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**Soliman, Ahmed Ali Moustafa**

AN INVESTIGATION OF CONSUMER EVALUATION PROCESSES: SERVICES  
VERSUS GOODS

*City University of New York*

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AN INVESTIGATION OF CONSUMER EVALUATION PROCESSES:  
SERVICES VERSUS GOODS

by

AHMED ALI MOUSTAFA SOLIMAN

A dissertation submitted to the Graduate Faculty in  
Business in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy,  
The City University of New York.

1986

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This manuscript has been read and accepted for the Graduate Faculty in Business in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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Abstract

AN INVESTIGATION OF CONSUMER EVALUATION PROCESSES:  
SERVICES VERSUS GOODS

by

Ahmed Ali Moustafa Soliman

Advisor: Professor Leon G. Schiffman

The objective of the study is to compare consumers' perceptions of pure goods, good-service (GS) combinations, and pure services in terms of the degree to which each product class possesses six characteristics, the degree of product involvement, the relationship between product familiarity and perceived risk, and the importance of four evaluative criteria. The characteristics tested are intangibility, perishability, simultaneity of production and consumption, nonstandardization, buyer participation in production, and buyer's abidance by seller's rules. The evaluative criteria included in the study are price, recommendations of family and friends, friendliness, and location.

It was hypothesized that subjects would perceive higher degrees of all six characteristics, attach more importance to the four evaluative criteria, and be more involved with both pure services and GS combinations than with pure goods. Differences between pure services and GS combinations were hypothesized to be insignificant. It was also hypothesized that product familiarity, in general, would be inversely related to perceived risk, and that the magnitude of this relationship would be greater for pure services and GS combinations than for pure

goods.

Three pretests were undertaken with three independent samples totaling 212 business students. The first pretest examined the importance of 15 service evaluative criteria across 15 service offerings. This pretest assisted in selecting the four criteria used in the study. The second pretest used two independent samples who classified thirty products into the three types utilizing two different methods: direct and indirect. Then, the product scores obtained from the two samples were used in validating the product typology through factor analysis. Two offerings from each product type were selected from the validated products for inclusion in the main study. The third pretest established the reliability and validity of the involvement scale developed for this study.

A cross-sectional, convenience sample of 436 heads of household from the New York Metropolitan Area and the surrounding suburbs was contacted. A total of 352 questionnaires were returned, from which 326 usable responses were entered into the analysis.

MANOVA and ANOVA tests were performed. The LSD method was used to examine differences between the three product types. Product type was the independent (predictor) variable. Service characteristics, product involvement, and evaluative criteria were the dependent (criterion) variables. Five measures of association were used to examine the relationship between product familiarity and perceived risk.

The findings indicate that the means of both pure services and

GS combinations are significantly higher than those of pure goods in terms of all service characteristics, evaluative criteria, and product involvement. Significant differences are also found between the means of pure services and GS combinations. GS combination means are found significantly higher than those of pure services. It is also found that, when the two offerings within each product class are taken together, perceived risk of pure services is higher than that of GS combinations, and that of GS combinations is higher than that of pure goods. Product familiarity and perceived risk are found positively related. As expected, the magnitude of the relationship between these two variables is found greater for both pure services and GS combinations than for pure goods.

In general, the findings of the study empirically support several conceptual relationships that are proposed in the marketing literature about the differences between goods and services. Additionally, they signal the saliency of GS combinations as a product class that should be distinguished not only from pure goods, but also from pure services conceptually as well as strategically.

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CHAPTER I  
INTRODUCTION

The growing importance of services to the U.S. economy is undeniable. According to Survey of Current Business (December 1985), services account for 48.3 percent of the Gross National Product in 1985, while consumer expenditures on services represent nearly 51 percent of personal consumption expenditure in the same year.

Undoubtedly, the United States has already moved into a post-industrial society in which services assume a prominent position. The strong influence of services on the economy does not only affect consumers' welfare, but it also shapes the lives of millions of service employees. For instance, Kotler (1982, 1984) states that two-thirds of the non-government labor force earns their income from the service sector, whereas 73 percent of the U.S. non-farm workforce are employed by service businesses.

While the size and impact of services are enormous, the marketing literature, as well as marketing courses and textbooks, are overwhelmingly dominated by theories, techniques, and applications involving physical goods, even though the authors define products as encompassing both goods and services.

One of the immediate consequences of this reality is that a large number of service industries lack a marketing-oriented view,

and adopt a production-oriented philosophy. Another outcome is the tendency of service managers to follow the same marketing strategies and tactics that are applied by goods managers (usually known as product managers) in manufacturing companies. To their surprise, the service marketers discover that those strategies and tactics do not always work.

If the goods approach to managing and marketing services is inappropriate, it follows that marketing communications by service marketers become ineffective since consumers cannot identify with the messages.

Apparently, service firms -- with few exceptions -- lag behind manufacturing firms in the design and implementation of innovative marketing programs that capture consumers' interest in services based on service characteristics which distinguish them from goods' characteristics. It is not surprising, therefore, that the Nordic School of service marketing has been developed on the notion that service firms may require a marketing approach that is totally different from that used by manufacturers of consumer goods (Gronroos 1983).

The Nordic School suggests, for instance, that in service firms, managing the marketing function cannot be separated from managing other business functions such as operations. As a result, the management of service firms should hold the responsibility of different business functions simultaneously, and strategic marketing

planning cannot be separated from strategic management planning in those firms. Empirical support for this proposition is provided by Langeard, Bateson, Lovelock, and Eiglier (1981).

While a large number of service organizations traditionally adopted the production-oriented philosophy, only recently have we witnessed few leading service firms aggressively changing their approach to marketing their services. This is mainly due to the developed change in the legal environment which prompted the deregulation of several service industries including telecommunications, banking, and commercial airlines.

The fear of losing their competitive edge, and the aggressive techniques used by small newcomers (e.g., People Express airlines), have forced some of the established service firms to reformulate their strategies and react quickly. Some banking institutions introduced new service offerings, redesigned their lobbies and atmospheres, and increased their service hours and/or the number of their branch offices in order to maximize customer convenience. Some brokerage firms, such as Merrill Lynch, repositioned their services to attract a lucrative market segment; namely, the achievers. A leading hotel chain; Hyatt Regency, took major marketing steps to increase its market share. And last, but not least, AT&T offered its customers premiums (AT&T Opportunity Calling) on long-distance telephone calls to increase its sales in this increasingly competitive market.

Nonetheless, as Kotler (1982,1984) contends, most other service firms are lagging behind, and there is a growing need for understanding

how services should be marketed relative to goods.

In the mean time, there have been several calls by such scholars as Philip Kotler, Sidney Levy, and Gerald Zaltman since the late 1960s and early 1970s for expanding the boundaries of marketing to embrace non-goods (service and non-profit) sectors. Such calls have drawn the attention of many service students to the unique features and characteristics of services that distinguish them from physical goods; an observation that led them to believe that these characteristics result in fundamental differences between goods and services.

Moreover, there is a consensus among service students that these fundamental differences require different techniques and strategies in the marketing of services, and that these differences warrant more investigation. (See, for example, Bateson 1979; Hargrove, Barksdale, and Powell 1983; George and Barksdale 1974; Mizerski and Weinberger 1978; Shostack 1977; Weinberger and Brown 1977).

As one authority in the field faithfully puts it (Lovelock 1979, p. 148):

Services ... challenge existing conceptual frameworks in marketing due to some of the important ways in which they differ from business goods ...

These differences in service characteristics pose several problems in the marketing planning and control of services unless these differences are isolated, and their implication. for marketing strategy are investigated.

### Purpose of the Study

This study is concerned with prepurchase evaluation processes in which consumers employ a set of product and situational criteria that might help them in making product selection and purchase decisions.

Products are defined in this study as encompassing both goods and services. Therefore, unlike the common use of the word "products," this study does not consider "products" as synonymous to "physical goods," but conceives products as either goods or services. A distinction between goods and services will be developed throughout this research and three product categories (pure goods, good-service combinations, and pure services) will be tested across service characteristics and evaluative criteria.

Based on the literature review that will follow, the degree of ambiguity surrounding the prepurchase decisional setting seems to be influenced by four factors: a) the consumer (e.g., the degree of perceived risk, consumer's perception of the stimuli, consumer's values and characteristics, etc.), b) the type of product and its characteristics (e.g., good or service, durable or nondurable, expensive or unexpensive, etc.), c) the scope and source of available information on the product (e.g., too much or too little information, available from personal or impersonal sources, etc.), and d) the situation.

Each of these factors as well as the degree of interaction among them contribute to the ambiguity (or clarity) that dominates prepurchase decision making.

Of course, the scope of this study does not allow for investigating all of these factors. Instead, the focus will mainly be on consumers' perception of service characteristics, and the evaluative criteria they employ in the prepurchase phase of the decision process. These evaluative criteria -- as will be seen later -- cut across almost all the four factors mentioned above.

Almost all marketing scholars agree that there is a number of similarities and differences between goods and services. However, they disagree on what dominates both product categories: similarities or differences. Even though some researchers conclude that the similarities far exceed the differences (e.g., Johnson 1969), they admit that these differences cannot be completely dismissed, and additional research is needed to assess them.

Therefore, the purpose of this study is to investigate the following reserach questions empirically:

1. Whether consumers perceive real differences in the unique characteristics of goods and services.
2. Whether consumers experience a higher degree of involvement with services than that experienced with goods.
3. Whether there is an inverse relationship between product familiarity and perceived risk, in general, and whether this relationship is more intense for services than for goods, in particular.
4. Whether the evaluative criteria utilized by consumers in evaluating services are different in importance from those used in evaluating goods.

### Theoretical Background

Studies focusing on a single service industries -- such as banking, transportation, and insurance -- have been undertaken for a long time, particularly in relation to market segmentation. However, interest in service marketing on the aggregate level is a recent phenomenon. It is only in the late 1970s and early 1980s when serious attempts were made to conceptualize the determinants of service decisions, and suggest a theoretical framework for them.

The first international conference on service marketing was held in Europe in 1977 (Gronroos 1983). The first U.S. service conference followed in 1981. So, there is little theory on service marketing, and much of the conceptual work published to date has not been empirically tested. However, the few conceptual contributions available in the service literature provide a starting point that is good enough to guide research in this preliminary phase of theory development in the service sector.

In the conceptual work of Zeithaml (1981), a framework of consumer evaluation processes is developed based on the contributions of Nelson (1974) and Darby and Karni (1973). Nelson classifies product attributes or "qualities" into two categories: a) search qualities; attributes which a consumer can determine prior to purchasing a product, and b) experience qualities; attributes which a consumer can only evaluate after purchase, or during consumption. Darby and Karni add a third category, credence qualities, defined as those characteristics a consumer may find impossible to

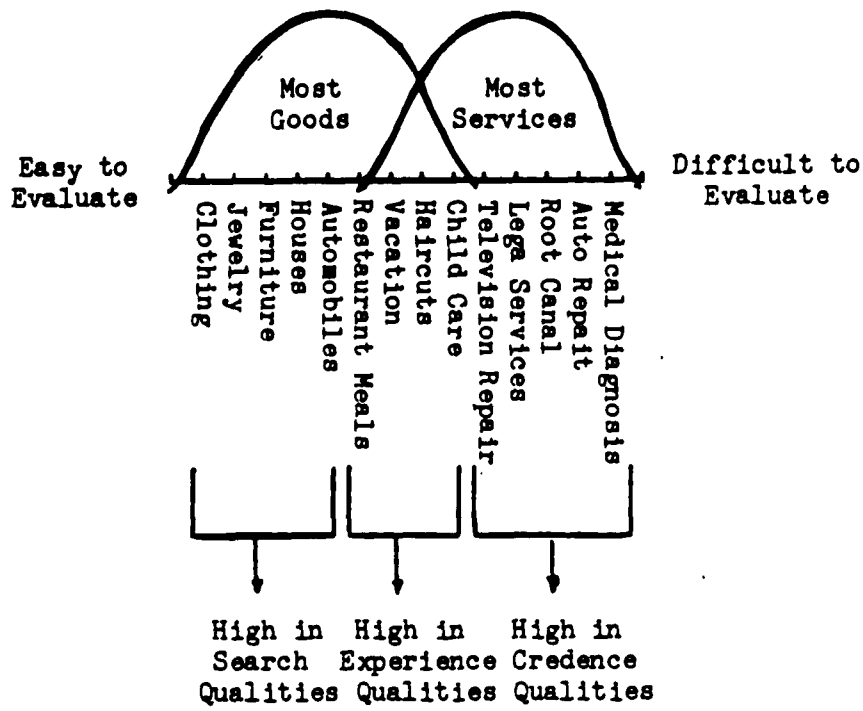
evaluate even after purchase and consumption.

Examples of search qualities of a good include price, style, color, hardness, and feel. Experience qualities include taste, wearability, and purchase satisfaction. Finally, credence qualities require special skills which the ordinary consumers do not possess to enable them to evaluate the product. Examples of credence qualities are those present in surgery and brake relinings on automobiles (Zeithaml 1981).

Zeithaml proposes that most goods are high in search qualities, whereas most services are high on both experience and credence qualities. This situation results in a high degree of ambiguity and difficulty in product evaluation. Figure I-1 illustrates this idea. In this Figure, goods and services are arranged along a continuum of evaluation ranging from "easy to evaluate" to "difficult to evaluate," based on their degree of search, experience, and credence qualities. Zeithaml argues that most goods fall to the left of this continuum, while most services lie in the right due to three distinctive service characteristics: intangibility, non-standardization, and inseparability of production and consumption.

These three characteristics -- according to Zeithaml -- make services more difficult to evaluate than goods. Thus, services possess few search qualities and many experience and credence qualities, with the latter dominating particularly in services provided by professionals and specialists such as TV repair and legal services.

FIGURE I-1  
 CONTINUUM OF EVALUATION FOR DIFFERENT TYPES OF PRODUCTS



Source: Zeithaml (1981), p. 186.

Bateson (1979) postulates that real structural differences exist between consumer goods and services. He adds that all the problems and differences in the management process can be traced back to two structural differences: a) intangibility, and b) simultaneity of service production and consumption.

As Bateson provides evidence from the literature, he shows that these two factors lead to a set of common problems shared by managers in several service industries. He argues that a "service delivery system" in service firms replaces "product development" in consumer goods firms. He adds that the former system involves consumer's interaction with service personnel, and that the "mental intangibility" of services means a "fuzzy" image of service on the part of consumers. This situation leads to higher perception of risk.

Fisk (1981) develops a consumption/evaluation model, in which he suggests that the evaluation of services is a continuous process that occurs before, during, and after service consumption (i.e., performance). According to Fisk, the differences in evaluating goods and services might stem from three characteristics: a) intangibility, b) that purchasing a service does not result in ownership, and c) that some services such as life insurance is a promise to deliver if a specific event occurs; if the event does not take place, the promise may never be delivered.

All of these conceptual contributions strongly suggest that service characteristics such as intangibility, perishability, lack of ownership, inconsistency of quality, etc., influence the evaluative

criteria that are selected and used by service consumers in pre-purchase decision settings.

Two other consumer behavior theories provide possible explanations of the relationship between service characteristics and service evaluative criteria. These are a) perceived risk theory, and b) involvement theory. The perceived risk theory postulates that consumers face some degree of risk in making a purchase decision, that the perception of risk is completely subjective and does not relate to the objectivity of the stimulus, that consumers may perceive risk because they may have little or no experience with the product, that perceived risk varies by product category, and that it varies with the shopping situation (Schiffman and Kanuk 1983).

If the available information on service is less than that available on goods, there is nothing tangible in the service for consumers to evaluate, and the consumer has little or no experience with services than with goods, then based on perceived risk theory it is expected that consumers experience higher risk perception for services than for goods. The empirical findings of Dubinsky and Levy (1981), Guseman (1981), and Lewis (1976) support this contention.

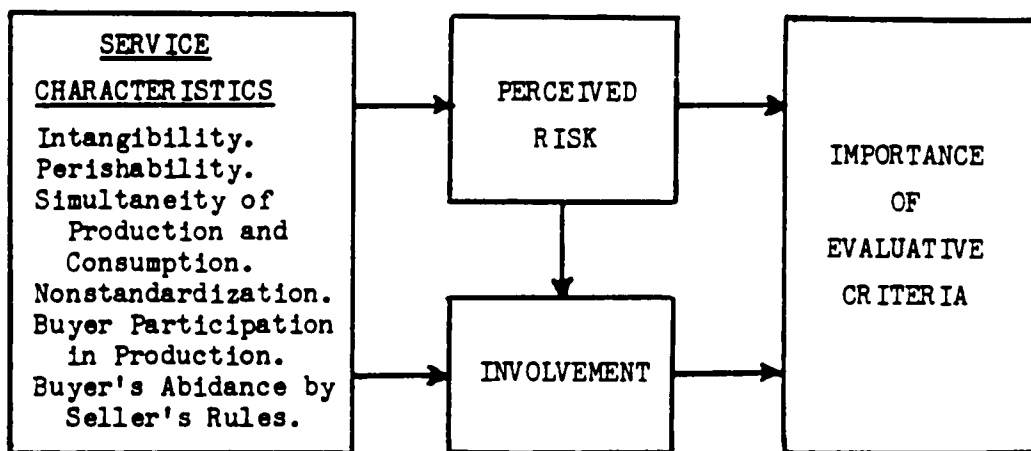
Involvement theory, on the other hand, postulates that a consumer's concern in a purchase situation is influenced by product's risk perception, economic, social, and psychological cost, complexity of decision making, whether it is a major purchase decision, the importance of purchase relative to the situation (or the occasion), and the individual's value system (Antil 1984; Bloch and Bruce 1984;

Houston and Rothschild 1978; Krugman 1965 & later; Muncy and Hunt 1984 among others). Hence, involvement relates to the product, the communication, the person's ego and values, and the situation.

Fisk (1981) proposes that service characteristics influence the degree of consumer's involvement in the evaluation and purchase decision processes. He hypothesizes that the level of involvement is higher for services than for goods. In addition, the active learning model of involvement (Schiffman and Kanuk 1983), which is based on traditional cognitive theory, seems to fit services as a major product category. The rationale for this is explained in terms of the higher degree of risk perceived for services and the perceived differentiation of service offerings (by the same provider as well as different providers) due to the heterogeneity or inconsistency of service quality. These two factors are likely to contribute to the consumer's activity in seeking more information on services (particularly from personal sources); thus becoming highly involved.

Based on this theoretical background, the conceptual framework given in Figure I-2 is developed to guide research in this study. As shown in the Figure, the relationship between service characteristics and service evaluation criteria is moderated by two variables: perceived risk and involvement. In the meantime, involvement is influenced by perceived risk. Service characteristics prompt a higher degree of perceived risk as well as a higher degree of involvement for services than for goods. Additionally, since services have more of experience and credence qualities than of search qualities,

FIGURE I-2  
A CONCEPTUAL MODEL OF SERVICE EVALUATION



experience and credence qualities contribute to high involvement on the part of consumers. This situation leads consumers to the selection and utilization of certain evaluative criteria that differ in their importance for services than for goods.

#### Statement of the Research Problem

The primary concern of this study is to investigate the ways in which service characteristics and evaluative criteria are different from those of goods as perceived and utilized by consumers in pre-purchase decisional settings.

To implement this research, three facets of the investigation are undertaken. The first facet involves identifying the characteristics of services that distinguish them from physical goods, and potentially have some consequences on consumers' perceptions of services.

The second facet of the inquiry involves the investigation of two variables that potentially mediate the relationship between service characteristics and service evaluative criteria: perceived risk, and involvement. Since there is evidence of a higher degree of risk perception for services than for goods, the inquiry is focused on the relationship between perceived risk, and consumers' familiarity with goods and services. As to involvement, this construct is tested to find out whether consumers experience a higher degree of involvement with services than with goods.

The third -- and last -- facet of the research tests the importance of a number of evaluative criteria as perceived by consumers in regard to both goods and services.

#### Significance of the Study

Historically, the scanty research devoted to the differences between goods and services marketing has traditionally been conducted from a management point-of-view. A major shortcoming of this approach is its adoption of a seller's view and its failure to recognize consumers' perceptions of services; the latter being the logical starting point of any effective service strategy (Blois 1981; Smith and Dixon 1982).

Therefore, a major premise of this study is to shed some light on consumers' perceptions of service characteristics and the ways these characteristics affect consumers' evaluation of services. Indeed, ... "Understanding service interactions from the consumer's point of view is a field that has received little attention." (Bateson and Langeard 1982, p. 176).

