the analysis, in that its use did not vary across clusters. However, there was no consistent agreement in means of the information search variables across the three clusters. Thus, each source was used differently by at least one cluster.

Therefore, it appeared that three clusters of information searchers exist among this sample. Cluster 1 contains 65 "selective" information searchers (47.5% of all consumers clustered). Cluster 2 contains 54 "non-searchers" (39.4% of all consumers clustered). Cluster 3 contains 18 "eclectic searchers" (13.1% of the consumers clustered). Furthermore 54 consumers, or 28.3% of the original sample, were outliers.

Now that interpreting a three-cluster solution appears meaningful, the next stage is to perform a discriminant analysis, to determine whether demographic, psychographic, media usage and shopping variables proved to distinguish members among the various clusters. A brief discussion of this technique will follow.

C. DISCRIMINANT ANALYSIS

Like the term "cluster analysis," discriminant analysis is often used to describe a number of related statistical techniques. Yet the ultimate objective of any discriminant technique is to allow "the researcher to study the differences between two or more groups of objects with respect to several variables simultaneously" (Klecka, 1980, p.7).

Discriminant techniques can be used in three ways. One is to classify individuals into mutually exclusive and collectively exhaustive groups, based upon differences in their scores on certain variables. Morrison (1974) gives examples of how this technique has been used in a marketing context:

> [B]asing our decision on an individual's income, occupation, homeownership, and so forth, we may wish to classify him as either a good or bad credit risk. In another case, we may wish to classify someone as an early trier, a late trier or a nontrier of a newly marketed consumer product. We might also want to classify automobile owners as loyal to nationally advertised or cut-rate gasoline (p.2-442).

Discriminant analysis is also used to interpret differences among clusters. Klecka (1980) notes that in this regard, the researcher must address three questions. Namely, can one discriminate between groups on the basis of some set of characteristics? If so, how well do these variables discriminate? Finally, which variables prove to be the most powerful discriminators?

Finally, a procedure known as "stepwise" discriminant analysis can help the researcher determine which variables among a larger set actually serve to best distinguish groups. Klecka (1980) notes that researchers "often encounter situations in which they have several potential discriminating variables but they are uncertain whether all of them are valuable and necessary" (p.52). However, any given stepwise procedure will examine only a few pairs of variables out of all possible combinations that exist. Therefore, the discriminant model generated should be considered optimal rather than maximal.

STEPWISE PROCEDURES FOR THIS STUDY

The three uses of discriminant analysis can be combined in one study. Specifically, one could first perform a stepwise procedure to generate an optimal model

containing discriminant variables. Next, one could examine how well this model correctly classifies subjects into known groups. Assuming the performance of the model is judged to be adequate, one could examine how values of the discriminant variables aid in interpreting group differences.

The above procedure is appropriate to use in this study because over 40 demographic, psychographic, lifestyle and media use variables were examined. Yet there was no assumption that each variable could discriminate among cluster members. Therefore, it was appropriate to begin with a stepwise procedure and test how well the model that it suggests classifies consumers into known clusters. Should this procedure prove relatively accurate, differences between groups could then be interpreted.

Selection of Stepwise Algorithm

SAS offers three stepwise algorithms: forward selection, backward selection and stepwise selection. Forward selection begins with a model containing no discriminant variables, and at each step enters the variable that contributes most to the

discriminatory power of the model. When no remaining variable meets the entry criterion, the forward selection process stops (SAS User's Guide, 1985, p.750).

Stepwise selection is a derivative of forward selection, with the added dimension of removing variables that have lost discriminating power once other variables have entered the model.

In contrast, backward selection begins with all variables in the model, and at each step removes the variable with the least discriminatory power. When all remaining variables have met the specified significance level to stay in the model, the procedure is complete.

The choice of algorithm depends upon how restrictive the researcher wants the stepwise model to be. One could state that because this is an exploratory study, the least restrictive procedure (namely, backward selection) would be acceptable. However, it would also be plausible to generate a more conservative model through forward or stepwise selection, and simply allow variables that are significant at higher level than the standard "$p < .05$" criterion to remain in the model. Indeed, it is often noted that for exploratory studies, a more relaxed p value (say, of $p < .10$) is acceptable.

For this study, the following procedure was chosen. A stepwise discriminant analysis using stepwise selection of variables was conducted. This procedure allowed the researcher to see if any variables that began as potentially good discriminators would ultimately be eliminated from the model. However, the significance level for a variable to stay in the model would be relaxed to $p < .10$. This procedure was felt to be a good compromise among the choices of restrictive models and significance levels that could have been used.

For the purpose of the computer analysis, however, the significance levels that would allow a variable to both enter the model and remain in the model were set at .15. The SAS User's Guide recommends placing the value of these significance levels at between .10 and .25, in order to "choose the model that provides the best discrimination using the sample estimates" (p. 750). Maintaining the significance level for a variable to stay in the model at .15 would enable the researcher to examine which variables approached significance, even while ultimately retaining only those variables whose probability of occurrence was less than .10.

Treatment of Variables

In addition to the choice of algorithm, another choice had to be made regarding precisely how to enter the potential discriminators into the stepwise model. Specifically, there were four ways in which these discriminating variables could be examined. First, the raw data for all 41 variables that were potential discriminators could be entered. However, a concern with this method is that correlations among the variables would not be accounted for. In other words, the influence of the variables highly correlated with those chosen as discriminators would not be visible.

A second means of performing the stepwise discriminant analysis would be to first perform a factor analysis on all discriminating variables. This procedure would allow those variables that are highly correlated to be treated as one potential discriminator. However, a problem arises when considering what a factor analysis might mean with respect to demographics. This procedure might actually overgeneralize the relationships among these variables.

A third procedure would be to perform a factor analysis on all variables but the demographic measures,

and then conduct a stepwise discriminant analysis using both the resulting factors and the demographics as input.

Finally, four separate stepwise discriminant procedures -- each examining the discriminating power of either the shopping, media, demographic or lifestyle variables -- could be conducted. Furthermore, all variables except for the demographics could be factor analyzed prior to being entered into their respective stepwise procedures.

To determine which of these four procedures would be optimal, a statistician was consulted. (2) This person recommended examining the output of both the full model (with all variables except the demographics first factor analyzed) and the four separate models (one for each set of potential discriminators), and comparing the results. He noted that with an exploratory study such as this one, it is perfectly appropriate to examine the influence of each set of potential discriminating variables in a separate stepwise model.

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2. I am indebted to Dr. John Philpot, Professor of Statistics at the University of Tennessee, Knoxville, for his advice on this matter.

However, he also warned that generating four separate models essentially "stacks the deck in one's favor," because the researcher then has not one, but four, chances of finding statistically significant discriminant variables. In other words, the lack of competition from other variables in the full model might cause variables to emerge in the four separate models that are not really powerful discriminators.

Therefore, the results of both the full-model solution and the four separate models will now be presented. After these models are generated, the ability of each model to classify consumers into their correct cluster will be examined.

RESULTS OF THE FULL-MODEL SOLUTION

The first step in conducting the stepwise procedure on the full model was to factor analyze -- via a principal components analysis -- all potentially discriminating variables except the demographics. As Appendix F indicates, these variables were thus reduced to the 15 factors with eigenvalues greater than 1.0. These factors accounted for 31% of the variance.

Most of the factors that emerged from this analysis appeared to be intuitively plausible. Factors 1, 2, 3, 4, and 6 were also created by the original principal components analysis of the lifestyle variables. However, in this new analysis, variables relating to the gift-giving motivations of social bonding and identity formation factor together instead of remaining independent. Thus, for those 137 consumers who were classified into a cluster, the variables of using gifts to bond socially and using gifts to reinforce identity are more interrelated than when the responses of the outlying consumers are included.

Within the factors relating to shopping variables, several interesting variable patterns emerge. The first of these -- Factor 5 -- could be labelled "Payment Method." Specifically, use of general and retail credit cards loaded positively on this factor, while paying for gifts by cash or check loaded negatively. The second shopping factor could be called "Size Of Buying Task" (Factor 7). Variables with high loadings on this factor included number of gifts bought, number of Christmas activities in which consumers participated, amount spent on gifts and number of shopping trips. Use of specialty

stores -- possibly because of their limited selection of gifts -- loaded negatively in this factor.

Four less complex shopping factors also emerged. While most of these appeared to be logical, it was not immediately clear why consumers who shop at supermarkets or drugstores for gifts also used catalogs. This factor could tentatively be titled "Alternative Shopping Methods."

Four media-related factors also emerged. The first of these -- "Cable Television Viewing" -- had high loadings for both subscribing to cable and watching it regularly (FACTOR 8). Second was a newspaper usage factor (FACTOR 9). Factor 10 could be called an "other broadcast" factor, containing high loadings for time spent with network television and radio. Finally, FACTOR 15 contained the variable pertaining to time spent with magazines. Interestingly, the variable pertaining to number of magazines purchased in a typical month loaded higher (but negatively) with the factor relating to social risk.

These 15 factors, along with the nine demographics of education, age, number in household, number of children, marital status, income, average age of children, hours per week spent on activities, and sex of the respondent --

were input as potential discriminators into a stepwise discriminant analysis.

This analysis indicated that ten variables were retained by the stepwise procedure, eight of which were significant at $p<.10$ or below (Table V-9). The variable relating to newspaper readership (FACTOR 9) was the most powerful discriminator among the groups. Next was the variable relating to "Alternative Shopping Methods." After the Education variable, the factor pertaining to the gift-giving motivations of identity and social bonding was retained. Age and number of children followed. The final two discriminators produced by this model were the Payment Methods factor and the Cable Television factor.

Before examining the validity of this model, the results of the four stepwise solutions for the separate models will be examined.

RESULTS OF THE FOUR-MODEL SOLUTION

The "Shopping" Solution

The factor analysis on the shopping variables alone revealed six factors (Figure V-5). For the most part, these factors were identical to those shopping factors

Table V-9

Stepwise Discriminant Solution, Full Model

Step	Variable Entered*	Partial R**2	F	PROB> F
1	Factor 9 (Newspaper)	.1232	9.413	.0001
2	Factor 14 (Alternative Shopper)	.1100	8.221	.0004
3	Education	.0615	4.322	.0152
4	Factor 3 (Identity/Bonding)	.0491	3.384	.0369
5	Age	.0419	2.842	.0619
6	Number Of Children	.0776	5.426	.0059
7	Factor 5 (Payment Method)	.0491	3.332	.0388
8	Factor 8 (Cable Television Usage)	.0456	3.055	.0506
9**	Factor 1 (Liking to Shop)	.0311	2.039	.1345
10**	Average Age Of Kids	.0303	1.968	.1441

*PROC STEPWISE also gives a summary of variables removed at later stages of the discriminant analysis. For this particular analysis, no variables were removed.
**Not retained in model because p>.10

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	
GENCRED	0.78690	0.11652	-0.10524	-0.15841	0.14155	0.11922	PAID WITH GEN CREDIT CARD
STRCRED	0.65604	-0.16174	0.11947	0.33032	-0.04028	0.12633	PAID WITH STORE CREDIT CARD
CASHCHK	-0.81803	-0.23652	0.03233	0.10460	0.15183	0.13441	PAID BY CASH OR CHECK
NOBOUGHT	-0.08320	0.74867	0.06219	0.04757	-0.03032	0.17661	NUMBER PEOPLE GIFTS BOUGHT FOR
SPENDGIF	0.17868	0.62437	-0.18700	-0.08137	-0.15554	0.04780	AMOUNT OF MONEY SPENT ON GIFTS
SHOPTRPS	0.21553	0.61999	-0.14529	0.23115	0.18734	-0.27051	NUMBER OF SHOPPING TRIPS
DEPTSTOR	-0.10557	-0.02609	0.74225	0.22778	-0.07123	0.21266	BOUGHT FROM DEPARTMENT STORE
STRTSHOP	0.09677	-0.27144	0.68039	-0.32467	0.14122	-0.04882	WHEN STARTED XMAS SHOPPING
LAYAWAY	-0.02398	-0.05334	0.03095	0.78072	-0.11279	-0.17485	PUT STUFF ON LAYAWAY
DISCSTOR	0.00083	0.26284	-0.05175	0.63748	0.21988	0.21778	BOUGHT FROM DSCOUNT STORE
SPECSTOR	-0.07398	-0.21887	-0.12357	-0.10589	0.70769	0.13016	BOUGHT FROM SPECIALTY STORE
ENDSHOP	0.26608	0.00660	0.35587	0.05095	0.61015	-0.31546	WHEN FINISHED XMAS SHOPPING
STRAT	-0.08386	0.37793	0.02288	0.15751	0.49740	0.08867	
SUPERDRG	0.06066	0.14373	0.14810	-0.03650	0.04097	0.81090	BOUGHT FROM SUPERMKT OR DRUGSTORE
CATALOG	0.38658	-0.14771	-0.41030	0.09735	0.09216	0.44493	BOUGHT FROM CATALOGS

Figure V-5

Rotated Factor Pattern/ Shopping Variables

that emerged in the full model. However, the variable "shopping strategy" factored with use of a specialty store and completion date of shopping, rather than by itself.

Table V-10 summarizes the stepwise solution on these factors. Three variables were retained at the $p<.10$ level. These were: Factor 6 ("Alternative Shopping"), Factor 4 ("Bargain Shopping") and Factor 2 ("Size of Shopping Task").

The "Media Use" Solution.

The factor analysis of the media usage variables retained three factors with eigenvalues greater than 1.0. Factor 1 could be called a "Print" factor, with all statements relating to newspaper and magazine use loading high on this factor. Factor 2 is the "Cable Television" factor, and Factor 3 is the "Other Broadcast" factor that also appeared in the full model. Figure V-6 contains the details of this analysis.

The stepwise discriminant procedure retained two of these factors at a level of $p<.10$ -- Factor 1 (Print Media) and Factor 2 (Cable Television). Both of these factors had also been retained in the stepwise analysis on the full model. (Table V-11)

Table V-10

Stepwise Discriminant Analysis,
Shopping Variables Only

Step	Variable Entered	R**2	F	Prob>F
1	Alternative Shopping Factor 6	.098	7.31	.0010
2	Bargain Hunter Factor 4	.049	3.42	.0356
3	Size Of Task Factor 2	.0408	2.810	.0638

	FACTOR1	FACTOR2	FACTOR3	
TIMENEWS	0.72730	0.03365	0.04221	amnt time spent with news
TIMEMAGS	0.61051	0.32536	0.46813	amnt mag time per day
READNEWS	0.59760	-0.28412	-0.21933	NO TIMESWK READ NEWSP
ALLMAGS	0.58994	-0.23012	-0.17392	
SUBSCABL	-0.15142	0.89243	0.10751	do you get cable tv
TIMECABL	0.05312	-0.77976	0.45408	AMNT CABLE PER DAY
TIMENET	0.03225	-0.10592	0.82437	amnt network tv per day
TIMERAD	-0.20095	-0.00361	0.67257	AMNT RADIO TIME PER DAY

Figure V-6

Rotated Factor Pattern/ Media Variables

Table V-11

Stepwise Discriminant Analysis,
Media Variables Only

Step	Variable Entered	Partial R2	F	Prob>F
1	Print Media (F1)	.0499	3.518	.0324
2	Cable TV (F2)	.0461	3.212	.0434

The "Lifestyle" Analysis

Figure V-7 contains the results of the factor analysis on the lifestyle variables alone. The groupings of these variables were quite similar to those produced by the full model. Namely, all of the variables relating to a specific construct grouped on the same factor.

In addition, the variable measuring the number of Christmas activities in which a consumer participated loaded positively with the factor "Love Christmas," which is logical.

As with the factor analysis on the full model, the variables measuring both consumers' motivations to give as a way of social bonding and their motivations to give as a way of shaping the identity of the receiver loaded together.

The stepwise procedure on these factors retained three as discriminators (Table V-12). The factor relating to "Risk" (Factor 5) was the largest discriminator between groups, followed by "Identity/Social Bonding (Factor 3) and "Liking to Shop" (Factor 1).

The "Demographics" Solution

Nine demographics were examined. Two variables that were originally included -- namely, profession and

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
LIKSHOP2	0.92731	0.02409	0.03287	-0.06761	-0.04518
LIKSHOP1	0.91955	0.15840	0.01133	0.00325	0.01291
LIKSHOP3	0.88157	0.21005	-0.00104	-0.03907	-0.06927
XMASSHP1	0.65298	0.46602	0.10526	-0.23790	-0.11525
XMASSHP3	0.63386	0.52235	-0.01175	-0.19134	-0.12962
LOVXMAS1	0.04558	0.87039	0.04524	-0.06394	-0.03993
LOVXMAS3	0.27214	0.81428	0.01616	-0.17418	-0.01901
LOVXMAS2	0.13668	0.81012	0.17587	-0.15110	0.02145
NUMACTS	0.15098	0.59750	-0.11931	0.07422	-0.34993
XMASSHP2	-0.34255	-0.59986	-0.03285	0.21413	0.29054
IDENT2	0.01946	0.00369	0.78912	0.12981	0.00274
BOND1	0.13204	0.11433	0.73419	0.02702	-0.15794
BOND2	0.00233	0.24496	0.69656	0.04482	-0.00712
IDENT3	-0.07889	-0.09382	0.66923	-0.08845	0.17066
IDENT1	0.02339	-0.09161	0.64706	0.06774	0.31332
TIME3	-0.05641	-0.06788	0.08591	0.90048	0.07349
TIME2	-0.06500	-0.05618	0.13379	0.80223	0.25204
TIME1	-0.14608	-0.31531	-0.05194	0.72456	0.02121
RISK2	0.04253	-0.08864	0.13408	0.20401	0.83321
RISK1	-0.18394	-0.14518	0.03400	0.10953	0.83209

Figure V-7

Rotated Factor Pattern/ Lifestyle Variables

Table V-12

Stepwise Discriminant Analysis,
Lifestyle Variables Only

Step	Variable Entered	Partial R**2	F	Prob>F
1	Risk (F5)	.0728	5.262	.0063
2	Identity/ Bonding (F3)	.0410	2.846	.0616
3	Like Shopping (F1)	.0359	2.456	.0897

religion -- were dropped from the analysis. As categorical variables, they were unsuitable for use in a discriminant analysis. The variables entered were: sex of respondent, marital status (treated as not married and married), number of children, number in household, age, income, hours spent on various activities per week, education and average age of children.

The stepwise procedure retained four of these variables -- education, number of children, age and hours active per week -- as discriminators (Table V-13).

Validation Of The Full And Four-Model Solutions

While stepwise discriminant analysis is recognized as a good means of selecting a subset of discriminating variables, it is not without its problems. Specifically, Klecka (1980) said that in determining an optimal set of discriminators, the stepwise procedure examines only a few variable pair relationships, compared to the actual number that exists. Thus, F-values produced cannot be trusted at face value.

To examine this issue for both the full and four-model solution -- and as a test of the validity of the model --

Table V-13

Stepwise Discriminant Analysis,
Demographic Variables Only

Step	Variable Entered	Partial R**2	F	Prob>F
1	EDUC	.0818	5.967	.0033
2	NUMCHIL	.0428	2.974	.0545
3	AGE	.0691	4.902	.0088
4	HRSACT	.0352	2.393	.0953

the following procedures were followed. Using an algorithm developed by Ann Reed of the University of Tennessee Computing Center -- which randomly selects observations from a data set and places them in subsamples -- split-sample analyses were conducted. Because there was an odd number of respondents placed in clusters, one sample contained 69 respondents and the other contained 68. For both the full model and each individual stepwise model, stepwise discriminant procedures were conducted on these split samples a total of five times each. Therefore, the full model and the four-model solutions each were generated a total of eleven times (one time on the full sample and five times on two samples with 68 or 69 respondents each). The results of these runs will now be compared.

Results Of Split-Sample Runs: The Full Model

Appendix G contains the five runs of the split-sample analyses for the full model. The original model generated with the full sample is never replicated. However, Table V-14 shows the frequency of variables across the eleven solutions generated. The variables that occurred

Table V-14

Number of Appearances of Variables,
Full-Model Split-Sample Solutions

Variable	Name	Number of Appearances
FACTOR1	Like to shop	2
FACTOR2	Like Christmas	4
FACTOR3	Bonding/Identity Gift-Giving Motivation	4*
FACTOR4	Time Pressure	0
FACTOR5	Payment Method	3*
FACTOR6	Risk	0
FACTOR7	Size of shopping Task	0
FACTOR8	Cable TV use	2*
FACTOR9	Use of print media	9*
FACTOR10	Network/Radio usage	0
FACTOR11	Use of Department Store	2
FACTOR12	Use of shopping strategies	0
FACTOR13	Bargain shopper	0
FACTOR14	Alternative shopping	7*
FACTOR15	Time with magazines	0

Table V-14, continued

Variable	Name	Number of Appearances
AGE	Age of respondent	2*
NOHH	Number in household	1
NUMCHIL	Number of children	1*
EDUC	Education of respondent	7*
INCOME	Income of respondent	1
MARITAL	Marital status	0
SEX	Sex of respondent	0
HRSACT	Hours active per week	1
AVGKIDS	Average age of children	0

*Variables also appeared in the full model

most often in the split-sample solutions were also included in the full model. However, it was worrisome that some variables such
as cable television use and age of the respondent occurred in only two of the split-sample runs and number of children appeared only once. On a more positive note, no other variables appeared often in the split-sample analyses that had not appeared in the analysis on the entire sample.

Results Of Split-Sample Runs: The Four-Model Solutions

The results of the split-sample stepwise discriminant analyses for the four separate models are contained in Appendix H.

The Shopping Solutions

The variables retained for each split-sample stepwise analysis of the shopping variables are contained in Table V-15. Those variables that were recommended by the original shopping model (Factors 2, 4 and 6) appeared more than other variables. However, the discrepancies among the split-sample solutions and the original model puts this original solution into question.

Table V-15

Number Of Appearances Of Variables,
Four-Model Split-Sample Solutions

VARIABLE	LABEL	NUMBER OF APPEARANCES
	Shopping Variables	
FACTOR1	Payment Method	1
FACTOR2	Shopping Task	3*
FACTOR3	Department store	1
FACTOR4	Bargain shop	2*
FACTOR5	Specialty store	1
FACTOR6	Alternative shopping method	6*
	Lifestyle Variables	
FACTOR1	Like To Shop	2*
FACTOR2	Like Christmas	0
FACTOR3	Identity/Bonding	3*
FACTOR4	Time Pressure	0
FACTOR5	Risk	6*
NO FACTOR RETAINED		3
	Media Use Variables	
FACTOR1	Use of Print Media	4*
FACTOR2	Use of Cable TV	5*
FACTOR3	Use of Network TV and Radio	1
NO FACTOR RETAINED		3

Table V-15, Continued

VARIABLE	LABEL	NUMBER OF APPEARANCES
	Demographics	
Education		9*
Age		3*
Number Of Children		4*
Hours Active Per Week		1*
Number In Household		2
Average Age Of Children		0
Sex		1
Marital Status		0
Income		1
No Factors Retained		1

*Variables Recommended for Retention by the Four Separate Stepwise Solutions

The Media Solutions

Table V-15 also summarizes the appearances of the three media-related factors among the split-sample solutions. When media factors were retained, they were generally the same as those posited by the original model -- namely, the print and cable TV usage factors.

The Lifestyle Solutions

Table V-15 also presents the results of the split-sample tests on the lifestyle variables. Again, the original lifestyle stepwise model suggested that the factors relating to risk and to the gift-giving motivations of social bonding/identity formation would be good discriminators. The validation offers some support for the inclusion of these variables.

The Demographic Solutions

Table V-15 contains summaries of the split-run analyses for the demographic variables. The original stepwise analysis performed on the entire sample suggested that age, education, number of children and the number of hours devoted to activities per week would be good discriminators. The first three variables find fairly good support. However, the variable measuring the number of hours consumers committed to activities during the

week appears in only two solutions, thus indicating that its presence in the original solution could be spurious.

Reliability Of The Models: An Overall Assessment

The split-sample analyses for both the full model and the four separate discriminant models indicates their stability is clearly not outstanding. However, the split-sample runs do appear to provide good clues as to which variables actually belong in both the full-model and the four-model solutions. For example, the split-sample runs for the full model indicate that the presence of FACTOR 8 (the cable television viewership factor) could be spurious.

With respect to the four-model solutions, it appears that the variable measuring number in the household was spurious. In addition, there is some question as to whether any of the media variables are good predictors. Nevertheless, there was some evidence that at least one media factor was a potential discriminator.

The split-sample analyses clearly indicate that replication of this study with a larger, more randomly selected sample is in order. However, it would be useful to "suspend disbelief" long enough to compare how well a model based upon the full-model solution and one based

upon the four-model solutions would correctly classify respondents into their known clusters.

CREATION OF TWO DISCRIMINANT MODELS

Table V-16 contains the discriminant variables recommended by the full model and the four separate models. A hybrid model suggested by the four models appears richer from a theoretical perspective, because it contains two more situational variables (risk and shopping enjoyment). Furthermore, the additional shopping variable of bargain shopping and the demographic variable of number of hours active per week were also suggested by the four separate stepwise models. The models also differ in that the full model retains method of payment as a shopping-variable discriminant, while the four-model solution selects size of the shopping task.

In order to examine which of these models would be most valuable from an interpretive standpoint, the following steps were taken. Two models -- one based upon the variables selected by the "full" stepwise procedure and the "hybrid" model created by combining the results of the four separate stepwise procedures -- were created.

Table V-16

Recommended Models,
Full And Four-Model Solution

Full Model	Four-Model Solution
Payment Method	Size Of Shopping Task
Alternative Shopper	Bargain Shopper*
	Alternative Shopper
Newspaper Readership	Print Readership
Cable Television Usage	Cable Television Usage
Giving for Bonding/Identity	Giving for Bonding/Identity
	Risk
	Shopping Enjoyment
Age	Age
Number Of Children	Number Of Children
Education	Education
	Hours Active Per Week

These models could then be used in a discriminant analysis. However, this type of discriminant analysis differs from stepwise discriminant analysis in that it seeks to predict how well a model with a fixed set of discriminant variables would correctly classify members of two or more groups. More specifically, this procedure "develops a discriminant function to classify each observation into one of the groups....[T]he discriminant function...is determined by a measure of generalized squared distance" (SAS User's Guide, 1985, p. 317).

Figures V-8 and V-9 show the percent of consumers classified into their correct cluster, by the full and hybrid models. The full model correctly classified respondents in Cluster 1 66% of the time, in Cluster 2 83% of the time and in Cluster 3 72% of the time. Thus, the average "hit rate" for the full model, weighted by the number of respondents in each cluster, is 73.6%. The "hybrid" model appears to classify consumers a bit better than the full model. Specifically, its "hit rate" was 76.9% for Cluster 1, 83.3% for Cluster 2 and 94.4% for Cluster 3. The average "hit" rate for this model was thus 81.7%. Given that the hybrid model contains four more variables than the full model, it is not surprising that

From Cluster	Number and Percent Into Cluster 1	2	3	Total
1	43 67%	16 25%	6 9%	65 100%
2	5 9%	45 83%	4 7%	54 100%
3	2 11%	3 17%	13 72%	18 100%
Total	50	64	23	137
Percent	37%	47%	17%	100%

Average Correct Hit Rate Per Cluster: 73.6%

Figure V-8

Percent Cluster Members Correctly Classified/
Full Model

From Cluster	Number and Percent Into Cluster 1	2	3	Total
1	50 77%	10 15%	5 8%	65 100%
2	6 11%	45 83%	3 6%	54 100%
3	1 6%	0 0%	17 94%	18 100%
Total Percent	57 42%	55 40%	25 18%	137 100%

Average Correct Hit Rate Per Cluster: 81.7%

Figure V-9

Percent Cluster Members Correctly Classified/
Hybrid Model

the hit rate for this hybrid model was higher than the original.

It is encouraging that both models -- with relatively few variables -- were able to correctly classify at least three-fourths of consumers. This success rate indicates that the variables selected must indeed account for the majority of variation in cluster membership. However, before one or both of these models could be interpreted, these hit rates themselves had to be validated.

Therefore, another set of split-sample validation analyses were produced. Discriminant solutions for both the full and hybrid models were requested for five pairs of samples with 68 or 69 respondents in each, yielding 10 samples for both solutions.

Table V-17 contains the average hit rates for each of these split-sample solutions. Appendix I contains the classification summaries for the full model. Appendix J contains the classification summaries for the hybrid model. The overall classification success rate for these models was calculated as follows:

$$O = \frac{WA1 + WA2 + WA3 + WA4 + WA5 + WA6 + \ldots WA10}{10}$$

Table V-17

Weighted Averages of Percent Classified Into Correct Cluster

Solution	% Classified	Solution	% Classified
Full 1	72%	Hybrid 1	72%
Full 2	73%	Hybrid 2	91%
Full 3	83%	Hybrid 3	67%
Full 4	91%	Hybrid 4	80%
Full 5	69%	Hybrid 5	87%
Full 6	94%	Hybrid 6	68%
Full 7	77%	Hybrid 7	71%
Full 8	62%	Hybrid 8	71%
Full 9	64%	Hybrid 9	93%
Full 10	74%	Hybrid 10	78%
Averages:	76%		78%

where WA= the weighted average of the hit rates for each solution. Given this formula, the overall average "hit rate" for the ten split-sample solutions with the full model was 75.9%. The overall hit rate for the ten split-sample solutions with the hybrid model was 77.7%.

Given the closeness in the hit rates for the two models, it was decided that for the third stage of the discriminant procedure -- that of actually interpreting the differences between groups -- the solution recommended by the full model would be retained. There are two reasons for taking this approach. First, given that the addition of four variables in the hybrid model only increased the percent of consumers correctly classified by 8%, the full model represents the more parsimonious solution. Second, by using the variables retained by the stepwise analysis conducted with all of the variables included, the percent of variance explained by each variable (controlling for other variables) can be accurately assessed, to determine the relative power of each discriminator.

Because the full model contained fewer variables than the hybrid model, it could be viewed as more restrictive. In other words, accepting the full model might mean that

certain variables which are potential discriminators are excluded from discussion. However, the variables that were included in the hybrid model can certainly be examined across clusters, and could still be granted the status of "potential discriminators." Furthermore, one variable -- cable television viewing -- received a good deal of support from the split-sample analyses of the four-model solution, but slightly less support from the full-model split sample analyses. However, it will be retained in the full model.

Thus, the final step in this chapter is to examine how the values of the discriminant variables differ across clusters. In other words, the means of variables must be examined for Clusters 1,2 and 3.

EXAMINATION OF CLUSTER MEANS

The full model -- which on the average classified almost 80% of consumers correctly -- contained eight discriminators. In order of contribution, these were: use of print media; purchase of gifts at supermarkets, drugstores or catalogs; education level, motivation for giving as a way of social bonding/shaping identity, age,

number of children, payment method and use of cable television. The means of these variables are are included on Table V-18.

As expected, this table indicates that the means for these variables were quite different across clusters. Specifically, Cluster 1 scored highest on the number of children, use of newspapers and use of credit cards. However, using gift-giving for identity shaping or bonding and perceived risk appeared unimportant for these searchers.

Cluster 2, the "nonsearchers" scored highest on the use of cable television. This cluster also had the fewest number of children. However, their average amount of education was the highest of the three groups.

Cluster 3, the "eclectic searcher," had high scores on both the motivation to give as a way of social bonding/shaping identity. Furthermore, they appeared most likely to patronize supermarkets, drugstores or catalogs and to pay for their gifts with cash. In addition, consumers in this cluster tended to be older than consumers in Cluster 1 and Cluster 2. However, they reported both the least use of cable television and the least amount of education of all groups.

Table V-18

Cluster Means For Eight Discriminant Variables

Variable	Cluster 1	Cluster 2	Cluster 3
Identity/Bonding	-.08	-.09	.57
Payment Method	.11	-.02	-.33
Use Of Cable Television	.02	.13	-.47
Use Of Newspaper	.33	-.42	.08
Alternative Shopper	.01	-.27	.76
Number Of Children	1.52	.90	.94
Age	3.32	3.37	3.78
Education	3.20	3.31	2.72

Means Of Other Variables

In addition to the eight variables selected by the "full" model as discriminators, the means of the 16 other variables or factors could be examined. Examining the strength and direction of these means could provide additional insight into the characteristics of consumers within each cluster. These means are presented in Table V-19.

Compared to those in other clusters, consumers in Cluster 1 appear to have high means on the following: size of buying task, number in household (no doubt because they have more children), hours active per week, and average age of children. Furthermore, members of Cluster 1 do not appear to have extreme negative scores on any of the factors.

Cluster 2 has the highest positive loadings of time spent with magazines (although the value is weak). This cluster also has relatively strong negative loadings on the "like to shop" variable, as well as the tendency to use bargain shopper tactics (shop at discount stores and use layaway).

Table V-19

Means Of Variables Not Found To Be Discriminatory

Variable	Cluster 1	Cluster 2	Cluster 3
Like To Shop (Factor1)	.15	-.23	.12
Like Christmas (Factor2)	.06	.06	-.39
Time Pressure (Factor4)	.04	-.09	.14
Risk (Factor6)	-.08	-.00	.29
Size of Shopping Task (Factor 7)	.09	-.05	-.16
Other Broadcast Media (Factor10)	-.04	-.06	.32
Department Store (Factor11)	.02	.01	-.13
Strategizer (Factor12)	.05	-.04	-.08
Bargain Shopper (Factor13)	.10	-.17	.17
Magazine Use (Factor15)	-.03	.06	-.06
Number in HH	3.27	2.72	2.56
Income	3.71	3.96	4.12

Table, V-19, Continued

Variable	Cluster 1	Cluster 2	Cluster 3
Hrs Active Per Week	51.29	48.43	41.17

Cluster 3 has the highest positive loadings for perceived time pressure while Christmas shopping. Furthermore, this cluster also has higher loadings on perceived risk of gift-giving, a variable that was suggested as a discriminator when a model of lifestyle variables was examined separately. This cluster also spends more time with "other" broadcast media (network television and radio) than any other cluster.

Furthermore, this cluster exhibits a strong tendency to "bargain shop" than other clusters. Interestingly, however, the mean for income was highest among this cluster, even while the mean for education was lowest.

Finally, the number of hours per week these consumers devote to various activities is lowest, as is their tendency to like the Christmas holiday. In addition, this group appears to avoid shopping at department stores more than any other cluster.

Figure V-10 summarizes the findings discussed in this chapter. Elaboration of the differences among the clusters is best addressed through examining the specific research questions posed for this study. Therefore, Chapter VI will present an in-depth discussion of these results.

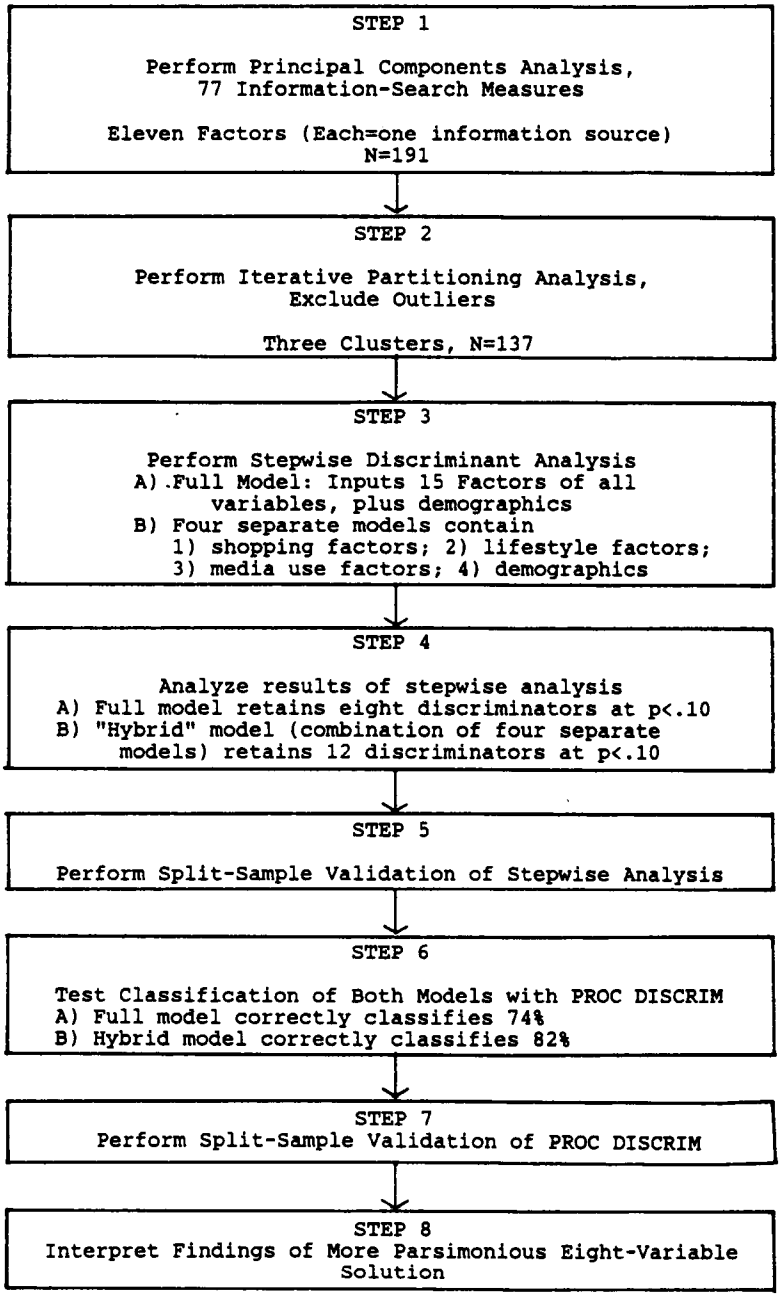


Figure V-10

Summary of Statistical Procedures and Results

CHAPTER VI

DISCUSSION

This chapter examines how the statistical procedures described in Chapter V address the research questions in this study. After these four questions are examined, profiles of "typical" cluster members are presented. These findings are then related to the conceptual model presented in Chapter II. Implications of this study for both academics and marketers are then discussed. Next, the contributions and limitations of this study are summarized. Finally, future research areas are offered.

A. EXAMINATION OF RESEARCH QUESTIONS

DIFFERENCES IN SEARCH BEHAVIOR

The first research question posed for this study was "Are there real differences in consumer information search behavior of Christmas shoppers?" This question requires reviewing the findings of the cluster and discriminant analyses. Nonhierarchical cluster analysis placed almost

three-fourths of the consumers surveyed in this study into one of three clusters, each of which reflects different patterns of external search behavior.

Almost one-half (47%) of those consumers who were categorized into a cluster could be described as "selective" information searchers. These searchers appear to rely specifically upon four sources for Christmas gift information: catalogs, newspaper advertisements, television commercials and articles in both newspapers and magazines. Furthermore, people in this cluster shun most other information sources available to them, especially salespeople, in-store displays, people who will actually receive gifts from them, television shows, radio commercials and magazine ads.

The second group, which contains almost 40% of all consumers clustered, is clearly characterized by "nonsearching" behavior. All of the means for using information sources are negative for this cluster. Furthermore, members of this cluster avoid information found in television programs and commercials, as well as print commercials and editorial matter. In this last respect, the behavior of consumers in Cluster 2 appears to be almost antithetical to those in Cluster 1.

Consumers in Cluster 3, or the "eclectic" shoppers, exhibit search behavior quite unlike that of the previous two groups. Specifically, they rely quite heavily upon television programming (but not commercials) as a source of information about Christmas gifts. Furthermore, their reliance upon other media -- such as advertisements in newspapers and magazines and on the radio -- indicates that this group likes to gather information pertaining to Christmas gifts from a variety of sources. Furthermore, this group appears to shun only two information sources -- television commercials and friends or family members.

The evidence from the cluster analysis and from the validation of this analysis indicates that when outliers are excluded, three distinct types of consumers emerge, who differ with repect to the types of information search tactics they employ while Christmas shopping.

Examining how these clusters differ with respect to the values of shopping variables also supports the belief that the search behavior of each cluster is distinct. For example, the selective searchers in Cluster 1 appear to buy their gifts differently than the other clusters. First, they tend to use credit cards rather than cash. Second, the size of their shopping task -- and hence the

number of gifts bought, amount spent and number of shopping trips -- is greater. (While size of shopping task was not retained by the full model, it was suggested as a discriminator by the hybrid model). The fact that this group also reported having a higher number of children could be one of the reasons why their Christmas shopping task is greater.

Not too suprisingly, the shopping behavior of the "non-searchers" in Cluster 2 could actually almost be called "non-shopping" behavior. This cluster did not report positive loadings on any of the shopping factors. Furthermore, negative cluster means were greater for the variables reflecting the tendency to "bargain shop", and to shop at "alternative places" (supermarkets, drugstores and catalogs). In short, it appears the lack of information search on the part of this cluster stems from their apathy toward shopping for Christmas gifts.

If the actual number of different sources used can be an accurate gauge, members of Cluster 3 appear to put the most effort into their information search. Interestingly, however, this cluster reports having the actual smallest shopping task. Furthermore, this cluster makes more purchases at supermarkets or drugstores and through

catalogs than members of the other clusters. Members of this group also appear to favor cash as a method of payment for gifts. Cluster 3 also displays a greater tendency to "bargain shop," although this variable was not retained as a significant discriminator among clusters.

Thus, the cluster analysis did find three relatively stable clusters of information searchers within this sample, which contained 72% of all respondents. Given that many researchers have commented upon the presence of random patterns of consumer behavior, it is not surprising that over one-fourth of the sample could not be classified into a cluster. Of course, if the criteria for excluding outliers had been relaxed a bit, more of these consumers might have been classified. However, strict control for outliers allowed for the emergence of interpretable clusters with relatively homogenous members

Therefore, the answer to the first research question posed for this study -- namely, are there real differences in search behavior across consumers -- appears to be in the affirmative, at least for those respondents sampled in this study. Furthermore, differences in shopping habits appear partially to relate to the classification of a consumer as a member of Cluster 1, 2 or 3. These

differences also serve to validate the cluster solution, because it was predicted that consumers who exhibited different search behavior would also shop differently. Differences in the motivations for gift-giving of the various cluster members will now be examined.

MOTIVATIONS FOR GIFT-GIVING

The second research question posed for this study was "To what extent are differences in search behavior explained by motivations for gift-giving? Three motivations -- gift-giving as a way to bond socially with others, gift-giving as a way to shape the identity of a receiver and gift-giving as a way of fulfilling social obligations of reciprocity -- were originally included in the survey. However, as was noted in Chapter III, the Cronbach's alpha values for the measures pertaining to social obligation indicated that this construct had not been measured reliably. Therefore, only the analysis of the gift-giving motivations pertaining to social bonding and identity formation was pursued. Interestingly, when the factor analysis on these variables was conducted on the data of the 137 cluster members, these variables

loaded positively on the same factor. Thus, these motivations appear somehow connected.

Given that these two constructs load on the same factor, and that this factor was retained as a discriminating variable, it is important to examine this variable across clusters. Specifically, the members of Cluster 1 and 2 do not appear motivated to give gifts for the purposes of social bonding or for shaping a receiver's self-concept. However, the mean for this variable for Cluster 3 is one of the highest of the means for that group. Therefore, it is possible that one of the reasons this cluster exerts more effort in their external search for Christmas gifts is because they are more motivated by the desire to use gifts both as a way of bonding socially and to shape the identity of the receiver.

At this stage, the examination of how gift-giving motivations relate to information search behavior can only be regarded as preliminary. However, it appears that some motivations for gift-giving may be related to differences in external search. Therefore, the study of gift-giving motivations should not be left solely in the realm of cultural anthropology, but should be incorporated into studies of modern-day gift-giving and gift-buying.

The next research question to be examined pertains to the influence of demographic, situational and lifestyle characteristics on information search behavior.

INFLUENCE OF DEMOGRAPHICS AND PSYCHOGRAPHICS

Among the 41 variables that were examined as potential discriminators among clusters, the situational constructs of liking Christmas, liking Christmas shopping, perceived risk involved in Christmas shopping, and perceived time pressure while Christmas shopping were included. In addition, consumers were asked to describe some of their lifestyle activities that could potentially relate to Christmas information search. These included their attitudes toward shopping in general and the number of Christmas activities in which they engaged.

A principal components analysis on these variables indicated that liking to Christmas shop and liking to shop in general factored together. Furthermore, the situational variable "number of Christmas activities" loaded higher with the variables relating to size of the shopping task. This finding may mean that there is a general variable that could be called "interest in

Christmas." Consumers who exhibit high values of this variable may engaged in all types of holiday activities -- including shopping -- than other consumers.

No lifestyle variable was retained by the full model. However, two variables were suggested by the four-cluster solution. These were the factor pertaining to "liking to shop" and that relating to the "perceived risk" involved when selecting gifts. The means for these variables were lowest for Cluster 2 (which is not surprising, given the apathy of persons in this cluster regarding other shopping measures).

It is interesting to note that the factor score mean for risk is greater for Cluster 3. This value may help explain why persons in this cluster search use the most sources. Furthermore, it is interesting that the mean for the "like Christmas" variable is lowest for Cluster 3. Two explanations for this finding come to mind: 1) the extended searching engaged in by these cluster members has a negative effect upon their attitude toward the Christmas season or 2) the fact that this group is more sensitive to the psychological aspects of giving may mean they are more anxious about giving, and hence have some negative emotions about the Christmas season.

In summary, the full model solution did not retain any lifestyle or situational variables as discriminators. However, the magnitude and direction of such variable means as those pertaining to liking to shop and perceived risk indicate that they might nevertheless be related to external search behavior.

The set of 41 potential discriminators included nine demographic variables. Of these, number of children, age, and education were found to discriminate among cluster membership. With respect to these variables, Cluster 1 clearly had the most children. Members of this cluster were similar to those in Cluster 2 with respect to age and income. The real differences in the means of the demographic variables are found in Cluster 3. Members in this cluster are older and less educated than members of the first two groups.

With respect to the demographics that did not prove to be discriminatory, these variable means provided additional clues as to why search behavior may vary across clusters. Specifically, the third cluster has a higher income than the other groups. While education and income are usually correlated, that is not the case within this sample. This discrepancy could be due to cultural

differences within the region where this study was conducted. Specifically, much of the labor force of the Knoxville S.M.S.A. holds manufacturing jobs that could be acquired through company training.

Furthermore, the number of hours per week that consumers reported devoting to various activities was not consistent across clusters. In this respect, members in Cluster 1 appear to be the "busiest" -- which may explain why they search for information selectively. On the other hand, Cluster 3 appears to have ten more hours available per week than Cluster 1. Thus, it is possible that members in the final group search more simply because they have more time to search.

Having examined the differences in demographic, psychographic and situational variables, the differences in media use across clusters will now be examined.

INFLUENCE OF MEDIA USAGE VARIABLES

The final research question posed for this study was: "To what extent do different types of shoppers use communications media differently?" Although several measures of media use were included on the original

survey, a principal components analysis of these measures indicated that only three media-related factors actually existed: a print factor, a cable television factor and an "other broadcast" factor. Both the original and the hybrid models retained print and cable factors.

Members of Cluster 1 are clearly the heaviest users of print media. The factor score mean for this variable is higher than any other factor mean for that cluster. Furthermore, persons in this cluster appear ambivalent toward the use of both cable television and "other broadcast" media. These findings suggest that consumers in Cluster 1 use Christmas gift information found in newspapers and magazines because they are already heavy users of these media.

Cluster 2 has the highest loading of cable television viewership, although the factor score mean is not high. What is even more striking about this cluster is their apparent avoidance of the print media, as indicated by the negative factor score mean. It was previously noted that this cluster particularly avoided seeking any information from the print media while Christmas shopping. Their

general lack of exposure to these media could explain this apparent aversion.

The members of Cluster 3 do not appear to seek out either print media or cable television on a regular basis. Interestingly, however, this group has the highest factor mean for the use of network television and radio.

PROFILES OF CLUSTER MEMBERS

Addressing each individual research question provides some understanding of how each variable set may relate to differences in search behavior across clusters. However, a better grasp of cluster membership can be achieved by developing profiles of typical cluster members. A profile of each cluster member is found on Figures VI-1, VI-2 and VI-3. Because this is an exploratory study, a discussion of the potential discriminators recommended by the four-model solution was also incorporated into these profiles. Where it is felt meaningful to do so, the strength and direction of the nondiscriminatory variables is also noted.

*Selective searchers reported using catalogs, newspaper ads, television commercials and newspaper and/or magazine articles when searching for information that would help them Christmas shop.

*Members of this cluster have the largest shopping tasks, and also participate in the greatest number of Christmas activities.

*This cluster has the highest number of children, so greater effort may be expended upon Christmas activities for their sake.

*Perhaps because they buy more gifts, consumers in this cluster pay for their gifts by credit cards more often than those in other clusters.

*Consumers in this cluster have committed the most hours per week to various activities. Thus, they may have less time for strategic information search. They appear to rely upon the information sources that they already prefer -- namely, newspapers and magazines.

*Their preference for print material is reinforced by their use of catalogs for information pertaining to Christmas gifts. However, this cluster does not buy the majority of their gifts from catalogs. This indicates that some consumers may use catalogs for ideas but not for purchase.

*Cluster members do not seek out any in-store information or interpersonal advice. Furthermore, they avoid most information from the broadcast media, except that provided by television commercials.

*With respect to lifestyle variables, this cluster does not appear motivated to use gifts to bond or shape identity. Furthermore, while they participate in more Christmas activities, they are neither more nor less enamored Christmas than any other group.

*Except for having more children, this cluster is demographically similar to Cluster 2. Consumers are between the ages of 25 and 34, and have incomes in the $24,000-$34,999 range. Cluster members have had at least three years of college, although this may be an artifact of the sample.

Figure VI-1

Profile of the "Selective" Searcher

*Nonsearchers appear not to use any external information source available while Christmas shopping. This cluster especially avoids information from print editorial and print advertising sources.

*Members of Cluster 2 shun information pertaining to Christmas shopping that stems from broadcast programming or commercials.

*Lack of external search while while Christmas shopping appears to be related to a general apathy toward shopping. The mean of the "like to shop" variable was most negative for this group.

*Members of this cluster appear not to care about being cost-efficient in their shopping.

*With respect to the discriminant variables, the behavior of this cluster appears to be more clearly expressed in what it does not do. Specifically, members do not read print media, do not shop at alternative sources and do not have many children per household. However, this cluster reports the highest education levels of all groups. Otherwise, their demographic profile is similar to Cluster 1.

Figure VI-2

Profile of the "Non-Searcher"

*Eclectic searchers exhibit the most complex information search behavior of all groups. Specifically, almost all sources of information except television commercials and friends or family members are important to these consumers.

*While these searchers have the smallest buying task, they also apparently place more psychological importance upon giving. Specifically, consumers in this cluster use gifts as a way of social bonding and shaping the identity of recipients. Furthermore, this cluster sees shopping for gifts as a more risky endeavor than the other clusters.

*Added to this psychological emphasis is a tendency of this cluster to shop differently than others. First, members pay cash for most of their gifts. Second, they shop at alternative outlets such as supermarkets, drugstores and catalogs. Their tendency to "bargain shop" is greater than other clusters.

*This cluster is also demographically distinct from the others. Cluster 3 members tend to be older (between the ages of 35 and 44), have higher incomes (although this difference was not significant) and have fewer hours committed to activities per week.

*In summary, the more complex external search behavior exhibited by members of Cluster 3 could be due to two factors: 1) consumers search more because they feel there is more "at stake" psychologically and 2) consumers search more because they are more interested in saving money.

Figure VI-3

Profile of the "Eclectic Searcher"

B. RELATION OF FINDINGS TO THE MODEL

The findings of this study can be related to the model of search strategies presented on page 107. Specifically, this model posited that personal characteristics would influence the choice of search strategy, while also influencing situational variables that could themselves relate to search strategy selection. Furthermore, search strategy selection was described as a five-stage process: 1) recognition of Christmas as a gift-giving occasion; 2) triggering of conscious or unconscious motives for gift-giving; 3) designation of search to different purposes (browsing or purchase-related); 4) implementation of a search strategy and 5) outcome of search.

Granted, this entire model cannot be examined within the confines of one study. However, this study did shed light upon this model in the following ways: 1) it illustrated that gift-giving motivations did appear to influence the selection of search strategies for some consumers; 2) it illustrated that at least for this sample, many of the situational variables that had previously been identified as influencing external search

strategies -- such as perceived risk and time pressure -- did not appear to influence the choice of search strategy; 3) it reinforced the fact that search effort -- at least if it is measured in terms of the number of sources used -- does influence search strategy selection; and 4) it revealed that certain demographic variables -- such as the age of the consumer, the number of children in the household and a consumer's level of education -- appear related to the use of different search strategies. Finally, the fact that consumers who use different search strategies also seem to have different search outcomes (in terms of their shopping behavior) is significant.

In addition to discussing how this model was examined in a general sense, it is also useful to discuss the saliency of each variable examined in the model for each information-search cluster that was revealed. Specifically, consumers in Cluster 1 (the "selective" searcher) do not appear influenced by the motivations for gift-giving examined in this study. Rather, the variables that seem especially salient for them are the use of print media (which could be described as a lifestyle variable), their number of children and the fact that they pay gifts by credit card (which could influence search).

For the consumers in Cluster 2 -- the "nonsearchers" -- it appears that their apathy toward searching for information outweighs the influence of any gift-giving motivations or psychological variables. Thus, the most appropriate model describing the Christmas shopping behavior for this cluster would indicate that once the gift-giving occasion is recognized, consumers bypass search altogether, and merely select gifts without having gathered any external information.

The third cluster, -- containing the "eclectic" shoppers -- seem most prone to the situational influences contained in the model. For example, the risk variable approached significance. This group was also influenced by the two gift-giving motivations studied. Furthermore, if search effort could be measured by the number of sources used, then clearly this cluster engages in more intense information search than the other groups.

Thus, this study did examine specific aspects of the model proposed in Chapter II -- specifically, the influence of some gift-giving motivations, situational variables, lifestyle variables and demographics. However, the issue of how personality variables affect information search while consumers Christmas shop remains unresolved.

C. IMPLICATIONS FOR ACADEMICS AND PRACTITIONERS

Although this study is exploratory, it appears to have worthwhile implications for both academics and practitioners.

IMPLICATIONS FOR ACADEMICS

For social scientists interested in gift-giving and gift-buying behavior, this study raises several interesting conceptual and methodological issues. Four conceptual issues are presented first.

The first issue relates to the study of gift-giving motivations. In this study, the motivation to give gifts both as a means of enhancing social bonds and shaping the identity of the receiver were selected as good discriminators among clusters. Given that these motivations apparently were salient for some gift-buyers -- and thus could possibly influence external search behavior -- exploring the importance of other motivations for gift-giving and gift-buying appears to be a fruitful avenue for research.

The second conceptual implication of this study relates to the construct of "recreational shopping." This

study originally measured two sets of variables relating to this construct -- namely, liking to shop for Christmas presents and liking to shop in general. The fact that these two measures factored together indicates a more global "liking to shop" variable may exist, that is not context-bound. While evidence for this global shopping variable is preliminary at best, implications of its existence raises a new set of issues that could be explored. Such issues would include the following: Why are some people "recreational shoppers" and others are not? Is the tendency to "recreational shop" indeed global, or are there situations where even those who generally enjoy shopping tend to avoid such activities? Can a person's tendency to approach or avoid shopping activities be modified, and how does this tendency change over the life cycle?

A third conceptual implication of this study for academics pertains to examining other variables that could potentially influence Christmas gift-giving and gift-buying.

Variables such as 1) the desire for sensory stimulation while Christmas shopping; 2) the desire for balanced gift-giving and 3) the tendency to give gifts

that reflect either the self-concept of the giver or of the receiver emerged from the focus groups, but were not examined here because of the length constraints of the survey. However, these variables should certainly be added to the pool of those worhty of examination within the gift-giving context.