The importance of this study has also been called for by Czepiel (1980) who mentions that ... "little formal work has been done to investigate the elements of service encounters and conceptualize their content." Furthermore, Bettman (1979) has noted that one of the priority areas for research which deserves researchers' attention is ... "perception of product stimuli." Therefore,

investigating the elements of service evaluation seems justified.

This study, nevertheless, differs from previous research on services in that it does not focus on a single service industry. Rather, it extends previous research across a broad range of service industries in an attempt to identify the commonalities among these varied services from the consumer's point-of-view.

This approach is supported by many service scholars (e.g., Bateson and Langeard 1982; Langeard et. al. 1981; Lovelock 1980), who call for examining services on the macro (aggregate) level in order to discover common dimensions and attributes among services in general without focusing on a single service industry in particular. These researchers have argued that common characteristics exist across many services, and that these characteristics result from the interactive-experiential nature of the service involving the consumer. Thus, an empirical test of this proposition is warranted.

Finally, two observations are noteworthy. First, there is agreement among consumer researchers that research on services ignores the investigation of many aspects of consumer behavior. Examples of those aspects that need further research are consumer search strategies (Davis 1980), consumer evaluation processes (Zeithaml 1981), and causal attribution (Mizerski and Weinberger 1978).

Secondly, it is alarmingly observed that most of the studies

that are published to date and deal with services in general (not focusing on a single service industry) are non-empirical (Dubinsky and Levy 1981; Hargrove, Barksdale and Powell 1983). In particular, there is not much empirical research done to measure consumers' perceptions of service characteristics, with the exception of a few studies such as Johnson 1969. Many, if not all, of the characteristics described in the literature, and attributed to services are treated conceptually, but never tested empirically. Generalizing these characteristics among all services might be risky unless they are empirically tested and validated. Only through empirical validation can we gain insights and implications for the formulation of effective service strategy, and provide some contribution toward a theory of service marketing.

Consequently, it is felt that this research fills a need that is well expressed by many scholars in the field.

#### Organization of the Report

Chapter I presented a summarized, but comprehensive, overview of the scope and purpose of the study, the research problem and the contribution of the study.

In Chapter II, the literature on product cues in the goods sector is reviewed. Conclusions are made at the end of each section, comparing goods to services, and the implications for developing hypotheses for this dissertation are included.

Chapter III reviews the service evaluation literature. First, research on service evaluation is reviewed. Then, studies describing or testing service characteristics are presented and analyzed. Third, studies dealing with perceived risk in the service sector are presented and reviewed. Finally, the last section of Chapter III reviews the literature on involvement theory and the various research directions taken by consumer researchers in this area of investigation. Following the same approach taken in Chapter II, conclusions at the end of each section of Chapter III also summarize the research findings in each field, and directions for hypothesis development, as can be applied to this study, are provided.

In Chapter IV, the hypotheses and research methodology are presented. First, the study's hypotheses are stated and their rationale is discussed. Then, the research design is described, followed by product typology validation and selection scheme. This is followed by the operational definitions and measurement of the study variables. The subsequent sections include sample description, questionnaire development, and pretests. The final section of Chapter IV describes the statistical techniques used to test the hypothesized relationships advanced in the first section of the chapter.

Chapter V presents and discusses the statistical results of the pretests. Chapter VI presents the findings of the study and provides a complete statistical analysis of the findings in relation to the study's hypotheses. Finally, Chapter VII presents summary, conclusions, and recommendations for future research.

CHAPTER II  
REVIEW OF THE GOODS LITERATURE

Product cues are attributes on which a consumer relies in evaluating a product. They are evaluative criteria which a consumer uses to make judgment and/or a purchase decision of a product. In principle, this applies equally to goods and services.

While researchers do not make it explicit, product cues -- as referred to in the literature -- often mean the cues consumers utilize in the selection and purchase of physical goods. For example, according to Olsen and Jacoby (1972), product cues are of two types: intrinsic and extrinsic.

Intrinsic cues are product attributes which are part of the physical structure of the product itself. These attributes cannot be changed without changing the physical structure of the product. Examples of intrinsic cues include product design, color, scent, taste, ingredients, etc. Apparently, these attributes apply to physical goods.

In the marketing literature, researchers operationalized intrinsic cues in terms of the physical characteristics of the product, and manipulated them as a multi-facet independent variable using an experimental design, and then measured their effects -- individually or in association with other product cues -- on consumer's judgment of product quality; with the latter operationed

as the dependent variable. (Other measures of the dependent variable will be discussed in a later section).

The other type of product cues, extrinsic cues, are those attributes which are external to the product; i.e., are not part of the physical structure of the product, and can be changed without changing the physical characteristics of the product itself. Examples of these cues include price, brand name, image of the store in which the product is sold, etc. These cues apply equally both to goods and to services, even though they have been extensively investigated in regard to physical goods only.

Based on this intrinsic-extrinsic classification typology, it is appropriate to assume that services are characterized by more extrinsic than intrinsic cues due to the intangible nature of services, and to the extent that those services enjoy a high degree of intangibility. Virtually, this is a crucial issue since all services are not completely intangible. For example, some products cannot be classified as pure goods or pure services such as home repairs and restaurant meals. This type of services has elements both of goods and of services. Consequently, consumers are expected to perceive varying degrees of intangibility for different types of goods and services, and a third category of good-service combinations should be included in the analysis to accommodate those services that are not "pure" services.

Before a literature review of the goods sector is presented, a word is due on the prevailing confusion between product attributes

and product benefits. As discussed above, attributes are cues or criteria which consumers utilize in evaluating a certain product, whether it is a good or a service. Benefits, on the other hand, are defined in terms of certain utilities consumers perceive in a product. Thus, when purchasing a brand of toothpaste, consumers may use the price, brand name, packaging, and taste as evaluative criteria, whereas the benefits they seek in the toothpaste may include whitening teeth, delivering a good breath, or fighting cavities.

Unfortunately, many consumer researchers failed to distinguish between product attributes and benefits, and thus used them indiscriminately in multiattribute models (Wu and Day 1982). This study does focus on product attributes defined as cues or evaluative criteria, not on product benefits.

In the following sections, a literature review is presented for product cues in the goods sector. Studies dealing with service evaluative criteria will be presented in Chapter III.

#### Product Cues Studies in the Goods Sector

Studies on product cues in the goods sector investigated a wide range of cues; both intrinsic and extrinsic. Studies involving intrinsic cues dealt with product factor, product type, and physical composition characteristics. Studies involving extrinsic cues, on the other hand, investigated price, brand image, store image, store desirability, market share, product and brand familiarity, search time,

frequency of purchase, and consumer product test reports.

Since price, as a product cue, has received a great deal of attention by consumer researchers, a literature review of the price research is presented first, followed by a review of research investigating other cues.

### Review of the Price Research

Tibor de Scitovsky was the first scholar to discuss the price-quality relationship in 1945, even though he did not test it empirically (Cox 1979). Since that time, price has been the most extensively researched variable in the marketing mix.

A number of review papers have yielded several trends concerning consumers' use of the price cue as an evaluative criterion, though the findings tend sometimes to be mixed. For instance, Monroe (1973) reviewed 76 studies and concluded that a positive relationship between price and quality seems to exist at least over some range of prices in some product categories. Engel, Blackwell, and Kollat (1978) also assert that there is a definite range of prices defined by consumers which represent their reference price. This reference price influences price judgments.

Early empirical research on price has consistently shown a significant price effect. However, since price was the only cue investigated, the significant effect obtained in these studies is not surprising. In addition, as Olson (1977) maintains, these studies

suffer from many conceptual and methodological problems, and are limited to individual products which impedes generalization to multicues settings.

In reviewing studies on multicue situations including price, Olson (1977) reports conflicting findings on the significance of price as well as the other cues. In one of these studies, done by Gardner (1970), the main effects of search time, frequency of purchase, product factor, and price were significant, but no significant interaction effects were found. However, based on personal interviews with subjects after the experiment, Gardner proposed that price may be a stronger predictor of quality in situations where judgment of the other cues are difficult, and one's self confidence concerning those judgments is low. According to Olson, this hypothesis is similar to those suggested by Scitovsky (1944-45) and Cox (1962).

In another study, Gardner (1971) tested the effects of product-type continuum, brand name, and price. The main effects as well as the interaction effects were found significant for the product-type continuum and brand name, but not for price. Olson (1977) explains this findings by stating that the brand name cue is a stronger indicator of quality than is the price cue. So, when both cues are present, price effects are negligible. Since the products investigated in the two studies by Gardner were suits, shirts, and toothpaste, this proposition remains to be tested with servives.

Render and O'Conner (1976) tested the price, brand image, and store image cues using three goods. They found each of the three

factors separately affected consumers' perception of the quality of two products: men's dress shirts, and after-shave lotion. For the third product -- AM desk radio -- price stood as the only significant independent variable. Among all interaction effects, only one was significant ( $p < .05$ ), which was price x brand name, for the after-shave lotion. The researchers considered another interaction effect between price and store name (for the men's dress shirts) as significant even though it is extremely weak ( $p < .25$ ). The researchers suggested using specialty stores besides department stores which were the only retail store type used in the study. They also suggested using packaging and advertising cues among the independent variables.

The results obtained by Raju (1977) concerning the price and brand name cues are similar to those of Render and O'Conner (1976). These two variables were positively related to product evaluation. In particular, price was found more important in pre-purchase overall quality evaluation (the product used in the study was stereo receivers).

Using another product class (skis), Wheatly, Walton, and Chiu (1977) reached similar findings; that is, the subjects' perception of product quality is influenced by both price and brand information. However, the difference in perceived quality attributable to price level was greater than the difference attributable to brand recognition. The price x brand interaction effect was small and barely significant ( $p < .10$ ).

These researchers also found no evidence that non-skiers would utilize the price and brand cues to a greater extent than skiers. Also,

experience with the product would not make a respondent less inclined to use the price or brand cues as indicators of product quality. It seemed that both groups of respondents utilized price and brand information in a similar manner.

The conclusion reached by these researchers was "When real prices vary over a wide range, unless buyers are technical experts, or product quality can be assessed readily by non-experts, it is still a very important cue and quite possibly the most important one typically utilized by consumers." (Wheatly, Walton, and Chiu 1977, p. 75).

In an attempt to clarify the relationship between the price cue and other product attributes, Cox (1979) hypothesized that there are three levels of product attributes which might be used to determine quality. The first level represents those attributes which are physically observed and intrinsic to the product such as easily scratched window paint and leaking pens. The price cue -- according to Cox -- should not play any role within this level since consumers' evaluations do not differ on these attributes regardless of price.

The second level of attributes involves nonobservable or highly technical product attributes which the average consumer can never fully evaluate such as the effectiveness of vitamins. Within this level, the price cue may be used as a major indicator of quality. While Cox treated this level in the context of goods only, this level of attributes seems to apply to many services and good-service combinations such as auto repair, restaurant meals, and medical and dental services as well.

The third level of attributes -- according to Cox -- are those which are relatively difficult to evaluate, but the consumer is able to evaluate, such as the taste of food and the attractiveness of an art object. For products characterized by attributes of this level, price might play a partial role as indicant of quality since there is certain amount of ambiguity concerning product quality.

Cox tested hypotheses about the third level of attributes only using coffee as his product class, and found tentative support for them. Even though the statistical significance of the F ratios was relatively low ( $p < .10$ ), one strength of Cox's experiment is the repeated measurement of the price-quality relationship at four trials. Over all trials, he consistently found the relationship positive.

Cox's conceptualization of the relationship between the price cue and other product cues based on the degree of attribute ambiguity has important implications to services, which are characterized by a relatively high degree of attribute ambiguity. The evidence provided by Cox (1979) and Wheatly, Walton, and Chiu (1977) supports the proposition that price is an important cue for services.

Another stream of research identifies the role of price in the different phases of the product choice process (Bettman 1979; Haines 1974; Park, Lessig, and Merrill 1982). This research direction agrees that price might be used in the early stages of the choice process as a screening tool to limit the choice to a controllable number of alternatives (usually defined by consumer researchers as the evoked set). Other attributes are then used in the evaluation of alternatives. Once

again, and later in the pre-purchase evaluation process, price may be used in the buying decision, particularly if price differences are perceived as significant by consumers (Monroe 1982).

While the findings of most price researchers indicate the insignificant effect of the price cue in multicue settings, a somewhat different explanation is presented by Sternthal and Craig (1982). After reviewing the relevant literature, these consumer researchers conclude that people fail to use the price cue as a basis for choice decisions because price information is not often processed; i.e., consumers do not often check price. Apparently, unless consumers collect and process price information, there is no way for them to use it in product choice decisions.

Finally, Engel, Blackwell, and Kollat (1978) add two other conditions for a positive price-quality relationship. These are:

- a) when the consumer has confidence in price as a predictor of quality,
- and b) when there are real and perceived quality differences among brands.

These authors conclude that some other factors exist and affect price judgment. Among these factors are product class (e.g.; price was found more important for detergents than for cereals), social visibility of the product (the more socially visible the product, the more significant the price), unawareness of price (which is consistent with Sternthal and Craig's conclusion referred to above), and the number of alternatives under consideration (the greater the number of alternatives, the less significant the price).

### Summary

The price cue does play a role in product evaluation and choice. There is substantial evidence that a positive relationship exists between the price cue and perceived product (good) quality in spite of the methodological limitations of previous price research, and even though this relationship was not always statistically significant.

The question is not whether this price-quality relationship exists; rather, it is when this relationship determines product choice (Monroe 1982). The literature review presented above and that summarized by Sternthal and Craig (1982) contend that the price cue tends to be significant in situations where other product attributes are characterized by a high degree of ambiguity, and consumers cannot assess quality by any other means. Conversely, when consumers can depend on other cues -- such as brand image -- the price cue becomes less important as an evaluative criterion.

While the products used in all the studies reviewed are physical goods, the available evidence suggests that price is an important evaluative criterion for services, since services are characterized by rather high experience and credence qualities. These qualities result in a high degree of ambiguity and difficulty in service evaluation.

### Research Investigating Other Cues

In addition to the price cue, other factors have been investigated by researchers. In the following sections, four of these factors will be reviewed. They are brand name, store image, physical (intrinsic) cues, and product familiarity.

### Brand Image Studies

The brand name (or image) cue has been studied in association with price alone, or with price and other cues. It is generally noticed that brand name is an important evaluative criterion from the consumer's point-of-view. That is, a positive relationship emerges between brand image and product evaluation, even though the relationship is sometimes not completely clear.

After reviewing the literature on cue utilization, Schellinck (1980) concludes, among other things, that people place considerable emphasis on brand name and intrinsic product cues when they evaluate a brand's quality.

Andrews and Valenzi (1971) indicate that at least for lower priced products, the brand name cue influenced quality perceptions. Gardner (1971) asserts that brand name strongly influences consumers' perception of product quality and willingness to buy. Wheatly and Chin (1977) also conclude that while the influence of brand name on quality perceptions was possibly product-specific, it was significant.

Olson's (1977) review, however, uncovers a discrepancy in the

findings of previous research involving brand name and price in combination. Olson offers an explanation for this discrepancy based on information processing theory by which a brand name is considered an "informational chunk" encompassing information on many product characteristics such as size, shape, manufacturer, performance, price, etc. So, when consumers use a brand name to access an "information chunk" encompassing all of this information they might not use the price cue heavily. Only in cases of low brand familiarity or in the absence of a brand name, the price becomes an important cue in product evaluation.

Wheatly, Walton, and Chiu (1977), in the study referred to before, found a statistically significant brand effect ( $p < .01$ ) but not nearly as strong as the price effect. The difference in perceived quality attributable to price level was greater than the difference attributable to brand recognition. When discussing the results, the researchers reach several conclusions, some of which are similar to those of Olson (1977). They note it is very likely that brand name as a cue for product quality is product-specific. They add it is possible that brand name is interrelated with price. However, they suggest that in the case of some low-priced consumer products, the brand name cue becomes more important than the price cue, whereas the former becomes less important for some higher-priced consumer goods.

This last conclusion is disputed by the findings of Raju (1977) where brand name was found to have greater effect on overall quality evaluation at higher prices than at lower prices. These

conflicting results confirm the assertion that the brand name cue, like price, is product-specific.

Engel, Blackwell, and Kollat (1978) note that the importance of brand image as an indicator of product quality seems to vary with the ease by which quality can be judged objectively. If evaluation is difficult, consumers tend to perceive a higher degree of risk in the purchase. Thus, a well-known brand name with a high quality image can be an effective way to reduce perceived risk.

Other directions in brand research include the combined effect of brand name and each of the following factors on consumers' perceptions of product quality: labeling information, packaging and container size, store brands, and generics.

Imperia (1981) tested the importance of label information in brand choice. Respondents were asked to choose a canned food product from three brands available at a specific supermarket: a national brand, a store brand, and a generic. An analysis of the reason given for brand choice revealed that the majority of respondents did not rely on label information when choosing the brand. Factors such as price, brand loyalty, brand name, and perceived quality were considered to be more important.

A similar choice pattern was found when those products having equal ingredients across brands were analyzed. The findings indicate that the majority of respondents chose the national brand because it was perceived of a better quality and better ingredients even though

the labels of the three brands listed identical ingredients. In the case where the generic brand was chosen over the national brand for price, it was so chosen because it was perceived of equal quality as the store brand.

Another study by Patton (1981) examined the impact of quantity information on brand choice decisions. The study's major findings indicate that subjects tended to select brands that provide the most information, and tended to avoid those with the least information. This tendency was highest when all tested brands were of equal quality, but the tendency was moderate when quality varied inversely with amount of information.

The last two studies, just discussed, show relatively conflicting results about the amount of brand information consumers may utilize. While the first study indicates that label information is neglected in favor of other extrinsic cues such as price, brand image, and the like, the second study shows that consumers tend to select the brand with the most information.

The discrepancy concerning brand information may be explained in terms of the product class selected by the researchers of the two studies. While Imperia used canned food (a convenience good), Patton employed electric food mixer (a shopping good). It is logical to find consumers looking for more information in the case of a shopping good than in the case of a convenience good for several reasons.

In the case of an appliance such as electric food mixer,

consumers are concerned with information on its safety, capacity, capability, versatility, weight, warranty, and the like. In the case of a convenience good such as canned food, on the other hand, consumers tend to use an informational chunk such as brand name to summarize a great deal of information and cut down search time.

In addition, consumers tend to assume that food quality requirements are satisfied by the FDA regulations. However, while consumers also assume that appliance's safety is also regulated by the CPSC, their search for information does not stop at safety requirements, but exceeds them to other features as mentioned above.

Other research on brand, packaging, and container size has consistently yielded significant brand and packaging effects (Rigaux-Bricmont 1982; Fowler 1982). However, container size alone did not produce any significant effect except in the case of the triple interaction with brand and price discount (Fowler 1982).

Since the purpose of this review is to provide insights for comparing goods cues with service cues, elaboration on packaging and container research is not useful. Packaging and container size implications are not relevant to services. Therefore, the review of these issues will stop at this point.

Finally, research on national, store, and generic brands indicates that consumers' perception of the quality of national and store brands was enhanced when generic brands were introduced to the choice set regardless of the price range spread (Wheatly 1981; Wheatly

et. al. 1982). Consumers perceived large differences in quality between national brands on one hand, and private and generic brands, on the other. So, the switch from national brand to private brand was not significant. In contrast, consumers perceived small differences in quality between private and generic brands. Consequently, the switch from the store brand to the generic was significant.

### Summary

Brand image research has yielded several important findings. In general, a brand name correlates positively with product quality. A brand name provides an explicit positioning for the product (Ross 1982). A brand name, thus, is considered an information chunk through which consumers access many other product information.

It is also likely that the brand name is product-specific in the sense that there is interplay between brand name and price depending on the product category. The amount of brand information consumers collect depends on the product category as well. Finally, the quality image of national brands is enhanced with the introduction of generics.

The implications of these findings to services are several. First, there are no studies in the service literature that deal with brand name. However, there are some studies which involve service provider's reputation. Indeed, there is a substantial number of services that recognize the influence of brand name on consumers' perceptions, hence they develop specific brand names -- like manufacturers of consumer goods -- and utilize them in positioning their offerings through

promotions.

It should be noted, however, that in the case of services, the brand name and store (provider) name cues may combine with each other in what might be labelled "service provider's image or reputation." This is so because the service producer is usually its marketer, and the service store may be either owned by the service provider, or franchised -- under the same company name -- by him.

Compared to goods, it is likely that consumers engage in collecting a large amount of information about services since the information available by service providers on their services is sparse. In addition, the uncertainty surrounding the quality of services provides another reason why consumers might be active in looking for information on services they plan to buy.