Perhaps the most interesting conceptual implication of this study for academics is that the types of external searchers isolated in this study are similar to types found in many other studies of search behavior for durables and nondurables. At one extreme is the nonsearcher, who does not use any external search information. Presumably this person either relies solely on internal search, or does his or her Christmas shopping impulsively. The fact that this searcher does buy presents is known because the buying task of this group is actually larger than that of the eclectic searcher.

In the middle of the search hierarchy is the "selective" or "moderate" searcher, who appears to rely only upon information in selected print media and from television commercials. This group appears to have the largest buying task and the largest immediate family (as indicated by a greater number of children). These

searchers do not seem motivated to seek any information that is not already available to them, through their high exposure to the print media.

At the other extreme is the "eclectic searcher," who appears intent upon seeking a variety of information from marketer-generated, editorial and some interpersonal sources. The fact that this cluster features an older, higher-income composition indicates that consumers may go through stages of different internal search behavior, depending upon their stage in the life cycle.

Furthermore, it is quite interesting that the motivations to give gifts as a way of social bonding and identity formation appear more salient among this older sample. One is reminded of Caplow's (1982) statement that people use gift-giving as a way to prevent the dissolution of family ties. If this assumption is correct, then perhaps this issue becomes more important among older consumers, whose families have become more scattered. The fact that this cluster has the smallest household size of all groups lends support to this assumption.

Finally, there is evidence that among the clusters, consumers are relatively consistent with respect to the type of information they use, regardless of whom they are

shopping for. Presumably, most people in each cluster shop for a relatively small group of friends and family. However, even if some information about gifts would be more available for some of these receivers (such as children) than others, consumers in Cluster 1 and Cluster 2 appear to stick to their strategy of using either only print and TV commercials or using no external information, respectively.

Perhaps the variety of sources used by the members in Cluster 3 means that these consumers seek out different types of information for different receivers of their gifts. However, this issue was not examined. Further pursuit of this topic would no doubt be enlightening.

There are three methodological implications for academics that can be gleaned from this study. First, this study echoes Wells' (1976) statement that the selection of lifestyle measures should relate to the situation being examined. Namely, asking consumers how many Christmas activities in which they had participated -- as well as asking them whether they liked Christmas shopping and Christmastime -- proved fruitful. Clearly, there is room for more specific examination of Christmas-related psychographics, and how consumers'

participation in the Christmas ritual might influence gift-giving and gift-buying. For example, consumers could be asked not only whether they participated in such activities, but actually how extensive their involvement in these activities proved to be.

A second methodological implication for this study involves the use of qualitative techniques to both help generate and validate a quantitative research instrument. It is the opinion of this researcher that both the focus groups conducted prior to the survey development and the personal interviews conducted in the third pretest were invaluable in creating a more concise and understandable survey. The main benefit of both of these qualitative activities was that the researcher gained a sense of the complexity of constructs such as reciprocity and the desire for balance. Furthermore, acquiring transcripts of these activities enabled the researcher to use more everyday phrasing on survey items, so that consumers were more likely to understand what they were being asked.

A final methodological issue important for academics concerns the use of cluster analysis. Specifically, a method that met the two criteria of appropriateness and accuracy was selected for use. In many studies that

have employed cluster analysis, little or no discussion of the selection of an appropriate clustering method is offered. As Punj and Stewart (1983) note, more attention must be paid to the theoretical implications -- and to the strengths and the weaknesses of these methods -- before they are used for a given research project.

IMPLICATIONS FOR PRACTITIONERS

Several findings of this study would also be of interest to advertising and marketing practitioners. Five implications will be discussed.

The first finding that would obviously interest practitioners is that at least among this sample, there do seem to be distinct groups of consumers, who differ with respect to their information search behavior while Christmas shopping. Furthermore, the variation in several discriminating variables indicates that these differences could be related to different shopping, media use, demographic and psychographic characteristics. More specifically, of those consumers whose search behavior could be classified into a group, 60% used some external sources of information while 40% did not.

The fact that almost half of the classified searchers did not use any form of external search is the second important ramification of this study. This discovery may lead marketers to question the wisdom of placing such a great amount of their budget into planning and executing communications materials for the Christmas shopping season. Granted, the number of nonsearchers and outliers is directly dependent upon the clustering method used. However, it appears that some consumers will either conduct no search at all, or conduct their search randomly.

On a more positive note, the third implication for marketing and advertising practitioners is that it appears marketers can deduce which external search sources are used most frequently by the consumers that do search. Specifically, means for the use of newspaper advertising and catalogs were high among both of these clusters. Furthermore, the use of newspaper and/or magazine articles by both clusters -- and the reliance of Cluster 3 upon the content of television programs -- indicates that public relations efforts may be as important as advertising and sales promotions, in getting

information to consumers about potential Christmas gifts.

However, only those consumers in Cluster 1 appear to use television commercials for information. Given the relative inability of television commercials to convey much information, and given that the cost of producting a national television commercial is approximately $50,000 per thirty seconds, those marketers who use television may wish to reevaluate their media strategy.

Fourth, the findings of this study may have ramifications for the message appeals aimed at the consumers in Clusters 1 and 3. For example, it appears that those consumers in Cluster 1 search for information in readily available media, and use this information to help them cope with a large buying task. Given this assumption, marketers could create messages whose appeals show consumers how to make quick, efficient gift choices. For example, consumers in this cluster clearly shop at department stores, because they report using retail charge cards more than any other cluster. Given this situation, such stores could stress their wide selection and efficient service.

In contrast, the older consumers in Cluster 3 who have larger incomes but smaller households may seek two

outcomes from their external information search. First, they may want to ease some of the psychological pressures that stem from using gifts as a way to socially bond with others, or to shape the identity of receivers. The fact that this cluster perceives gift-giving to be a more risky activity lends credence to the above assumptions.

Second, this cluster appears to want cost-efficient gifts. Three pieces of evidence support this assumption: 1) these consumers pay cash for gifts (and therefore may be less willing to go into debt); 2) they shop at supermarkets and drugstores, which presumably carry lower-cost gifts than department and specialty stores and 3) they tend to "bargain shop" (e.g., to use discount stores and to place items on layaway).

Thus, advertisers could create message appeals emphasizing that certain gifts can help consumers foster social bonds with consumers, and which can be procured for a reasonable price. Given their high reliance upon television news and/or information programs, a marketer might also implement a public relations plan whereby a company representative appears on a show such as "Today," and presents gifts that are both reasonably priced and can fulfill the psychological needs of these consumers.

Fifth, there is an interesting finding with respect to consumers' uses of catalogs. Namely, consumers in Cluster 1 appear to use catalogs for information more than any other external source. However, this same cluster is not more inclined to purchase gifts through catalogs. This finding suggests that some consumers may use catalogs during search, but not during choice. Those marketers who rely upon catalog sales during the holiday season may wish to explore how they could persuade consumers to actually "stick with them" from external search to choice.

However, the fact that over 70% of the consumers in this study could be classified provides marketing and advertising practitioners with evidence that clusters of consumers do exist, whose differences are due to variations in external search behavior while Christmas shopping.

D. CONTRIBUTIONS OF THIS STUDY

While this study is exploratory, it nonetheless made several contributions to the potential understanding of

consumers' external search pertaining to Christmas gifts. Six contributions are listed below.

First, this study is the only one to truly focus upon consumer external search behavior during the Christmas season. Furthermore, it is also the only study to synthesize the findings of the external search and gift-buying literature, and to offer a conceptual model that focuses solely upon understanding consumers' uses of search strategies while Christmas shopping. In this regard, it extends previous work conducted in the areas of Christmas gift-giving and gift-buying.

Second, this study is distinctive from other works examining gift-buying in that it simultaneously examines myriad variables that could relate to gift-buying activities. As such, the study embraces the assumption that gift-buying is a complex phenomenon, and should be examined as such.

Third, this study illustrates the value of using both qualitative and quantitative techniques in one research endeavor. Specifically, qualitative techniques were used to aid in the development of comprehensive and concise survey items, and to supplement the list of potential variables that could influence Christmas gift-buying.

Furthermore, using personal interviews in the final pretest proved beneficial, especially when measures of abstract constructs were being developed. Thus, focus groups and personal interviews enhanced the quality of the survey instruments, and of the study as a whole.

A fourth contribution of this study was that it also illustrates the limitations of applying primarily quantitative research techniques to a complex topic such as Christmas gift-buying. For example, providing consumers with a "one-shot" survey meant that no other variables <u>besides</u> those being studied could emerge as potential influences on external search behavior. Furthermore, using a survey forced the researcher to examine Christmas gift-buying as a static phenomenon, rather than examining it as a process. However, using quantitative techniques did have the advantage of allowing the researcher to assess the reliability of both the cluster analytic and discriminant procedures.

A fifth contribution of this study is that it brings home the importance of assessing the theoretical implications, strengths and weaknesses of any research method prior to using it. Specifically, the overwhelming number of cluster algorithms available to the researcher

necessitated reviewing the fundamental assumptions of these procedures. While cluster analysis has great potential for use among social scientists, these procedures must be chosen only after the nature of the data set and the "track record" of the clustering algorithms is examined.

The final contribution of this study is its most obvious. Namely, it offers marketers, advertisers and social scientists some preliminary insight into what types of Christmas searchers may exist. Furthermore, there does appear to be evidence that Christmas information search activities are related to variations in shopping, media use, demographic and lifestyle variables. In this respect, it breaks new and exciting ground for researchers and practitioners.

Granted, one can only state with confidence that the three clusters of information searchers exist within this sample. However, given that Christmas is a sociologically and economically important event, it is hoped that this study is deemed worthy of replication and extension.

E. LIMITATIONS OF THIS STUDY

This study is clearly not without its limitations. The most serious of these are discussed below.

First, the sample for this study was clearly a convenience sample of adults in the Knoxville S.M.S.A. Furthermore, over one-half of the sample was enrolled in the University of Tennessee Evening School. These consumers may be somehow psychographically and demographically distinct from both the rest of the sample and the rest of the adults in the region.

Furthermore, the differences in search behavior that were found could be due to the presence of real sub-groups (e.g., the motorcycle enthusiast's club) within the sample. This fact indicates that perhaps the best way to examine consumers' search strategies is to recognize the existence of subgroups before a study, and then devise a sampling technique that either excludes these subgroups, or that allows for their number to be controlled.

In addition, the sample size of 191 (with 137 retained in clusters) was modest. A larger sample would have been desirable, in order to state with confidence that the results of procedures such as the principal components analysis were conclusive.

A third limitation of this study is that the data were collected three months after Christmas. Given the nature of human memory, it is possible that consumers did not precisely remember how they used external search sources for information while Christmas shopping. Admittedly, it would have been better to collect the data for this study closer to Christmastime. However, the time and manpower constraints of this study -- as well as the care taken to pretest the instrument -- pushed data collection a bit farther away from Christmas than was desired.

A fourth potential weakness of this study is the consumers which were typically found in the "eclectic" cluster -- e.g., the older consumers with smaller households -- were underrepresented in this sample. Specifically, there were no consumers whose age was 65 or greater. The sample was also skewed toward the higher-educated consumer. Clearly, a representative sample would have included a greater proportion of older adults.

A fifth limitation of this study lies with the scale used to measure the information-search variables that were later input into the cluster analysis. Specifically, this scale asked consumers to indicate what percent of the time they used a source for information pertaining to a

particular dimension (such as price). Points on this scale were as follows: 0-20%, 21-40%, 41-60%, 61-80% and 81-100%. Statisticians might argue that this scale is not truly interval, because the distance between points on this scale will not always be the same for different respondents. For example, one consumer could say they use newspaper ads for price 0-20% of the time, but really have only used them 10% of the time. Another consumer could have checked this same option, but have used newspaper ads for price 20% of the time.

Nevertheless, using this scale was deemed more desirable than asking consumers to indicate precisely what percent of the time they used a source for a specific type of information. There were two reasons why this procedure would not have been beneficial: 1) consumers would have undoubtedly estimated the percent of the time they used an information source for a particular type of information. Thus, the information gleaned would not necessarily have been any more accurate; 2) asking consumers to recall percentages 77 times was thought to be way too demanding, comparing to having them check an option on a five-point scale.

Therefore, use of this this "pseudo-interval" scale was felt to be the best compromise, in order to collect relatively accurate measures of consumer external search behavior.

A final limitation of this study is that of including ordinal variables in the discriminant procedure. Klecka (1980) notes that among the conditions of using discriminant analysis, internal-level variables are required. However, two statements appear to qualify this condition. First, the author notes that discriminant analysis is robust even when its assumptions are violated. In actuality, the author notes, the best test of the validity of a discriminant procedure is "the percentage of correct classifications" (1980, p.62). Given that the discriminant analysis classified consumers correctly over 75% of the time, the inclusion of ordinal-level data does not appear to have been extremely harmful.

Furthermore, Klecka notes that the reason for using interval or ratio-level variables is so that the "means and variances can be calculated and so that they can legitimately be employed in mathematical equations" (1980, p.9). However, calculating means and variances for ordinal-level variables such as Likert-scale data is an

acceptable practice for most social scientists.

Lastly, this study admittedly explores only a subset of variables that could be related to Christmas gift-buying. For example, consumers are not asked to discuss how their gift-buying activities vary, depending upon whom they are actually shopping for at a particular time. This topic would no doubt be of interest to academics and practitioners, as they seek to determine how consumers allocate their time and energy across different external search sources.

Furthermore, consumers are not asked how much time they actually spend with each external source. Rather, only the relative amount of time spent with each source is assessed. In addition, consumers were not asked why they relied upon -- or avoided -- a particular source of information. Furthermore, consumers were never asked to specifically rank the importance of each external source they used to gather information.

Despite the limitations outlined above, this study does fulfill the objective of providing a preliminary understanding of consumers' information search behavior while Christmas shopping.

F. AREAS FOR FUTURE RESEARCH

Both the model of Christmas search strategizing offered in Chapter II and the results of this study suggest several intriguing areas for further research in the area of consumer gift-buying and gift-giving. The more general questions that stem from the model will be presented first.

Five general questions that stem from the model exploring Christmas search strategizing are as follows:

1. What is the influence of cultural environment on the motives of consumers for buying Christmas gifts? Specifically, can some of these motives be found to be "cultural universals?"

2. What is the influence of individuals' attitudes toward the various aspects of Christmas (e.g., the holiday itself, shopping, giving)? This question was only partially explored in this study. Furthermore, what happens to search and shopping when tensions exist between an individual's attitudes toward Christmas and the attitude of the culture as a whole?

3. How do consumers allocate their time between "browsing behavior" and purchase-related search while Christmas shopping? What variables seem to most influence this allocation?

4. How do attitudes toward the general external search sources themselves influence the selection of a search strategy? Most

importantly for practitioners, how can they make their marketing and promotional efforts more salient for consumers?

5. What purchase criteria do consumers consider to be the most important across the Christmas shopping season? For the different types of people on their shopping list? How do these purchase criteria influence the use of different search sources and strategies?

Questions stemming from the specific results of this study include the following:

1. How generalizable are the findings of this study? Do the same three clusters of information searchers exist in a more representative sample? If not, what clusters do exist?

2. If the clusters found in this study do exist, how large are they within a representative sample?

3. What other gift-giving motivations besides those examined here appear related to variations in information search behavior? What is the influence of the motivation to give out of a sense of reciprocal obligation? How does the desire for balanced gift-giving influence information search?

4. Given that the data were collected three months after Christmas, would the types of information searchers found be different if the data had been collected closer to the holiday? If so, how? An even more interesting theoretical question might be: how do consumers' search behaviors vary over the Christmas season? Over their life cycle? Is such behavior relatively stable after consumers reach a certain stage?

5. Given that consumers in Cluster 2 buy gifts but do not search for information, how do these consumers decide upon appropriate gifts? Are their decisions based upon internal search, upon impulse purchasing, or a little bit of both? What, if anything, would motivate people in this cluster to ever search for information?

6. What motivates the "eclectic" searcher to gather a variety of information? Is this search due to the fact that they feel there is more "at stake" while gift-giving? Or is it merely that they wish to buy gifts that are less costly?

7. What other variables -- such as the desire for sensory stimulation, negative attitudes towards the commercialization of Christmas or cost-consciousness while shopping -- might also influence external search?

8. Given that consumers in the eclectic cluster appear to expend the most effort in external search of all consumers, why do they like Christmas the least?

9. For those consumers who do use information (Clusters 1 and 3), what appeals and benefits do they actually seek from such sources? Do selective searchers seek information selectively within the media they use, or do they examine all of the information that is available to them through these few sources?

10. Why do consumers in Cluster 1 use catalogs as an information source, but do not tend to buy their gifts from catalogs?

11. How important is a consumer's level of involvement with various aspects of the Christmas ritual, in terms of their tendency to search for information? This question was only briefly examined in this study, and deserves more attention.

All of the research questions listed above suggest that there are many ways the study of Christmas gift-giving and gift-buying could be expanded. For example, a qualitative study of consumers' information search behavior during the peak Christmas shopping season would certainly be beneficial and enlightening. Of course, an ideal study would be to examine the external search behavior of the same sample of consumers over several Christmas seasons. This procedure would enable the stability of a consumer's search behavior to be assessed.

Furthermore, if types of Christmas searchers do indeed exist, then the behavior of consumers within each type should certainly be explored in a more in-depth manner.

Regardless of which research questions are pursued, the study of Christmas gift-giving and gift-buying -- and indeed, of gift-giving and gift-buying across <u>all</u> occasions -- is certainly a worthwhile endeavor. For while Christmas gift-giving itself may stem from the year 1 A.D., the study of gift-giving and gift-buying still represents a new and exciting avenue of research for social scientists, advertising practitioners and marketing professionals alike.

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APPENDIXES

APPENDIX A

FINAL SURVEY

PART I. We are very interested in learning how you used certain information sources to help you Christmas shop. Please check ( ) the response that best indicates how often you used a source for each type of information below, while shopping for gifts this past Christmas. For example, if you tended to always use TV ads to learn price information, you would check the blank marked 81-100% on the scale provided below.

	81-100%	61-80%	41-60%	21-40%	0-20%
When gathering information to help you shop this past Christmas, what percent of the time did you use TV ads to learn about:					
Prices of gifts	_____	_____	_____	_____	_____

If you used TV ads to get price information more often than not, you would check 61-80%. Likewise, if you used TV commercials about half the time for price information, you would check 41-60%. If you only occasionally used TV ads for price, you would check 21-40%. Finally, if you rarely or never used TV ads for price, you would check 0-20%

	81-100%	61-80%	41-60%	21-40%	0-20%
When gathering information to help you shop this past Christmas, what percent of the time did you use newspaper ads to learn about:					
1. Prices of gifts	_____	_____	_____	_____	_____
2. Specific product features	_____	_____	_____	_____	_____
3. Ideas of what to get people for Christmas	_____	_____	_____	_____	_____
4. Where to find specific products	_____	_____	_____	_____	_____
5. Brand names	_____	_____	_____	_____	_____
6. Deciding whether a gift was appropriate	_____	_____	_____	_____	_____
7. Learning what new gifts were on the market this past Christmas	_____	_____	_____	_____	_____
When gathering information to help you shop this past Christmas, what percent of the time did you use magazine ads to learn about:					
8. Prices of gifts	_____	_____	_____	_____	_____
9. Specific product features	_____	_____	_____	_____	_____
10. Ideas of what to get people for Christmas	_____	_____	_____	_____	_____

	81-100%	61-80%	41-60%	21-40%	0-20%
11. Where to find specific products	_____	_____	_____	_____	_____
12. Brand names	_____	_____	_____	_____	_____
13. Deciding whether a gift was appropriate	_____	_____	_____	_____	_____
14. Learning what new gifts were on the market this past Christmas	_____	_____	_____	_____	_____
When gathering information to help you shop this past Christmas, what percent of the time did you use radio ads to learn about:					
15. Prices of gifts	_____	_____	_____	_____	_____
16. Specific product features	_____	_____	_____	_____	_____
17. Ideas of what to get people for Christmas	_____	_____	_____	_____	_____
18. Where to find specific products	_____	_____	_____	_____	_____
19. Brand names	_____	_____	_____	_____	_____
20. Deciding whether a gift was appropriate	_____	_____	_____	_____	_____
21. Learning what new gifts were on the market this past Christmas	_____	_____	_____	_____	_____
When gathering information to help you shop this past Christmas, what percent of the time did you use TV ads to learn about:					
22. Prices of gifts	_____	_____	_____	_____	_____
23. Specific product features	_____	_____	_____	_____	_____
24. Ideas of what to get people for Christmas	_____	_____	_____	_____	_____
25. Where to find specific products	_____	_____	_____	_____	_____
26. Brand names	_____	_____	_____	_____	_____
27. Deciding whether a gift was appropriate	_____	_____	_____	_____	_____

	81-100%	61-80%	41-60%	21-40%	0-20%
28. Learning what new gifts were on the market this past Christmas	_____	_____	_____	_____	_____
When gathering information to help you shop this past Christmas, what percent of the time did you use catalogs to learn about:					
29. Prices of gifts	_____	_____	_____	_____	_____
30. Specific product features	_____	_____	_____	_____	_____
31. Ideas of what to get people for Christmas	_____	_____	_____	_____	_____
32. Where to find specific products	_____	_____	_____	_____	_____
33. Brand names	_____	_____	_____	_____	_____
34. Deciding whether a gift was appropriate	_____	_____	_____	_____	_____
35. Learning what new gifts were on the market this past Christmas	_____	_____	_____	_____	_____
When gathering information to help you shop this past Christmas, what percent of the time did you use in-store product displays to learn about:					
36. Prices of gifts	_____	_____	_____	_____	_____
37. Specific product features	_____	_____	_____	_____	_____
38. Ideas of what to get people for Christmas	_____	_____	_____	_____	_____
39. Where to find specific products	_____	_____	_____	_____	_____
40. Brand names	_____	_____	_____	_____	_____
41. Deciding whether a gift was appropriate	_____	_____	_____	_____	_____
42. Learning what new gifts were on the market this past Christmas	_____	_____	_____	_____	_____

	81-100%	61-80%	41-60%	21-40%	0-20%
When gathering information to help you shop this past Christmas, what percent of the time did you use salespeople to learn about:					
43. Prices of gifts	_____	_____	_____	_____	_____
44. Specific product features	_____	_____	_____	_____	_____
45. Ideas of what to get people for Christmas	_____	_____	_____	_____	_____
46. Where to find specific products	_____	_____	_____	_____	_____
47. Brand names	_____	_____	_____	_____	_____
48. Deciding whether a gift was appropriate	_____	_____	_____	_____	_____
49. Learning what new gifts were on the market this past Christmas	_____	_____	_____	_____	_____
When gathering information to help you shop this past Christmas, what percent of the time did you use TV news and/or interview shows to learn about:					
50. Prices of gifts	_____	_____	_____	_____	_____
51. Specific product features	_____	_____	_____	_____	_____
52. Ideas of what to get people for Christmas	_____	_____	_____	_____	_____
53. Where to find specific products	_____	_____	_____	_____	_____
54. Brand names	_____	_____	_____	_____	_____
55. Deciding whether a gift was appropriate	_____	_____	_____	_____	_____
56. Learning what new gifts were on the market this past Christmas	_____	_____	_____	_____	_____
When gathering information to help you shop this past Christmas, what percent of the time did you use newspaper and/or magazine articles to learn about:					
57. Prices of gifts	_____	_____	_____	_____	_____

	81-100%	61-80%	41-60%	21-40%	0-20%
58. Specific product features	_____	_____	_____	_____	_____
59. Ideas of what to get people for Christmas	_____	_____	_____	_____	_____
60. Where to find specific products	_____	_____	_____	_____	_____
61. Brand names	_____	_____	_____	_____	_____
62. Deciding whether a gift was appropriate	_____	_____	_____	_____	_____
63. Learning what new gifts were on the market this past Christmas	_____	_____	_____	_____	_____
When gathering information to help you shop this past Christmas, what percent of the time did you use <u>friends and/or family members</u> to learn about:					
64. Prices of gifts	_____	_____	_____	_____	_____
65. Specific product features	_____	_____	_____	_____	_____
66. Ideas of what to get people for Christmas	_____	_____	_____	_____	_____
67. Where to find specific products	_____	_____	_____	_____	_____
68. Brand names	_____	_____	_____	_____	_____
69. Deciding whether a gift was appropriate	_____	_____	_____	_____	_____
70. Learning what new gifts were on the market this past Christmas	_____	_____	_____	_____	_____
When gathering information to help you shop this past Christmas, what percent of the time did you ask the <u>person that you were actually shopping for</u> to learn about:					
71. Prices of gifts	_____	_____	_____	_____	_____
72. Specific product features	_____	_____	_____	_____	_____
73. Ideas of what to get people for Christmas	_____	_____	_____	_____	_____

	81-100%	61-80%	41-60%	21-40%	0-20%
74. Where to find specific products	_____	_____	_____	_____	_____
75. Brand names	_____	_____	_____	_____	_____
76. Deciding whether a gift was appropriate	_____	_____	_____	_____	_____
77. Learning what new gifts were on the market this past Christmas	_____	_____	_____	_____	_____

Part II. Now we would like to know how you shopped for gifts this past Christmas. Please answer the following questions by placing a check mark ( ) in the appropriate answer blank.

1. How many people did you buy presents for this past Christmas?
_____ people

2. Approximately how much did you personally spend on all gifts you purchased this past Christmas? (Include your share of any gifts you gave with another person)

From 0- $50_____ $51 to $100_____ $101 -$200_____ $201-$300_____
$301-$400_____ $401-$500_____ More than $501_____

3. Which of the following time periods best describes when you FIRST STARTED shopping for gifts this past Christmas season?

After Christmas 1988 to the end of March, 1989. _____
April, 1989 to the end of May, 1989 _____
June, 1989 to the end of August, 1989 _____
September, 1989 to the end of October, 1989 _____
November, 1989 to Thanksgiving Day, 1989 _____
After Thanksgiving Day, 1989 to 2 weeks before Christmas, 1989 _____
Less than 2 weeks before Christmas to Christmas Eve, 1989 _____

4. Which of the following time periods best describes when you FINISHED shopping for gifts for this past Christmas season?

After Christmas 1988 to the end of March, 1989. _____
April, 1989 to the end of May, 1989 _____
June, 1989 to the end of August, 1989 _____
September, 1989 to the end of October, 1989 _____
November, 1989 to Thanksgiving Day, 1989 _____
After Thanksgiving Day, 1989 - 2 weeks before Christmas, 1989 _____
Less than 2 weeks before Christmas to Christmas Eve, 1989 _____
After Christmas 1989 _____

5. Below are different ways people can pay for Christmas presents. Place a check in the column that best describes what percent of the presents you bought this past Christmas were paid for in each manner (if other, please specify type).

	81-100%	61-80%	41-60%	21-40%	0-20%
Paid in Full by					
Cash/ Check	_____	_____	_____	_____	_____
Store Credit Card	_____	_____	_____	_____	_____
General Credit Card	_____	_____	_____	_____	_____
Layaway	_____	_____	_____	_____	_____
Other: _____	_____	_____	_____	_____	_____

6. Counting the trips you made for all Christmas gifts purchased, approximately how many separate Christmas shopping trips did you make last year?