Finally, a corresponding concept of national, store, and generic services can be developed. Generic services are represented by small service outlets (small workshops, fast-food outlets, and other services) that are privately owned and managed by small-size business-people, who are not a part of a larger vertically-integrated system. It is possible that the image of the national or regional service provider, which is created using a pull strategic approach through positioning and mass advertising, will result in a higher perceived quality for these services than for generic services.

### Store Image Studies

The store image cue was examined by Olson (1977) who found consistent main effects on product evaluation in three of the five studies involving store image which he reviewed. The results of the two other studies are inconsistent with those of the first three in one or more of the following aspects: the main effects, the interaction effects (with price or other cues), and the directionality of the store image main effect. Olson, therefore, concludes that the effects of store image are unclear and deserve further research.

Engel, Blackwell, and Kollat (1978) define a store's image in terms of the "overall way in which customers perceive a store as well as its individual attributes ..." (p. 520). These attributes -- as perceived by consumers -- represent the determinants of store choice. According to the authors, these determinants are not universal; rather, they vary substantially by type of product, store, and customer.

The determinants of store choice for two consumer product categories are summarized by Engel, Blackwell, and Kollat as follows:

1. Women's clothing stores: salespersons, price-quality, and congeniality.
2. Supermarkets: location, price, service, cleanliness, product selection, and parking.

The authors also note that there is some evidence of a correlation between store loyalty and store image. They also state that the image of a preferred store seems to correspond to consumer's self image.

Runyon (1977) contends that attempts to assess store choice on the basis of individual store attributes have generally been unsuccessful. It seems that the determinants of store choice enter into complex relationships between, merchandise lines, store attributes, and consumer characteristics, so that it is not always clear which factors are determinants and which ones are merely important.

### Summary

The evidence indicates that the effect of the store image in the goods sector is unclear. The case with services is likely to be different as the store image and the service producer image (or reputation) combine with each other as explained in the previous section.

### Studies on the Physical Characteristics of Goods

Research on intrinsic product cues has produced two streams of findings. One of these streams contends that the physical characteristics are not crucial in product evaluations, while they are found significant according to the other stream.

Schiffman and Kanuk (1983), on one hand, note that ... "(c)onsumers like to believe that they base their product quality evaluations on intrinsic cues, because they can justify resulting product decisions ... on the basis of 'rational' or 'objective' product choice. More often than not, however, the physical characteristic they select to judge quality has no intrinsic relation to the product's quality. Thus, though many consumers claim they buy a brand because

of its superior taste, they are often unable to identify that brand in blind taste tests." (pp. 157-158).

The conclusion reached by Schiffman and Kanuk, after reviewing several studies involving soft drink taste tests, has been supported by many studies in other food categories. For instance, Hallaq and Pettit (1983) reached the same conclusion after performing a series of taste tests on orange juice, hot dogs, and potato chips. They concluded..."frequently physical attributes like sweetness, bitterness and aroma are not as crucial in determining evaluations as brand name and image associated with the products." (p. 600).

The other stream of research, on the other hand, is represented by the studies reviewed by Olson (1977). He found significant main effects of product composition cues in four of the five studies he reviewed. According to Olson, the Jacoby, Olson, and Haddock's (1971) study was the first price cue investigation to examine the physical differences among brands in the same product class. The findings of this study indicate a strong main effect due to physical characteristics, but also show complex interactions with other cues. Price was found to have a significant effect on product quality judgment only when physical composition cues and the brand name cue were absent.

### Summary

Research on the physical characteristics of goods has produced conflicting findings as to their effects on product evaluation. However, the findings by Jacoby, Olson, and Haddock (1971), provide

more support to the proposition that price might be an important factor in service evaluation, since services in general, and pure services in particular, lack the physical characteristics. It is because services are intangible that a number of scholars call for paying more attention to the cues of the physical environment of retail services, as well as tangible cues in service advertising. These issues will be discussed in more detail in Chapter III.

#### Studies on Product Familiarity

There is evidence from the research done on several goods that familiarity (or experience) with a product class is strongly related to product evaluation.

In his review of studies dealing with product familiarity, Olson (1977) concludes: "It seems likely that expertise or familiarity with the product class strongly influences the relative effects of informational cues on product evaluation and thus warrants such attention." (p. 282).

Mauser (1979) also indicates that consumers' perceptions of a product class may vary with their degree of product familiarity. The empirical results of Park and Lessig (1981), Swan and Trawick (1979), and Wheatley and Chiu (1979) all show significant familiarity effects as well.

Conceptually, product familiarity has been included in consumer behavior models as one of the determinants of product evaluation. For

example, Howard (1977), and Howard and Sheth (1969) postulate that consumers with little experience with, and knowledge of, the product engage in extensive problem solving.

However, not all the studies yield a statistically significant effect of familiarity, even though the results are in the expected direction. For instance, Tan and Dolich (1981) tested the moderating effects of cognitive complexity and product familiarity on brand preferences as derived from five different multiattribute choice models. Although the high familiarity group consistently showed a slightly higher mean score than the low familiarity group across all the three product classes used in the study, the product familiarity main effect was not statistically significant. Moreover, all interaction effects were also insignificant except the three-way interaction (model x cognitive complexity x familiarity) in one product class (automobiles).

While Tan and Dolich were testing choice models' predictability not product familiarity per se, it seems that the problem centers on their operational definition of product familiarity. These researchers operationalized the concept in terms of the proportion of brands in the product class that a respondent knew something about. This definition differs from those used by other researchers, and this situation may have affected the results.

A review of the operational definitions of the concept as used by different researchers reveals a wide array of definitions, even though they all center on the notions of knowledge and experience.

For instance, Stem and Lamb (1980) operationalized familiarity by classifying subjects into three categories: a) nonusers (of snow skis), b) users with no purchase experience, and c) users with purchase experience.

Swan and Trawick (1979), on the other hand, used a multiple measure. While not addressing the issue of product familiarity directly, they seem to define the concept in terms of usage and purchase experiences. Usage experience was defined in terms of three measures: a) word of mouth-talked with other people about item, b) word of mouth-heard from other people about item, and c) extremity of post usage ratings, measured as the absolute difference between each respondent's score and the model category.

Purchasing experience, on the other hand, was measured using four variables: a) frequency of purchase, b) extremity ratings purchases at stores, measured in a similar way to that used for extremity of post usage ratings, c) items on sale or special, and d) consistency of product quality. It is worthy to note that these researchers found usage experience to be more significant than the other variables, and was judged by the researchers as more closely related to product evaluation than other experience cues.

Bettman and Park (1980), and Park and Lessig (1981) used two measures. The first measure consists of three variables: information search, usage, and ownership. According to this measure, subjects are classified into three groups: a) the Low Prior Knowledge and Experience group; those who did not search for information, use, or

own the product, b) the Moderate group; those who searched for information or used, but not owned the product, and c) the High group; those who owned the product (a microwave oven).

The second measure used by these researchers is a one-question manipulation check: "How familiar are you with a microwave oven?" The scale used for this measure is a 5-point scale (where 5 = very familiar, and 1 = unfamiliar). Familiarity was defined in the questionnaire in terms of the subject's knowledge about the features important in choosing among microwave ovens.

As these researchers correlated the two measures with each other, they provided evidence of their validity. Thus, it seems that these measures are more preferable than the other measures, which have been presented before, because of their simplicity and well as their validity.

The literature reviewed seems to indicate that familiarity and experience with the product relates to the level of perceived risk. For instance, Brown and Gentry (1975) studied the level of perceived risk of three automobile owner groups, and found that each group perceived their own model as having the lowest degree of risk among all three models. These researchers conclude that ownership provides the consumer with direct knowledge of the product, which contributes to the reduction of perceived risk.

Sheth and Venkatesan (1968), and Roselius (1971) found that consumers use brand loyalty as a risk reduction strategy in situations

characterized by high perceived risk. In other words, brands which perceived as high risk items, and with which the consumer is not familiar are not likely to be selected.

Raju (1977) also found that product familiarity was positively related to the degree of confidence in brand selection in a purchase situation. Hence, if it is established that there is an inverse relationship between perceived risk and self-confidence (Dash, Schiffman, and Berenson 1976; Hisrich, Dornoff, and Kernan 1972; Taylor and Rao 1982), then it can be inferred that an inverse relationship exists between product familiarity and perceived risk.

Product familiarity gained from acquiring information may also be related to perceived risk. For example, in the study by Brown and Gentry (1975), referred to above, the researchers analyzed the relationship between perceived risk and information seeking behavior, and found that the ... "difference in risk perception is most likely a function of the differences in amounts of information possessed by the three groups." (p. 154).

Other studies dealing with the relationship between perceived risk and information acquisition reach almost the same conclusion. Patton's (1981) findings indicate that ... "subjects who chose among brands of equal quality and chose brands with the most information tended to be more confident in and satisfied with their choices than subjects who chose lower information brands." (p. 151).

Lutz and Reilly (1973) also found that when performance risk

was low or moderate, subjects tended to select a brand without search for product information. However, when products were high in performance risk, ... "direct observation and experience..." was the most important strategy as selected and rated by subjects, and a "direct buying strategy" was the least.

Finally, the literature documents the importance of personal sources of information to reducing perceived risk. There is evidence of a relationship between the magnitude of perceived risk and information acquisition from personal sources (Arndt 1967; Cunningham 1967; Zigli, Pratt and Daniel 1978).

#### Summary

The evidence obtained from research done on several goods indicates that product familiarity is strongly related to product evaluation.

While researchers used several operational measures of product familiarity, the measures used by Bettman and Park (1980), and Park and Lessig (1981) have been validated in addition to the fact that they are simple to use and understand.

The literature reviewed also indicates that a lower degree of perceived risk is related to familiarity and experience with the product, particularly when familiarity is based on information obtained from personal sources.

It may well be that a consumer's tendency to select risk relievers such as brand loyalty, major brand image, interpersonal communication, or information seeking behavior is a function of product unfamiliarity or inexperience. In other words, in order to satisfy their needs for a higher degree of familiarity with the product, and reduce their perceived risk, consumers use the appropriate risk reduction strategy.

A closer look at each of these strategies might reveal their ability to provide consumers with more information on the product of interest. For instance, interpersonal communication involves the transfer of consumer knowledge and experience to unexperienced consumers. Brand loyalty involves more reliance on the familiar brand than on the unfamiliar. Finally, major brand image induces the purchase of a brand that is familiar to the masses.

#### Dependent Variable in Goods Evaluation Research

A review of the studies reported in the bibliography of this dissertation, and the twenty four studies reported by Olson (1977) reveals that consumer researchers have used two sets of dependent variables in the investigation of product evaluation in the goods sector. The following list describes the two sets of dependent variables in which the variables are stated in a random order.

##### 1. Dependent Variables in Pre-Purchase Evaluation

- a. Brand preference
- b. Quality rating
- c. Comparing the product of interest to other products (other product evaluation)

- d. Subject's weight on quality dimensions
- e. Ranking of brand worth, or value for the money
- f. Perceived interbrand quality differences
- g. Various attribute ratings

2. Dependent Variables Involving the Prediction of Purchase

- a. Brand choice
- b. Willingness to buy
- c. Attitudes
- d. Affect

Two observations emerge immediately from the review. First, these measures are used invariably in product evaluation research. However, there is one measure which is most extensively used as a dependent variable; that is, perceived quality rating. Second, these dependent variables are used individually or in groups of two or three. Attempts to use more than one measure of the dependent variable at a time are made to validate the measure.

The evidence indicates that different measures yield almost the same results, and that there is high intercorrelation between different measures of perceived quality, on one hand, and between choice behavior and perceived quality, on the other (Rexeisen 1982; Valenzi and Eldridge 1973; Wheatley, Chiu, and Allen 1982).

### Chapter III

#### REVIEW OF THE SERVICE LITERATURE

There is a considerable amount of consumer research on a few individual retail services such as retail banking, insurance, and transportation. Nevertheless, the empirical research done across a number of services in order to identify the commonalities of characteristics, or evaluative criteria among them is scanty.

In reviewing the meager literature on consumer evaluation of services, two observations emerge immediately. First, consumers tend to have a higher degree of involvement with services, and to evaluate them more consciously than goods (Swan and Trawick 1979). Second, consumers tend to employ a higher degree of subjectivity when evaluating services than they do when evaluating goods (Johnson 1969; Lovelock 1980; Mizerski and Weinberger 1978).

Swan and Trawick (1979) found that 87 percent of the subjects interviewed evaluated movies (a service), whereas 41 percent of the subjects evaluated meat (a good), and 27 percent evaluated bread (another good). The differences between these three products were statistically significant. The researchers concluded that the product itself might be one of the most important triggering cues in the evaluation process.

Mizerski and Weinberger (1978) investigated attributions with goods versus services. Their findings support the hypothesis

that the more subjective nature of evaluating services prompts significantly larger causal attribution domains.

Bateson and Langeard (1982) rose above the level of service-specific attributes in order to isolate some of the common characteristics of services across six service industries. They tested seven service dimensions: time, control, effort, dependence, efficiency, human contact, and risk. Their findings indicate that only four dimensions are important across all services studied. These are time, control, efficiency, and risk.

The researchers divided subjects into two groups: the more participative, and the less participative. The more participative consumers across all services (i.e., those who use ATMs in banking, self-service gas stations, etc.) perceived time, control, and efficiency as important, whereas the less participative group considered the risk dimension more important. The researchers note that during focus group and personal interviews, there was little mention of financial risk among subjects, but much of psycho-social and performance risk.

Meyer (1981) conducted a series of laboratory experiments to test a proposed multiattribute judgmental model under situations of limited information and attribute uncertainty. Based on a pretest, in which subjects were asked to indicate the factors which they felt mostly affected their preferences among local pizza restaurants, Meyer selected three attributes of these fast food outlets: quality, decor and music, and price. The findings indicate highly significant main

effects for all three attributes, but only two significant interaction effects: quality x decor, and price x decor.

The proposed model, for which the findings give tentative support, hypothesizes that consumers associate a subjective value with each attribute. This subjective value is a function of both the value of the information they received about the attribute and the perceived mean value of that attribute within the product (in this case, the service) class.

As to price, Blois (1981) also indicates that the price of a service is a more important indicator of quality than for goods.

In another survey that covered sixteen services, Schutz and Casey (1981) found the overwhelming majority of respondents agree that competence varies among service providers (89%), that there is a high degree of risk associated with services (87%), that they are service-provider loyal (85%), i.e., they like to keep the same service provider as long as possible (this finding is supported by Dubinsky and Levy 1981), and that they believe consumers do not realize a service provider's lack of ability.

The researchers also found that respondents agree there is little information available to make good choices of services (73%), that more experienced providers give better quality service (68%), and that they do not feel competent that they have chosen a competent provider (60%). These researchers also found family and friends to be the major source of information about service providers, with a

high of 79 percent for physicians to a low of 22 percent for appliance repair.

As to service choice criteria, Schutz and Casey found that location was most important for dry cleaners, range of services for auto repair, ease of obtaining services and qualifications for physicians, promptness for dentists, and office or equipment for health or fitness. Friendliness, reputation, and complaint handling were found most important for lawyers, price and credit for building contractor, and previous experience for plumbers.

#### Summary

Based on this review, it seems that the very nature of services and their unique characteristics are the major reasons behind the tendency of consumers to be highly involved with services, and to employ subjective criteria in evaluating them.

Although this proposition has not been empirically tested, the evidence, provided by those studies just reviewed, supports it. The lack of complete, or already available information on services, the lack of a set of uniform evaluative standards, the uncertainty surrounding the consistency of service quality, the intangibility of services, and the other service characteristics contribute to a certain degree of ambiguity about services. This ambiguity, in turn, prompts consumer's involvement and subjectivity, as well as increases service perceived risk.

It also seems that consumers place high emphasis on some evaluative criteria when they evaluate and choose services than they do in evaluating and choosing goods. Among these criteria are price, provider's reputation, provider's physical environment (e.g., decor and music), service quality, location, range of service offerings, ease of obtaining services, promptness, friendliness and courtesy of service employees, business experience of provider, handling consumer complaints, and extending credit.

While some of these criteria emerged as most important for one or a few services, a pretest is established to identify those criteria which are perceived by subjects as important across a wider range of service industries, specifically fifteen. The results of this pretest will be presented in a later chapter.

The next section will review research dealing with service characteristics, and more studies on service evaluation will be reviewed as appropriate.

#### Service Characteristics and Evaluative Criteria

Research studies dealing with the characteristics or features of services, and their relationship to service evaluative criteria might be classified into two categories: conceptual, and empirical. We will start with conceptual studies in order to lay the ground for later discussions on empirical research.

### Conceptual Research on Service Characteristics

Marketing scholars have conceptually identified a set of service characteristics which distinguish them from physical goods. These scholars emphasize that service characteristics have a major impact on the marketing strategy of services, as well as the ways in which consumers evaluate them.. These characteristics and their implications to service evaluation are discussed in the following section (Bateson 1979; Fisk 1981; Grove and Fisk 1983; Johnson 1969; Kotler 1982, 1984; Shostack 1977; Wyckham, Fitzroy, and Mandry 1975; Zeithaml 1981).

#### Intangibility

This is probably the most important and critical characteristic of services that distinguish them from physical goods, to the extent that some writers (e.g., Bateson 1977, Shostack 1977) consider it the only critical factor for services.

Services cannot be seen, touched, tasted, smelled, or heard; thus, they cannot be physically evaluated. However, the physical components of some services (as in the case of good-service combinations) may be subject to evaluation. In this case, still, the goods used during service performance, or implementation, might not be a perfect indicator of service quality. For instance, using "Champion" spark plugs in an auto tune-up service may be an indicator of a high quality plug used, but does not necessarily imply a high quality tune-up service performed by the auto service center. By the same

token, using USDA grade A beef does not necessarily indicate delicious steak, or a personal, courteous service offered by a certain restaurant.

Intangibility, therefore, requires building confidence in the service provider, and enhancing his image. This can be accomplished by using brand names, tangible evidence, and improving the image of the physical environment (e.g., attractive furnishings and appearance, decor, music, etc.), or using nonabstract concepts in promoting services, particularly in advertising (Kotler 1984; Shostack 1977; Wyckham, Fitzroy, and Mandry 1975).

### Perishability

As Johnson observes, "Perishability is closely related to intangibility." (p. 71). Services cannot be produced and stored in anticipation of future demand. An unreserved hotel room, an empty seat in a theater or an airplane, and a missed appointment with a physician or a lawyer, all represent revenues that are lost forever.

A consequence of this characteristic is that promotional efforts cannot increase sales in the service market after a certain limit; e.g., when all hotel rooms are full. Due to service perishability, service marketers face the dilemma of meeting fluctuations in demand in the long run, and discrepancy between supply and demand in the short run.

### Inseparability of Production and Consumption

It is virtually impossible to separate the production of many services and their consumption. The simultaneity of production and consumption results from the intangibility and perishability of services.

There are several consequences of this characteristic. First, this characteristic limits the size of markets which a particular provider can cover. Second, a service firm has to use a direct channel of distribution since services are perishable and, in most cases, personalized in their production and distribution (examples are banking, medical and dental services, etc.). A manufacturer of packaged goods, on the other hand, can use a long marketing channel since his good can be mass-produced, stored, and transported.

Finally, an important implication of the simultaneous production and consumption of services is the need for courtesy and friendliness on the part of service-provider employees, since a personal contact with customers is necessary. Otherwise, the result is not only lost sales in the short run, but lost customers in the long run as well (Kinnear and Bernhardt 1983).

### Nonstandardization

Service quality tends to vary each time the service is produced. This characteristic tends to hold for the same provider over time, as well as among different providers of the same service at the same

time, or over time. The degree of variability in quality depends on who is providing the service, how, what, and when it is provided.

It is generally noticed that many services are not standardized due to the presence of the human element on both sides: service production and consumption. On one hand, the experience and skills of different service providers in the same industry vary widely and affect consumers' subjectivity of quality judgment. On the other hand, consumer's demand for some services is highly personalized (e.g., hair styling, surgery, auto, home, and plumbing repairs) which makes standardization, in the manufacturing sense, impossible.

Inconsistency of service quality results in a high degree of uncertainty, which prompts a high degree of perceived risk on the part of consumers. It also enduces a high level of involvement by consumers (Johnson 1069). Thus, consumers tend to engage in such risk-reduction strategies as talking to family members and friends in order to minimize possible losses.