None_____ 1-3_____ 4-6_____ 7-9_____ 10-12_____ 13+_____

7. The following are places where people can buy Christmas gifts. Please estimate what percent of gifts you bought at each type of place this past Christmas:

	81-100%	61-80%	41-60%	21-40%	0-20%
Catalogs	____	____	____	____	____
Discount stores	____	____	____	____	____
Department stores	____	____	____	____	____
Specialty stores	____	____	____	____	____
Ad mail order (not catalogs)	____	____	____	____	____
Supermarkets/Drug Stores	____	____	____	____	____
Other (specify)_____	____	____	____	____	____

8. Below are things that some people say they do when shopping for Christmas presents. Please check all that you did this past Christmas season:

___Kept track of all people to buy for.

___Set a budget in advance and stuck to it.

___Set a budget in advance, but exceeded it.

___Did not set a budget in advance

___Kept track of the amount of money I spent on each person.

___Kept track of the number of presents I bought for each person.

___Kept track of exactly what I bought each person

___Kept a file of ads and articles used for Christmas gift ideas.

___Consulted others buying for the same person, to ensure we didn't buy duplicate gifts.

___Went shopping just to look, then returned at a later time to buy.

___Shopped at one or at a few favorite stores.

___Almost always bought well-known, brand-name products.

___Usually brought someone with me to help pick out Christmas gifts.

___Remembered ads for products once I saw the products displayed in the store.

___Other (please specify: _____)

Part III. Now we'd like to know more about how you celebrated Christmas. Please place a check mark in the blanks by the activities you participated in this past Christmas:

____Did most or all of the Christmas shopping for my family
____Made Christmas gifts
____Attended at least one Christmas play
____Trimmed the Christmas tree
____Baked holiday goods
____Bought gift wrap
____Wrapped presents
____Listened to Christmas carols
____Bought Christmas music
____Helped make Christmas dinner
____Had out-of-town guests for Christmas Day celebration
____Spent Christmas Day with family members and/or friends
____Stuffed stockings
____Attended a special church service
____Visited friends or relatives
____Travelled over 50 miles
____Wrote and addressed Christmas cards
____Mailed Christmas cards
____Took Christmas photos
____Hosted a Christmas party
____Went to at least one Christmas party
____Decorated home or office
____Watched Christmas specials on TV
____Went caroling
____Attended civic Christmas activities
____Donated to church or charity
____Received presents
____Drew names for presents
____Participated in a pageant or other church-related activity
____Sponsored a child or family

2. Please indicate if you Strongly Agree, Agree, Are Neutral, Disagree or Strongly Disagree with the following statements:

	SA	A	N	D	SD
1. I love to shop.	____	____	____	____	____
2. I love to Christmas shop.	____	____	____	____	____
3. I often feel that if someone buys me a Christmas gift, I must get them one in return.	____	____	____	____	____
4. I often give Christmas gifts to help someone know what kind of person I think they should be.	____	____	____	____	____

APPENDIX A, CONTINUED

	SA	A	N	D	SD
5. I often feel that I run a high risk of buying someone a Christmas gift they won't like.	____	____	____	____	____
6. Christmas shopping is one of my least favorite activities.	____	____	____	____	____
7. When I am Christmas shopping, I usually feel pressed for time.	____	____	____	____	____
8. I often worry about what can happen if I buy a Christmas gift for someone and they don't like it.	____	____	____	____	____
9. I often buy people Christmas gifts because I know they are buying me one.	____	____	____	_____	____
10. In general, shopping is one of my favorite activities.	____	____	____	_____	____
11. I love the Christmas season.	____	____	____	_____	____
12. I often give Christmas gifts to friends and/or family members in the hopes of strengthening my relationship with them.	____	____	____	_____	____
13. There's never enough time to get all of the Christmas shopping done.	____	____	____	_____	____
14. I often give Christmas presents to people in order to help reinforce some aspect of their identity.	____	____	____	_____	____
15. Christmas is my favorite time of year.	____	____	____	____	____
16. I often give Christmas presents as a way to show family and friends I want to be close to them.	____	____	____	____	____
17. Shopping is fun.	____	____	____	____	____
18. I always feel rushed while Christmas shopping.	____	____	____	____	____
19. I never worry about what the consequences would be if I bought someone a Christmas present they didn't like.	____	____	____	____	____
20. I look forward to Christmas every year.	____	____	____	____	____
21. Christmas shopping is fun.	____	____	____	____	____
22. I would never buy someone a Christmas gift just because they bought me one.	____	____	____	____	____
23. I never give people Christmas gifts in the hopes that giving that gift can strengthen our relationship.	____	____	____	____	____

	SA	A	N	D	SD
24. I often give Christmas gifts to help shape a person's tastes or personality.	____	____	____	____	____

Part IV. The following questions examine how you use different media. Please place a check mark in the appropriate blanks.

1. How many times a week do you read a daily newspaper, if any? _____ times a week
(If 0, skip to question 3)

2. On the last weekday that you read the daily newspaper, how much time did you say you spent reading it?

_____ 1-15 minutes
_____ 16-30 minutes
_____ 31-44 minutes
_____ 45 minutes - 1 hour
_____ More than 1 hour

3. Approximately how many magazines do you subscribe to (if any)
_____ magazines

4. Not counting any you may subscribe to, how many magazines did you buy at a newsstand or store last month? _____ magazines

5. On an average weekday, approximately much time do you spend with the following?

	No time	Under 1 hr.	1-2 hrs.	2-3 hrs.	3-4 hrs.	4-5 hrs.	5-6 hrs.	6+ hrs.
Magazines	_____	_____	_____	_____	_____	_____	_____	_____
Radio	_____	_____	_____	_____	_____	_____	_____	_____
Network TV	_____	_____	_____	_____	_____	_____	_____	_____
Cable TV	_____	_____	_____	_____	_____	_____	_____	_____

7. Do you subscribe to cable TV? Yes _____ No _____

8. Last year, did you pay for any Christmas catalogs sent to your home?
Yes _____ No _____

Part V. For the following, please place a check in the appropriate blanks.

1. Are you: Male _____ Female _____

2 Are you: Never Been Married _____
Married _____ Separated/ Widowed/ Divorced _____

3. How many children do you have? _____ (If 0, please go to question 5)

4. What are the ages of your children? _____, _____, _____

5. What is the total number of people in your household? _____

6. Which of the following categories best describes your age?

Under 19 years old ____ 20-24 years old ____
25-34 years old ____ 35-44 years old ____
45-54 years old ____ 55-64 years old ____
65 years or older ____

7. Which of the following best describes your annual household income?

Under $14,999	_____	$15,000 - 19,999	_____
$20,000 -24,999	_____	$25,000 -34,999	_____
$35,000 - 49,999	_____	$50,000+	_____

8. On the average, how many hours per week do you participate in the following activities?

Work for pay in or outside of the home _____
Do volunteer/ church work outside of the home _____
Attend/ study for classes _____
Participate in clubs/ interest groups _____
Do housework _____
Take children to clubs/lessons/ activities _____

9. What is your religion?

Catholic _____ Protestant _____ Jewish ___
Other _____ No religion _____

10. What is your current occupation?

Managerial/Professional _____
Technical/Sales/Administrative support _____
Service _____
Farming/Forestry/Fishing _____
Precision production, craft and repair _____
Operator/Fabricator/Laborer _____
Other _____

12. What is the highest level of education you have achieved?

_____One to three years of high school
_____ Four years of high school
_____ One-Three years of college
_____ Four or more years of college

THANKS AGAIN FOR PARTICIPATING!!!!

APPENDIX B

INFORMATION SEARCH FACTOR LOADINGS

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9	FACTOR10	FACTOR11	
SHOWS2	0.84900	0.06198	0.14239	0.12530	0.01475	0.05052	0.19240	0.04242	0.09583	0.09928	0.12073	USE TV SHOWS TO LEARN FEATURES
SHOWS5	0.84030	-0.02179	0.13946	0.14535	0.03841	0.06551	0.18044	0.01214	-0.01970	0.16436	0.10468	USE TV SHOWS TO LEARN APPROPRIATENESS
SHOWS3	0.83931	0.07643	0.13641	0.12369	-0.03599	0.10350	0.11840	0.03557	0.08285	0.12462	0.11177	USE TV SHOWS TO LEARN IDEAS
SHOWS7	0.82475	0.05688	0.16150	0.16922	0.06067	0.13432	0.16345	-0.03450	0.06251	0.06331	0.09762	USE TV SHOWS TO LEARN NEW GIFTS
SHOWS4	0.82121	0.02002	0.27056	0.13973	0.02975	0.09568	0.10944	-0.02201	0.09024	0.04206	0.08903	USETV SHOWS TO LEARN GIFT LOCATION
SHOWS6	0.75542	0.03080	0.06023	0.17164	0.01044	0.11513	0.19998	0.06757	0.04011	0.13598	0.10136	USE TV SHOWS TO LEARN BRAND NAMES
SHOWS1	0.74056	0.04282	0.19793	0.08073	0.04326	0.05075	0.19695	-0.06272	0.03560	0.12100	0.14815	USE TV SHOWS TO LEARN PRICE
CATALOG1	0.01108	0.89715	-0.00658	0.03807	0.03764	0.06040	0.09212	0.12569	0.06683	0.10696	0.03528	USE CATALOGS FOR PRICE
CATALOG3	-0.00779	0.89092	-0.04360	0.04755	0.08245	-0.02018	0.10009	0.04103	0.10752	0.05926	0.01707	USE CATALOGS FOR IDEAS
CATALOG2	-0.03145	0.87171	0.06747	0.09365	0.08821	-0.01952	0.12217	0.13825	0.01928	0.08352	0.01741	USE CATALOGS FOR FEATURES
CATALOG7	0.03699	0.84422	0.02423	0.05047	0.04306	0.04462	0.18312	0.04197	0.12094	0.08315	0.01474	USE CATALOG TO LEARN NEW GIFTS
CATALOG4	0.10482	0.82734	0.00288	0.19944	-0.04064	0.06036	0.12461	0.13932	0.05321	0.05019	0.08498	USE CATALOGS FOR GIFT LOCATION
CATALOG5	0.06061	0.79162	0.04482	0.19043	0.06424	0.07562	0.13170	0.08244	0.05237	0.10215	0.16431	USE CATALOGS FOR BRAND NAMES
CATALOG6	0.11259	0.70075	0.03109	0.08612	0.04831	-0.03003	0.15400	0.07171	0.13469	0.08001	0.14798	USE CATALOG FOR APPROPRIATENESS
RADAD3	0.11173	0.05978	0.81269	0.09877	0.09543	0.11007	-0.00742	0.12525	0.14682	0.20718	0.05517	USE RADIO ADS FOR IDEAS
RADAD4	0.15069	0.07168	0.80220	0.12279	0.12899	0.12498	0.03147	0.10181	0.07869	0.22044	0.02401	USE RADIO ADS FOR GIFT LOCATION
RADAD7	0.12322	0.01047	0.78651	0.06782	0.02742	0.06623	0.06054	0.14810	0.12784	0.18478	0.06844	USE RADIO ADS TO LEARN NEW GIFTS
RADAD2	0.21630	-0.00601	0.77981	0.11798	0.08718	0.07221	0.02940	0.07373	0.18969	0.17439	0.01876	USE RADIO ADS FOR FEATURES
RADAD5	0.15828	-0.03651	0.77330	0.10032	0.05591	0.14543	0.08085	0.16582	0.08630	0.17458	0.04873	USE RADIO ADS FOR BRAND NAMES
RADAD1	0.20858	0.05084	0.73098	0.09026	0.03827	0.02321	0.09364	0.15086	0.15278	0.14518	0.03389	USE RADIO ADS FOR PRICE
RADAD6	0.17146	-0.08733	0.65438	0.10893	0.09901	0.09187	0.11861	0.06201	0.07945	0.18593	0.02475	USE RADIO ADS FOR APPROPRIATE
ARTICLE4	0.12046	0.10113	0.06646	0.84821	0.07679	0.03566	0.12280	0.11879	0.15441	0.07769	0.08946	USE N/MAG ART FOR GIFT LOCATION
ARTICLE7	0.12962	0.14763	0.11241	0.79806	0.09188	0.06457	0.16364	0.01954	0.18467	0.04825	0.09541	USE N/MAG ART TO LEARN NEW GIFTS
ARTICLE5	0.15401	0.10736	0.06097	0.78531	0.13763	0.08896	0.16869	0.08365	0.19336	0.16536	0.09428	USE N/MAG ART TO LEARN BRAND NAMES
ARTICLE2	0.19002	0.16192	0.14224	0.78030	0.05866	0.12758	0.23086	0.05663	0.23946	0.07412	0.08674	USE N/MAG ARTICLES TO LEARN FEATURES
ARTICLE3	0.25128	0.14628	0.06844	0.77567	0.11051	0.03455	0.16229	0.07724	0.16247	0.14090	-0.02006	USE N/MAG ARTICLES TO LEARN IDEAS
ARTICLE1	0.07741	0.14365	0.19034	0.77279	0.04198	0.14007	0.13418	0.02898	0.22385	0.07918	0.06985	USE NEWSP/MAG ARTICLES TO LEARN PRICE
ARTICLE6	0.17870	-0.01337	0.14779	0.73365	0.15168	0.09988	0.22487	0.03838	0.15972	0.08836	0.09700	USE N/MAG ART FOR APPROPRIATENESS
DISPLAY5	0.05569	0.01755	0.03515	0.09046	0.84275	0.12336	-0.02121	0.18885	0.03055	0.11686	0.01308	USE DISPLAY TO LEARN BRANDS
DISPLAY2	-0.00008	0.03450	0.13687	0.06980	0.83957	0.08968	0.01918	0.17449	0.06632	0.11256	0.01077	USE DISPLAY TO LEARN FEATURES
DISPLAY4	0.10587	0.04023	0.08056	0.07315	0.81278	0.10411	0.02543	0.15469	0.06957	0.07670	0.00486	USE DISPLAY TO LEARN GIFT LOCATION
DISPLAY3	-0.04345	0.01643	0.08089	0.11035	0.81099	0.12372	0.02663	0.10939	0.04974	0.10914	-0.01480	USE DISPLAY TO LEARN IDEAS
DISPLAY1	0.02065	0.10458	0.10279	0.06128	0.80862	0.07140	-0.01986	0.01519	0.08354	0.07514	-0.00238	USE DISPLAY TO LEARN PRICE
DISPLAY7	0.01133	0.02433	0.04038	0.06715	0.73598	0.11001	0.04552	0.12368	0.05850	0.08228	0.10694	USE DISPLAY TO LEARN NEW GIFTS
DISPLAY6	0.01618	0.07584	-0.01672	0.05496	0.71849	0.05701	-0.03347	0.08122	0.14051	0.10490	0.02232	USE DISPLAY TO LEARN APPROPRIATE
SALES5	0.03275	-0.00221	0.13699	0.09250	0.11799	0.82462	0.12425	0.10133	0.15817	0.10856	0.11099	USE SALESPEOPLE TO LEARN APPROPRIATENESS
SALES3	0.09795	0.05703	0.03552	0.08111	0.11200	0.82043	0.04565	0.10713	0.03882	0.13928	0.07756	USE SALESPEOPLE TO LEARN IDEAS
SALES2	-0.02683	0.07304	0.15995	0.02162	0.10750	0.79511	0.05508	0.07799	0.12791	0.07806	0.09897	USE SALESPEOPLE TO LEARN FEATURES
SALES1	0.17028	0.05086	0.06330	0.06950	-0.03921	0.79438	0.11853	0.06224	0.04906	0.15195	0.14791	USE SALESPEOPLE FOR PRICE INFO
SALES4	0.11991	-0.02054	0.10439	0.05592	0.12025	0.79332	0.12919	0.13302	-0.01985	0.10521	0.05538	USE SALESPEOPLE TO LEARN GIFT LOCATION
SALES6	0.06811	-0.03583	0.01208	0.12626	0.09989	0.79135	0.07935	0.14623	0.01698	0.15705	0.06659	USE SALESPEOPLE TO LEARN BRAND NAMES
SALES7	0.15324	0.05473	0.09863	0.06768	0.25127	0.69990	-0.04286	0.04504	0.12971	0.01189	0.09436	USE SALESPEOPLE TO LEARN NEW GIFTS
MAGAD2	0.21066	0.21743	0.01684	0.18822	0.06714	0.04768	0.77637	0.12207	0.18325	0.00630	0.02143	USE MAGAZINE ADS FOR FEATURES
MAGAD5	0.21319	0.07350	-0.05355	0.23227	-0.01324	0.04287	0.75882	0.16004	0.18492	0.11343	0.07929	USE MAGAZINE ADS FOR BRAND NAMES
MAGAD4	0.22969	0.13572	0.13540	0.20355	-0.04505	0.10524	0.74974	0.16647	0.12991	0.01455	0.17903	USE MAGAZINE ADS FOR GIFT LOCATION
MAGAD7	0.15890	0.20226	0.01842	0.14627	0.00365	0.16545	0.74106	0.09749	0.23879	0.19745	0.10395	USE MAGAZINE ADS TO LEARN NEW GIFTS
MAGAD6	0.26331	0.12798	0.19860	0.19618	0.04719	0.07732	0.71773	0.03481	0.08172	0.13339	0.06678	USE MAGAZINE ADS FOR APPROPRIATENESS
MAGAD1	0.22273	0.21973	0.15613	0.20741	-0.01180	0.18302	0.71597	0.04667	0.06449	0.00719	0.05039	USE MAGAZINE ADS FOR PRICE
MAGAD3	0.17783	0.29197	0.05099	0.15848	-0.01457	0.07360	0.71050	0.08579	0.09638	0.12909	0.02478	USE MAGAZINE ADS FOR IDEAS
FRFAM4	0.00568	0.14516	0.11544	0.08254	0.12642	0.07381	0.10278	0.80272	0.05680	0.16381	0.15067	USE FRFRAMILY TO LEARN GIFT LOCATION
FRFAM7	0.01189	0.04187	0.15685	0.10209	0.11151	0.12919	0.04003	0.79443	0.09694	0.10104	0.16885	USE FR/FAM TO LEARN ABOUT NEW GIFTS

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9	FACTOR10	FACTOR11	
FRFAM2	0.04619	0.07872	0.14189	0.04214	0.12599	0.13522	0.08389	0.78938	0.06764	-0.01495	0.07405	USE FRIENDS/FAM TO LEARN FEATURES
FRFAM1	-0.01488	0.12422	0.14942	-0.01173	0.15052	0.08456	0.11158	0.77819	0.10014	0.11851	0.17423	USE FRIENDS/FAMILY TO LEARN PRICE
FRFAM5	0.07707	0.13035	0.07024	0.10364	0.13098	0.17335	0.09504	0.76518	0.06973	0.18155	0.22054	USE FRIENDS/FAMILY TO LEARN BRANDS
FRFAM6	-0.08409	0.17598	0.10557	0.06272	0.19665	0.06340	0.10809	0.65072	0.00650	0.07762	0.18077	USE FRIENDS/FAMILY FOR APPROPRIATENESS
FRFAM3	-0.04523	0.09286	0.16368	0.03606	0.21318	0.08193	0.11577	0.62872	-0.05790	0.05304	0.19846	USE FRIENDS/FAM TO LEARN IDEAS
NEWSAD3	0.10541	0.05337	0.06423	0.10485	0.15115	0.01674	0.06619	0.03167	0.78111	0.22902	-0.09522	USE NEWSPAPER ADS FOR IDEAS
NEWSAD4	0.09639	0.09896	0.16517	0.23075	0.05393	0.12204	0.03724	0.09259	0.78045	0.16552	0.02121	USE NEWSPAPER ADS FOR GIFT LOCATION
NEWSAD1	0.02600	0.06249	0.13986	0.26611	0.00402	0.08808	0.15957	0.08225	0.75514	0.00498	-0.00553	USE NEWSPAPER ADS FOR PRICE
NEWSAD5	0.07451	0.09167	0.10651	0.20307	0.08691	0.09462	0.08538	0.06465	0.75086	0.19876	0.06929	USE NEWSPAPER AD FOR BRAND NAMES
NEWSAD7	-0.00568	0.17703	0.09834	0.24806	0.05833	0.06150	0.16518	0.00009	0.71749	0.10426	-0.06451	USE NEWSPAPER AD TO LEARN NEW GIFTS
NEWSAD2	0.05555	0.09583	0.21225	0.15790	0.07735	0.06504	0.19890	0.10656	0.71670	0.05866	0.04418	USE NEWSPAPER ADS FOR FEATURES
NEWSAD6	0.03292	0.00667	0.15917	0.02548	0.17977	0.08964	0.17959	-0.01912	0.54882	0.16173	0.16026	USE NEWSPAPER AD FOR APPROPRIATENESS
TVAD3	0.14689	0.15175	0.26292	0.08079	0.11227	0.16107	0.08176	0.09631	0.16241	0.78182	0.04375	USE TVADS FOR IDEAS
TVAD4	0.06507	0.12456	0.32790	0.17332	0.19107	0.17696	0.07224	0.11009	0.14284	0.75924	0.04560	USE TVADS FOR GIFT LOCATION
TVAD5	0.16092	0.10220	0.21662	0.17691	0.23552	0.16406	0.09424	0.15611	0.14133	0.75044	0.09143	USE TVADS FOR BRAND NAMES
TVAD7	0.16456	0.08803	0.14034	0.08938	0.10958	0.11439	0.05800	0.14881	0.18208	0.72355	0.05156	USE TVADS TO LEARN NEW GIFTS
TVAD2	0.12597	0.14224	0.38074	0.15959	0.17143	0.12885	0.10010	0.13588	0.15539	0.70020	-0.01374	USE TVADS FOR FEATURES
TVAD1	0.16232	0.12157	0.34985	0.05481	0.09585	0.16735	0.11565	0.09499	0.23508	0.66584	0.12213	USE TV ADS FOR PRICE
TVAD6	0.21609	0.08812	0.23140	0.06360	0.09719	0.17836	0.13576	0.07800	0.13632	0.63396	0.03703	USE TVADS FOR APPROPRIATENESS
RECEIVR2	0.10432	0.02989	0.00645	0.12375	0.01359	0.03305	0.02643	0.17386	0.02285	-0.07641	0.81585	USE RECEIVER TO LEARN ABOUT FEATURES
RECEIVR5	0.15950	0.10484	-0.00488	0.09359	0.01013	0.15718	0.10713	0.10501	-0.02945	0.05590	0.81354	USE RECVR TO LEARN ABOUT BRAND NAMES
RECEIVR4	0.12968	0.11476	0.07258	0.09417	0.00740	0.17418	0.00606	0.18685	0.00746	0.05541	0.80178	USE RECEIVER TO LEARN GIFT LOCATION
RECEIVR7	0.18258	-0.01227	0.02004	-0.01630	0.03295	0.08259	0.08493	0.18945	0.12438	0.09213	0.75194	USE RECEIVER TO LEARN NEW GIFTS
RECEIVR6	0.02931	0.13989	0.09017	0.11347	0.01109	0.08526	0.00083	0.08715	-0.03054	0.09727	0.75125	USE RECVR TO LEARN APPROPRIATENESS
RECEIVR3	0.00009	0.10495	0.02762	-0.03736	0.05433	0.08418	0.02060	0.13211	-0.01289	0.06532	0.70373	USE RECEVIER TO LEARN ABOUT IDEAS
RECEIVR1	0.16665	-0.04725	0.07343	0.06786	-0.00303	0.03999	0.22581	0.11365	-0.02101	0.00424	0.61389	USE RECEIVER TO LEARN ABOUT PRICE

APPENDIX C

CRONBACH'S ALPHA FOR LIFESTYLE MEASURES

SCALE 1: "Like to Shop"
Number of items: 5
Average Correlation: .703
Coefficient Alpha: .922

Item	Average r	Item-deleted alpha
LIKSHOP1	.735	.895
LIKSHOP2	.682	.910
LIKSHOP3	.750	.891
XMASSHP3	.683	.910
XMASSHP1	.665	.915

SCALE 2: "Like Christmas"
Number of items: 4
Average Correlation: .595
Coefficient Alpha: .855

Item	Average r	Item-deleted alpha
LOVXMAS1	.617	.807
LOVXMAS2	.613	.803
LOVXMAS3	.663	.769
XMASSHP2	.487	.877.*

SCALE 3: "Use gifts to enhance social bonds"
Number of items: 3
Average Correlation: .483
Coefficient Alpha: .737

Item	Average r	Item-deleted alpha
BOND1	.525	.571
BOND2	.505	.611
BOND3	.420	.758*

SCALE 4: "Under time pressure while Christmas shopping"
Number of items: 3
Average Correlation: .483
Coefficient Alpha: .737

Item	Average r	Item-deleted alpha
TIME3	.475	.667
TIME2	.425	.750*
TIME1	.550	.519

SCALE 5: "Use gifts to mold a person's identity"
Number of items: 3
Average Correlation: .457
Coefficient Alpha: .716

Item	Average r	Item-deleted alpha
IDENT3	.440	.658
IDENT1	.455	.630
IDENT2	.475	.592

SCALE 6: "Gift-giving is risky"
Number of items: 3
Average Correlation: .390
Coefficient Alpha: .657

Item	Average r	Item-deleted alpha
RISK2	.405	.529
RISK1	.475	.361
RISK3	.290	.742*

SCALE 7: "I feel obliged to reciprocate gifts"
"

Number of items: 3
Average Correlation: .327
Coefficient Alpha: .593**

Item	Average r	Item-deleted alpha
OBLIG1	.325	.496
OBLIG2	.320	.507
OBLIG3	.335	.473