In the meantime, service marketers face the dilemma of establishing an objective measure of service quality. Since they cannot establish a direct measure, they resort to such indirect methods as surveying customer satisfaction, hiring and training the best candidate personnel.

There are, however, some exceptions such as fast food services, where the offering is relatively standardized. But, as Johnson (1969) maintains, such services will never be completely

standardized. The offering still represents a service, at least for some of its other elements.

Finally, as a consequence of service nonstandardization, service prices tend to vary among different service providers.

### Lack of Ownership

The purchase of a service does not result in ownership. The service is usually used or consumed, but not owned. "One does not own the services rendered by a physician or a computer bureau. Hence, there may be a degree of insecurity and some lack of fulfillment with regard to purchasing services." (Wyckham et. al. 1975, p. 63)

Another implication of the lack of ownership is the limited ability of consumers to trade in a service for another one; a practice which is common with consumer goods, particularly durables. Even though this practice is possible with some good-service combinations (e.g., renting a car or a TV), it is almost impossible with pure services (e.g., public transportation, dental services).

Hence, the actual price paid for goods may be negotiated taking into account trade-in allowances, and the bargaining capabilities of the buyer and the seller, whereas the price of service is always determined by service provider (Brown and Fern 1981).

Some scholars (Kinnear and Bernhardt 1983; Kotler 1982, 1984) recognize how essential this characteristic is for services to the extent that they define services in terms of their intangibility and

lack of ownership.

### Some Services May Never Be Delivered

Some services are a promise to deliver a service if a certain event occurs. Examples include life, fire, and auto insurance, appliance warranty, and disability insurance.

In this case, the consumer has no opportunity to evaluate the service even after purchasing it. If the service is never delivered, the consumer has no way to evaluate it at all (Fisk 1981; Wyckham *et. al.* 1975; Zeithaml 1981). In these situations, consumers are most likely to seek the experience and advice of others.

### Buyer-Supplier Relationship

Kinnear and Bernhardt (1983) state that the buyer of a service is a client who has to abide by the rules and procedures of the seller, and not a customer who is free to use the product when he or she wishes. For instance, a consumer may buy and use basketball sneakers whenever and wherever he or she wants, but they must abide by a physician's appointment, and airlines departure and arrival schedules.

### Buyer Participation in Service Production

For many services, both the service provider and the consumer must be present during service performance. Sometimes, the consumer becomes highly involved in service production. For instance,

consumers may serve themselves in self-service gas stations, do banking using ATMs, and fix their own salad from open salad-bars in some fast-food restaurants.

Buyer participation in service production may vary in degree, but in almost all services, the consumer might participate somehow even with his or her mere presence. Other examples include hotels and motels, airlines, resorts, haircut and hairstyling, physicians' and dentists' services, etc.

It is worthy to note, however, that consumers do influence the production and marketing of physical goods as well. The difference is that consumers' influence on services and their providers is instantaneous, whereas it is deferred in the case of goods.

### Summary

This section discussed eight service characteristics, as conceptualized by marketing scholars, and their implications to service evaluation. These characteristics are intangibility, perishability, inseparability of production and consumption, non-standardization, lack of ownership, service delivery, buyer-supplier relationship, and buyer participation in service production.

### Empirical Research on Services

Consumer researchers have tested some of the relationships advanced in the marketing literature, as summarized in the review presented so far.

Smith and Dixon (1982) replicated Blois' (1981) study in which 16 respondents from England participated. Smith and Dixon asked 26 MBA students to rank order the usefulness of 11 statements in classifying eight products as either goods or services. The rank-ordered data were subjected to multidimensional scaling, and the results were plotted on a joint space of products and classification dimensions (as expressed in the eleven statements).

The findings obtained by Smith and Dixon are consistent with those reported by Blois, indicating that subjects both in the United States and in England share similar perceptions of goods and services even though the sample in each country is small.

The Smith and Dixon study, however, differs from the Blois study in one aspect. In the research reported by Blois, the products hamburger and dinner are positioned quite closely together in the same services quadrant, whereas in the Smith and Dixon investigation they were positioned in different quadrants. This is probably because Smith and Dixon used the term "Hamburger at McDonald's" instead of "Hamburger" only so as to materialize Levitt's (1976) contention of the industrialization of services.

In general, the findings show that the goods jeans, record, calculator, and soup are associated with the dimensions warranties, use of middlemen, inventories, and helpfulness and publicity. The services haircut, restaurant meal, dry cleaning, and McDonald's are associated with the dimensions intangibility (quality assessment before and after purchase) and consumer involvement (direct contact with producer). The dimensions dealing with price and variety, however, did not discriminate very well between goods and services along a number of differentiating characteristics, according to these researchers.

The study, however, suffers from some limitations. First, although the results are consistent with those of Blois, the extremely small size of the sample employed in both studies represent a serious limitation on the generalizability of results. Secondly, classifying products into "pure" goods and "pure" services, and misclassifying some good-service combinations with pure services may not yield a more realistic reflection of consumers' perceptions (d'Amico 1982).

In another study, Dubinsky and Levy (1981) empirically investigated consumers' evaluations of eight behavioral statements for each of four services: banking, fast food, auto repair, and hair styling. The authors also investigated subjects' evaluations of nine criteria employed by consumers before purchasing services. The researchers used a 5-point Likert-type agreement scale for the first part, and a 5-point importance scale for the second part.

With regard to the behavioral dimensions, the findings indicate that personal sources are more important than impersonal sources across all four services. In commenting on this finding, the authors explain this tendency on the part of consumers in light of service intangibility which cause consumers to place more credibility in the opinions of their peers or friends about a service.

The results also show that consumers are more likely to change provider in three of the four services surveyed because of their dissatisfaction rather than because other providers offer better services. This finding indicates that service consumers are provider loyal.

The study also shows that consumers shop (check around) for some services, and do not shop for the others. It also shows that some services are easy to evaluate, and some others are difficult to assess their quality. As to perceived risk, consumers considered banking services less risky, and auto repair services more risky.

In terms of service evaluative criteria, price and friendliness of personnel were the only two criteria which exhibited significant differences across the four services. The study's finding concerning price conflicts with that of Smith and Dixon (1982). However, Smith and Dixon's conclusion in regard to price importance might be weakened by the extremely small sample size used by the latter.

The Dubinsky and Levy study, like the previous one, represents a good step towards understanding how consumers evaluate services.

However, the study suffers from some limitations. Surveying only four services and comparing them to each other does not rise above the individual service focus, nor does it help to generalize over a wide range of services.

Furthermore, the study focuses only on services, and does not compare the behavioral dimensions or the evaluative criteria as perceived by consumers across both goods and services in order to gain more insights into the specific nature of services, and its implications to the evaluation process.

Two other studies deal with information search and their impact on evaluating services. Davis (1980) examined two sets of predictors of search in the service sector: service characteristics, and consumer demographics. The findings indicate significant relationships between the four service characteristics investigated and search propensities. Consumer demographics, on the other hand, did not show any significant effect on search propensities.

The four service characteristics investigated were frequency of purchase, price level, personal versus impersonal delivery, and Judd's (1964) service classification of owned, rented, and nongoods services. It should be noted here that the lack of agreement among service researchers on the definitions of characteristics, evaluative criteria, and behavioral dimensions add more confusion to service research. It is apparent that what Davis calls in his study "characteristics" are not all characteristics, but a combination of all the concepts mentioned above.

Further analysis of the results by Davis revealed several trends. One trend suggests that consumers are willing to engage in much prepurchase deliberation and external search in the purchase of services (the study used eight consumer services). Another trend reflected consumers' willingness to shop for highly priced services, but in many cases they do not do much prepurchase deliberation in arriving at the final purchase decision. However, while consumers appear to be unwilling to shop for lower priced services, they are willing to consider alternative uses for their purchase dollars.

A final trend revealed by Davis' study is that consumers seem to be willing to engage in extensive search to find a service of interest in the cases of nongoods (i.e., pure services), and services requiring personal delivery; both of which can be exemplified by dentists and gynecologists.

The other study on information influence was done by Weinberger and Brown (1977). The review presented by these researchers indicates that when individuals are confronted with uncertainty or ambiguity, they become more susceptible to influence from others. Since goods and services may vary in their degree of ambiguity, where the quality of services is difficult to judge, consumers might be influenced more in their intentions to buy services than goods after receiving outside information. The researchers tested this proposition, and found support for it.

As these researchers conclude, the findings lend support to

much of the conceptual service literature, and also to Johnson (1969) who showed a great emphasis placed by consumers on information about services than on information about goods. In their words, "The evidence does suggest that when viewed from the subject's perspective, a difference does exist in the relative influence product information will have upon the evaluation of goods and services." (p. 399).

These researchers also suggest that using a brand name, or a trademark by a service provider would reduce consumer's uncertainty about the service offered; a recommendation which has some support from the literature reviewed so far.

In an early work on services, Johnson (1969) found two important attributes which seem to distinguish between goods and services. He found that consumers perceive services as being more personal (non-standardized) than goods, and that consumers appear to be less satisfied with the purchase of services (because of poor performance). Further analysis of the data revealed four distinguishing buying motives that characterize services: price, quality, brand reputation, and overall satisfaction. Services were perceived of higher prices, less consistent quality, less reputable brands, and lower overall satisfaction. All the differences were statistically significant.

The study also revealed five important patronage motives. They are price, convenient location, rapid service, reputation, and prompt attention. These factors were important to all types of products with the last two suggesting possible distinctions between goods and services.

In another part of the study, dealing with the buying behavior of goods versus services, Johnson found that the purchase of services is:

1. characterized by more personal involvement of the buyer than goods. (This is probably because of the uncertainty surrounding the quality of services).
2. influenced more than goods by other persons. (This is probably due to the lack of formal information on services as well as nonstandardization).
3. bought with greater consideration given to the particular seller. (This is probably because of the intangibility of services, uncertainty about their quality, limited information available on them, and the high perceived risk of services, which all lead the service consumer to be provider loyal).

The above review presented consumer-oriented studies; i.e., studies using consumers as subjects to investigate their perceptions and judgments with regard to service behavioral patterns. There is another stream of service research, however, which deals with services from the managers' point-of-view; i.e., uses managers of service firms as subjects and investigates their perceptions as to what consumers think, and the appropriate way of managing and marketing services.

The service literature representing the managers' perspective agrees in concept with many of the findings summarized above. For instance, Schlissel (1978) surveyed the marketing practices of a number of small service businesses (pest control). The author offers

some implications of the problems and opportunities of the service marketer based on a brief analysis of service characteristics. He suggests that services usually, but not always, are purchased on an emergency basis, thus the patronage decision is likely to depend on the consumer's ability to recall a supplier's name, or on the supplier's convenient location.

This conclusion is empirically supported by Dubinsky and Levy (1981), and Guseman (1981) who both found that consumers are less likely to seek information from the store, or to shop around for services than for goods.

Schlissel also suggests that in the absence of any quality indicators, the rational consumer would select the service with the lowest price. However, he does not exclude the possibility of a price-quality relationship established by consumers in regard to services as well.

Bateson (1977, 1979) is another researcher who focuses attention on the managerial side. He maintains that marketing managers in service firms face tasks which are different from those faced by their peers in goods companies. He asserts these differences in tasks and processes can be related back to one structural difference: intangibility.

Based on a survey of the common problems as perceived by managers in three service industries (distribution, banking, and hotels) in France, and reported by Eiglier, Bateson summarizes the major

findings as follows (1979, pp. 134-135):

"Problem for the Organization

1. Service firms cannot use inventory.
2. There is no patent protection (except on names) for services.
3. The employee/client interface is complex because:
  - a. The employee in contact with the client is torn between the firm's objectives and those of the client.
  - b. Many employees may be in contact with the client; hence, a problem of consistency of behavior arises.
4. Physical setting and environment are important to the quality of service, yet this is difficult to control.
5. If the service firm wants to grow, it has to develop its own distribution network.
6. Innovation is difficult because it may imply the need for client education to change behavior.

Problems to the Client

1. The client must have confidence in the firm from whom he buys the service. He needs more confidence for a service than for a physical good.
2. The 'mental image' of the service is 'fuzzy.'
3. Word of mouth has a great influence on services.
4. While consuming the service, the client has a tendency to identify with the service firm."

Summary

This section reviewed some of the empirical studies investigating subjects' perceptions of several service characteristics, service evaluative criteria, and other behavioral dimensions. Two perspectives were presented; one illustrating consumers' perceptions, and the other delineating managers' view of services in comparison to physical goods.

Empirical research on consumers' perceptions of services reveals that they associate services with certain characteristics such as intangibility. The findings also indicate the tendency of consumers

to be highly involved with services, to be service-provider loyal, and to consider price, friendliness of personnel, and personal sources of information as most important when evaluating services. Consumers were also willing to engage in extensive information search in the case of pure services and those requiring personal delivery.

The managerial problems confronting service firms as expressed by service managers, and summarized above, have two important implications. First, they reflect management confusion about the nature of services, and the incapacity of using the appropriate techniques to deal with these problems. It is needless to say that some of the marketing techniques used in goods marketing are used successfully in service marketing. However, with the increasingly competitive environment, and the ever changing social trends, some of these techniques become inappropriate or inefficient.

This leads us to the second implication. the managerial problems, as conceived by service managers, reflect a high degree of ambiguity that surrounds the purchase situation. This observation agrees in principle with many findings in service research surveying consumers. In the managers' words, consumers have fuzzy mental image about services, need to have confidence in the firm, need to identify with the firm, and are greatly influenced by word of mouth. These conditions are most likely the outcomes of service characteristics.

### Perceived Risk and Services

In general, little effort has been devoted to the study of perceived risk in the service sector (Peter, Becherer, and Richard 1979).

A few studies empirically tested consumers' perceptions of risk with regard to services. Lewis (1976) measured and tested consumers' perceptions of risk for three categories of products: pure services, good-service combinations, and pure goods. The findings, in general, indicate that consumers perceive higher risk for services than for goods. Comparison of the level of perceived risk among the three categories showed that consumers perceived pure services and good-service combinations significantly higher in risk than pure goods.

However, no significant differences were found between pure services and good-service combinations. Lewis explains this finding in terms of the intangibility feature of services. He observes that the introduction of a service element in a good-service combination might lead consumers to place the combination mentally far away from pure goods, and close to pure services.

Guseman (1981) has also showed that services have more perceived risk than goods, and that consumers use risk-reduction strategies for services which are different than those used for goods.

He found that consumers use store loyalty, reference groups, and brand loyalty more commonly for services, which are also used for

goods. Nonetheless, some larger differences were found in other risk-reduction strategies. For instance, consumers were found much more likely to use a convenient store for services than for goods. They were also less likely to seek information from the store, or to shop around for services than for goods.

Guseman's findings with regard to consumers' tendency to perceive high risk for services, and to seek information from non-store sources are supported by Ross (1975) who reviewed a number of studies, and concluded that ... "personal sources are invariably rated high in importance, and there is evidence that it is in particularly 'high-risk' situations where personal influence is most important." (p. 5).

Dubinsky and Levy (1981) investigated risk perception with regard to four services, but did not compare them to goods. The findings indicate that consumers perceive a higher degree of risk in auto repairs than in banking. No significant differences were found in the perception of risk for fast food or hair styling services.

### Summary

Although the literature on perceived risk in the service sector is meager, the available evidence strongly indicates that, in general, consumers perceive a higher degree of risk for services than for physical goods.

More than one study documents that service consumers tend to be provider loyal. It might be inferred that provider loyalty is due to the high degree of risk perceived by service consumers. Provider loyalty corresponds to the "commitment" component of "involvement" (Lastovicka 1979; Lastovicka and Gardner 1979) as will be discussed in the next section, and probably represents the link between the perceived risk and involvement constructs.

It is observed, as is the case with goods also, that consumer researchers did not investigate the relationship between service familiarity and perceived risk. Product familiarity research was limited to measuring the effect of familiarity with physical goods on their evaluation. However, based on both the product familiarity and perceived risk literature reviews, one can infer the possible inverse relationship between product familiarity, in general, and perceived risk.

While the direction of this relationship is expected to be the same for both goods and services, the magnitude of the relationship is expected to be larger for services than for goods.

#### Product Involvement and Services

Perhaps there is no single concept in the marketing literature, in general, and in consumer behavior, in particular, that lacks researchers' agreement on its definition and conceptualization like involvement, despite the simple and never-ending usage of the term in our daily lives.

Since Krugman (1965) introduced the concept to the consumer behavior literature nearly two decades ago, consumer researchers have expanded on his model and applied it "... in ways that he may never have intended nor would support." (Stone 1984, p. 214). However, there is a consensus among these researchers that involvement is a possible explanatory, or moderating, variable with regard to consumer behavior.

This review of the involvement literature is not intended to be exhaustive since the topic by itself can be the focus of a separate dissertation. Rather, a brief, but comprehensive, overview of the concept is presented so as to understand its relevance to services, and its potential role in evoking the utilization of certain evaluative criteria by service consumers.

Involvement is referred to as ... "the level of concern a consumer has in a purchase situation." (Bloch and Bruce 1984, p. 197). High involvement is associated with situations of high perceived risk, major purchase decisions, and complex decision making. Low involvement, on the other hand, is associated with low-cost products, repetitive advertising messages, routinized purchase decisions, and less important items.

Although most researchers agree on these generalizations, there is no clear undersatnding as to the nature of involvement which, in turn, results in different conceptualizations of the concept. Obviously, different conceptualizations lead to different operational definitions. This is reflected in the literature in the fact that some researchers

treat involvement as a state variable, and the others as a process (Mitchell 1979). Moreover, different dimensions have been suggested for the construct. Some of these dimensions relate to the personal values of consumers, some relate to the product, some relate to the decision making process, and still some others relate to the purchase situation.

It appears that those who consider involvement a state variable treat the concept as an "enduring" condition that relates to the individual's value system. On the other hand, those who treat involvement as a process view it as a "situational" condition that may or may not relate to the individual's personal values.

It is possible that some of the dimensions advanced by different scholars relate to each other. For instance, Muncy and Hunt (1984) reviewed the involvement literature, and proposed five types (dimensions) of involvement described in the literature: ego involvement, commitment, communication involvement, purchase importance, and response involvement. The authors indicate that ego involvement and commitment have been always confused with each other in both social psychology and marketing. Ego involvement has also been confused with purchase importance, since the latter can be a result of the former. In this respect, Muncy and Hunt explain that ego involvement is not the only cause of purchase importance, since other factors such as perceived risk might increase the importance of purchase.

Consumer researchers also differ in their perspective on whether some products elicit any level of involvement. Olshavsky and

Granbois (1979), for instance, argue that some consumers buy some products without any decision process involved at all even on the first purchase. Other researchers argue that there is a certain degree of involvement in all product purchase decisions. Antil (1984), for example, contends that previous experience with the product may lead consumers to expect and receive certain performance satisfaction. In this situation, the consumer engages in a routinized or a repeat purchase decision.

Antil asserts that these "... 'low' involvement products are 'low' only because of confidence in expected brand performance, not because the product is unimportant." (p. 207, emphasis is Antil's).

Although the operational definitions of involvement are few, they are diverse as a result of the diverse conceptualizations of the construct, and tap different dimensions. Moreover, many of the available scales lack both reliability and validity with the exception of some noteworthy cases such as Bloch (1981), Lastovicka and Gardner (1979), Tigert, Ring, and King (1976), and Zaichkowsky (1985).

In a recent ACR conference, Rothschild (1984) described the state of the art on involvement as characterized by "... too much theorizing ... (and) ... too little data collection." (p. 216). In general, the theorization of involvement during the last two decades has taken several directions that yielded the five following dimensions.

Enduring Involvement. This dimension relates to the inherent, perpetual, or long-lasting personal concern that is expressed in regard

to an object, idea, product, etc. According to Houston and Rothschild (1978), enduring involvement is developed contingent upon two factors: a) prior experience (purchase and usage) with the object, and b) the strength of the personal values to which the situation is relevant.

These researchers as well as others (e.g., Muncy and Hunt 1984) agree that enduring involvement is manifested in what is known as "ego involvement," a concept that has been developed by Sherif and his colleagues in social judgment theory (and discussed in the social psychological literature in the late 1940s). According to these theorists, ego involvement is related to the person's value system.

Muncy and Hunt (1984) contend that other concepts such as commitment and brand loyalty are confused with ego involvement. Their review indicates that some investigators use the terms involvement and commitment synonymously. However, other researchers (Lastovicka and Gardner 1979) identify commitment as one component (dimension) of involvement.

Communication Involvement. The main stream of involvement research started from social psychology with Krugman (1965) and continued to focus on a person's low involvement with advertising messages. This school of thought interprets the low involvement nature of advertisements based on the number of connections a person establishes between the contents of a communication and the contents of his or her own life.

Viewed in a broader sense, communication involvement also

embraces research on involvement related to extensive external search for information, heightened cognitive information processing, and involvement based on arousal theory (Antil 1984; Tyebjee 1979).

Situational Involvement. Situational involvement refers to the temporary, short-lasting personal concern that is heightened in a particular purchase situation. Since situational variables differ over time, and across situations, different situations elicit varying degrees of involvement, even though they share the common characteristic of inducing a higher degree of involvement.

Houston and Rothschild (1978) propose that situational involvement is evoked by two categories of stimuli:

1. Stimuli relating to products (goods and services). These include:
  - a. Cost (economic, time, etc.).
  - b. Elapsed time of consumption of a single unit of the product.
  - c. The complexity of the product.
2. Social psychological stimuli. These are represented by the presence of significant others.

These theorists contend that situational involvement is conceptually related to perceived risk in that the former captures the "consequence" component of risk. Other theorists (Bloch and Richins 1983) assert that both components of perceived risk (i.e., amount at stake and certainty about consequences) must be present in some degree for involvement to be evoked.

While theorists define involvement in a unidimensional concept,

whether it is the individual's value system, the communication, or the situation, Antil (1984) provides another perspective that synthesizes all involvement stimuli together. He notes that three of these stimuli (product, communication, and situation) impinge on the person, and that the person's subjective interpretation of the interaction of these stimuli determines the level of involvement. Thus Antil, in other words, proposes that all types of involvement are situational in nature to some degree.

Interestingly, Belk's engrossment with situationality is reflected in a study by Clarke and Belk (1979) in which they identify task involvement as a situational variable influencing purchase behavior.

Product Involvement. The available conceptualizations (and definitions) of product involvement are confused with other related concepts such as purchase importance and product importance. It is not clear whether product involvement is conceptualized in an enduring or situational context. For instance, importance of purchase was introduced in the Howard-Sheth model, and referred to as "... variously labeled degree of involvement, importance of task, and seriousness of consequences." (Howard and Sheth 1969, p. 419). Obviously, this definition mixes situational involvement with one of the two components of perceived risk.

On the other hand, Bloch and Richins (1983) propose that product involvement stems from the subjective perception of product importance. According to these researchers, product importance is two types: enduring, and instrumental.

There is also confusion over the distinction between purchase importance (which seems to be situationally oriented), and product importance (which appears to be enduring). Additionally, there is a confusion between purchase importance and ego involvement, which is likely to be enduring (Muncy and Hunt 1984).

It seems that purchase importance might be equally evoked by either enduring or situational factors. For example, ego factors may heighten purchase importance when an executive decides to buy a new suit that is consistent with his self-image. Conversely, in a situation of high perceived risk (or uncertainty) such as auto repair, ego factors may be quite irrelevant.

Response Involvement. The last dimension of involvement, response involvement, was introduced by Houston and Rothschild (1978). According to them, response involvement is the result of both situational and enduring involvements combined. Response involvement represents the degree of complexity in consumer decision processes, and this degree varies according to the stage in the consumer decision process.

### Summary

There is a great deal of confusion surrounding the conceptualization and operationalization of involvement. Involvement is conceptualized by some researchers as a "state" variable, and by others as a "process" variable. It is also conceptualized by some theorists as "enduring," and by others as "situational."

There is no agreement among consumer researchers on the dimensions comprising the involvement construct. However, several dimensions are suggested by different researchers depending on the approach each researcher takes in defining involvement. These dimensions include the individual's personal values, product importance to the consumer, the communication, situational importance, and the complexity of the decision process. Each of these dimensions might assume a different level of importance depending on the situation. Thus, it seems there is no one best method to measure involvement under all circumstances (Ray 1979).

Besides, the involvement literature reveals some other points. First, high risk perception seems to evoke a high degree of involvement. Second, products differ in their influence or tendency to incite involvement. Third, for any particular product class, the levels of involvement differ across consumers. Last, involvement is not the only variable that explains consumer behavior. There are other moderating variables that are necessary to account for. (Ray 1979).

The implication of these findings to the current research is that services, in general, evoke a higher level of involvement than goods do. This implication is accounted for by two reasons. For one, overall perceived risk is higher for services than for goods. In addition, the nature of service characteristics (e.g., intangibility, nonstandardization, etc.) makes the decision process more complex, and heightens consumers' tendency to search and process service information particularly from personal sources.

CHAPTER IV  
HYPOTHESES AND RESEARCH METHODOLOGY

This chapter presents the hypotheses and research methodology. In the first section, the hypotheses and their rationale are presented. The next section explains the research design, followed by the product selection process and the tests performed to reach an empirically-derived product typology. In the section that follows, the measurement of variables is discussed. The ways in which variables are operationalized, the scales used in measuring them, and the rationale for using them are explained. The final four sections of this chapter deal with sample description, questionnaire development, pretests, and the data analysis techniques used in this study.

Hypotheses

In this section, seven major hypotheses (with a total of nineteen subhypotheses) are suggested, and their rationale presented. Many of the relationships described in the hypotheses differentiate between pure services and good-service combinations on one hand, and pure goods, on the other. Differences between pure services and good-service combinations are proposed to be insignificant based on the evidence provided by Lewis (1976), whereby the introduction of the intangibility element in the combination places it far from pure goods, and much closer to pure services.

- H<sub>1a</sub>: Consumers perceive a higher degree of :
- i. intangibility,
  - ii. perishability,
  - iii. inseparability of production and consumption,
  - iv. nonstandardization,
  - v. buyer participation in production, and
  - vi. abidance by the seller's rules and procedures (defined before as buyer-supplier relationship),
- for pure services than for pure goods.
- H<sub>1b</sub>: Consumers perceive a higher degree of each of the six characteristics mentioned in H<sub>1a</sub> for good-service (GS) combinations than for pure goods.
- H<sub>1c</sub>: Consumers perceive a relatively similar degree of each of the six characteristics mentioned in H<sub>1a</sub> for both pure services and GS combinations.

Support for these hypotheses is provided by Johnson (1969) and Lewis (1976) who developed similar product typologies, but did not test them. Further argument is presented in the section entitled, "Product Selection."

- H<sub>2a</sub>: Consumers tend to have a higher level of involvement in evaluating pure services than in evaluating pure goods.
- H<sub>2b</sub>: Consumers tend to have a higher level of involvement in evaluating GS combinations than in evaluating pure goods.
- H<sub>2c</sub>: Consumers tend to have similar levels of involvement in evaluating pure services and GS combinations.

By their nature, service offerings differ in their ability to provide satisfaction. The literature suggests that consumers are active in seeking information on services than on goods, particularly from personal sources. Furthermore, there is evidence that consumers perceive services as riskier than goods; a situation that triggers a greater need to acquire enough information on services before making a choice decision. These conditions represent a high-involvement situation which is explained by the Active Learning Model (Schiffman

and Kanuk 1983).

Additionally, service characteristics such as intangibility, nonstandardization, and lack of ownership contribute to the complexity of choice decision which, in turn, heightens consumer's involvement.

Direct support for this hypothesis comes from the work of Swan and Trawick (1979). These researchers conclude that the type of product itself might be one of the most triggering cues when evaluating products. Fisk (1981) also proposes that evaluation of services may require more cognitive involvement on the part of consumers because of intangibility.

Furthermore, tentative empirical support for the hypothesis is provided by one of the two studies reported by Lastovicka and Gardner (1979). In this study, the researchers tested ten goods and services. The only two services used (dental care and life insurance) were found high in involvement on the dimension, "normative importance," and relatively low on the second dimension, "commitment." This finding, however, provides evidence that service involvement tends to be situational rather than enduring.

H<sub>3</sub>: There is an inverse relationship between product familiarity and perceived risk.

While this relationship has not been investigated for services before, there is support for the hypothesis with regard to physical goods from Brown and Gentry (1975), Lutz and Reilly (1973), Fattor (1981), Raju (1977), Roselius (1971), and Sheth and Venkatesan (1962)

as reviewed before.

The inverse relationship between familiarity and perceived risk is hypothesized to hold for the three types of products: pure goods, GS combinations, and pure services. However, its intensity or magnitude is likely to be greater for pure services and GS combinations than for pure goods due to service characteristics discussed before.

- H<sub>4a</sub>: Price (cost) is perceived as more important in evaluating pure services than in evaluating pure goods.
- H<sub>4b</sub>: Price (cost) is perceived as more important in evaluating GS combinations than in evaluating pure goods.
- H<sub>4c</sub>: There is no significant difference between the perceived importance of price (cost) in evaluating pure services and GS combinations.

Support for these hypotheses is found in Blois (1981), Cox, D. (1962), Cox, S. (1979), Gardner (1970), Olson (1977), Scitovsky (1944-1945), and Wheatly, Walton, and Chiu (1977). These researchers propose that price may be a stronger predictor of quality in situations where judgment of other cues are difficult and one's self-confidence concerning those judgments is low.

This is likely to be the case with both pure services and GS combinations where characteristics such as intangibility and heterogeneity of quality result in ambiguity and difficulty of service evaluation. In addition, and as shown before, there is evidence that consumers perceive higher risk for both pure services and GS combinations than for pure goods, and that there is an inverse relationship between perceived risk and self-confidence. Thus, it follows that price might

assume greater importance for pure services and GS combinations where judgments of other cues for these product types are difficult, and perceived risk is high (as a correlate of low self-confidence concerning the judgment of other cues).

These hypotheses are also supported by Zeithaml (1981) who reviewed the service literature and developed, but did not empirically test, a similar hypothesis.

Also, it might be recalled that Houston and Rothschild (1978) hypothesized that the cost element is one of the product stimuli that evoke situational involvement.

- H<sub>5a</sub> : Recommendations of family members and friends are perceived as more important in evaluating pure services than in evaluating pure goods.
- H<sub>5b</sub> : Recommendations of family members and friends are perceived as more important in evaluating GS combinations than in evaluating pure goods.
- H<sub>5c</sub> : There is no significant difference in the perceived importance of recommendations of family members and friends in evaluating pure services and GS combinations.

There is a strong support from the literature to this set of hypotheses. The intangibility, perishability, heterogeneity of quality, and buyer participation in service production all trigger consumer's activity in seeking and exchanging information on services with family members and friends. The support is found in Davis (1980), Dubinsky and Levy (1981), Guseman (1981), Eiglier (as reported by Bateson 1979), Schlissel (1978), and Schutz and Casey (1981) among others.

Besides, since personal communications are employed by consumers as a risk-reduction strategy, as was revealed before, consumers are likely to seek personal recommendations from family and friends for services than for goods as a product class. This is based on the evidence provided by the literature that the perceived risk of services, in general, is higher than that of goods.

Furthermore, Patton (1981) has shown that in the case of hand-held electric food mixers, consumers tend to choose brands with the most information, and avoid the brands with the least information. Since there is not much information available on comparable service quality among competitive service providers, consumers are more likely to seek more information than less, and to rely on personal than impersonal sources.

It should also be obvious by now that there is a strong link between perceived risk, involvement, and information search particularly from personal sources. This is evidenced by the review presented for each of these areas before.

- H<sub>6a</sub>: Friendliness and courtesy of employees are perceived as more important for pure services than for pure goods.
- H<sub>6b</sub>: Friendliness and courtesy of employees are perceived as more important for GS combinations than for pure goods.
- H<sub>6c</sub>: There is no significant difference in the perceived importance of friendliness and courtesy of employees between pure services and GS combinations.

Friendliness and courtesy of employees are hypothesized to be perceived by consumers as more important for consumer service businesses

than for consumer goods businesses, particularly those services that require personnel contact with customers. Support for this set of hypotheses is provided by Eiglier (as reported by Bateson 1979) and Kinnear and Bernhardt (1983) who show that personnel friendliness is necessary because of the intangibility of services, their perishability, customer's participation in their production, and the inseparability of their production and consumption.

Additional emphasis on this criterion is demonstrated by several studies on individual services, such as banking and insurance, in which subjects rated this criterion highly in terms of its importance. This finding has been empirically supported by a pretest undertaken by the researcher in which subjects rated this criterion high in importance (with a mean ( $\bar{X}$ ) of 4.1 on a scale from 1 to 5 where 1= Not at all important, and 5= extremely important. For more details, see the results of pretests next chapter).

- H<sub>7a</sub>: Location convenience is perceived as more important for pure services than for pure goods.
- H<sub>7b</sub>: Location convenience is perceived as more important for GS combinations than for pure goods.
- H<sub>7c</sub>: There is no significant difference in the perceived importance of location convenience between pure services and GS combinations.

Support for the importance of location with regard to a number of individual services comes from Dupuy and Kehoe (1976), Guseman (1981), Hargrove, Barksdale, and Powell (1983), Saegert and Cassis (1979), and Schutz and Casey (1978).

As discussed before, Schlissel (1978) suggests that services are usually, but not always, purchased on an emergency basis. Consequently, the patronage decision is likely to depend on the consumer's ability to recall a supplier's name or convenient location.

The empirical findings of Dubinsky and Levy (1981) and Guseman (1981) also indicate that consumers are less likely to shop around for services than for goods, which gives the conveniently located service outlet prominence from a consumer's viewpoint.

#### Research Design

To test the hypotheses presented above, two experimental designs are used. First, to test  $H_{1a}$ ,  $H_{1b}$ , and  $H_{1c}$  a single-factor multivariate analysis of variance (MANOVA) design is utilized. MANOVA is the best technique for testing this set of hypotheses because they involve one nominal independent variable (product type at three levels: pure goods, GS combinations, and pure services), and six intervally scaled dependent variables (service characteristics). (Zikmund 1986). A similar MANOVA design was used by Hargrove et. al. (1983) to test differences of information (in terms of search, experience, and credence qualities) due to product type (pure goods, GS combinations, and pure services).

Another reason for using a MANOVA design is the likelihood of high correlation between the response (dependent) variables. As Redinger (1981) recommends, a multivariate analysis is preferred to univariate analysis in this case. If the MANOVA F tests yield significant results, one-way ANOVA tests are performed to examine mean differences accordingly.

A second experimental design is required to test  $H_{2a}$ ,  $H_{2b}$ ,  $H_{2c}$  and  $H_{4a}$ ,  $H_{4b}$ ,  $H_{4c}$  through  $H_{7a}$ ,  $H_{7b}$ ,  $H_{7c}$ . This design is a completely randomized single-factor experimental design (one-way ANCOVA) with repeated measures. There is one independent variable (product type) with three fixed and qualitative levels (pure goods, GS combinations, and pure services), and one dependent variable (level of product involvement for  $H_2$ , and importance of the evaluative criterion for  $H_4$  through  $H_7$ ).

With regard to  $H_3$ , the associative relationship between perceived risk and product familiarity is tested using measures of association.

#### Product Selection

There is an increasing number of scholars (e.g., Aspinwall 1961; d'Amico 1982; Johnson 1969; Lewis 1976; Rathmell 1966; Shostack 1977; Zeithaml 1981) who agree that products might not be classified into just two types: pure goods and pure services. They all suggest that a third category should be included in service analysis; that is, good-service (GS) combinations. The value of this suggestion lies in the fact that a GS combination embodies elements of both goods and services in some degree, and these elements may impact variably on consumers. The approach taken in this study is consistent with this view.

Few attempts have been made to classify products into the three categories mentioned above, but no attempt at all was made to validate this product typology. Lewis (1976) asked a pretest sample of sixty-one women to classify fifty products into one of the three product

categories mentioned above. Then, he selected the ten products which were chosen by the largest percentage of subjects in each product category.

Johnson (1969), on the other hand, developed a classification scheme based on six characteristics of services. He asked the subjects to evaluate each product with regard to each characteristic using a five-point rating semantic differential scale (e.g., 1= completely tangible, 5= completely intangible). Then Johnson assigned subjective weights to the six characteristics so that all six weights were equal to 1.00. Characteristic scores were then multiplied by their respective weights, and the resulting scores were summed to form an index for each single product.

Johnson arbitrarily defined a pure service as any product having an index score value of 3.5 - 5.0, a pure good, as any product with a value of 0.0 - 2.5, and a GS combination, as any product scoring between 2.51 and 3.49.

Each of these methods has its own drawbacks. Thus, the approach used in the current study for product selection combines the two methods used by Lewis and Johnson, but, in the meantime, avoids any subjectivity introduced by the researcher's judgment or arbitrariness. This is achieved by allowing both men and women to participate in the pretest instead of women only, and by validating the product typology as classified by two independent subsamples as well. In addition, the weights assigned to different characteristics are not allotted subjectively; rather, they are empirically derived.

Product selection for this study is determined by conducting a pretest on a sample of 120 business students, both graduate and undergraduate. This pretest sample is randomly divided into two equal subsamples, each consisting of sixty subjects.

Subjects of the first subsample are asked to rate thirty products on each of six characteristics, using a five-point semantic differential scale similar to that used by Johnson (1969). The thirty products used in this pretest resemble those selected by Lewis (1976) except for some changes that are deemed necessary to meet a set of conditions. These conditions are considered requisite for a reasonable degree of generalizability. These are:

1. The products and services should cover three categories: pure goods, pure services, and GS combinations.
2. The items selected within each category should cover a broad range of prices.
3. The items selected within each category should be consumed by the majority of consumers.
4. The items should be consumable by both genders: males and females.
5. The items within each category should vary in terms of the degree of consumer familiarity and experience with the product class.
6. The items within each category should vary in terms of their degree of perceived risk.

Next, subjects of the first subsample are asked to divide a hundred points among the six characteristics according to their perceived importance. In this way, the mean weights applied to

characteristic mean scores are empirically derived, and averaged across all subjects. The questionnaire used in this phase of the pretest is Questionnaire A, which is reproduced in Appendix I.

To establish the convergent validity of the product typology, the second half of the pretest sample (the second subsample) is asked to directly classify each of the thirty pretest products into one of the three product types. Each of the three product types is defined in the questionnaire in a way similar, but not typical, to that of Lewis (1976) as follows:

A Pure Good is defined as an offering which involves a tangible and storeable good that can be physically owned, but with no accompanying service.

A Good-Service Combination is defined as an offering which involves a tangible good with an accompanying service, or an intangible service with an accompanying good.

A Pure Service is defined as an offering that cannot be physically owned or stored, and does not involve any tangible good.

The questionnaire used with the second subsample is questionnaire B, which is presented in Appendix II.

The rationale for splitting the pretest sample into two equal portions is two-fold. First, it is necessary for the validation procedure to have two independent samples. Second, This procedure helps reduce respondents' fatigue, and contributes to a higher degree of response accuracy than that obtained when the two questionnaires are given to the same subject in the whole sample. This seems to be

particularly crucial if we notice that Questionnaire A is quite long.

The validation procedure, then, entails factor analyzing the product scores obtained from the two classifications, and cluster all products into three factors (categories or types) using the principal component method, and rotating them using varimax rotation. This approach is similar to that used by Wells and Sheth (1974) in clustering thirty magazines based on the frequency of readership.

The following decision rules are established to validate product types:

1. An item is classified as a pure good if it meets any of the following conditions:
  - a. The item loads positively on the pure goods factor by both methods.
  - b. The item loads negatively on the pure services factor by both methods.
  - c. The item loads positively on the pure goods factor by one method, and negatively either on the pure services factor, or on the GS combinations factor by the other method.
2. An item is classified as a pure service if it meets any of the following conditions:
  - a. The item loads positively on the pure services factor by both methods.
  - b. The item loads negatively on the pure goods factor by both methods.
  - c. The item loads positively on the pure services factor by one method, and negatively either on the pure goods factor, or on the GS combinations factor by the other method.

3. An item is classified as a GS combination if it meets any of the following conditions:
  - a. The item loads positively on the GS combinations factor by both methods.
  - b. The item loads positively on the GS combinations factor by one method, and negatively either on the pure goods factor, or on the pure services factor by the other method.

After evaluating factor loadings of both classification methods for all thirty products, two items from each product type are selected for the main study from those items which meet the above criteria.

### Measurement of Variables

#### Service Characteristics

Consumers' perceptions of six service characteristics are measured using five-point semantic differential scales similar to those used in the pretests, and the ones used by Johnson (1969). The six service characteristics tested in this research are intangibility, perishability, simultaneity of production and consumption, nonstandardization, buyer participation in production, and buyer-supplier relationship.

The wording of the bipolar adjectives of the scales has been modified based on the results of the pretests, as will be discussed in the next chapter. The final format of these scales is included in the questionnaire developed for the study and exhibited in Appendix IV.