*Indicates an item that was eliminated, in order to improve Cronbach's alpha

**Indicates Cronbach's alpha was too low to allow scale to be retained for further analysis

APPENDIX D

MEANS AND RELATED STATISTICS OF VARIABLES

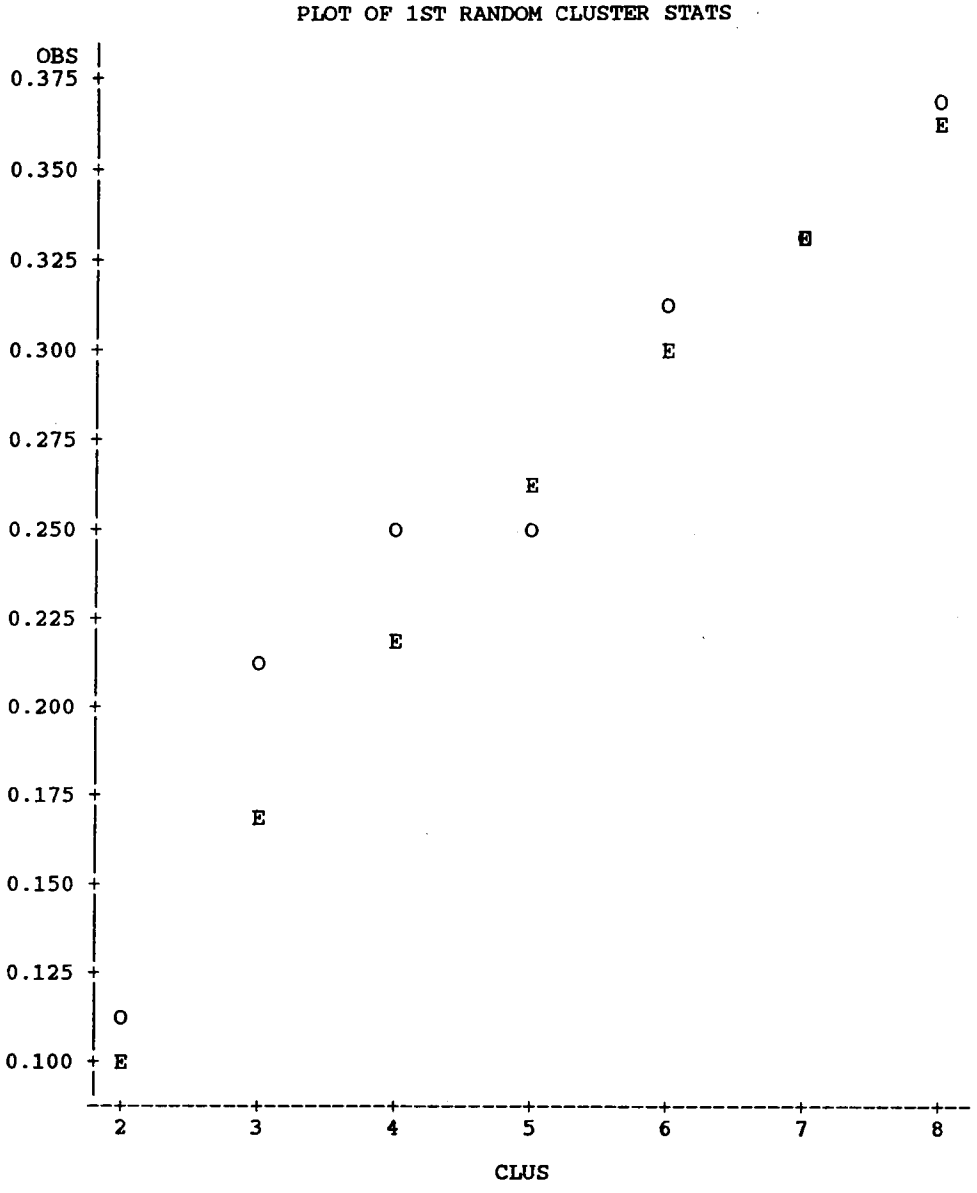
VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
NEWSAD1	191	2.75392670	1.48932085	1.00000000	5.0000000
NEWSAD2	191	2.40837696	1.26521601	1.00000000	5.0000000
NEWSAD3	191	2.70680628	1.34081898	1.00000000	5.0000000
NEWSAD4	191	2.96858639	1.39512595	1.00000000	5.0000000
NEWSAD5	191	2.51308901	1.33715581	1.00000000	5.0000000
NEWSAD6	191	1.74869110	1.08564115	1.00000000	5.0000000
NEWSAD7	191	2.67015707	1.44772034	1.00000000	5.0000000
MAGAD1	191	1.82722513	1.22538593	1.00000000	5.0000000
MAGAD2	191	2.22513089	1.25093517	1.00000000	5.0000000
MAGAD3	191	2.35602094	1.32940544	1.00000000	5.0000000
MAGAD4	191	1.94764398	1.24282454	1.00000000	5.0000000
MAGAD5	191	2.26701571	1.30863971	1.00000000	5.0000000
MAGAD6	191	1.81675393	1.13459102	1.00000000	5.0000000
MAGAD7	191	2.40314136	1.29768643	1.00000000	5.0000000
RADAD1	191	1.70680628	0.98830304	1.00000000	5.0000000
RADAD2	191	1.67015707	0.96305407	1.00000000	5.0000000
RADAD3	191	1.87434555	1.10259095	1.00000000	5.0000000
RADAD4	191	2.01047120	1.15617122	1.00000000	5.0000000
RADAD5	191	1.74869110	1.02581719	1.00000000	5.0000000
RADAD6	191	1.47643979	0.83238395	1.00000000	5.0000000
RADAD7	191	1.91623037	1.13011338	1.00000000	5.0000000
TVAD1	191	2.36649215	1.33839171	1.00000000	5.0000000
TVAD2	191	2.70680628	1.40221845	1.00000000	5.0000000
TVAD3	191	2.86910995	1.40249355	1.00000000	5.0000000
TVAD4	191	2.72774869	1.36467257	1.00000000	5.0000000
TVAD5	191	2.64921466	1.40206123	1.00000000	5.0000000
TVAD6	191	2.16753927	1.30714382	1.00000000	5.0000000
TVAD7	191	2.94764398	1.48231050	1.00000000	5.0000000
CATALOG1	191	3.14659686	1.50769131	1.00000000	5.0000000
CATALOG2	191	2.98429319	1.48138072	1.00000000	5.0000000
CATALOG3	191	3.18848168	1.46756988	1.00000000	5.0000000
CATALOG4	191	2.82722513	1.51709284	1.00000000	5.0000000
CATALOG5	191	2.69633508	1.53620762	1.00000000	5.0000000
CATALOG6	191	2.30890052	1.40445695	1.00000000	5.0000000
CATALOG7	191	3.07329843	1.57107711	1.00000000	5.0000000
DISPLAY1	191	3.57068063	1.29938409	1.00000000	5.0000000
DISPLAY2	191	3.41884817	1.33474253	1.00000000	5.0000000
DISPLAY3	191	3.41884817	1.36592391	1.00000000	5.0000000
DISPLAY4	191	3.06806283	1.36519747	1.00000000	5.0000000
DISPLAY5	191	3.17801047	1.39914945	1.00000000	5.0000000
DISPLAY6	191	2.74869110	1.44356498	1.00000000	5.0000000
DISPLAY7	191	3.20942408	1.40604529	1.00000000	5.0000000
SALES1	191	2.20418848	1.27946668	1.00000000	5.0000000
SALES2	191	2.38743455	1.29641173	1.00000000	5.0000000
SALES3	191	1.86910995	1.19588714	1.00000000	5.0000000
SALES4	191	2.25654450	1.33461865	1.00000000	5.0000000
SALES5	191	1.90052356	1.14962224	1.00000000	5.0000000
SALES6	191	1.87958115	1.17031342	1.00000000	5.0000000
SALES7	191	1.81675393	1.10640810	1.00000000	5.0000000

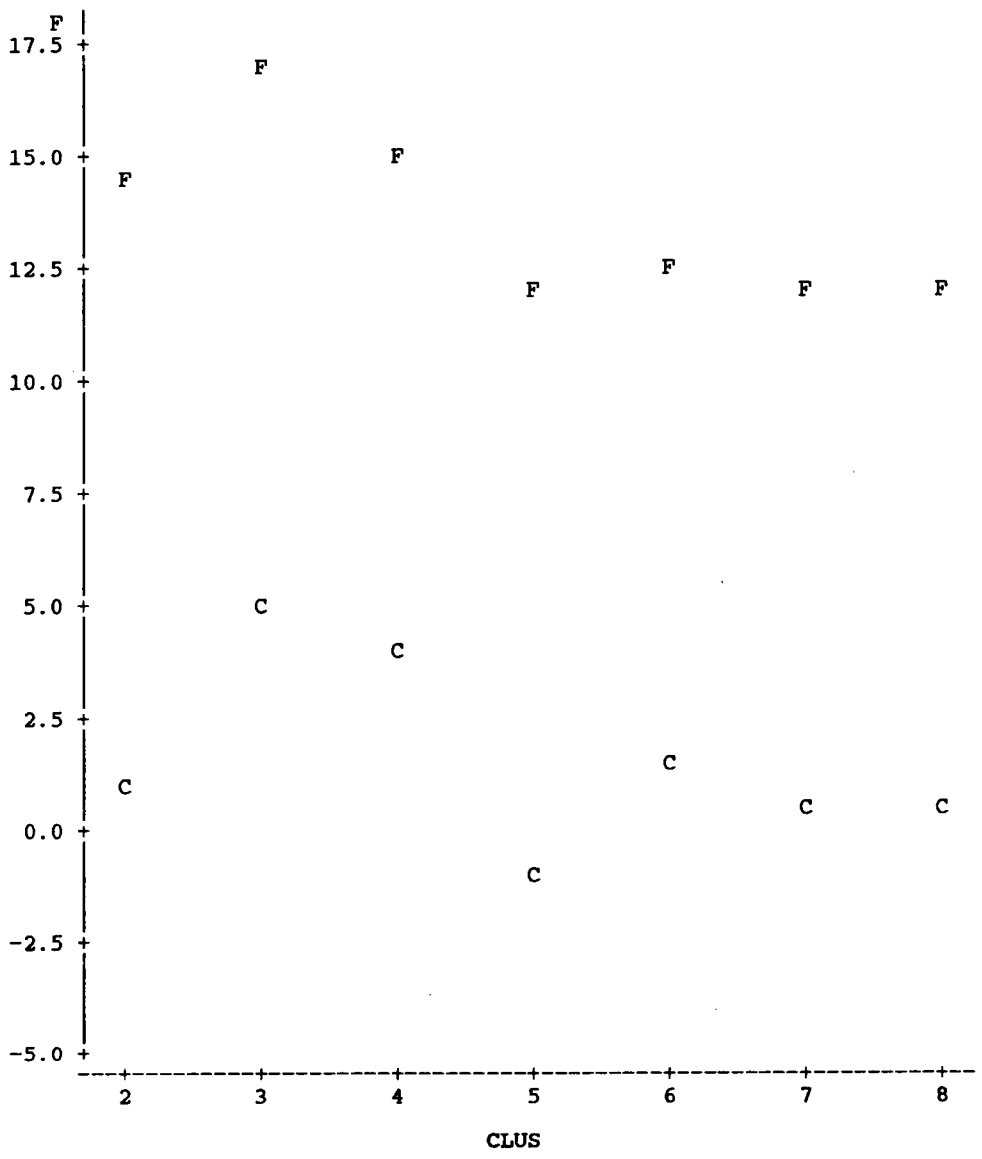
VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE
SHOWS1	191	1.45549738	0.94415578	1.00000000	5.0000000
SHOWS2	191	1.61256545	1.00872468	1.00000000	5.0000000
SHOWS3	191	1.72774869	1.06089072	1.00000000	5.0000000
SHOWS4	191	1.52356021	0.95598937	1.00000000	5.0000000
SHOWS5	191	1.53403141	0.98816362	1.00000000	5.0000000
SHOWS6	191	1.47120419	0.92790546	1.00000000	5.0000000
SHOWS7	191	1.71727749	1.13028405	1.00000000	5.0000000
ARTICLE1	191	2.25130890	1.27307579	1.00000000	5.0000000
ARTICLE2	191	2.35078534	1.26802246	1.00000000	5.0000000
ARTICLE3	191	2.29319372	1.30903973	1.00000000	5.0000000
ARTICLE4	191	2.22513089	1.31252944	1.00000000	5.0000000
ARTICLE5	191	2.09424084	1.27383314	1.00000000	5.0000000
ARTICLE6	191	1.90575916	1.09136241	1.00000000	5.0000000
ARTICLE7	191	2.32984293	1.29415670	1.00000000	5.0000000
FRFAM1	191	2.46073298	1.38688499	1.00000000	5.0000000
FRFAM2	191	2.60209424	1.37220369	1.00000000	5.0000000
FRFAM3	191	3.71204188	1.30416802	1.00000000	5.0000000
FRFAM4	191	3.07329843	1.29974455	1.00000000	5.0000000
FRFAM5	191	2.67539267	1.40651556	1.00000000	5.0000000
FRFAM6	191	3.46073298	1.41319998	1.00000000	5.0000000
FRFAM7	191	2.62827225	1.38147010	1.00000000	5.0000000
RECEIVR1	191	1.74869110	1.18307621	1.00000000	5.0000000
RECEIVR2	191	2.19895288	1.39253610	1.00000000	5.0000000
RECEIVR3	191	3.30366492	1.43707934	1.00000000	5.0000000
RECEIVR4	191	2.35602094	1.41382381	1.00000000	5.0000000
RECEIVR5	191	2.36125654	1.42547000	1.00000000	5.0000000
RECEIVR6	191	2.88481675	1.53462831	1.00000000	5.0000000
RECEIVR7	191	2.05235602	1.32083793	1.00000000	5.0000000
NOBOUGHT	191	13.40837696	8.58828658	1.00000000	50.0000000
SPENDGIF	191	5.18324607	1.83042472	2.00000000	7.0000000
STRTSHOP	191	5.18848168	1.66893389	1.00000000	7.0000000
ENDSHOP	191	6.78534031	0.70411928	4.00000000	8.0000000
CASHCHK	191	3.82722513	1.44240010	1.00000000	5.0000000
STRCRED	191	1.44502618	0.94360109	1.00000000	5.0000000
GENCRED	191	1.90575916	1.31849928	1.00000000	5.0000000
LAYAWAY	191	1.23560209	0.77594732	1.00000000	5.0000000
OTHPAY	191	1.04712042	0.41406786	1.00000000	5.0000000
SHOPTRPS	191	3.87434555	1.32780843	1.00000000	6.0000000
CATALOG	191	1.58638743	1.08172525	1.00000000	5.0000000
DISCSTOR	191	2.12041885	1.28601868	1.00000000	5.0000000
DEPTSTOR	191	3.05759162	1.49449251	1.00000000	5.0000000
SPECSTOR	191	2.13612565	1.39635000	1.00000000	5.0000000
MLORDER	191	1.09947644	0.48725843	1.00000000	5.0000000
SUPERDRG	191	1.20942408	0.65543492	1.00000000	5.0000000
OTHPLACE	191	1.12565445	0.60255724	1.00000000	5.0000000
TRACKPPL	191	0.86910995	0.33816649	0.00000000	1.0000000
BUDSTUCK	191	0.25654450	0.43787357	0.00000000	1.0000000
BUDOVER	191	0.27225131	0.44628839	0.00000000	1.0000000
NOBUDGET	191	0.41884817	0.49466707	0.00000000	1.0000000
MONPEOP	191	0.54450262	0.49932443	0.00000000	1.0000000
NUMGIFTS	191	0.55497382	0.49827479	0.00000000	1.0000000
WHATPEOP	191	0.64397906	0.48007991	0.00000000	1.0000000

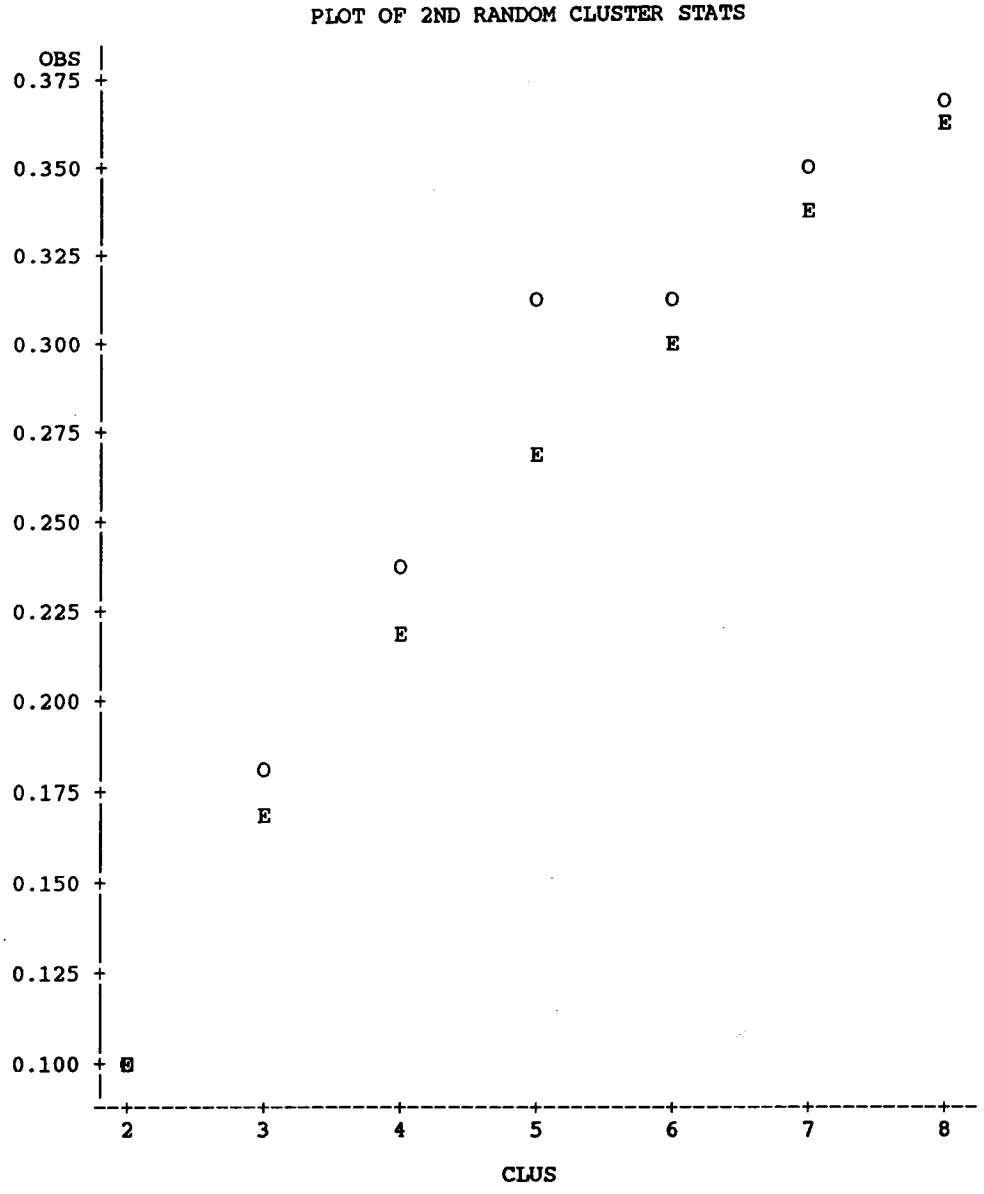
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FILE	191	0.02617801	0.16008402	0.00000000	1.0000000
CONSULT	191	0.56544503	0.49700120	0.00000000	1.0000000
LOOKBUY	191	0.65445026	0.47679697	0.00000000	1.0000000
STRLOYAL	191	0.62303665	0.48589927	0.00000000	1.0000000
BRANDNMS	191	0.43455497	0.49700120	0.00000000	1.0000000
BUDDY	191	0.29319372	0.45642289	0.00000000	1.0000000
RMBRADS	191	0.27225131	0.44628839	0.00000000	1.0000000
OTHSTRAT	191	0.04712042	0.21245329	0.00000000	1.0000000
XMASACT	191	1.97905759	0.60661368	1.00000000	3.0000000
LIKSHOP1	191	3.36649215	1.27391967	1.00000000	5.0000000
XMASSHP1	191	3.16753927	1.34289307	1.00000000	5.0000000
OBLIG1	191	4.02094241	1.01544968	1.00000000	5.0000000
IDENT1	191	1.84293194	1.03945319	1.00000000	5.0000000
RISK1	191	2.89528796	1.07582468	1.00000000	5.0000000
XMASSHP2	191	2.67015707	1.33420565	1.00000000	5.0000000
TIME1	191	3.38743455	1.15012549	1.00000000	5.0000000
RISK2	191	2.75392670	1.15493120	1.00000000	5.0000000
OBLIG2	191	2.82198953	1.10488781	1.00000000	5.0000000
LIKSHOP2	191	3.10994764	1.28286501	1.00000000	5.0000000
LOVXMAS1	191	4.08900524	1.06989156	1.00000000	5.0000000
BOND1	191	2.71204188	1.10777706	1.00000000	5.0000000
TIME2	191	3.08376963	1.21104497	1.00000000	5.0000000
IDENT2	191	2.43979058	1.03379116	1.00000000	5.0000000
LOVXMAS2	191	3.56544503	1.18528686	1.00000000	5.0000000
BOND2	191	3.20418848	1.17660674	1.00000000	5.0000000
LIKSHOP3	191	3.33507853	1.22378828	1.00000000	5.0000000
TIME3	191	3.35078534	1.11331034	1.00000000	5.0000000
RISK3	191	2.94240838	1.11063399	1.00000000	5.0000000
LOVXMAS3	191	3.75916230	1.06849985	1.00000000	5.0000000
XMASSHP3	191	3.18324607	1.26613042	1.00000000	5.0000000
OBLIG3	191	2.67015707	1.05685705	1.00000000	5.0000000
BOND3	191	3.09424084	1.06697720	1.00000000	5.0000000
IDENT3	191	2.23560209	0.98514735	1.00000000	5.0000000
READNEWS	191	3.72774869	2.49403808	0.00000000	7.0000000
TIMENEWS	191	1.75392670	1.17301805	0.00000000	5.0000000
SUBMAGS	191	2.63350785	2.55913796	0.00000000	9.0000000
OTHMAGS	191	1.26178010	1.96938542	0.00000000	9.0000000
TIMEMAGS	191	2.30890052	1.16251739	0.00000000	8.0000000
TIMERAD	191	4.35602094	2.17375563	1.00000000	8.0000000
TIMENET	191	4.08900524	2.00195551	1.00000000	8.0000000
TIMECABL	191	3.14659686	2.25002373	1.00000000	8.0000000
SUBSCABL	191	1.38219895	0.48720187	1.00000000	2.0000000
PAYCATS	191	1.93717277	0.24328966	1.00000000	2.0000000
NUMCHIL	191	1.10471204	1.46162447	0.00000000	7.0000000
AGEKID1	191	7.57068063	10.66642440	0.00000000	36.0000000
AGEKID2	191	5.48691099	9.84824785	0.00000000	35.0000000
AGEKID3	191	2.76439791	7.65451291	0.00000000	37.0000000
NOHH	191	2.94240838	1.54300884	1.00000000	9.0000000
AGE	191	3.25130890	1.26478035	1.00000000	6.0000000
INCOME	191	3.63874346	1.80652807	1.00000000	6.0000000
HRSACT	191	48.56544503	16.66084789	5.00000000	92.0000000
EDUC	191	3.14659686	0.64846088	2.00000000	4.0000000
NUMACTS	191	15.77486911	5.28120768	2.00000000	30.0000000

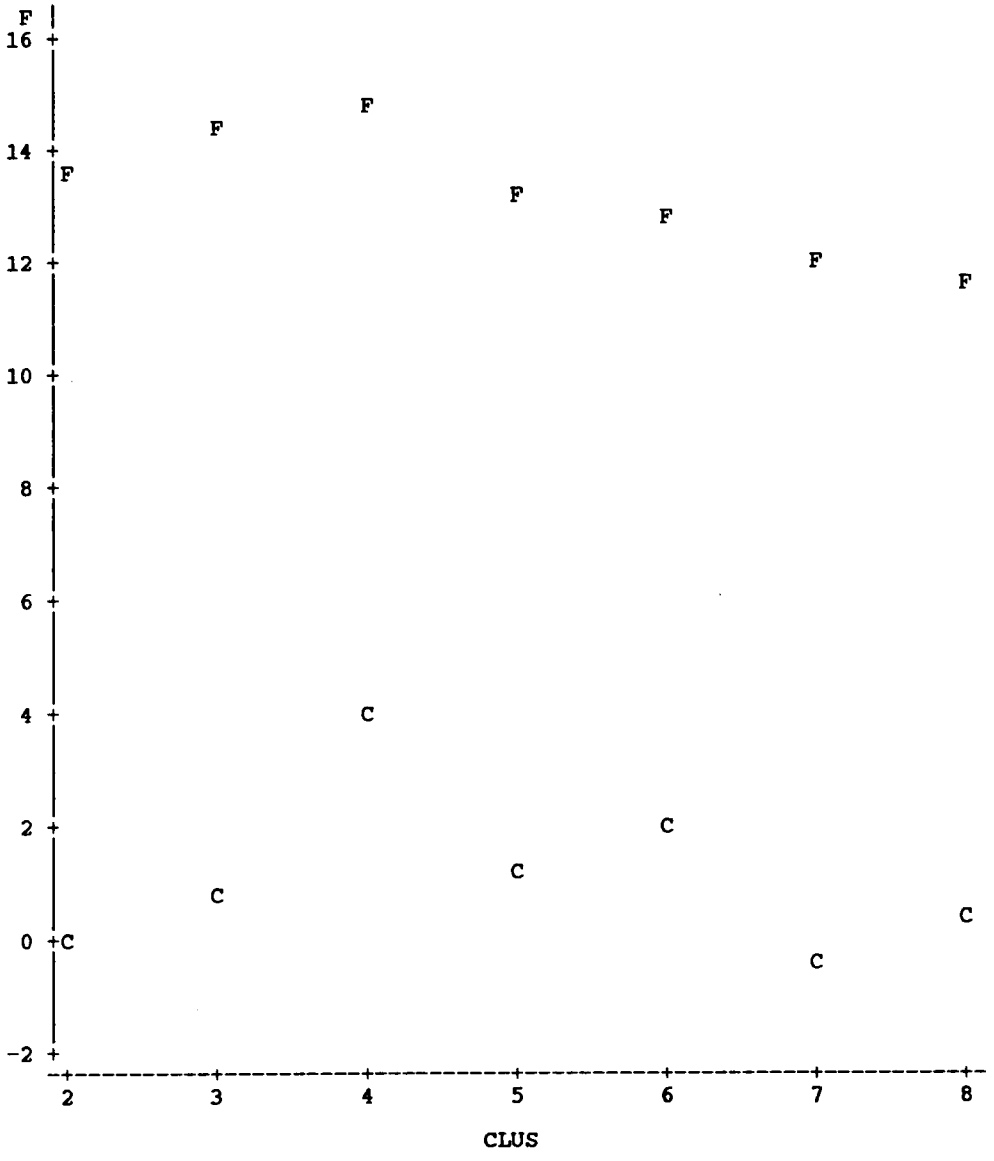
APPENDIX E

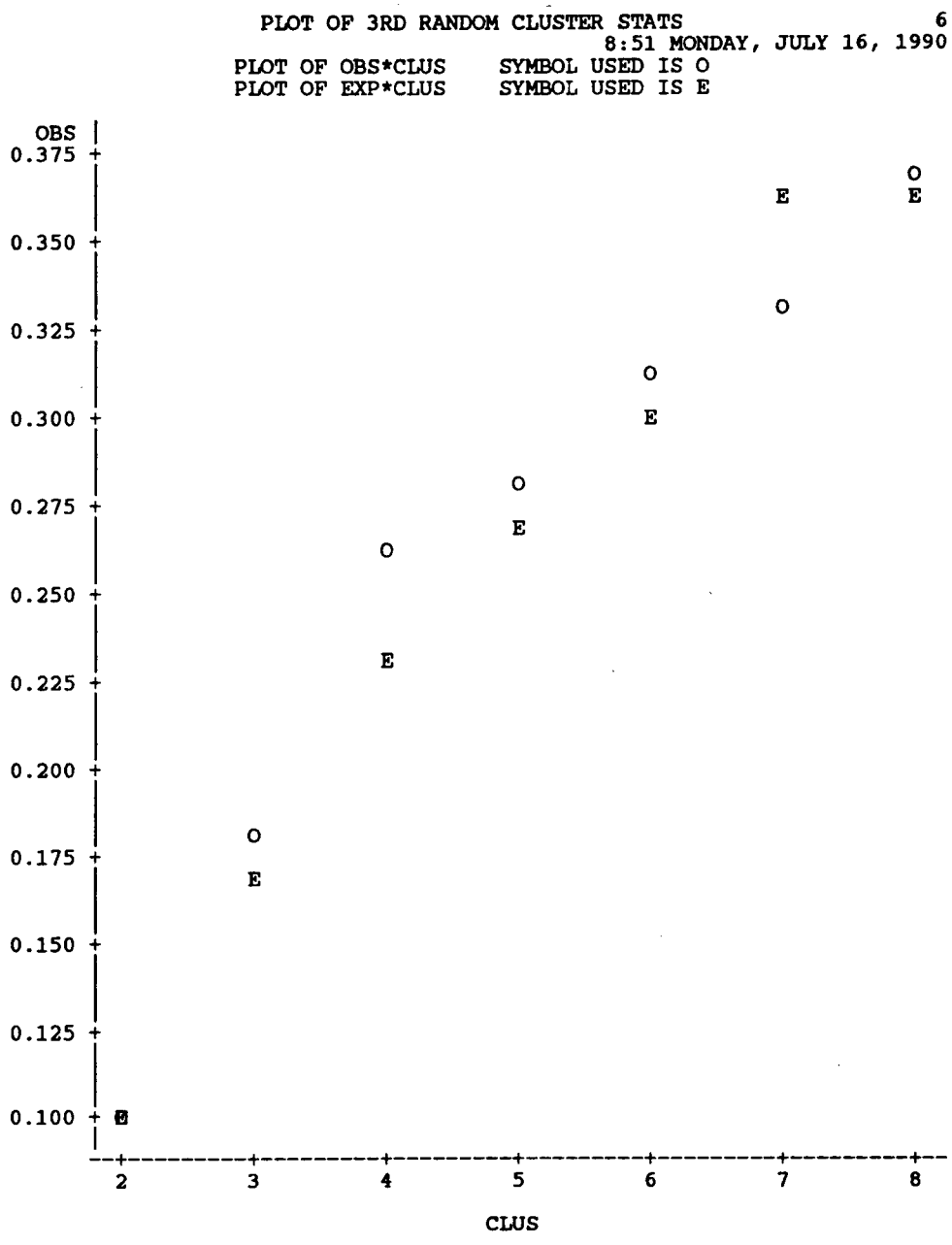
STATISTICS FOR TEN RANDOM CLUSTER MEANS

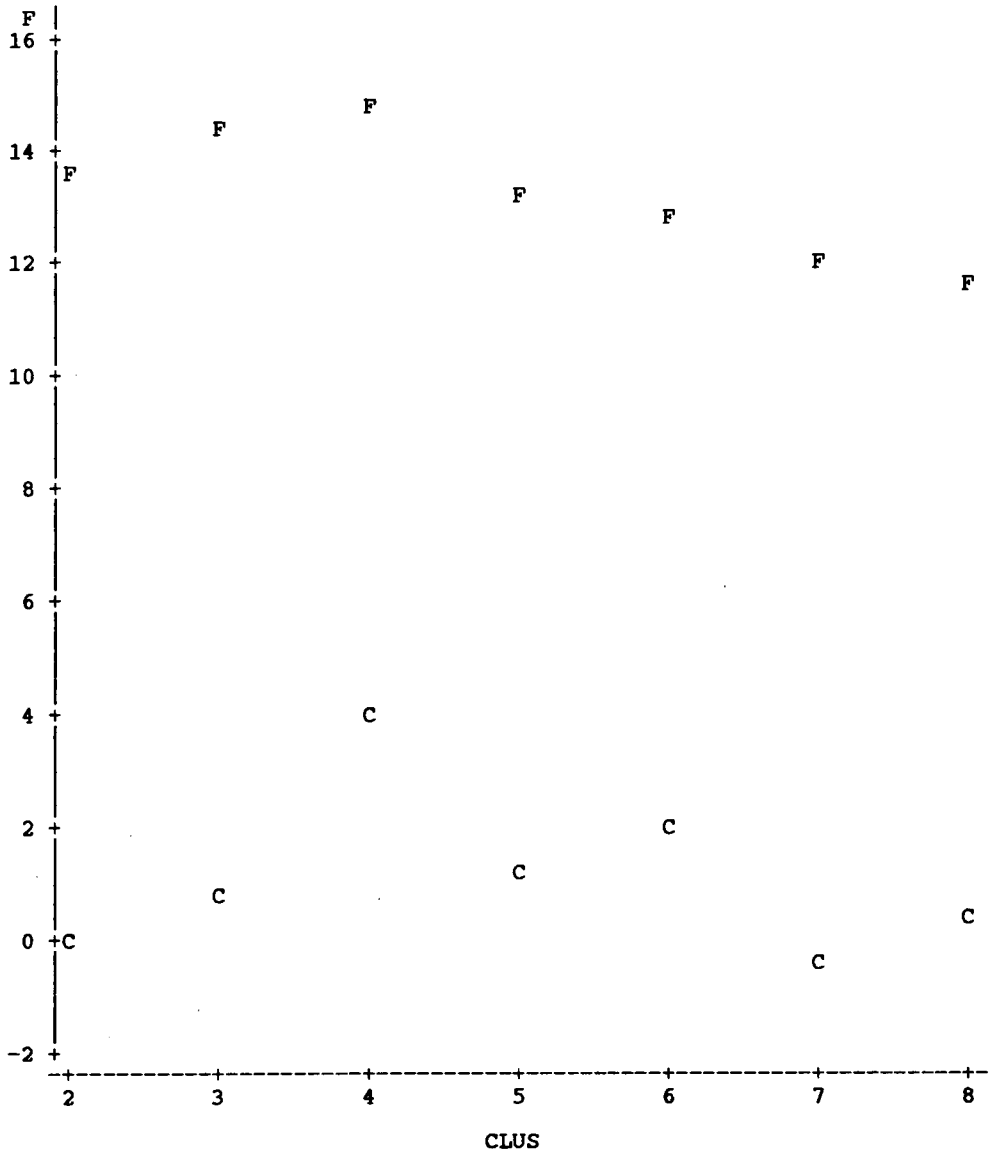


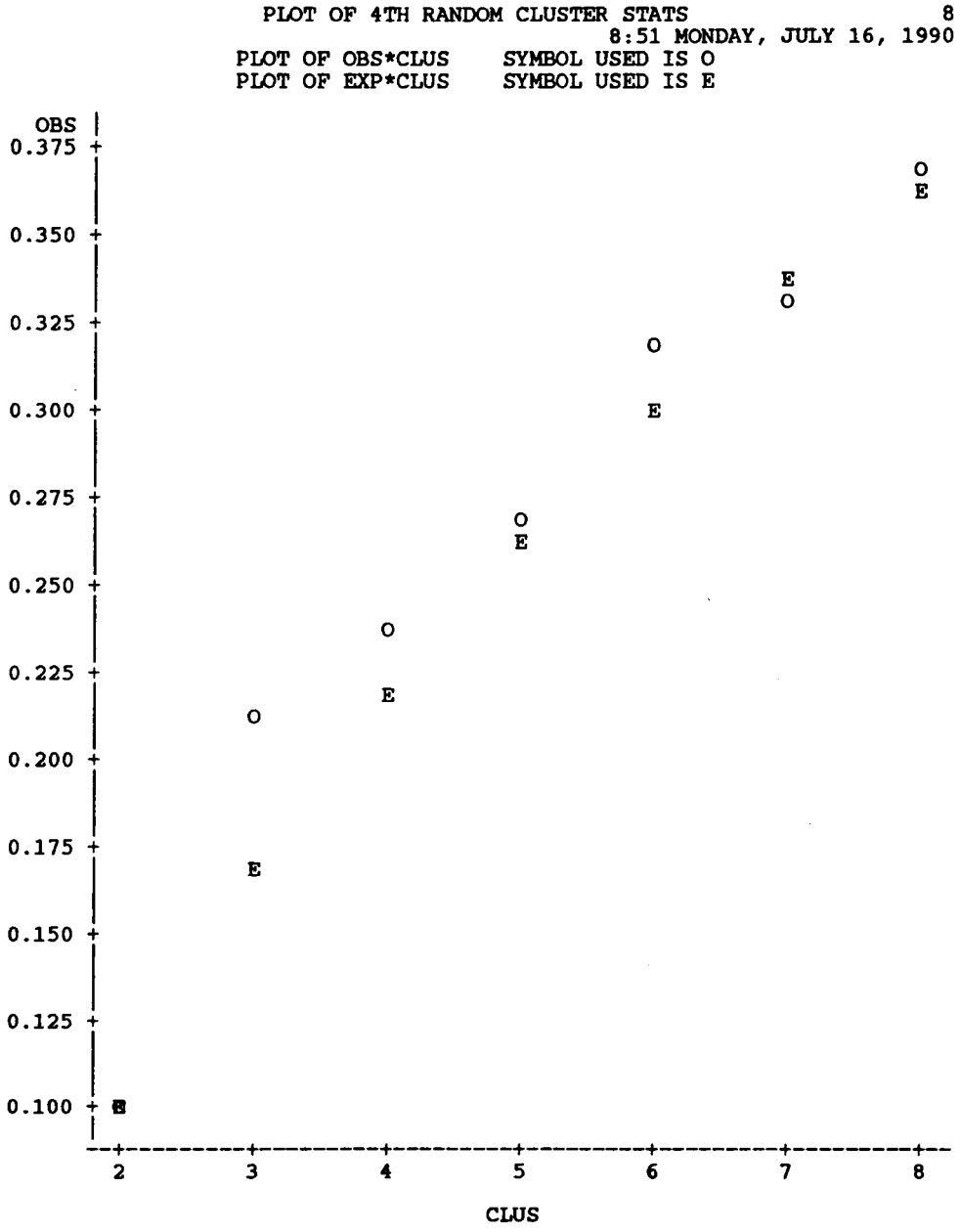

F
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
-2.5
-5.0
2
3
4
5
6
7
8
CLUS

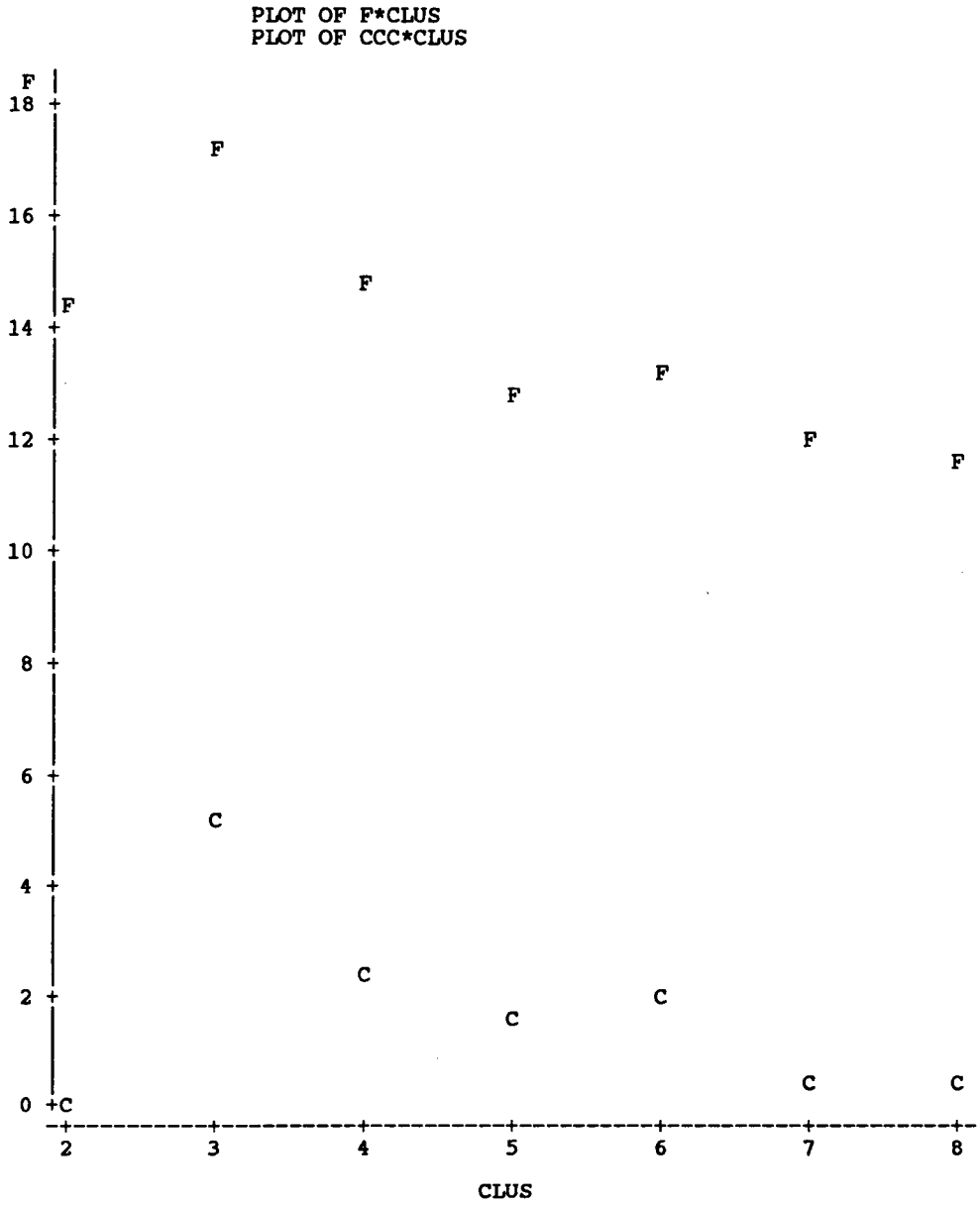

PLOT OF 2ND RANDOM CLUSTER STATS
OBS
0.375
0.350
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
O
E
2
3
4
5
6
7
8
CLUS

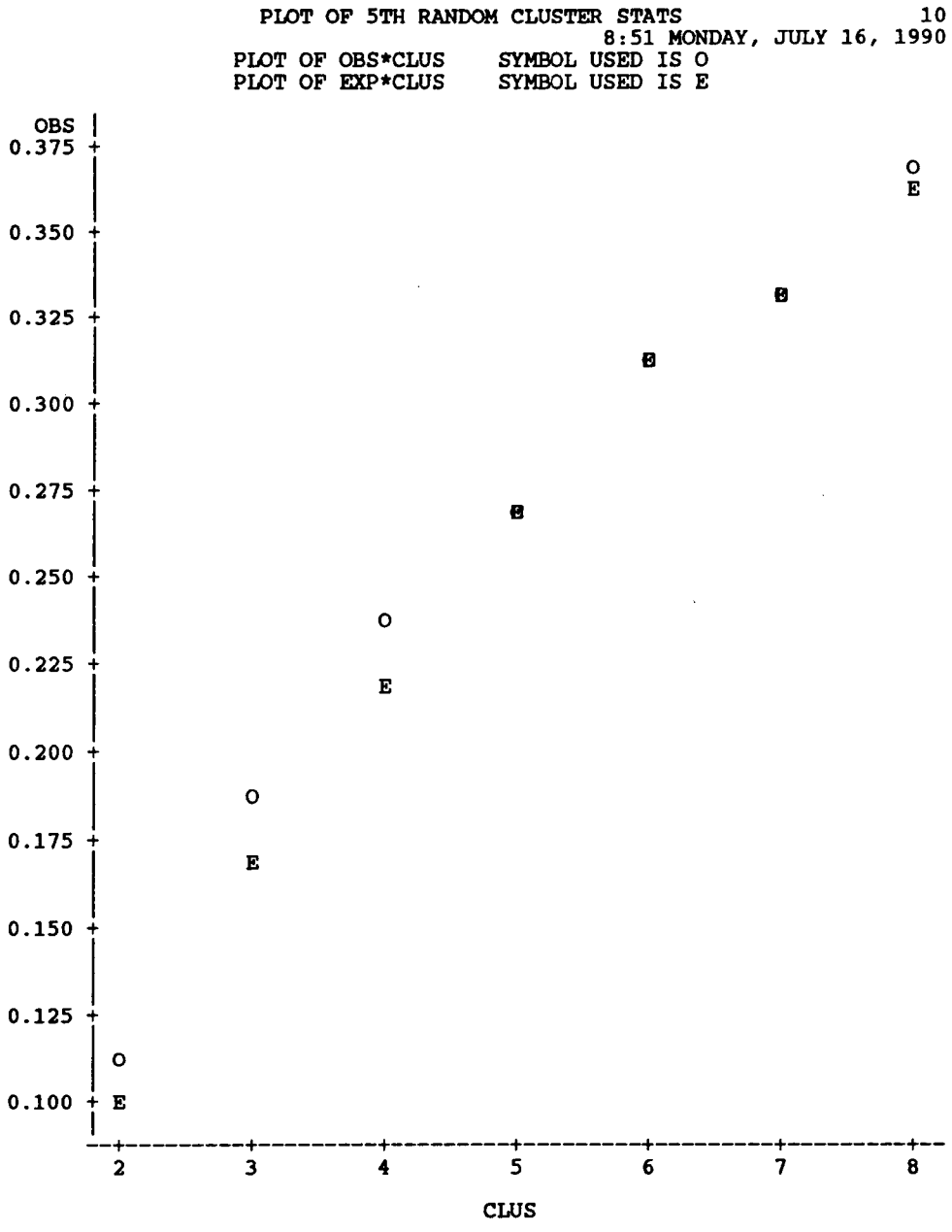

F
16
14
12
10
8
6
4
2
0
-2
2
3
4
5
6
7
8
CLUS

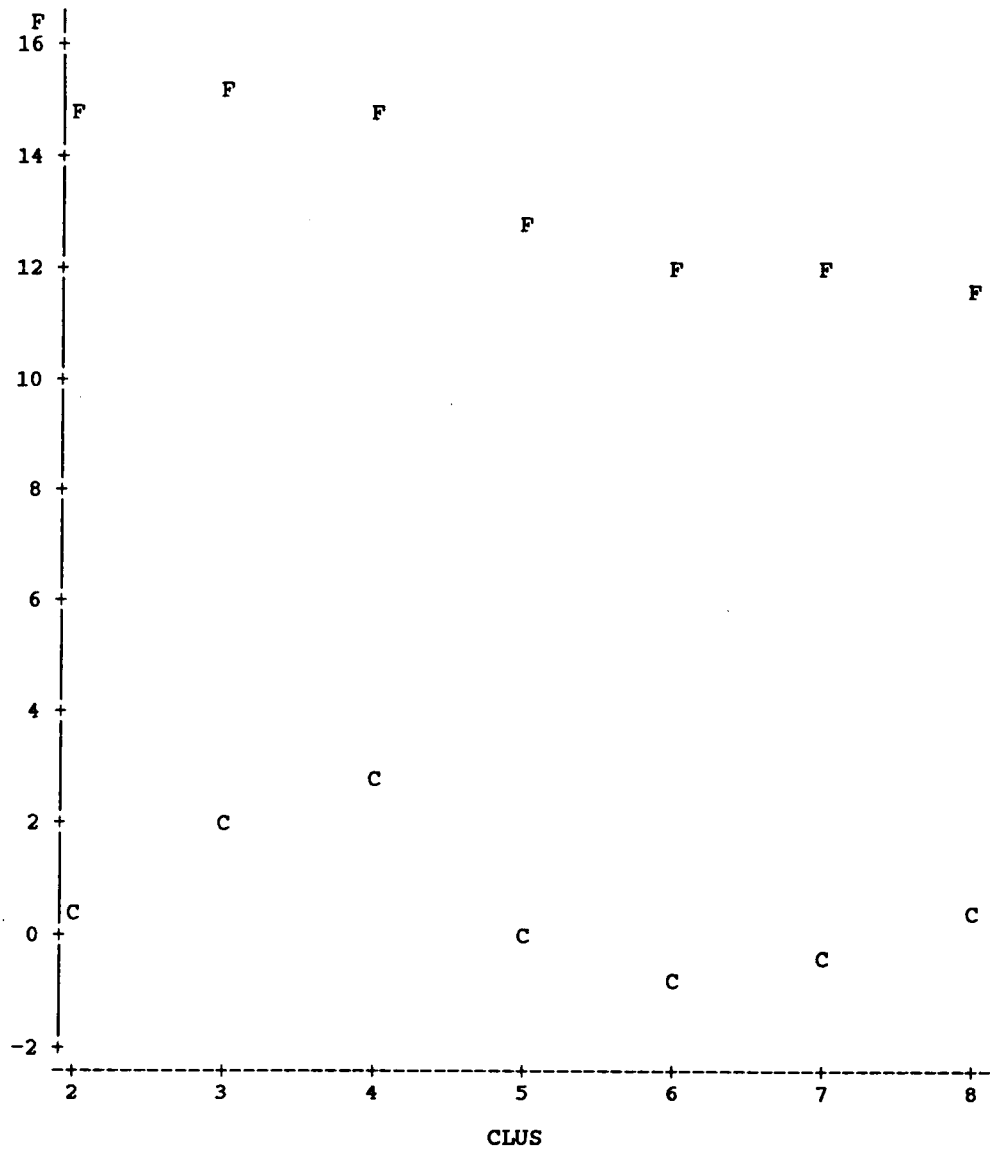

PLOT OF 3RD RANDOM CLUSTER STATS 6
8:51 MONDAY, JULY 16, 1990
PLOT OF OBS*CLUS SYMBOL USED IS O
PLOT OF EXP*CLUS SYMBOL USED IS E
OBS
0.375
0.350
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
2
3
4
5
6
7
8
CLUS

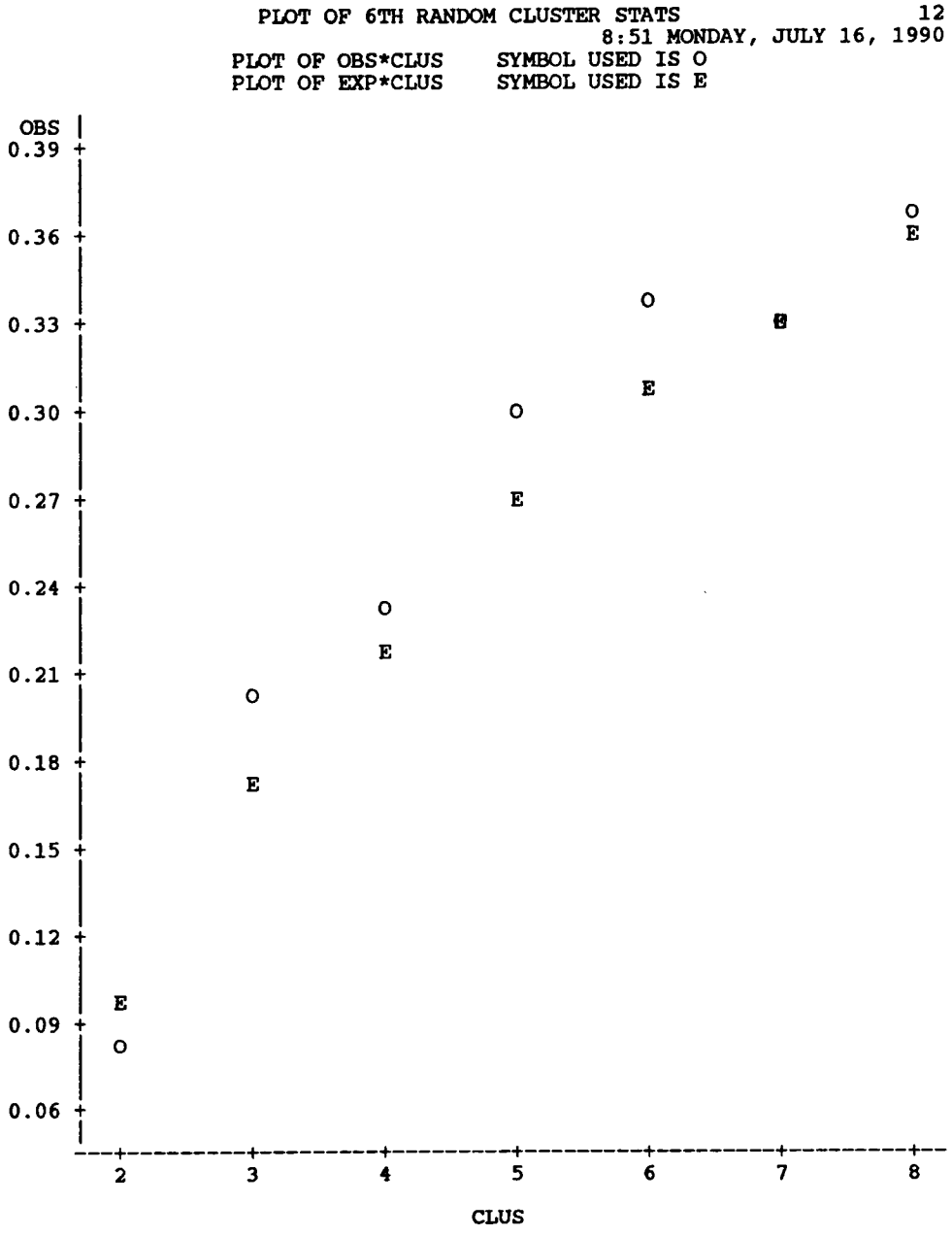

F
16
14
12
10
8
6
4
2
0
-2
2
3
4
5
6
7
8
CLUS

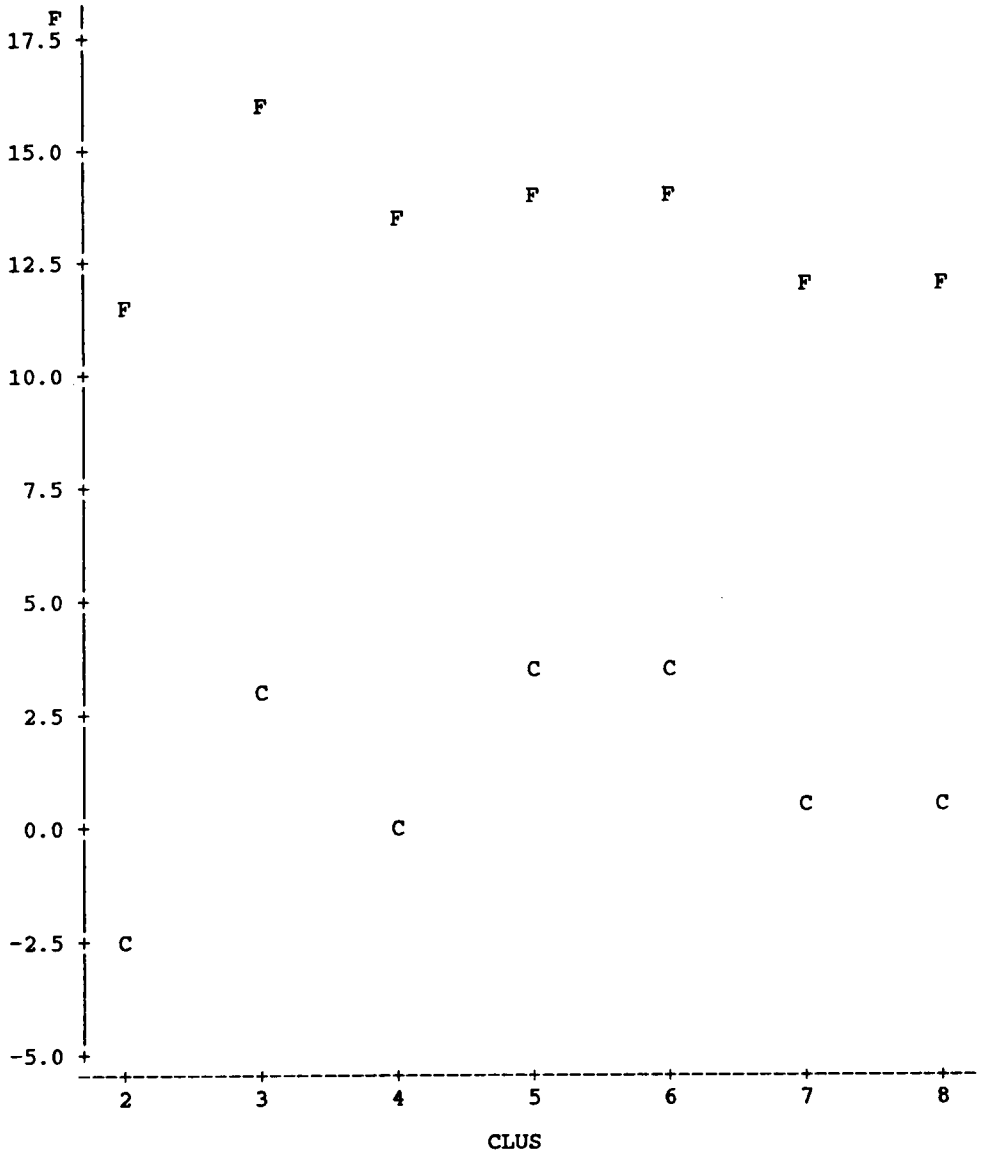

PLOT OF 4TH RANDOM CLUSTER STATS 8
8:51 MONDAY, JULY 16, 1990
PLOT OF OBS*CLUS SYMBOL USED IS O
PLOT OF EXP*CLUS SYMBOL USED IS E
OBS
0.375
0.350
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
2
3
4
5
6
7
8
CLUS