The measurement of the six service characteristics is used for testing  $H_{1a}$ ,  $H_{1b}$ , and  $H_{1c}$ .

### Product Involvement

In involvement research, two different approaches are taken in constructing involvement scales. The first approach is advanced by Bloch and his associates who advocated and developed product-specific involvement scales (for automobiles: Bloch 1981; for automobiles and clothing: Bloch 1982; for leisure activities: Bloch and Bruce 1984). These researchers treat involvement as enduring, and establish a relationship between the consumers' involvement level and their own values.

The other approach is represented by the works of Lastovicka and his associates who developed involvement scales that can be used across several product classes (Lastovicka 1979; Lastovicka and Gardner 1979). The scales developed by these researchers capture both the enduring and situational dimensions of product involvement. They were able to identify two components of involvement: a) normative importance (which captures the situational dimension of involvement), and b) commitment (which captures the enduring dimension).

Based on two different studies, Lastovicka and Gardner (1979) were able to establish the convergent and discriminant validity of their scales which consisted of these two dimensions.

After evaluating the two approaches, it is felt that the

second approach is more appropriate for this study, since product involvement must be measured across three product classes. Moreover, a wide variety of goods and services are included in the study, and not all of them are necessarily related to the consumers' values, or of a strictly "enduring" nature.

However, the two dimensions of normative importance and commitment are felt as being insufficient to embrace all possible dimensions of involvement across the three product classes used in the study. This perspective is endorsed by Ray (1979) who contends that "... there will be no one best method to measure involvement ... (and that) ... (t)he components and effects of involvement will be governed primarily by the consumer decision situation." (p. 197).

Therefore, it is felt that other dimensions of product involvement that are possibly appropriate for all three product types should be selected, tested, and included in the scale. Three of such dimensions are suggested by Houston and Rothschild (1978). They are cost of the product (including economic, social, and psychological cost), the elapsed time of consumption of a single purchase unit of the product, and the complexity of the product (the number of performance-related aspects inherent in the product).

The two dimensions of Lastovicka and Gardner, and the three dimensions of Houston and Rothschild are taken together to form a five-item, five-point bipolar (semantic-differential type) scale.

Although convergent and discriminant validity has been

established for the normative importance and commitment dimensions of the scale, the inclusion of the other three dimensions necessitated undertaking a series of validity and reliability tests on the new scale. Reliability tests included Coefficient Alpha and split-half tests, whereas validity tests were aimed at construct validation, and included a) correlating items with total score, b) factor analysis using both one-factor solution and maximum likelihood factor analysis, and c) correlating the new scale with another measure expressed in terms of a one-statement manipulation check as follows:

"When I consider buying ....., I give it more 5 4 3 2 1 less thought and concern before I buy it."

The validity and reliability tests necessitated the deletion of the time dimension after evaluating the results from three types of products used in this phase of the pretests, one of which is a pure good (shampoo), the second one being a GS combination (auto repair), and the third one a pure service (life insurance). Thus, the involvement scale used in the main study consists of the other four dimensions, which are: normative importance, commitment, product complexity, and overall cost. The final wording of these dimensions was also refined based on the feedback of pretest subjects and some marketing research experts.

Details of the validity and reliability tests of the involvement scale are presented in the next chapter. Pretest scale items are found in Part II of Questionnaire B, exhibited in Appendix II. The four scale items which are selected for the main study are found

in Part II of the study's questionnaire portrayed in Appendix IV. The measurement of involvement across the three types of products is necessary to test  $H_{2a}$ ,  $H_{2b}$ , and  $H_{2c}$ .

### Perceived Risk

In this study, overall risk, rather than individual risk components, is empirically investigated for two reasons. First, several studies (e.g., Jacoby and Kaplan 1972; Kaplan, Szybillo, and Jacoby 1974; Lewis 1976) have shown a high and significant correlation between perceived overall risk and several individual risk components, especially performance and financial risk. Jacoby and Kaplan (1972), in particular, were able to demonstrate the predictive and construct validity of their measure of perceived overall risk.

Second, the third hypothesis, as developed for this study, focuses on the relationship between perceived risk, in general, and product familiarity. The emphasis is placed rather on overall risk perception in comparison with the three product classes defined above, than on individual risk components. Once this relationship is established, the individual components of risk may then be investigated in relation to familiarity with services (and goods) in future research.

The measurement of perceived risk in this study follows the overall risk approach taken by Jacoby and Kaplan (1972). As mentioned before, the predictive and construct validity of this scale has been established.

Overall risk is measured as follows: "All purchase decisions involve a certain amount of 'risk.' On the whole, considering all sorts of factors together, about how risky would you say it is to buy an unfamiliar brand or service offering of each of the following items?" A nine-point scale is used (1= not risky at all, 9= extremely risky), as in Jacoby and Kaplan (1972). A wide scale like this is considered appropriate to accommodate the broad variety of goods and services used in the study. It is also more sensitive to consumer responses, and can be collapsed into any smaller number of points whenever it is desired. (See Part III of the study questionnaire, Appendix IV).

#### Product Familiarity

As revealed by the literature presented before, product familiarity is often operationalized by two variables: usage experience, and purchase experience (ownership).

The approach taken here is similar to that of Bettman and Park (1980), and Park and Lessig (1981) with a necessary but minor modification to accommodate services as well as goods. These researchers used two measures which were explained before in the literature review section dealing with product familiarity. The first measure consists of three variables: a) information search, b) usage, and c) ownership. The second measure is a one-question manipulation check involving the subjective self-assessment of one's familiarity with the product, as a validating procedure.

Since services do not lend themselves to ownership, the three

variables used in the first measure are a) information search, b) usage experience, and c) purchase experience. The classification scheme used by the scale's originators is utilized in this research also, but with the replacement of "ownership" by "purchase" as follows.

- \* Low familiarity group are those respondents who did not search for information, use, or purchase the good or service.
- \* Moderate familiarity group are those who searched for information or used, but not purchased the good or service.
- \* High familiarity group are those individuals who purchased the good or service.

The second measure used in this study to measure familiarity is the same as used by the above researchers except that they use a five-point scale and the current study uses a six-point scale. The rationale for this is to increase the sensitivity of the scale by making it wider.

Following Bettman and Park, and Park and Lessig, the definition of familiarity, and the one-question manipulation check are given in the study questionnaire in the following format:

"People differ in terms of the degree of their familiarity and experience with goods and services. FAMILIARITY is the degree of consumers' knowledge about the features important to them in choosing among different brands or suppliers of a certain good or service.

Based on this definition of FAMILIARITY, please indicate, for each of the following goods and services, how familiar you are, by circling the appropriate number." (See Part III of the questionnaire,

Appendix IV).

#### Importance of the Evaluative Criteria

Hypotheses  $H_{4a}$ ,  $H_{4b}$ ,  $H_{4c}$  through  $H_{7a}$ ,  $H_{7b}$ ,  $H_{7c}$  deal with the relative importance of four evaluative criteria (price, recommendations of friends and family, friendliness and courtesy of sales people, and location convenience) as perceived by respondents in relation to pure goods, GS combinations, and pure services.

In measuring importance, Lovelock (1976) asserts that interval scales yield more insights than ordinal scales. He adds that the method of pair comparisons forces respondents to compare each attribute against all other attributes, whereas semantic differential or Likert scales do not force such choices, and allow for ties in ratings. However, the problem with pair comparisons is that the number of comparisons becomes prohibitively large as the number of stimuli increases.

Measuring attribute importance by self-report is a common procedure that has been frequently used by a large number of researchers in the field, particularly with regard to such services as retail banking (e.g., Alpert 1971; Anderson, Cox, and Fulcher 1976; Bateson and Langeard 1982; Dubinsky and Levy 1981; Saegert and Cassis 1979; Welch and Gordon 1978).

Perhaps a major problem concerning the halo effect is likely to arise in measuring evaluative beliefs about specific attributes

(Lovelock 1976; Wilkie and Pessemier 1973). The halo effects occur when a consumer who prefers a particular product tends to rate it highly on all attributes. By the same token, the subjects who dislike a certain product tend to give it a low rating on all attributes. To eliminate, or at least minimize, the halo effects in measuring the evaluative criteria measured in this study, all products are rated within attributes rather than rating each product separately on all attributes (Lehmann 1985; Wilkie and Pessemier 1973).

The importance scales used to measure the four evaluative criteria in this study are five-point scales, where 1= least important, and 5= most important. (See Part IV of the questionnaire, Appendix IV).

#### The Sample

A cross-sectional convenience sample of 436 heads of household was contacted in person. The sample was selected from the New York metropolitan area and the surrounding suburbs including New York, New Jersey, and Long Island. The subjects represent a wide array of demographics and socioeconomic levels, as intended, in order to allow for a minimum degree of generalizability among people, and across products. The complete profile of the sample is portrayed in Table IV-1.

Graduate and undergraduate students in four schools of Business in the area (Baruch College of the City University of New York, Fairleigh Dickinson University at Teaneck, New Jersey, Hofstra University, New York, and Manhattan College, New York) were asked to deliver the questionnaires to their heads of household, and to return the completed

TABLE IV-1  
DEMOGRAPHIC PROFILE OF SAMPLE

Variable	Frequency <sup>a</sup>	%
<u>Age</u>		
Under 25 years	29	8.89
25 - 34 years	77	23.62
35 - 44 years	65	19.94
45 - 54 years	93	28.53
55 - 65 years	59	18.10
Over 65 years	3	0.92
<u>Sex</u>		
Male	174	53.54
Female	151	46.46
Unreported	1	
<u>Occupation</u>		
White Collar (clerical, secretarial)	22	13.10
Blue Collar (machinist, taxi-driver, waiter, switchboard operator, etc.)	17	10.12
Professional (accountant, engineer, physician, market researcher, real state broker, sales man, lawyer, college professor, nurse, technician, dentist, etc.)	78	46.43
Managerial	24	14.28
Businessman, self-employed	5	2.98
Retired	6	3.57
Housewife	16	9.52
Unreported	158	
<u>Education</u>		
Graduated from Grammar School	12	3.68
Attended High School	23	7.05
Graduated from High School	65	19.94
Attended College	78	23.93
Graduated from College	63	19.33
Attended Post-Graduate	43	13.19
Completed Master or Doctorate	42	12.88

<sup>a</sup> N = 326

TABLE IV-1 - CONTINUED  
 DEMOGRAPHIC PROFILE OF SAMPLE

Variable	Frequency <sup>a</sup>	%
<u>Annual Household Income</u>		
Under \$10,000	6	1.89
\$10,000 to \$19,999	40	12.62
\$20,000 to \$29,999	56	17.66
\$30,000 to \$39,999	39	12.30
\$40,000 to \$49,999	45	14.20
\$50,000 to \$59,999	38	11.99
\$60,000 to \$74,999	33	10.41
\$75,000 and Over	46	14.51
Do Not Know	14	4.42
Unreported	9	
<u>Marital Status</u>		
Single	63	19.32
Married	225	69.02
Separated	7	2.15
Divorced	13	3.99
Widowed	18	5.52
<u>Number of Household Members Including Self</u>		
One	25	7.67
Two	52	15.95
Three	68	20.86
Four	106	32.51
Five	52	15.95
Six	17	5.22
Seven	4	1.23
More than seven	2	0.61
<u>Number of Children 11 Years &amp; Less Living in Household</u>		
One	41	12.69
Two	29	8.98
Three	11	3.41
None	242	74.92
Unreported	3	

<sup>a</sup>  
 N = 326

questionnaires to the investigator in two weeks.

In addition, the investigator handed out a number of questionnaires to the parents of students of an elementary school in Elwood School District, East Northport, New York, at a PTA meeting during the Fall 1985 semester. The parents were asked to return the completed questionnaires to the school's principal, and the investigator collected them from the principal.

In general, data collection took place during the late Summer and early Fall of 1985. A total of 352 questionnaires were returned representing an 81.8 percent response rate. After editing all returned questionnaires, twenty-one questionnaires were excluded because the students answered them. Five more questionnaires were also excluded because they either were incomplete or extremely biased (e.g., all answers were 1s, or all were 5s). A total of 326 usable questionnaires were finally entered into the analysis, representing 75.8 percent of the total number of subjects contacted.

#### Pretests

The three following pretests are undertaken:

1. Testing the importance of fifteen service evaluative criteria on an independent pretest sample.
2. Validating the product typology -- as explained in the Product Selection section -- and selecting the three sets of products which will be used in the study.
3. Testing the product involvement scale -- suggested in the Measurement

of Variables section, and establishing its validity and reliability. Since the procedures of the last two pretests have been already explained in previous sections, only the first pretest is discussed here.

The purpose of the first pretest is to assist in selecting the evaluative criteria which will be used in the final questionnaire. It might be recalled that several evaluative criteria have been tested by different researchers on either physical goods, or on individual service industries. The first pretest, therefore, is necessary to guide the selection of the evaluative criteria that are perceived by subjects as highly important across fifteen service industries, selected by the investigator, and presented to a sample which is independent of all the other pretest samples described in previous sections.

The pretest is undertaken with ninety-two graduate and undergraduate business students using a self-administered questionnaire. (See Questionnaire C, Appendix III). The subjects are asked to rate each of fifteen evaluative criteria across fifteen service offerings using a five-point importance scale (1 = not at all important, and 5 = extremely important). The services are listed within the evaluative criteria to avoid the halo effect, as explained before. An open-end question was included in the end of the questionnaire asking the subjects to add any other criterion they believed to be important, and to specify the degree of its importance. However, no other criteria were mentioned by any subject.

### Questionnaire Development

The final version of the questionnaire, which has been administered to the sample respondents, is exhibited in Appendix IV. This questionnaire is the product of the efforts exerted in the pretests as well as the several revisions to which the questionnaire was subjected in order to improve its wording and appearance.

Part I of the questionnaire includes the scales required to measure the subjects' perceptions of six characteristics across three sets of products. The product typology validation procedure, implemented in the pretests, has yielded a product classification from which two products from each class were selected for the study. These products are:

<u>Pure Goods</u>	<u>GS Combinations</u>	<u>Pure Services</u>
Cold medication	Restaurant meals	Dry Cleaning
Refrigerator	Renting an automobile	Hospitalization insurance.

This section is concerned with testing  $H_1$ .

Part II of the questionnaire includes the involvement scales for the six products of the study. These scales are the consequence of validity and reliability tests performed on the suggested scale in the pretests. The resulting scale, which is used with all six products, consists of four items covering the dimensions normative importance, commitment, product complexity, and overall cost. The scale is a 5-point semantic-differential type one. This section is required to test  $H_2$ .

Part III of the questionnaire includes the scales required to

measure perceived risk and product familiarity. Part IV contains the importance scales required to measure consumers' perceptions of the relative importance of four evaluative criteria across the six products of the study. These criteria are price, recommendations of family members and friends, friendliness and courtesy of employees, and location convenience. Part III is concerned with testing  $H_3$ , while Part IV is aimed at testing  $H_4$  through  $H_7$ . Finally, Part V of the questionnaire collects demographic data about the subjects.

#### Data Analysis

To test  $H_1$ , multivariate analysis of variance (MANOVA) is performed first. The independent variable is product type, manipulated at three levels: pure goods, GS combinations, and pure services. The dependent variables are the six service characteristics: intangibility, perishability, simultaneity of production and consumption, nonstandardization, buyer participation in production, and abidance by seller's rules and procedures (also referred to as client relationship).

Once the significance of mean differences between the three types of products is established by the MANOVA multivariate and univariate F tests, one-way ANOVA is performed on each of the six service characteristics separately to test the differences between product type means as hypothesized in  $H_1$ .

To test  $H_2$  and  $H_4$  through  $H_7$ , a one-way ANOVA is performed. For  $H_2$ , the independent variable is product type manipulated at three levels as explained above, and the dependent variable is product

involvement expressed in terms of the total score obtained from the 4-item involvement scale.

For  $H_4$  through  $H_7$ , the independent variable is also the type of product, and the dependent variable is the perceived importance of the evaluative criterion.

If the ANOVA test shows a significant F value for treatment effects (product types) at least at the  $p < .05$  level, other tests are required to find out whether mean differences are significant. If the F value obtained is not significant, it follows that the three types of products do not differ from each other with regard to the criterion under consideration.

Several tests are conducted by marketing researchers to examine differences in treatment means. Among these tests are Duncan's multiple range test, Scheffe's test, Tukey's test, Student-Newman-Keuls test, and the least significant difference (LSD) test. However, there is evidence that the LSD method and Duncan's multiple range test are most appropriate than the other tests in terms of error rates and correct decision rates (Dubinsky and Levy 1981). Based on this evidence, the LSD test will be used to examine differences between product type means.

Finally, to test  $H_3$ , five measures of association are used to test the degree of association between perceived risk and product familiarity. These are chi-square, phi correlation coefficient, contingency coefficient, Cramer's v, and Pearson product-moment correlation coefficient. Figure IV-1 summarizes the data analysis plan of the study.

FIGURE IV-1  
DATA ANALYSIS PLAN

Hypothesis	Data Analysis Technique	Independent Variable	Measure Used	Dependent Variable(s)	Measure Used
1a, 1b, 1c	MANOVA	Product Type	Nominal	Six Service Characteristics	Interval
	One-Way ANOVA	Product Type	Nominal	Each Single Characteristic	Interval
2a, 2b, 2c	One-Way ANOVA	Product Type	Nominal	Product Involvement	Interval
3	Chi-Square Phi Cor Coef. Contingency Coef. Cramer's v Pearson Cor. Coef.	Product Familiarity <sup>a</sup>	Interval	Perceived Risk <sup>a</sup>	Interval
4a, 4b, 4c	One-Way ANOVA	Product Type	Nominal	Importance of Price	Interval
5a, 5b, 5c	One-Way ANOVA	Product Type	Nominal	Importance of Recommendations	Interval
6a, 6b, 6c	One-Way ANOVA	Product Type	Nominal	Importance of Friendliness	Interval
7a, 7b, 7c	One-Way ANOVA	Product Type	Nominal	Importance of Location	Interval

<sup>a</sup> No dependence relationship between these two variables is assumed.

CHAPTER V  
PRETEST RESULTS

Chapter V presents the results of the pretests. These results are introduced in three parts. The first part deals with the product typology validation procedure. The second part discusses the validity and reliability tests of the product involvement scale. And the last part describes the pretest undertaken to measure the perceived importance of fifteen service evaluative criteria across fifteen service offerings.

Validating the Product Typology

Two different methods, called hereafter the direct and indirect classification methods, are used to validate the product typology empirically with two independent samples.

The validation procedure entails factor analyzing the product scores obtained from the two methods, and clustering all products into three categories (factors) using the principal component method and varimax rotation, as explained in Chapter IV.

A total number of one hundred and twenty college students (both graduate and undergraduate) were split randomly into two equal samples and used as subjects for this procedure. In the following sections, the results of the indirect classification method are presented first, followed by those of the direct method.

Findings of the Indirect Classification Method

Subjects of the first sample were asked to rate thirty goods and services across six service characteristics using a five-point semantic-differential scale. The six service characteristics are the same as those used in the main study, and are listed in Table V-1. Then, the subjects of the same sample were asked to divide one hundred points among the six service characteristics according to their perceived relative importance in defining the type of product as a good or service. This question was necessary to empirically derive the weights of the six characteristics rather than assigning them arbitrarily.

TABLE V-1  
PERCEIVED WEIGHTS OF SIX SERVICE CHARACTERISTICS

Characteristic	Mean <sup>a</sup>	Lowest Weight	Highest Weight	Range
Buyer Participation in Production	0.20	0.05	0.60	0.55
Buyer-Supplier Relationship	0.20	0.03	0.50	0.47
Perishability	0.19	0.05	0.40	0.35
Intangibility	0.15	0.02	0.40	0.38
Nonstandardization	0.14	0.03	0.40	0.37
Simultaneity of Production and Consumption	0.13	0.03	0.40	0.37

<sup>a</sup> Mean scores add up to 1.01 due to rounding.

According to Table V-1, subjects consider "buyer participation in production," "buyer-supplier relationship," and "perishability" as the three most important dimensions in determining product type.

followed by "intangibility," "nonstandardization," and "simultaneity of production and consumption" respectively.

Comparing these weights with those assigned by Johnson (1969), we might find the differences considerable. For instance, the characteristic "intangibility" is the most heavily weighed by Johnson who gives it a weight of 0.32. This characteristic, which is also over-emphasized by many service researchers, is not so perceived by the pretest subjects who give it, on the average, less than half the weight of Johnson (0.15). Table V-2 compares the weights assigned by the subjects to the six service characteristics with those given by Johnson.