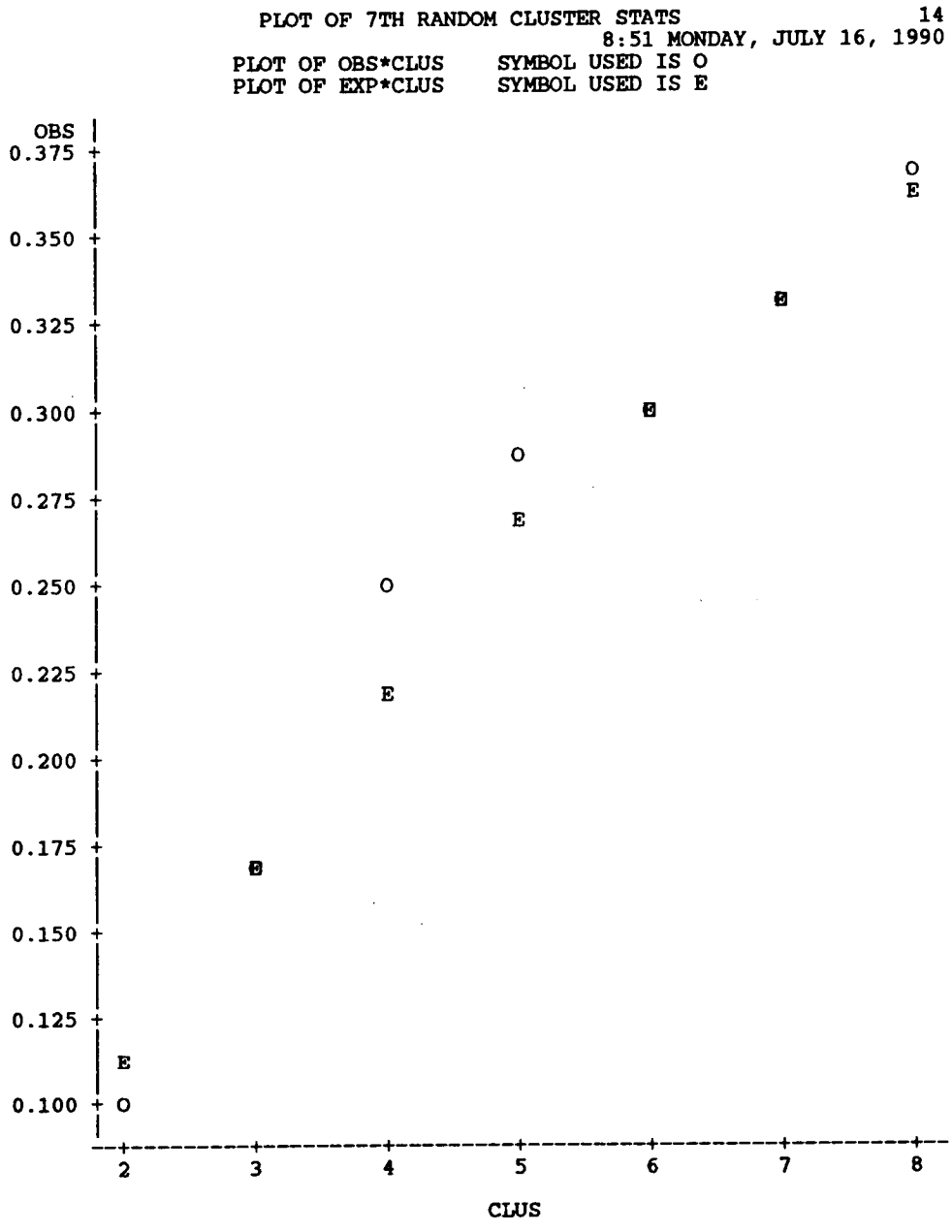

PLOT OF F*CLUS
PLOT OF CCC*CLUS
F
18
16
14
12
10
8
6
4
2
0
C
2
3
4
5
6
7
8
CLUS

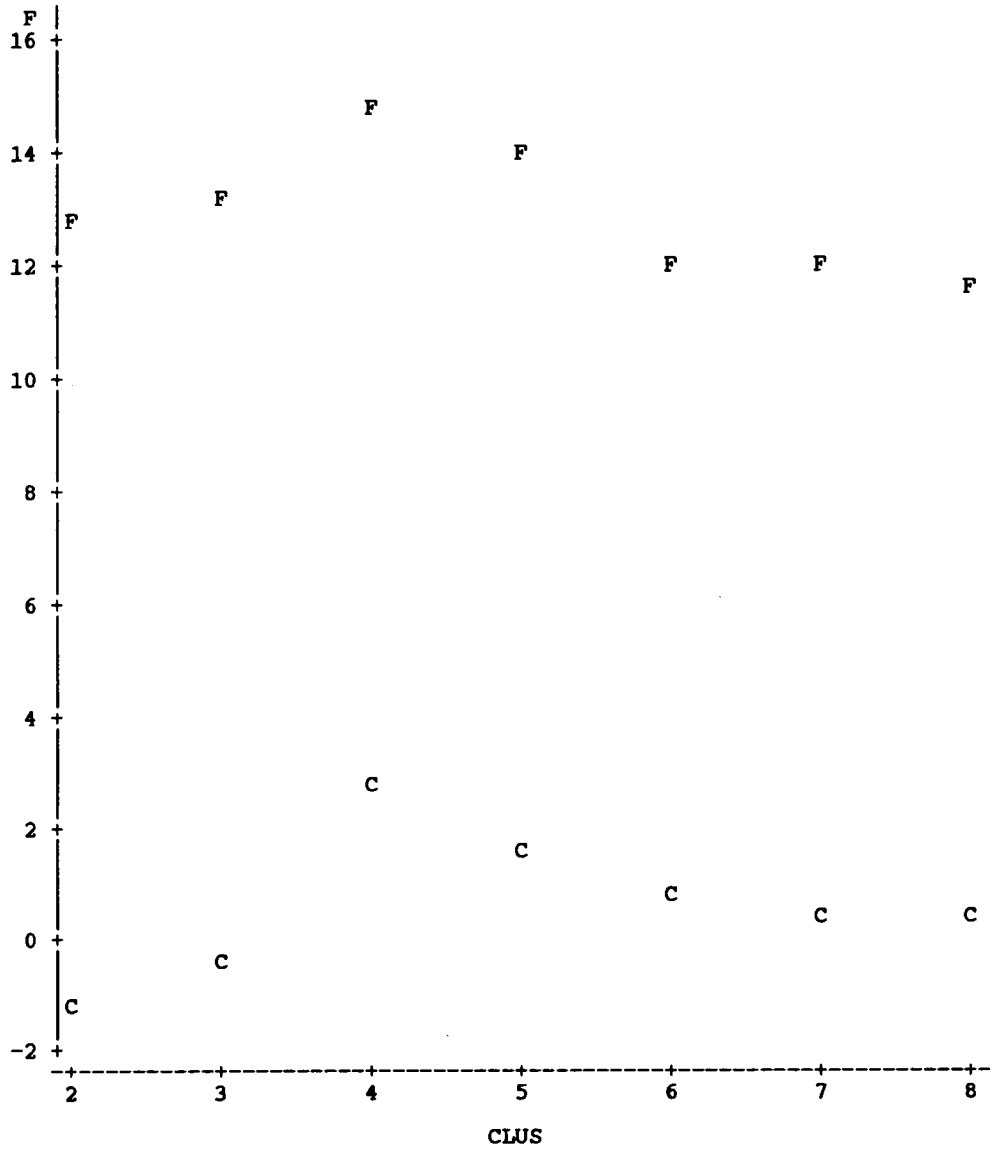

PLOT OF 5TH RANDOM CLUSTER STATS 10
8:51 MONDAY, JULY 16, 1990
PLOT OF OBS*CLUS SYMBOL USED IS O
PLOT OF EXP*CLUS SYMBOL USED IS E
OBS
0.375
0.350
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
2
3
4
5
6
7
8
CLUS

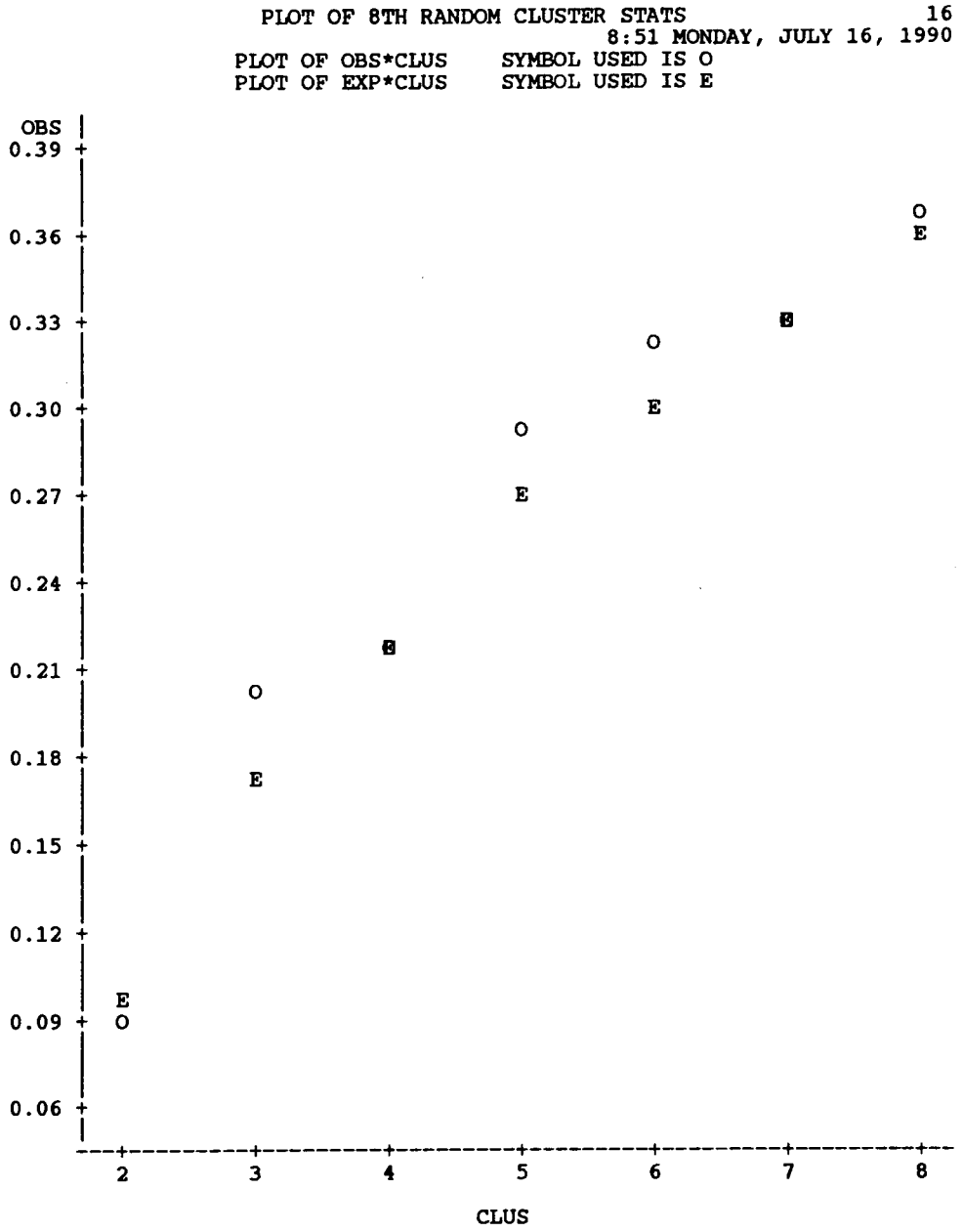

F
16
14
12
10
8
6
4
2
0
-2
2
3
4
5
6
7
8
CLUS

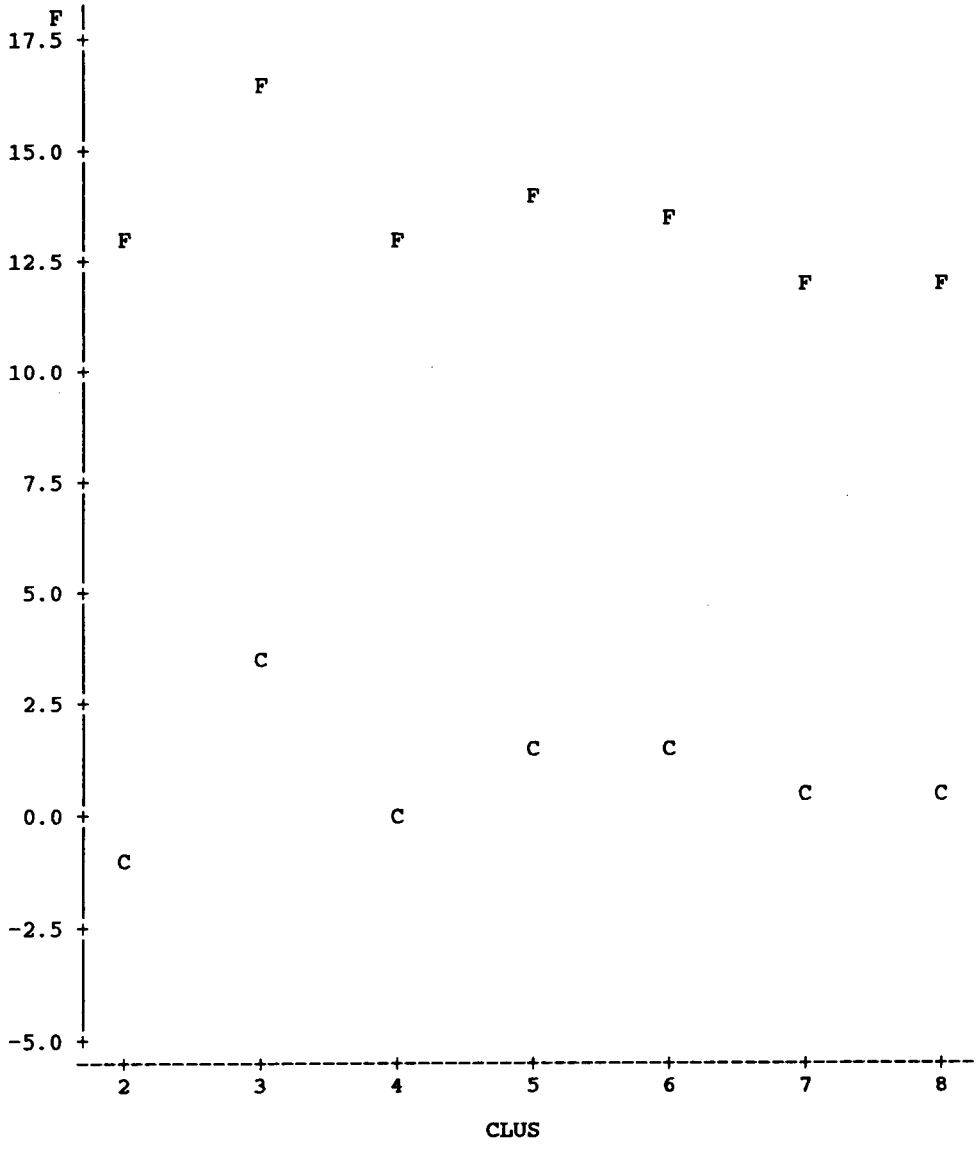

PLOT OF 6TH RANDOM CLUSTER STATS 12
8:51 MONDAY, JULY 16, 1990
PLOT OF OBS*CLUS SYMBOL USED IS O
PLOT OF EXP*CLUS SYMBOL USED IS E
OBS
0.39
0.36
0.33
0.30
0.27
0.24
0.21
0.18
0.15
0.12
0.09
0.06
2
3
4
5
6
7
8
CLUS

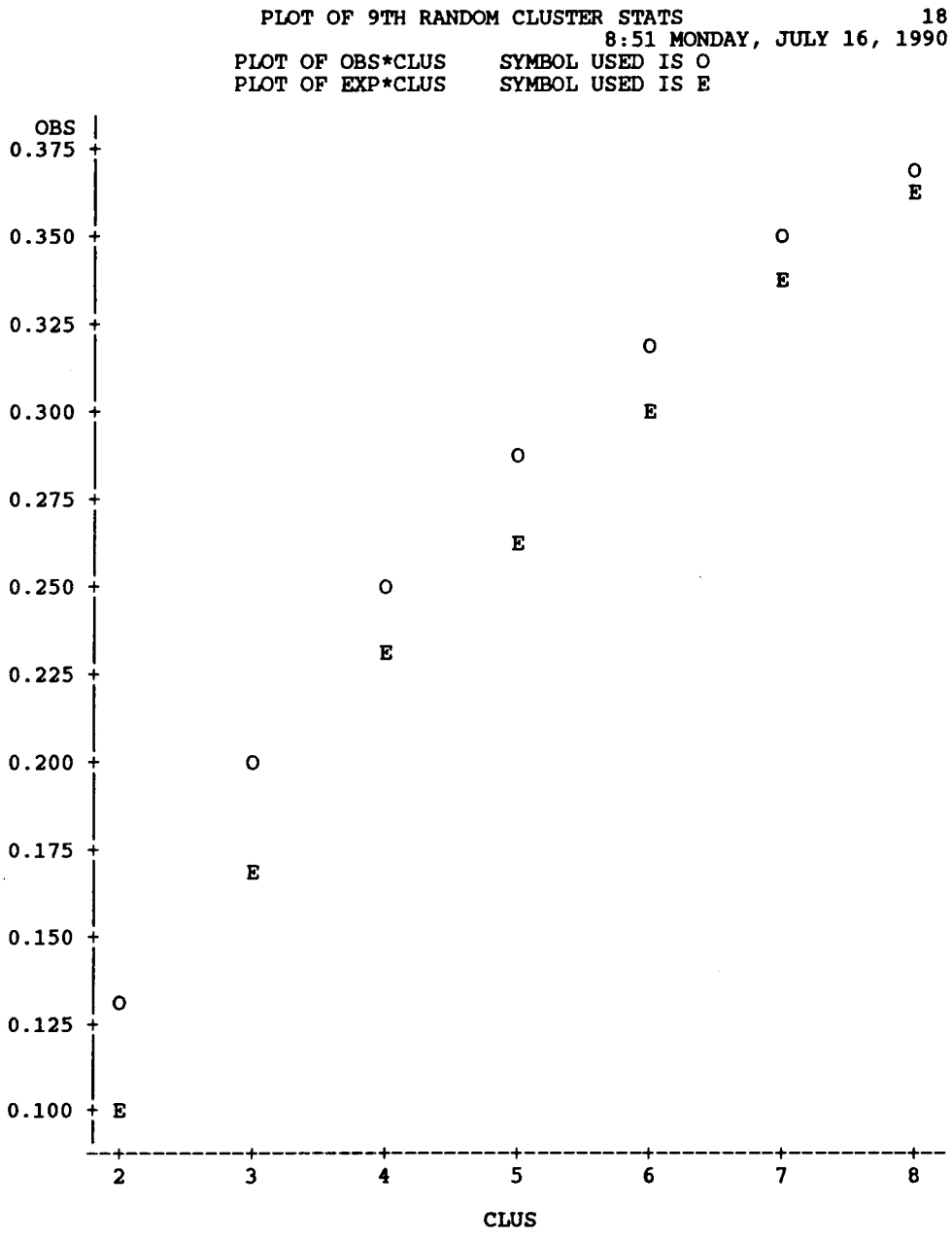

F
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
-2.5
-5.0
2
3
4
5
6
7
8
CLUS

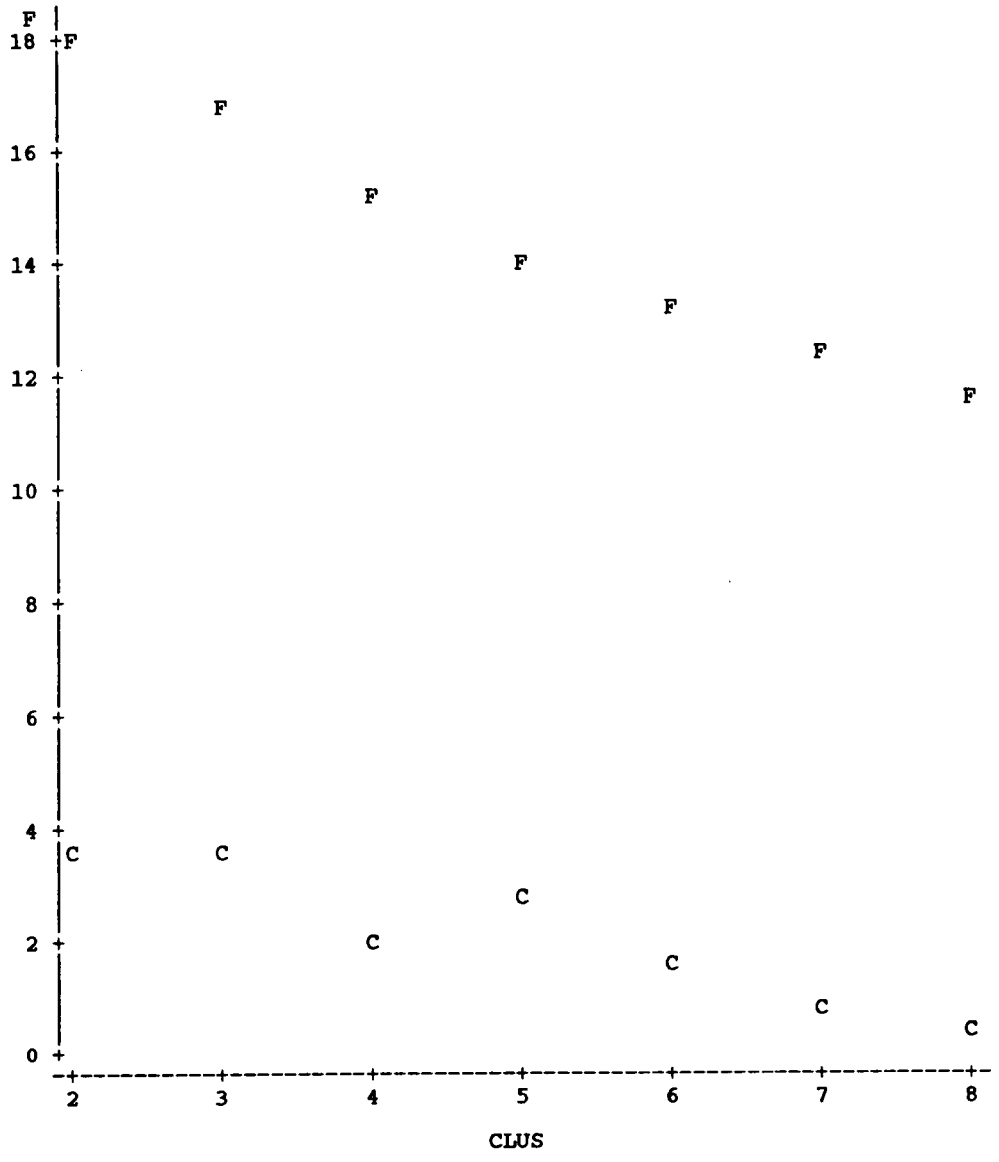

PLOT OF 7TH RANDOM CLUSTER STATS 14
8:51 MONDAY, JULY 16, 1990
PLOT OF OBS*CLUS SYMBOL USED IS O
PLOT OF EXP*CLUS SYMBOL USED IS E
OBS
0.375
0.350
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
2
3
4
5
6
7
8
CLUS

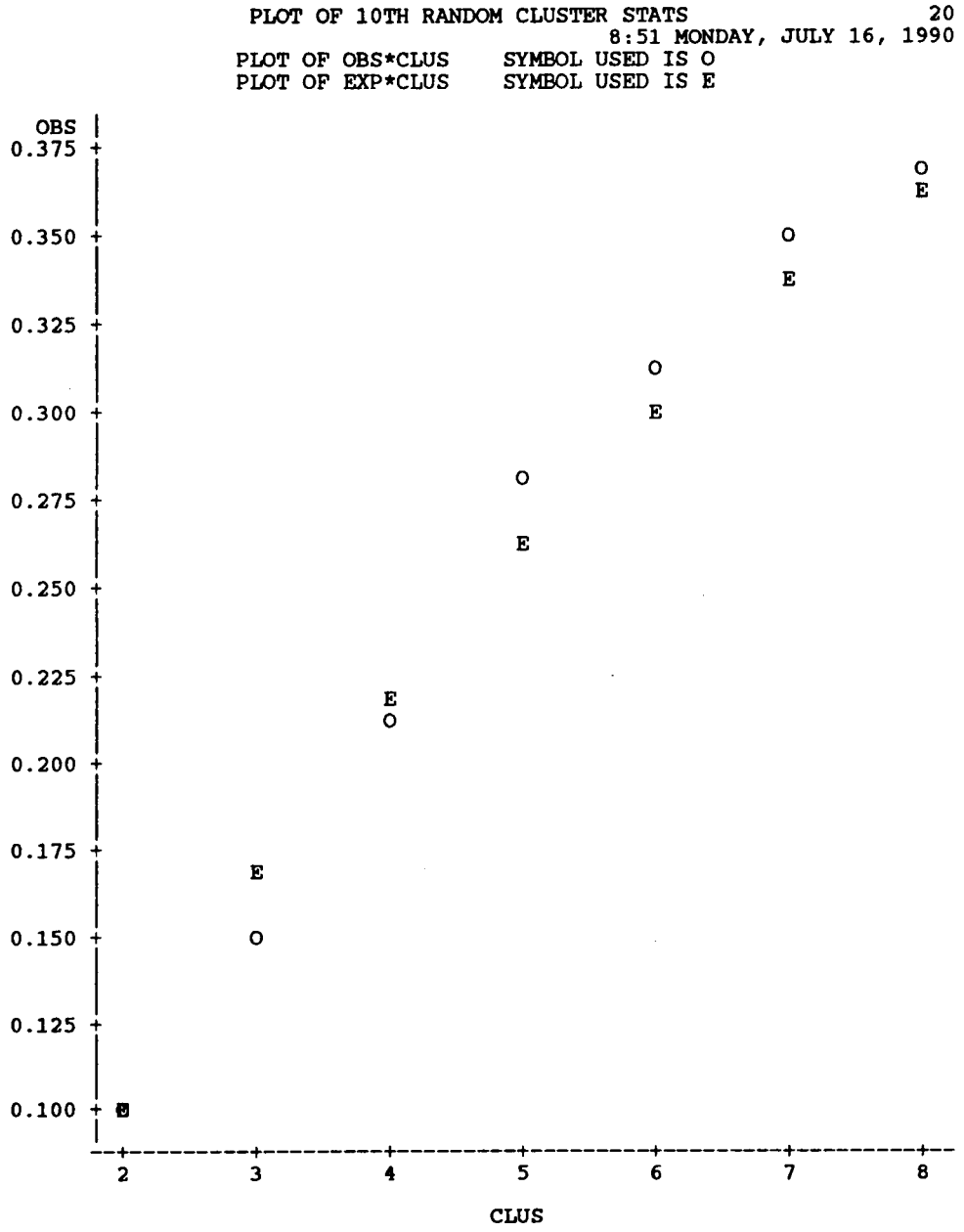

F
16
14
12
10
8
6
4
2
0
-2
2
3
4
5
6
7
8
CLUS

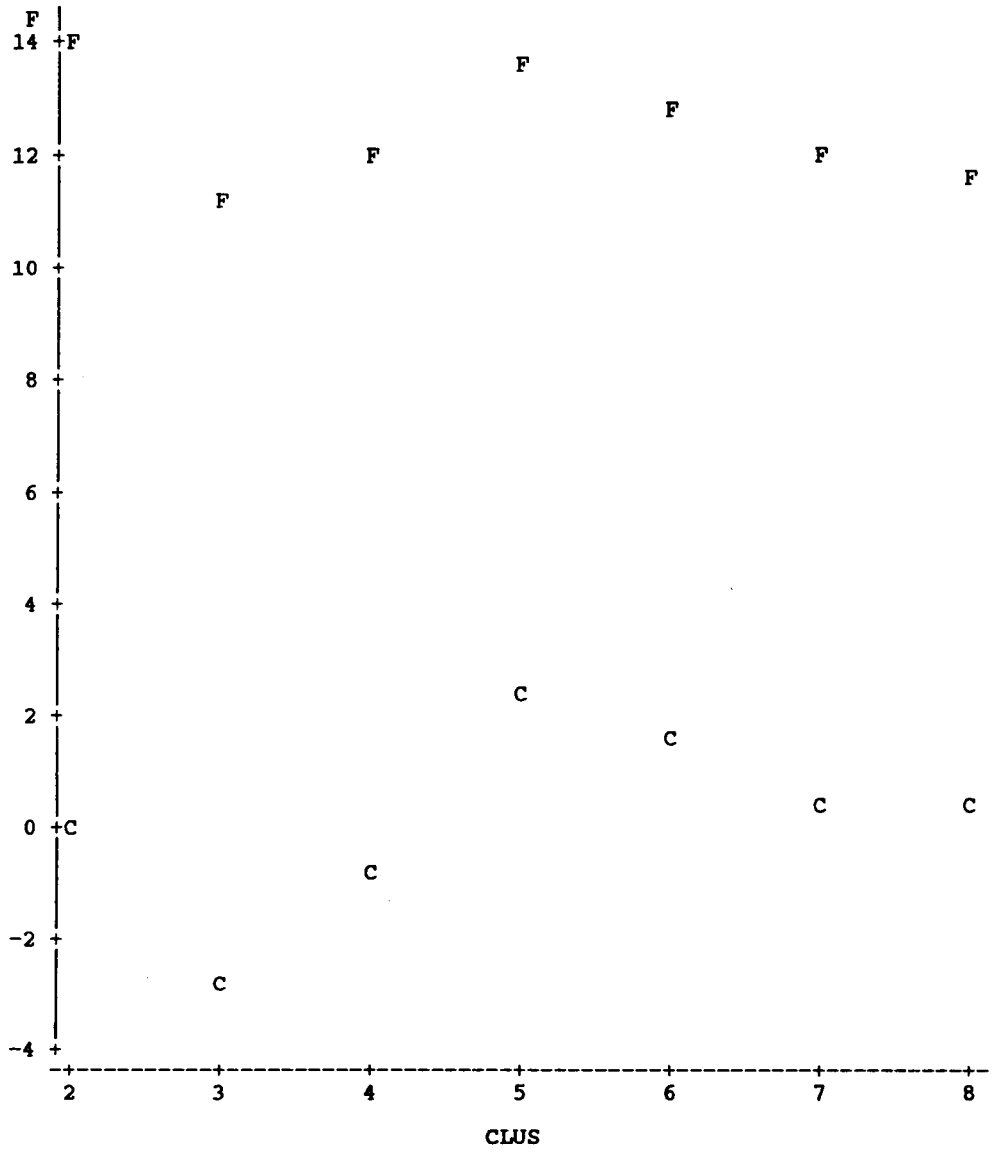

PLOT OF 8TH RANDOM CLUSTER STATS 16
8:51 MONDAY, JULY 16, 1990
PLOT OF OBS*CLUS SYMBOL USED IS O
PLOT OF EXP*CLUS SYMBOL USED IS E
OBS
0.39
0.36
0.33
0.30
0.27
0.24
0.21
0.18
0.15
0.12
0.09
0.06
2
3
4
5
6
7
8
CLUS


F
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
-2.5
-5.0
2
3
4
5
6
7
8
CLUS


PLOT OF 9TH RANDOM CLUSTER STATS 18
8:51 MONDAY, JULY 16, 1990
PLOT OF OBS*CLUS SYMBOL USED IS O
PLOT OF EXP*CLUS SYMBOL USED IS E
OBS
0.375
0.350
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
2
3
4
5
6
7
8
CLUS


F
18 +F
F
16 +
F
14 +
F
F
F
12 +
F
10 +
8 +
6 +
4 +
C
C
C
2 +
C
C
C
C
0 +
2
3
4
5
6
7
8
CLUS


PLOT OF 10TH RANDOM CLUSTER STATS 20
8:51 MONDAY, JULY 16, 1990
PLOT OF OBS*CLUS SYMBOL USED IS O
PLOT OF EXP*CLUS SYMBOL USED IS E
OBS
0.375
0.350
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
2
3
4
5
6
7
8
CLUS


F
14 +F
F
F
12 + F F F
F
F
10 +
8 +
6 +
4 +
C
2 + C
0 +C
C
-2 +
C
-4 +
2 3 4 5 6 7 8
CLUS

APPENDIX F

FULL MODEL FACTOR LOADINGS

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9	FACTOR10	FACTOR11	FACTOR12	FACTOR13	FACTOR14	FACTOR15
LIKSHOP2	0.93514	0.02798	0.01579	-0.03259	-0.05412	-0.03106	-0.03718	-0.01165	-0.00211	0.00754	0.00349	0.02517	0.05776	-0.01274	0.00921
LIKSHOP1	0.89383	0.10604	0.02113	0.00736	-0.02140	-0.00611	0.13664	-0.03859	-0.01371	0.05054	0.06400	0.09826	0.08353	-0.00815	-0.04966
LIKSHOP3	0.86895	0.19100	0.00099	-0.03884	-0.04518	-0.09277	0.07986	0.00420	-0.04873	-0.00001	-0.00687	0.02380	0.00163	-0.00587	-0.04243
XMASSHP1	0.65660	0.40256	0.11961	-0.25949	0.13946	-0.07112	0.15069	-0.11627	0.03418	0.01399	-0.00762	0.12377	0.02592	0.01994	-0.05331
XMASSHP3	0.64267	0.49621	-0.00389	-0.20428	0.02876	-0.13740	0.08975	-0.03679	0.07706	0.04457	0.00492	0.03470	-0.00249	0.10481	0.02512
LOVXMAS1	0.06329	0.85907	0.02327	-0.04532	-0.07231	-0.07359	0.05594	-0.05813	-0.04084	0.07691	0.07886	0.12135	0.02683	-0.04277	-0.16082
LOVXMAS2	0.17970	0.83569	0.16769	-0.09604	-0.03821	-0.01972	0.01930	0.00729	0.08041	0.06947	0.03829	-0.14873	0.17203	-0.02688	0.04736
LOVXMAS3	0.30661	0.81829	0.00560	-0.14452	-0.00283	-0.01295	0.05716	-0.07157	-0.04787	0.03906	-0.14815	0.03221	-0.07140	0.10488	0.03615
XMASSHP2	-0.33134	-0.54462	-0.01250	0.29185	-0.08738	0.19890	-0.06944	0.11745	-0.11212	0.10162	0.10840	-0.29898	0.02399	0.07195	0.06685
IDENT2	0.03507	0.00625	0.77311	0.10637	-0.01356	0.04918	0.04254	0.00660	0.02086	-0.06384	-0.04945	-0.00363	-0.06531	-0.02944	-0.05673
IDENT1	0.02174	-0.05151	0.70384	0.12046	0.01064	0.16194	-0.01463	-0.09948	0.08929	0.01264	0.20881	-0.28261	-0.10468	0.14116	0.03410
BOND1	0.12066	0.11959	0.68634	-0.00287	-0.05974	-0.13427	-0.10054	0.12722	-0.06470	0.00179	-0.01946	0.24203	0.13836	-0.16219	-0.07989
IDENT3	-0.04968	0.02148	0.65729	-0.01864	-0.01016	0.16517	-0.21933	-0.03407	-0.14219	-0.04952	-0.10963	-0.12060	-0.10043	0.04844	0.17007
BOND2	-0.02506	0.16505	0.65679	-0.01404	-0.13690	0.04414	0.13633	0.16412	0.18186	0.02050	-0.01055	0.37932	0.16640	-0.06159	-0.12178
TIME3	-0.08369	-0.09175	0.09658	0.83721	-0.00792	0.07743	0.07903	-0.04851	-0.05709	-0.03311	-0.01140	0.14052	-0.15788	-0.05211	-0.07865
TIME2	-0.09142	-0.10599	0.18649	0.76645	0.07581	0.18405	0.06778	-0.09974	0.00903	0.00067	-0.05480	-0.04052	0.03026	0.11349	-0.08450
TIME1	-0.14246	-0.25254	-0.05637	0.73650	0.00940	0.00799	-0.06858	0.23209	0.04388	-0.00383	-0.00784	-0.12033	-0.06274	-0.07462	0.08203
ENDSHOP	0.16236	0.09531	-0.17323	0.42265	0.21721	0.08226	-0.17046	0.02509	0.00920	-0.16582	0.42071	0.21021	0.21120	-0.20434	0.00559
GENCRED	0.00060	-0.07029	-0.09962	0.18014	0.77895	-0.06559	0.03211	-0.04402	-0.20042	-0.10345	-0.06993	0.04399	-0.10836	0.13811	0.06228
STRCRED	0.07851	-0.09112	-0.06948	-0.15639	0.62681	0.04409	-0.21450	-0.02758	0.12979	0.14127	0.13355	-0.11956	0.22118	0.20555	-0.12269
CASHCHK	0.11600	-0.08464	-0.00079	-0.02379	-0.84105	0.12253	-0.20500	-0.06616	0.00229	0.01199	0.02328	-0.02268	0.04666	0.09261	0.06536
RISK1	-0.21614	-0.17253	0.08466	0.13920	-0.05807	0.75039	0.01561	-0.02152	-0.06096	0.01009	0.16844	-0.06477	0.08620	0.00356	-0.02521
RISK2	0.00216	-0.14501	0.17882	0.23690	-0.13912	0.73220	-0.04284	-0.10071	0.02190	0.09740	0.07971	0.09356	0.04474	0.10901	-0.00932
ALLMAGS	0.07170	-0.10212	0.00797	0.09543	-0.04320	-0.56846	0.23727	-0.21855	0.21140	-0.14961	0.10701	0.11043	0.15837	0.17078	0.18362
NOBOUGHT	0.16641	0.14917	-0.14062	0.08714	-0.05362	-0.04628	0.70995	-0.12046	-0.13033	-0.05610	-0.05098	-0.00569	0.05882	0.14607	0.00755
NUMACTS	0.12449	0.48668	-0.08338	-0.02155	0.10055	-0.28670	0.54931	-0.03006	0.03617	-0.09668	0.02742	0.13844	0.06232	0.01766	0.06034
SPENDGIF	0.13569	-0.08241	0.03181	-0.09587	0.27490	0.00066	0.50367	-0.21545	0.27475	-0.06070	-0.23804	0.07901	-0.16238	-0.02566	0.05181
SHOPTRPS	0.27214	0.08470	0.00063	0.04990	0.31171	0.09560	0.42516	-0.15889	0.10327	-0.07867	-0.17072	0.18787	0.26684	-0.19391	0.02883
SPECSTOR	0.05111	-0.01286	-0.07027	0.02667	-0.02287	0.13365	-0.44058	-0.19569	-0.18688	-0.36945	-0.04425	0.41820	-0.04321	0.06282	0.39588
SUBSCABL	-0.05637	-0.02058	0.02006	0.03789	-0.03042	0.09327	-0.13616	0.85519	-0.15478	0.11832	-0.01762	-0.07688	0.03782	0.04470	0.18160
TIMECABL	0.04948	0.17784	-0.07030	-0.00120	-0.02289	0.10734	0.05926	-0.81912	-0.01937	0.27506	-0.00867	-0.02043	0.04313	0.01945	0.13904
TIMENEWS	0.05218	0.01348	0.00522	-0.13628	-0.06229	0.03760	-0.06504	-0.03153	0.80483	-0.06823	0.00234	-0.08499	-0.05686	-0.11300	0.29994
READNEWS	-0.08418	0.07429	-0.00337	0.15636	-0.04377	-0.26168	0.12048	-0.14007	0.67675	-0.00480	-0.15127	0.20687	0.00564	0.12424	-0.16207
TIMENET	0.15137	-0.01031	-0.05121	0.04434	-0.01968	0.08648	-0.03054	-0.16689	-0.00280	0.77573	0.08040	-0.04453	0.12610	-0.04501	0.26491
TIMERAD	-0.06818	0.15884	-0.06717	-0.11650	-0.02518	0.13193	-0.10983	0.04249	-0.10438	0.68079	-0.01770	0.34298	0.06611	-0.06273	-0.05712
STRTSHOP	-0.05819	0.06409	-0.02396	0.04443	0.05651	0.21441	-0.19156	0.13139	0.05018	-0.05006	0.72740	-0.01966	-0.27020	-0.06741	0.08066
DEPTSTOR	0.09828	-0.14568	0.02366	-0.16727	-0.14384	-0.02742	0.06267	-0.18293	-0.22141	0.18872	0.68060	-0.00622	0.12161	0.14053	-0.09521
STRAT	0.25144	0.08269	0.04315	0.04348	0.02131	-0.06650	0.11562	-0.06582	0.08461	0.20858	0.03142	0.68607	0.00969	0.11464	0.04870
LAYAWAY	0.01344	0.11371	0.03881	-0.11561	-0.01776	-0.04886	-0.00392	0.03687	-0.05714	0.09751	0.00544	0.00476	0.76243	-0.10897	-0.00443
DISCSTOR	0.24673	-0.05244	-0.07861	-0.13837	0.00995	0.23226	0.14901	-0.08166	0.02653	0.10841	-0.17951	0.04467	0.55999	0.22397	0.18926
SUPERDRG	0.01142	0.09463	0.08137	0.28571	0.03071	0.06026	0.15335	0.06269	-0.11323	-0.08081	0.09392	0.14992	-0.09536	0.77697	0.03172
CATALOG	0.01721	-0.11336	-0.02078	-0.08468	0.27498	-0.09993	-0.17470	-0.07349	0.23783	-0.03906	-0.19963	-0.13507	0.11551	0.56780	-0.06530
TIMEMAGS	-0.11462	-0.08006			-0.06960	-0.13938	0.05672	0.06873	0.15473	0.19086	0.00068	0.02921	0.07615	-0.00058	0.83574

APPENDIX G

RESULTS OF SPLIT-SAMPLE STEPWISE PROCEDURES/FULL MODEL

Step	Variable Entered	Partial R**2	F	Prob>F
		1st Random Solution (n=69)		
1	FACTOR9	0.1298	4.921	0.0102
2	EDUC	0.1012	3.661	0.0312
3	FACTOR13	0.0649	2.220	0.1169
4	FACTOR3	0.0730	2.482	0.0918
5	FACTOR14	0.0649	2.151	0.1250
		2nd Random Solution (n=68)		
1	FACTOR14	0.2057	8.414	0.0006
2	FACTOR9	0.1161	4.201	0.0193
3	HRSACT	0.0948	3.300	0.0434
4	EDUC	0.0867	2.945	0.0600
5	FACTOR2	0.0817	2.714	0.0743
6	NOHH	0.0751	2.438	0.0960
		3rd Random Solution (n=69)		
1	FACTOR14	0.2793	12.787	0.0001
2	FACTOR9	0.2051	8.384	0.0006
3	FACTOR1	O.1182	4.288	0.0179
4	FACTOR5	0.1075	3.794	0.0278
5	EDUC	0.1092	3.799	0.0278
6	FACTOR8	0.1074	3.671	0.0312
7	FACTOR13	0.0675	2.172	0.1228
8	AGE	0.0668	2.113	0.1299

Step	Variable Entered	Partial R**2	F	Prob>F
		4th Random Solution (n=68)		
1	FACTOR3	0.2376	10.130	0.0001
2	AGE	0.0841	2.940	0.0601
3	NUMCHIL	0.1465	5.406	0.0068
4	FACTOR9	0.0724	2.419	0.0974
5	EDUC	0.0633	2.062	0.1360
6	AVGKIDS	0.0634	2.031	0.1401
		5th Random Solution (n=69)		
1	EDUC	0.1584	6.212	0.0034
2	FACTOR9	0.1538	5.908	0.0044
3	FACTOR2	0.1091	3.920	0.0248
4	FACTOR11	0.0773	2.640	0.0792
5	FACTOR3	0.0681	2.266	0.1122
6	FACTOR14	0.0740	2.437	0.0959
7	FACTOR1	0.0623	1.993	0.1452
		6th Random Solution (n=68)		
1	FACTOR14	0.1352	5.081	0.0089
2	FACTOR9	0.1087	3.904	0.0251
3	INCOME	0.0740	2.516	0.0889
4	FACTOR8	0.0787	2.648	0.788
5	EDUC	0.0727	2.393	0.999
		7th Random Solution (n=69)		
1	EDUC	0.1364	5.213	0.0079
2	FACTOR9	0.1373	5.173	0.0082
3	FACTOR1	0.0999	3.553	0.0344
4	FACTOR3	0.982	3.429	0.0386
5	AGE	0.1309	4.667	0.0129
6	FACTOR2	0.0612	1.989	0.1456
7	FACTOR14	0.0703	2.269	0.1122

Step	Variable Entered	Partial R**2	F	Prob>F
		8th Random Solution (n=68)		
1	FACTOR9	0.1129	4.136	0.0204
2	FACTOR14	0.1152	4.165	0.0199
3	FACTOR5	0.894	3.091	0.0524
4	FACTOR2	0.0922	3.149	0.0498
5	FACTOR8	0.0693	2.270	0.1120
6	NOHH	0.0701	2.263	0.1128
		9th Random Solution (n=69)		
1	FACTOR9	0.2393	10.382	0.0001
2	FACTOR2	0.1719	6.746	0.0022
3	FACTOR3	0.1104	3.973	0.0236
4	EDUC	0.1016	3.561	0.0343
5	FACTOR11	0.0852	2.886	0.0633
6	FACTOR14	0.0790	2.616	0.0813
		10th Random Solution (n=68)		
1	FACTOR14	0.2721	12.149	0.0001
2	FACTOR5	0.0874	3.065	0.0536
3	EDUC	0.0618	2.075	0.1340
4	AGE	0.0676	2.246	0.1143
5	NUMCHIL	0.0879	2.939	0.0605
6	EDUC (REMOVED)	0.0587	1.902	0.1580
7	FACTOR9	0.0690	2.260	0.1131

APPENDIX H

RESULTS OF SPLIT-SAMPLE STEPWISE PROCEDURES/
FOUR-MODEL SOLUTION

Shopping Variables Only

Step	Variable Entered	Partial R**2	F	Prob>F
		1st Random Solution (n=69)		
1	FACTOR2	0.1082	3.997	0.0230
		2nd Random Solution (n=68)		
1	FACTOR6	0.2301	9.714	0.0002
2	FACTOR4	O.817	2.845	0.0655
3	FACTOR5	0.0692	2.343	0.1044
		3rd Random Solution (n=69)		
1	FACTOR6	0.2120	8.876	0.0004
2	FACTOR4	0.1064	3.869	0.0258
		4th Random Solution (n=68)		
No Variables Entered				
		5th Random Solution (n=69)		
1	FACTOR2	0.0747	2.663	0.0772
		6th Random Solution (n=68)		
1	FACTOR6	0.2128	8.784	0.0004
2	FACTOR4	0.0625	2.132	0.1269

Step	Variable Entered	Partial R**2	F	Prob>F
		7th Random Solution (n=69)		
1	FACTOR6	0.0778	2.784	0.0690
2	FACTOR3	0.0802	2.836	0.0660
		8th Random Solution (n=68)		
1	FACTOR6	0.1296	4.840	0.0110
2	FACTOR1	0.0746	2.581	0.0836
		9th Random Solution (n=69)		
1	FACTOR6	0.1386	5.310	0.073
2	FACTOR2	0.0846	3.003	0.0566
3	FACTOR4	0.0617	2.105	0.1302
		10th Random Solution (n=69)		
1	FACTOR6	0.0617	2.138	.1261
2	FACTOR4	0.0648	2.218	0.1171
Lifestyle Variables Only				
		1st Random Solution (n=69)		
1	FACTOR1	0.0579	2.027	0.1399

Step	Variable Entered	Partial R**2	F	Prob>F
		2nd Random Solution (n=68)		
1	FACTOR5	0.1264	4.702	0.0214
		3rd Random Solution (n=69)		
1	FACTOR3	0.1151	4.293	0.0177
2	FACTOR5	0.1148	4.215	0.0190
		4th Random Solution (n=68)		
1	FACTOR5	0.0704	2.463	0.0931
		5th Random Solution (n=69)		
1	FACTOR5	0.1297	4.918	0.0102
2	FACTOR3	0.0706	2.469	0.0925
3	FACTOR1	0.0631	2.157	0.1240
		6th Random Solution (n=68)		
1	FACTOR1	0.0881	3.140	0.0499
		7th Random Solution (n=69)		
1	FACTOR3	0.1025	3.768	0.0282
2	FACTOR5	0.0879	3.132	0.0503
3	FACTOR1	0.0953	3.372	0.0405

Step	Variable Entered	Partial R**2	F	Prob>F
		8th Random Solution (n=68)		
1	FACTOR5	0.1140	4.180	0.0196
		9th Random Solution (n=69)		
1	FACTOR5	0.0922	3.352	0.0411
		10th Random Solution (n=68)		
No variables entered				
Media Usage Variables Only				
		1st Random Solution (n=69)		
1	FACTOR2	0.0884	3.201	0.0471
		2nd Random Solution (n=68)		
1	FACTOR1	0.0904	3.230	0.0560
2	FACTOR2	0.0914	3.220	0.0465
		3rd Random Solution (n=69)		
No Variables Entered				
		4th Random Solution (n=68)		
1	FACTOR2	0.1209	4.470	0.0152

Step	Variable Entered	Partial R**2	F	Prob>F
		5th Random Solution (n=69)		
No Variables Entered				
		6th Random Solution (n=68)		
1	FACTOR1	0.0796	2.809	0.0676
		7th Random Solution (n=69)		
1	FACTOR1	0.1628	6.417	0.0028
		8th Random Solution (n=68)		
1	FACTOR2	0.1448	5.5502	0.0062
2	FACTOR3	0.0676	2.318	0.1066
		9th Random Solution (n=69)		
No Variables Entered				
		10th Random Solution (n=68)		
1	FACTOR1	0.0907	3.241	0.0455
2	FACTOR2	0.0597	2.030	0.1396

Step	Variable Entered	Partial R**2	F	Prob>F
		1st Random Solution (n=69)		
1	EDUC	0.1284	4.862	0.0107
2	NUMCHIL	0.1047	3.801	0.0275
		2nd Random Solution (n=68)		
1	HRSACT	0.0672	2.341	0.1043
2	AGE	0.0651	2.229	0.1160
		3rd Random Solution (n=69)		
1	NUMCHIL	0.0964	3.519	0.0353
2	AGE	0.0936	3.356	0.0410
3	HRSACT	0.0886	3.110	0.0514
4	EDUC	0.0606	2.031	0.1397
		4th Random Solution (n=68)		
1	EDUC	0.0936	3.355	0.0411
		5th Random Solution (n=69)		
1	EDUC	0.0742	2.643	0.0786
2	NUMCHIL	0.0712	2.491	0.0907
3	AGE	0.0684	2.349	0.1037
		6th Random Solution (n=68)		
1	EDUC	0.1173	4.318	0.0174
2	NOHH	0.0859	3.007	0.0565

Step	Variable Entered	Partial R**2	F	Prob>F
		7th Random Solution (n=69)		
1	EDUC	0.1126	4.188	0.0194
2	NUMCHIL	0.0585	2.021	0.1408
3	AGE	0.0920	3.241	0.0456
4	INCOME	0.0765	2.609	0.0815
		8th Random Solution (n=68)		
1	EDUC	0.0801	2.831	0.0663
2	SEX	0.0964	3.415	0.0390
3	NOHH	0.0742	2.526	0.0881
		9th Random Solution (n=69)		
1	NUMCHIL	0.1037	3.819	0.0269
2	AGE	0.0790	2.788	0.0689
3	EDUC	0.0725	2.500	0.0901
		10th Random Solution (n=68)		
1	EDUC	0.1128	4.132	0.0205

APPENDIX I

SPLIT-SAMPLE RESULTS OF ORIGINAL DISCRIMINANT ANALYSIS

Sample 1 (n=69)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	27 69%	12 31%	0 0%	39 100%
2	7 27%	19 73%	0 0%	26 100%
3	0 0%	0 0%	4 100%	4 100%
Total Percent	34 49%	31 45%	4 6%	69 100%

Sample 2 (n=68)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	18 69%	6 23%	2 8%	26 100%
2	3 11%	22 79%	3 11%	28 100%
3	2 14%	1 7%	11 79%	14 100%
Total Percent	23 34%	29 43%	16 23%	68 100%

APPENDIX I, CONTINUED

Sample 3 (n=69)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	22 76%	7 24%	0 0%	29 100%
2	5 16%	26 84%	0 0%	31 100%
3	0 0%	0 0%	9 100%	9 100%
Total Percent	27 39%	33 48%	9 13%	69 100%

Sample 4 (n=68)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	31 86%	5 14%	0 0%	36 100%
2	1 4%	22 96%	0 0%	23 100%
3	0 0%	0 0%	9 100%	9 100%
Total Percent	32 47%	27 40%	9 13%	68 100%

APPENDIX I, CONTINUED

Sample 5 (n=69)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	22 63%	8 23%	5 14%	35 100%
2	4 17%	17 71%	3 13%	24 100%
3	0 0%	1 10%	9 90%	10 100%
Total Percent	26 38%	26 38%	17 24%	69 100%

Sample 6 (n=68)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	29 97%	1 3%	0 0%	30 100%
2	3 10%	27 90%	0 0%	30 100%
3	0 0%	0 0%	8 100%	8 100%
Total Percent	32 47%	28 41%	8 12%	68 100%

APPENDIX I, CONTINUED

Sample 7 (n=69)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	24 69%	8 23%	3 9%	35 100%
2	3 12%	20 80%	2 8%	25 100%
3	0 0%	0 0%	9 100%	9 100%
Total Percent	27 39%	28 41%	14 20%	69 100%

Sample 8 (n=68)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	25 71%	8 23%	2 6%	35 100%
2	6 24%	17 68%	2 8%	25 100%
3	1 11%	1 11%	7 78%	9 100%
Total Percent	32 46%	26 38%	11 16%	69 100%

APPENDIX I, CONTINUED

Sample 9 (n=69)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	15 56%	8 30%	4 15%	27 100%
2	8 26%	21 68%	2 6%	31 100%
3	1 9%	2 18%	8 72%	11 100%
Total Percent	24 35%	31 45%	14 21%	69 100%

Sample 10 (n=68)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	27 71%	7 18%	4 11%	38 100%
2	3 13%	18 78%	2 9%	23 100%
3	1 14%	1 14%	5 71%	7 100%
Total Percent	31 46%	26 38%	11 16%	68 100%

APPENDIX J

SPLIT-SAMPLE RESULTS OF HYBRID DISCRIMINANT ANALYSIS

Sample 1 (n=69)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	26 67%	11 28%	2 5%	39 100%
2	4 15%	20 77%	2 8%	26 100%
3	0 0%	0 0%	4 100%	4 100%
Total Percent	30 43%	31 45%	8 12%	69 100%

Sample 2 (n=68)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	22 85%	2 8%	2 8%	26 100%
2	2 7%	26 93%	0 0%	28 100%
3	0 0%	0 0%	14 100%	14 100%
Total Percent	24 35%	28 41%	16 24%	68 100%

Sample 3 (n=69)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	19 66%	5 17%	5 17%	29 100%
2	7 23%	21 68%	3 10%	31 100%
3	2 22%	1 11%	6 67%	9 100%
Total Percent	28 41%	27 39%	14 20%	69 100%

Sample 4 (n=68)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	26 72%	7 19%	2 8%	36 100%
2	2 9%	20 87%	1 4%	23 100%
3	1 0%	0 0%	8 100%	9 100%
Total Percent	29 43%	27 40%	12 18%	68 100%

Sample 5 (n=69)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	27 77%	4 11%	4 11%	35 100%
2	0 0%	23 96%	1 4%	24 100%
3	0 0%	0 9%	10 100%	10 100%
Total Percent	27 39%	27 39%	15 22%	69 100%

Sample 6 (n=68)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	20 67%	5 17%	5 17%	30 100%
2	7 23%	20 67%	3 10%	30 100%
3	1 13%	1 13%	6 75%	8 100%
Total Percent	28 41%	26 38%	14 21%	68 100%

Sample 7 (n=69)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	25 71%	8 23%	2 6%	35 100%
2	6 24%	17 68%	2 8%	25 100%
3	1 11%	1 11%	7 78%	9 100%
Total Percent	32 46%	26 38%	11 16%	69 100%

Sample 8 (n=68)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	20 67%	7 23%	3 10%	30 100%
2	6 21%	20 69%	3 10%	29 100%
3	1 11%	0 0%	8 89%	9 100%
Total Percent	27 40%	27 40%	14 20%	68 100%

Sample 9 (n=69)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	24 89%	2 7%	1 4%	27 100%
2	1 3%	29 94%	1 3%	31 100%
3	0 0%	0 0%	11 100%	11 100%
Total Percent	25 36%	31 45%	13 19%	69 100%

Sample 10 (n=68)

No. of Observations and % Classified into Cluster:

From Cluster	1	2	3	Total
1	29 76%	4 11%	5 13%	38 100%
2	5 22%	17 74%	1 4%	23 100%
3	0 0%	0 0%	7 100%	7 100%
Total Percent	34 50%	21 31%	13 19%	68 100%

VITA

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