TABLE V-2  
COMPARISON OF SERVICE CHARACTERISTICS WEIGHTS  
SUBJECTS' PERCEPTIONS VERSUS JOHNSON'S (1969) WEIGHTS

Characteristics	Empirical Weights <sup>a</sup>	Johnson's Weights
Buyer Participation in Production	0.20	0.13
Buyer-Supplier Relationship	0.20	NA <sup>b</sup>
Perishability	0.19	0.20
Intangibility	0.15	0.32
Nonstandardization	0.14	0.08
Simultaneity of Production and Consumption	0.13	0.22

<sup>a</sup> The mean scores add up to 1.01 due to rounding.

<sup>b</sup> Johnson did not consider this characteristic. Instead he assigned a weight of 0.05 to producer's reputation or image which he labeled "importance of producer."

Source: Empirical weights are obtained from the pretest results. Johnson's weights are taken from Johnson (1969), Table III-1, p. 76.

As the table indicates, the disparity between the weights given by the subjects, and those assigned by Johnson is substantial. The comparison is limited, however, to the weights of only five characteristics because the sixth is not comparable across the two studies. While this study considers "buyer-supplier relationship," Johnson's considers "importance of producer," which Johnson explains in terms of the producer's image or reputation.

According to the results of the pretest, the subjects consider the six characteristics as all important. The difference between the most important and the least important characteristics is only 0.08, while it is 0.27 according to Johnson. Intangibility and simultaneity of production and consumption are overemphasized by Johnson, while buyer participation in production and nonstandardization are deemphasized. Perishability is the only characteristic that Johnson assigns a weight close to that perceived by subjects.

Index scores for all thirty products were calculated as the weighted average of the six characteristics using the following formula:

$$IS_k = \left( \sum_{j=1}^n \sum_{i=1}^l W_{ij} C_{ij} \right) / n$$

where,

$IS_k$  = Index score for product k,  $k = 1, \dots, 30$ .

$W_{ij}$  = Weight assigned to characteristic i by subject j.

$i = 1, \dots, l$ , where,  $l = 6$ .

$j = 1, \dots, n$ , where,  $n = 60$ .

$C_{ij}$  = Rating of characteristic i by subject j.

Since all the scales used for measuring the six characteristics

consist of five points, index scores range between the value "1" and the value "5." The lower values of the index represent pure goods, the higher values represent pure services, and the middle values represent GS combinations.

Table V-3 shows mean index scores for the thirty products according to the indirect classification method, in an ascending order.

#### Findings of the Direct Classification Method

Subjects of the second sample were given a self-administered questionnaire, and asked to directly classify the same thirty products into one of the three product types. Pure goods were coded "1", GS combinations, "3", and pure services, "5", so as to allow for score comparability with the indirect classification scores. Mean product scores according to the direct classification method are portrayed in Table V-4.

#### Results of the Validation Procedure

The two sets of product scores obtained from the two independent classifications were simultaneously factor analyzed. Superficially, a nonorthogonal rotation solution seems more appropriate in this situation since GS combinations have elements of both goods and services and, thus, may overlap with the two other categories.

However, a nonorthogonal rotation solution might not critically

TABLE V-3

## MEAN PRODUCT SCORES - THE INDIRECT CLASSIFICATION METHOD

Product	Mean Index Score
1. Refrigerator	1.02
2. Mouthwash	1.03
3. Automobile	1.03
4. Shampoo	1.04
5. Dress Shoes	1.04
6. Transistor Radio AM/FM	1.05
7. Cold Medication	1.05
8. Electric Can Opener	1.05
9. Wrist Watch	1.06
10. Toothpaste	1.07
11. Small Appliance Repair	3.09
12. Large Appliance Repair	3.11
13. Renting a Moving Van	3.26
14. Renting an Automobile	3.30
15. Restaurant Meals	3.36
16. Auto Repair	3.36
17. Airlines	3.49
18. Carpenter-Builder Services	3.68
19. Professional Carpet Cleaning	3.81
20. Dry Cleaning	3.84
21. Plumber Services	4.08
22. Banking	4.11
23. Hospitalization Insurance	4.24
24. Resorts	4.42
25. Haircut and Styling	4.43
26. Life Insurance	4.43
27. Lawyer's Services	4.45
28. Hotels	4.48
29. Income Tax Counseling	4.49
30. Physician's Services	4.55

isolate the three types of products, particularly GS combinations, for the same reason. As a consequence, the majority of items in this category would load either on the pure goods factor, or on the pure services factor.

Three factors were defined apriori, thus making factor analysis

TABLE V-4  
MEAN PRODUCT SCORES - THE DIRECT CLASSIFICATION METHOD

Product	Mean Score
1. Transistor Radio AM/FM	1.19
2. Toothpaste	1.20
3. Dress Shoes	1.27
4. Mouthwash	1.27
5. Shampoo	1.27
6. Electric Can Opener	1.34
7. Refrigerator	1.34
8. Cold Medication	1.44
9. Wrist Watch	1.51
10. Automobile	1.71
11. Restaurant Meals	2.76
12. Renting an Automobile	3.12
13. Renting a Moving Van	3.14
14. Airlines	3.27
15. Auto Repair	3.37
16. Carpenter-Builder Services	3.75
17. Large Appliance Repair	3.81
18. Hotels	3.85
19. Resorts	3.86
20. Plumber Services	3.88
21. Small Appliance Repair	3.95
22. Hospitalization Insurance	4.00
23. Life Insurance	4.36
24. Professional Carpet Cleaning	4.42
25. Banking	4.42
26. Dry Cleaning	4.53
27. Physician's Services	4.73
28. Income Tax Counseling	4.76
29. Haircut and Styling	4.80
30. Lawyer's Services	4.80

an appropriate validation procedure (Kerlinger 1972). A three-factor solution was required. The first factor turned out to be the pure services factor. The second factor was the pure goods factor. And the third factor was the GS combinations factor. Table V-5 shows factor loadings of the thirty products for the two classifications.

TABLE V-5

FACTOR LOADINGS OF PRODUCT SCORES FOR TWO CLASSIFICATION METHODS<sup>a</sup>

Products	Indirect Classification			Direct Classification		
	Pure Services	Pure Goods	GS Comb'ns	Pure Services	Pure Goods	GS Comb'ns
1. Electric Can Opener	<u>-0.54</u>	0.38	0.49	<u>-0.68</u>	-0.03	0.11
2. Haircut and Styling	0.05	<u>-0.34</u>	-0.31	<u>0.30</u>	0.05	<u>0.54</u>
3. Physician's Services	0.24	<u>-0.36</u>	-0.26	<u>0.56</u>	-0.04	<u>-0.02</u>
4. Plumber's Services	<u>0.61</u>	-0.21	-0.23	<u>0.36</u>	-0.12	-0.17
5. Wrist Watch	<u>-0.47</u>	0.46	0.51	<u>-0.80</u>	-0.21	-0.18
6. Lawyer's Services	0.55	<u>-0.44</u>	-0.47	<u>0.70</u>	0.02	-0.10
7. Cold Medication	<u>0.01</u>	<u>0.78</u>	-0.09	<u>-0.46</u>	0.08	-0.03
8. Auto Repair	0.12	<u>0.10</u>	0.02	<u>0.46</u>	-0.10	-0.05
9. Shampoo	0.07	<u>0.75</u>	0.17	<u>-0.71</u>	-0.01	-0.11
10. Hotels	0.14	<u>-0.71</u>	0.12	<u>0.04</u>	-0.02	0.20
11. Professional Carpet Cleaning	0.32	-0.26	0.33	0.10	-0.12	0.30
12. Banking	0.00	<u>-0.74</u>	0.06	<u>0.51</u>	0.16	-0.11
13. Dress Shoes	-0.04	<u>0.45</u>	-0.12	<u>-0.63</u>	-0.09	-0.20
14. Renting a Moving Van	-0.15	<u>-0.15</u>	0.45	<u>-0.21</u>	0.47	0.20
15. Small Appliance Repair	0.12	0.05	0.07	0.55	0.03	-0.01
16. Mouthwash	0.08	<u>0.75</u>	0.03	<u>-0.57</u>	0.06	-0.20
17. Automobile	0.07	<u>0.71</u>	-0.09	<u>-0.73</u>	-0.03	-0.13
18. Life Insurance	-0.02	<u>-0.49</u>	0.00	0.03	0.08	0.28
19. Income Tax Counseling	-0.01	<u>-0.46</u>	0.07	<u>0.50</u>	0.01	0.01
20. Restaurant Meals	-0.11	0.21	<u>0.59</u>	0.25	0.24	<u>0.38</u>
21. Refrigerator	0.03	<u>0.69</u>	0.05	<u>-0.60</u>	-0.22	-0.05
22. Large Appliance Repair	0.15	<u>0.43</u>	0.09	-0.01	-0.04	0.13
23. Carpenter-Builder Services	0.30	-0.16	0.10	-0.17	-0.04	-0.26
24. Airlines	0.12	<u>-0.46</u>	0.29	0.00	0.03	<u>0.48</u>
25. Dry Cleaning	0.27	<u>-0.42</u>	0.26	<u>0.68</u>	0.04	<u>0.17</u>
26. Toothpaste	<u>-0.60</u>	<u>0.26</u>	0.53	<u>-0.69</u>	0.08	0.03
27. Renting an Automobile	<u>-0.02</u>	-0.18	<u>0.61</u>	<u>-0.22</u>	0.21	<u>0.31</u>
28. Resorts	0.22	<u>-0.72</u>	<u>0.17</u>	-0.08	0.05	0.31
29. Hospitalization Insurance	<u>0.63</u>	-0.43	0.05	<u>0.37</u>	-0.01	-0.13
30. Transistor Radio AM/FM	<u>0.04</u>	0.31	0.15	-0.10	-0.12	-0.11

<sup>a</sup> Factor loadings of those products which meet decision rules are under-scored.

Applying the decision rules stated in Chapter IV (pp. 92-93) to

factor loadings appearing in Table V-5, a total of nineteen products met the classification criteria. These products include eight pure goods, four GS combinations, and seven pure services, as follows:

<u>Pure Goods</u>	<u>GS Combinations</u>	<u>Pure Services</u>
1. Electric can opener	1. Restaurant meals	1. Physician's services
2. Cold medication	2. Airlines	2. Plumber's services
3. Shampoo	3. Renting an automobile	3. Lawyer's services
4. Dress shoes	4. Haircut & styling	4. Banking
5. Mouthwash		5. Income tax counseling
6. Automobile		6. Dry cleaning
7. Refrigerator		7. Hospitalization insurance
8. Toothpaste		

A total of six products were selected from these nineteen products (two from each category) in order to be included in the data collection instrument of the study. These products are:

Pure goods: cold medication and refrigerator.

GS combinations: restaurant meals and automobile rental.

Pure services: dry cleaning and hospitalization insurance.

A look at the criteria prespecified for product selection (Chapter IV, p. 90) ensures that the six products selected for the study meet these criteria perfectly.

Before closing this part of the chapter, a word should be said about the changes implemented on Questionnaires A & B, based on the feedback received from the subjects and colleagues, and incorporated in the study questionnaire.

#### Questionnaire A

The following changes have been made in Part I of the questionnaire:

1. A definition of tangible and intangible products was added to the introduction section of the characteristic "intangibility."
2. The two poles of most service characteristics have been refined and redefined in order to make them more understandable by subjects.
3. The characteristic "buyer-supplier relationship" was labeled "client relationship" in the pretest questionnaire. The latter was judged by some pretest subjects as expressing the service firm's view. The label was then changed to the current one to portray the situation from a consumer's perspective.
4. The introductions of many service characteristics sections have been modified and simplified.

#### Questionnaire B

The following changes have been made in Part II (containing the involvement scale):

1. In the pretest, the item expressing the commitment dimension was the only item that is stated in a reverse direction as Lastovicka and Gardner suggested. For example, this item was stated for shampoo as follows: "If my preferred brand of shampoo was not available at the store, it would make little 5 4 3 2 1 big difference to me if I had to choose another brand of shampoo."

However, the pretest proved that subjects were confused about this item, and many subjects suggested replacing the poles "little" and "big" for each other. The suggested change was implemented for all the six products of the study.

2. Since all the scale items were originally suggested for physical goods by other researchers, the wording of these items was modified

with services in such a way that makes sense to the reader.

### Summary

Two different methods of product classification are used with two independent samples to classify thirty products into three groups: pure goods, GS combinations, and pure services.

One of these methods requires respondents to rate each product on a five-point bipolar scale within each of six service characteristics. This sample is also asked to divide one hundred points among the six characteristics according to their importance in determining the type of product as a good or service. The weights assigned to service characteristics by the subjects are then multiplied by the characteristics ratings, and summed across the whole sample to form an index score for each product. A comparison between the empirically-derived weights obtained from this pretest and those assigned subjectively by Johnson (1969) reveals a great disparity.

The second method of product classification requires another sample to directly classify the same thirty products into one of the three product groups defined above.

The validation procedure, then, entails factor analyzing product scores, obtained from the two independent samples, simultaneously using the principal component method with varimax rotation. Since a conceptual framework defining three factors (representing the three product groups) exists apriori, factor analysis is considered an appropriate validation procedure.

Eight pure goods, four GS combinations, and seven pure services meet the criteria established for the validation procedure. Among these products, two are selected from each category to be included in the data collection instrument of the study. These are cold medication and refrigerator (as pure goods), restaurant meals and automobile rental ( as GS combinations), and dry cleaning and hospitalization insurance (as pure services). These products perfectly match the criteria established in Chapter IV for product selection.

#### Reliability and Validity Tests of the Involvement Scale

In the following sections, the results of the reliability tests are presented first, followed by those of the validity tests.

#### Reliability Tests

A series of reliability tests were performed on the five-item involvement scale suggested before. The tests were repeated three times in every step, once with a pure good (shampoo), another time with a GS combination (auto repair), and a third time with a pure service (life insurance). The purpose was to reach a scale that is highly reliable across the three product types.

The following is an example of the five-item scale which the reliability tests started with:

1. I rate shampoo as being of the highest 5 4 3 2 1 lowest importance to me personally. (The normative importance dimension).

2. If my preferred brand of shampoo was not available at the store, it would make a little 5 4 3 2 1 big difference to me if I had to choose another brand of shampoo. (The commitment dimension).
3. It takes me a long 5 4 3 2 1 short time to consume a single bottle of shampoo. (The time dimension).
4. Shampoo is a complex 5 4 3 2 1 simple product. (The product complexity dimension).
5. Overall, the costs of a bad choice of a brand of shampoo are so high 5 4 3 2 1 so low. (The cost dimension).

Each scale item is stated such that the score "1" represents low involvement, and the score "5" represents high involvement except the second item expressing the commitment dimension. This item is reversed, and its score was also reversed when data was processed. As explained in the previous section, this item was modified in the final questionnaire by interchanging the scale anchors with each other. Tables V-6, V-7, and V-8 display the mean scores and standard deviations of the five items for the three products.

TABLE V-6  
MEANS AND STANDARD DEVIATIONS  
FIVE-ITEM INVOLVEMENT SCALE - SHAMPOO

Item	Mean	SD
1. Normative Importance	3.17	1.19
2. Commitment	2.64	1.47
3. Time	2.97	1.17
4. Product Complexity	2.32	1.33
5. Cost	2.47	1.24
Grand Mean	2.65	
N = 59		

TABLE V-7  
MEANS AND STANDARD DEVIATIONS  
FIVE-ITEM INVOLVEMENT SCALE - AUTO REPAIR

Item	Mean	SD
1. Normative Importance	3.65	1.18
2. Commitment	3.93	1.16
3. Time	3.50	0.91
4. Product Complexity	4.30	0.77
5. Cost	3.91	1.26
Grand Mean	3.83	
N = 54		

TABLE V-8  
MEANS AND STANDARD DEVIATIONS  
FIVE-ITEM INVOLVEMENT SCALE - LIFE INSURANCE

Item	Mean	SD
1. Normative Importance	3.29	1.19
2. Commitment	3.47	1.08
3. Time	3.41	1.20
4. Product Complexity	3.88	1.09
5. Cost	3.69	1.21
Grand Mean	3.54	
N = 51		

The reliability tests focused on the internal consistency of the scale, and included Coefficient Alpha, Spearman-Brown, and Guttman split-half coefficients.

### Coefficient Alpha

Coefficient Alpha was first calculated for all the five items with each of the three products. The Coefficient's value was 0.64 for shampoo, 0.63 for auto repair, and 0.56 for life insurance. The analysis indicated that the Coefficient's value might improve if certain items were deleted from the scale. For both shampoo and auto repair, the analysis indicated that Alpha should improve if the time dimension was deleted. However, for life insurance, Alpha would increase if the normative importance item was deleted.

Based on these results, both the normative importance and the time items were deleted from the scale, and the Coefficient's value was calculated for the three remaining items. The results showed an improvement in the Coefficient's value for both shampoo and auto repair which became 0.69 and 0.76 respectively. However, the Coefficient's value for life insurance declined to 0.53.

In light of these findings, it was determined to recalculate the Alpha value after retaining the normative importance dimension and deleting the time dimension only. With a four-item scale now, the Coefficient's value became 0.78 and 0.74 for shampoo and auto repair respectively, but declined again to 0.42 for life insurance.

The findings so far indicate a major improvement in the Coefficient's value for two of three pretest products. Thus, it is determined that the four-item scale be administered to the main sample despite the low value of the Coefficient in the case of life

insurance. It is believed that the Coefficient's value, when calculated for pure services with the study subjects, would be much higher than that obtained from the pretest sample. The main reason is that the pretest subjects are college students. These subjects are not highly concerned or experienced with life insurance, per se. This is evidenced by the declining number of respondents who completed the life insurance scale (51 of 60 subjects).

In addition, life insurance is probably one of the controversial and not-very-satisfying services among consumers. Thus, pretest responses to the scale items may not be consistent with each other, and that is exactly what Coefficient Alpha measures; a scale's internal consistency. A test of this assumption was actually performed. After collecting the data of the main study, Coefficient Alpha was calculated on the whole study sample ( $N = 326$ ) for the two pure services used in the study. The Coefficient's value was 0.80 for dry cleaning and 0.83 for hospitalization insurance.

Therefore, it is concluded that the four-item involvement scale exhibits a high degree of reliability in terms of its internal consistency.

#### Split-Half Reliability

In a series of procedures similar to those used in measuring Coefficient Alpha, split-half reliability tests were performed starting with the five-item scale. The results of the first test in the series appear in Table V-9.

TABLE V-9  
 SPLIT-HALF RELIABILITY  
 FIVE-ITEM INVOLVEMENT SCALE<sup>a, b</sup>

Split-Half Coefficients	Shampoo	Auto Repair	Life Insurance
Correlation between Halves	0.56	0.59	0.41
Equal-Length Spearman-Brown	0.71	0.74	0.59
Unequal-Length Spearman-Brown	0.72	0.75	0.59
Guttman Split-Half	0.71	0.73	0.58

<sup>a</sup> Three items are in the first half, and two items are in the second half.

<sup>b</sup> N = 49

It should be noted that the mere correlation between halves underestimates the reliability value of the scale because it only measures the reliability for each half rather than the total items of the scale. Other coefficients such as the Spearman-Brown correction coefficient measures the reliability of the whole scale more accurately (Carmine and Zeller 1979). Thus, the latter scale should be used in judging split-half reliability rather than the mere correlation between halves.

Based on the same rationale explained in the previous section, the split-half reliability coefficients were calculated again after deleting the normative importance and time dimensions. The results indicated an improvement in each of the four coefficients mentioned in Table V-9. The test results obtained from the three-item scale appear in Table V-10.

TABLE V-10  
 SPLIT-HALF RELIABILITY  
 THREE-ITEM INVOLVEMENT SCALE<sup>a, b</sup>

Split-Half Coefficients	Shampoo	Auto Repair	Life Insurance
Correlation between Halves	0.61	0.69	0.45
Equal-Length Spearman-Brown	0.75	0.82	0.62
Unequal-Length Spearman-Brown	0.77	0.93	0.64
Guttman Split-Half	0.67	0.80	0.61

<sup>a</sup> Two items are in the first half, and one item is in the second half.

<sup>b</sup> N = 50

The next step involved retaining the normative importance dimension, and deleting the time dimension only. After recalculating the split-half coefficients with the four-item scale, the coefficient values for shampoo and auto repair were almost the same as those obtained from the three-item scale. However, coefficient values for life insurance declined in such a way similar to that encountered with Coefficient Alpha. The reliability coefficient values of the four-item scale are displayed in Table V-11.

To confirm the conclusion reached at the end of the Coefficient Alpha test series, split-half coefficients are calculated for the two pure services (dry cleaning and hospitalization insurance) of the study for the whole sample. As Table V-12 indicates, Spearman-Brown coefficient is 0.79 for dry cleaning and 0.30 for hospitalization insurance. These results do confirm the conclusion reached before. The four-item involvement scale does not only exhibit a high value

of Coefficient Alpha for the three types of products, but it also reflects a high degree of split-half reliability.

TABLE V-11  
SPLIT-HALF RELIABILITY  
FOUR-ITEM INVOLVEMENT SCALE<sup>a, b</sup>

Split-Half Coefficient	Shampoo	Auto Repair	Life Insurance
Correlation between Halves	0.61	0.65	0.16
Equal-Length Spearman-Brown	0.76	0.79	0.28
Unequal-Length Spearman-Brown	0.76	0.79	0.28
Guttman Split-Half	0.76	0.78	0.28

<sup>a</sup> Two items are in each half.

<sup>b</sup> N = 50

TABLE V-12  
SPLIT-HALF RELIABILITY  
FOUR-INVOLVEMENT SCALE - PURE SERVICES<sup>a</sup>

Split-Half Coefficients	Dry Cleaning	Hospitalization Insurance
Correlation between Halves	0.66	0.67
Equal-Length Spearman-Brown	0.79	0.80
Unequal-Length Spearman-Brown	0.79	0.80
Guttman Split-Half	0.79	0.80

<sup>a</sup> N = 314

### Validity Tests

Kerlinger (1973), among other researchers, suggests three methods for construct validation. These are: a) correlating scale items with total scale score, b) factor analysis, and c) correlating the measure with other measures. These three approaches are used in validating the involvement scale.

### Item-Total Correlations

This procedure measured the correlation between the score of each item and the total score of all scale items. Pearson product-moment correlation coefficient was first calculated for the five-item scale. As Table V-13 indicates, the correlation coefficients for all items range between 0.41 and 0.83 and significantly differ from zero at  $p < 0.001$ , except the time item whose correlation with the total score is low with shampoo and auto repair.

TABLE V-13  
ITEM-TOTAL CORRELATIONS  
FIVE-ITEM INVOLVEMENT SCALE

Item	Shampoo	Auto Repair	Life Insurance
1. Normative Importance	0.73 <sup>a</sup>	0.62 <sup>a</sup>	0.41 <sup>a</sup>
2. Commitment	0.78 <sup>a</sup>	0.81 <sup>a</sup>	0.57 <sup>a</sup>
3. Time	0.25 <sup>b</sup>	0.21 <sup>c</sup>	0.70 <sup>a</sup>
4. Product Complexity	0.80 <sup>a</sup>	0.63 <sup>a</sup>	0.57 <sup>a</sup>
5. Cost	0.72 <sup>a</sup>	0.83 <sup>a</sup>	0.67 <sup>a</sup>
N	59	54	53

<sup>a</sup>  
b p < 0.001  
p < 0.05  
c p < 0.10

These results called strongly for deleting the time dimension from the scale. The four item scale produced higher correlations than those obtained from the five-item scale. As shown in Table V-14, all correlations are significantly different from zero at  $p < 0.00001$ .

TABLE V-14  
ITEM-TOTAL CORRELATIONS  
FOUR-ITEM INVOLVEMENT SCALE

Item	Shampoo	Auto Repair	Life Insurance
1. Normative Importance	0.79 <sup>a</sup>	0.68 <sup>a</sup>	0.49 <sup>a</sup>
2. Commitment	0.82 <sup>a</sup>	0.82 <sup>a</sup>	0.63 <sup>a</sup>
3. Product Complexity	0.76 <sup>a</sup>	0.63 <sup>a</sup>	0.54 <sup>a</sup>
4. Cost	0.79 <sup>a</sup>	0.85 <sup>a</sup>	0.69 <sup>a</sup>

<sup>a</sup>  $p < 0.00001$

### Factor Analysis

A one-factor solution was first performed using the SPSS Principal Factor method. The factor loadings obtained were high and positive for all five items except the time item in the case of both shampoo and auto repair, where loadings were very low and negative, and the normative importance item in the case of life insurance, where factor loading was low but positive. (See Table V-15).

When these results were analyzed, they were found to be similar to those obtained in the initial stages of the reliability tests. Thus, the one-factor solution was repeated after deleting both the time and normative importance items. Factor loadings of the three-item scale

TABLE V-15  
 FIVE-ITEM FACTOR LOADINGS  
 PRINCIPAL FACTOR METHOD

Item	Shampoo	Auto Repair	Life Insurance
1. Normative Importance	0.72	0.46	0.04
2. Commitment	0.73	0.76	0.32
3. Time	-0.05	-0.04	0.69
4. Product Complexity	0.67	0.54	0.64
5. Cost	0.71	0.85	0.61

TABLE V-16  
 THREE-ITEM FACTOR LOADINGS  
 PRINCIPAL FACTOR METHOD

Item	Shampoo	Auto Repair	Life Insurance
1. Commitment	0.68	0.74	0.35
2. Product Complexity	0.61	0.55	0.41
3. Cost	0.83	0.86	0.87

are exhibited in Table V-16. Dimension loadings are high on the three products except commitment on life insurance. These results, in general, imply that the three dimensions belong to the involvement construct.

However, more tests were needed to ensure that none of the two other dimensions (normative importance and time) belongs to another factor. Therefore, the Maximum Likelihood Factor method was employed using SAS computer package, to test this assumption. A series of tests

have been performed on three, five, and four items respectively.

Building on the results obtained from the Principal Factor analysis procedure, the first Maximum Likelihood (ML) factor analysis involved three dimensions (commitment, product complexity, and cost). The SAS computer package allows for testing the goodness of fit of the scale items to one or more factors through two Chi-Square tests. The first Chi-Square test sets the following null ( $H_0$ ) and alternative ( $H_A$ ) hypotheses:

$H_0$ : There are no common factors among the items.

$H_A$ : There is at least one common factor among the items.

The second Chi-Square test is performed when the null hypothesis of the first test is not accepted. Its hypotheses state that:

$H_0$ : One factor is sufficient.

$H_A$ : More factors are needed.

In the first test involving the three items, all Chi-Square ( $X^2$ ) values for the three products were significant. There is at least one common factor among the three items. Table V-17 displays  $X^2$  values and their level of significance..

TABLE V-17  
CHI-SQUARE TESTS OF NO COMMON FACTORS  
THREE-ITEM SCALE

Product	$X^2$	d.f.	p
Shampoo	39.94	3	.0001
Auto Repair	115.37	3	.0001
Life Insurance	49.22	3	.0001

Proceeding to the second test, the Chi-Square values obtained for the three products were all zeros. In addition, three items were considered too few for an involvement scale particularly that one of the two other items had high reliability. Thus, it was determined to recalculate factor loadings first for all five items using the Maximum Likelihood method with a one-factor solution. This procedure was necessary to evaluate the two other items, especially time which had very low loadings on two of the three products with the Principal Factor method.

A Maximum-Likelihood one-factor solution was run with the five items on each of the three products separately. Once again, the time dimension had a very low and negative loading on shampoo, but high and positive loadings on the two other products. The factor loadings are presented in Table V-18.

TABLE V-18  
FIVE-ITEM FACTOR LOADINGS  
MAXIMUM LIKELIHOOD METHOD

Item	Shampoo	Auto Repair	Life Insurance
1. Normative Importance	0.72	0.75	0.59
2. Commitment	0.74	0.89	0.72
3. Time	-0.07	0.63	0.78
4. Product Complexity	0.65	0.87	0.79
5. Cost	0.72	0.88	0.72

The first Chi-Square test yielded significant values at the .0001 level for all three products, which means that there is at least

one common factor among the five items. However, the second test did not yield consistent results for all three products. The results of these two tests are displayed in Tables V-19 and V-20.

TABLE V-19  
CHI-SQUARE TESTS OF NO COMMON FACTORS  
FIVE-ITEM SCALE

Product	$\chi^2$	d.f.	p
Shampoo	76.13	10	.0001
Auto Repair	185.97	10	.0001
Life Insurance	109.58	10	.0001

TABLE V-20  
CHI-SQUARE TESTS OF THE SUFFICIENCY OF ONE FACTOR  
FIVE-ITEM SCALE

Product	$\chi^2$	d.f.	p
Shampoo	9.69	5	.08
Auto Repair	7.77	5	.17
Life Insurance	4.78	5	.44

The decision, then, was made to delete the item dealing with time and repeat the Maximum-Likelihood one-factor solution on the remaining four items. The results obtained from the two tests confirmed the convergence of the four items to only one factor for the three products, and that one factor was only needed. Squared canonical correlations among the four items were 0.81, 0.92, and 0.81 for shampoo, auto

repair, and life insurance repectively. Factor loadings, Chi-Square values of the first test, Chi-Square values of the second test, and their level of significance are provided in Tables V-21, V-22, and V-23.

TABLE V-21

FOUR-ITEM FACTOR LOADINGS  
MAXIMUM LIKELIHOOD METHOD

Item	Shampoo	Auto Repair	Life Insurance
1. Normative Importance	0.72	0.75	0.61
2. Commitment	0.74	0.89	0.72
3. Product Complexity	0.65	0.85	0.76
4. Cost	0.72	0.90	0.74

TABLE V-22

CHI-SQUARE TESTS OF NO COMMON FACTORS  
FOUR-ITEM SCALE

Product	$\chi^2$	d.f.	p
Shampoo	69.77	6	.0001
Auto Repair	155.15	6	.0001
Life Insurance	71.09	6	.0001

TABLE V-23

CHI-SQUARE TESTS OF THE SUFFICIENCY OF ONE FACTOR  
FOUR-ITEM SCALE

Product	$\chi^2$	d.f.	p
Shampoo	3.26	2	.20
Auto Repair	0.45	2	.30
Life Insurance	3.53	2	.17

Correlating the Scale with Another Measure

A one-question manipulation check was given to the pretest respondents as a second measure of involvement. An example of this measure with the product shampoo follows:

"When I consider buying shampoo, I give it more 5 4 3 2 1 less thought and concern before I buy it."

Pearson product-moment correlation coefficients were calculated between the score of the one-question measure and the total score of the three- and four-item scales for all three products. The results indicate that correlations with the four-item scales are higher and more significant than those with the three-item scales as evidenced by Table V-24.

TABLE V-24  
CORRELATIONS BETWEEN THE INVOLVEMENT SCALE  
AND A ONE-QUESTION MEASURE

Product	3-Item Scale	p	4-Item Scale	p
Shampoo <sup>a</sup>	0.67	.0001	0.70	.0001
Auto Repair <sup>b</sup>	0.40	.001	0.51	.0001
Life Insurance <sup>c</sup>	0.22	.06	0.29	.02

<sup>a</sup> N = 59

<sup>b</sup> N = 54

<sup>c</sup> N = 53

### Summary

A series of reliability and validity tests is performed on the five-item involvement scale suggested in Chapter IV. Reliability tests focus on the internal consistency of the scale and include Coefficient Alpha and other split-half tests such as Spearman-Brown, and Guttman.

Validity tests consist of correlating each item of the scale with total scale score, performing one-factor solution factor analysis (using both the Principal Factor method and the Maximum Likelihood method), and correlating the scale with another one-question involvement measure.

The evidence obtained from the tests outlined above indicates that the four items including normative importance, commitment, product complexity, and overall cost represent a four-dimensional construct of product involvement.

The four-item scale is tested across the three types of products, pure goods, GS combinations, and pure services, as represented by shampoo, auto repair, and life insurance respectively, and reflect a fairly high degree of reliability and validity.

The high values of the coefficients obtained through the different tests and their high statistical significance establish the reliability and validity of the four-item scale which is used in the data collection instrument of the study.

### Selecting the Evaluative Criteria

The purpose of this pretest is to assist in selecting the evaluative criteria which will be used in the data collection instrument. To achieve this goal, the perceived importance of fifteen evaluative criteria were examined across fifteen different services. The pretest was undertaken with ninety-two graduate and undergraduate business students, other than those used with the other pretests, using a self-administered questionnaire.

The fifteen evaluative criteria were selected for this pretest after extensive review of the service literature. The listing of these criteria, the mean importance scores, and the services tested are reported in Table V-25. The perceived importance was measured on a five-point scale (1 = not at all important, 5 = extremely important).

Table V-25 indicates that subjects perceive eleven criteria as highly important (with a mean score over 3.0) across the fifteen services. These criteria are wide range of services, recommendations by friends, open weekends and evenings, reputation/image, handling complaints, ease of obtaining services, business experience of provider, location convenience, promptness of service, price, and courtesy of employees.

The table also shows that respondents perceive the criterion "extending credit" as neither important nor unimportant (with a mean score of 3.0). Finally, the table demonstrates that three criteria are perceived as less important (with a mean score below 3.0). These

TABLE V-25  
 MEANS OF IMPORTANCE SCORES - FIFTEEN SERVICE CRITERIA

Evaluative Criteria  Services	Wide Range of Services	Extending Credit	Close Relations with Customers	Lots of Parking Space	Recommendation by Friends	Open Weekends and Evenings	Reputation/ Image	Handling Complaints	Ease of Obtain- ing Service	Business Experience	Location Convenience	Promptness of Service	Price	Interior Decor and Music	Courtesy of Employees
Banks	4.3	4.6	4.0	3.4	3.4	4.2	4.5	4.7	4.6	4.3	4.7	4.6	4.1	2.9	4.7
Airlines	3.8	3.9	2.8	3.6	3.8	4.6	4.6	4.6	4.4	4.2	3.6	4.3	4.6	3.2	4.7
Insurance	4.1	3.3	3.8	2.4	3.9	2.7	4.4	4.4	3.8	4.4	3.3	3.9	4.4	2.6	4.6
Auto Service	4.0	3.5	3.8	3.6	4.6	4.4	4.5	4.5	4.3	4.2	4.3	4.5	4.6	1.8	4.2
Hotels/Motels	3.9	3.8	3.1	4.4	4.3	4.9	4.5	4.4	4.4	3.6	4.1	4.0	4.4	4.4	4.8
Dry Cleaning/Laundry	3.2	2.0	2.8	2.5	3.4	3.7	3.5	3.8	3.6	2.9	4.0	4.0	3.9	2.0	3.8
Plumbing	3.3	2.5	2.6	1.5	3.8	3.8	3.7	4.0	3.9	3.4	3.0	4.1	4.2	1.6	3.7
Photo Processing	3.0	2.0	2.1	1.9	3.1	2.6	3.2	3.5	3.1	2.7	3.1	3.5	3.4	2.1	3.5
Recreation (Resorts)	4.4	3.8	3.4	4.4	4.4	4.8	4.4	4.3	4.1	3.6	3.7	3.6	4.1	4.3	4.5
Fast Food	2.9	1.7	2.0	4.1	2.9	4.3	3.5	3.5	3.6	2.6	4.0	4.1	3.4	3.1	3.9
Parcel Delivery	3.2	2.0	1.8	1.9	2.5	3.1	3.1	3.5	3.4	2.6	2.9	3.9	3.3	1.8	3.4
Carpet Cleaning	2.6	2.1	2.0	1.6	3.3	2.6	3.2	3.4	3.1	2.8	2.5	3.4	3.5	1.9	3.4
Moving & Storage	3.4	2.9	2.1	1.8	3.6	3.3	3.5	3.8	3.6	3.3	2.7	3.8	3.9	1.7	3.7
Home Repairs	3.8	3.4	3.0	1.8	4.1	3.8	3.9	4.1	3.8	3.6	3.0	4.0	4.1	2.2	3.9
Travel Agencies	4.2	4.0	3.7	2.9	4.1	3.8	4.1	4.0	3.9	3.3	3.6	3.7	3.9	3.4	4.3
Grand Mean	3.6	3.0	2.8	2.8	3.7	3.7	3.9	4.0	3.8	3.4	3.5	4.0	4.0	2.6	4.1

are physical environment (as expected), close relations with customers, and parking space.

To reduce respondents' fatigue, and avoid a lengthy questionnaire, only four criteria are selected from those perceived as highly important and included in the data collection instrument. These criteria are price, recommendations by family and friends, friendliness and courtesy of employees, and location convenience.

CHAPTER VI  
PRESENTATION AND ANALYSIS OF FINDINGS

In this chapter, the results of the statistical analysis are first presented in relation to each hypothesis. In the following section, these findings are then discussed and interpreted in the context of the conceptual relationships hypothesized.

Results of the Statistical Analysis

In this section, the statistical results are presented according to the order of hypotheses.

Hypothesis H<sub>1</sub>: Comparison of Consumers' Perceptions of Six Characteristics across Three Product Classes

Hypotheses H<sub>1a</sub> and H<sub>1b</sub> suggest that consumers perceive higher degrees of the six service characteristics for both pure services and GS combinations than for pure goods. Hypothesis H<sub>1c</sub>, on the other hand, suggests that consumers' perceptions with regard to these characteristics will not significantly differ between pure services and GS combinations.

To test this set of hypotheses, MANOVA was performed first to test for the overall effect of product type on the perception of the six characteristics. The statistical tests performed by this procedure are the multivariate and univariate F tests. The multivariate F test examines the significance of the product type effect on the six service characteristics (the six dependent variables in MANOVA) together. The

univariate F tests, on the other hand, examine the differences among the three product type means with regard to each characteristic separately.

The analysis was performed first on all six products of the study, with the scores of the two offerings in each product class added together and contrasted to the two other classes. This procedure is justified by the product typology validation procedure undertaken in the pretests. Nevertheless, the same analysis was repeated on the six products after dividing them into two separate product groups. The first group represents the low-cost, convenience/shopping items, and consists of the following:

1. Cold medication as the pure good.
2. Restaurant meals as the GS combination.
3. Dry cleaning as the pure service.

The second product group represents the high-cost, specialty items, and consists of the following:

1. Refrigerator as the pure good.
2. Renting an automobile as the GS combination.
3. Hospitalization insurance as the pure service.

Repeating the analysis with individual product groups was not limited to testing the first hypothesis. Rather, it was done throughout the whole analysis with other hypotheses as well. The purpose of this procedure is first to obtain results on the the three types of products, in general, by performing the tests on all six products. Then differences are examined in individual product groups after controlling for other

extraneous variables such as cost and search time. These variables are implied in classifying these products as convenience, shopping, or specialty.

The SAS GLM/MANOVA program produced multivariate F values for three tests including Hotelling-Lawley test, Pillai's test, and Wilk's criterion (SAS Institute Inc., 1982). The multivariate F values ranged from 103.94 to 193.75. They were all significant at the  $p = .0001$  level for all products as well as the two product groups, as Table VI-1 shows.

TABLE VI-1  
MANOVA MULTIVARIATE F TESTS  
OF NO OVERALL PRODUCT TYPE EFFECT ON SIX CHARACTERISTICS

Products	Hotelling-Lawley		Pillai's		Wilk's Criterion	
	F	p	F	p	F	p
All Products	193.75	.0001	186.67	.0001	190.19	.0001
Conv/Shopping Group	170.79	.0001	147.29	.0001	158.83	.0001
Specialty Group	118.21	.0001	103.94	.0001	110.99	.0001

These findings indicate that the overall effect of product type on the perception of the six characteristics is significant. Consumers do perceive different degrees of these characteristics (taken together) for the three types of products.

The MANOVA univariate F tests also showed that the perceptions of the six characteristics taken individually are statistically significant across the three types of products. This was true for all products

together as well as the two product groups. As Table VI-2 indicates, the univariate F values for the six characteristics range from 36.42 to 404.18, and are all significant at the  $p = .0001$  level.

To test the direction of the relationship between product type and each of the six characteristics, as suggested in  $H_{1a}$ ,  $H_{1b}$ , and  $H_{1c}$ , a series of ANCOVA tests were performed. In these tests, product type was the independent variable, and each of the six characteristics was the dependent variable. The findings of this test series are presented and discussed in the following sections.

#### Hypothesis $H_{11}$ : Product Type Effect on Perceived Intangibility

Table VI-3 presents the results of the ANOVA test of no overall product type effect on perceived intangibility. The means of the three types of products are significantly different from each other. This is true for all products together as well as for both product groups. All three F values are statistically significant at  $p = .0001$  level. This means that consumers do perceive different degrees of intangibility for the three types of products.

The results with regard to all products and each of the two product groups will be analyzed in the following paragraphs.

#### All Products

For all products together, the intangibility mean of pure goods is smaller than the means of both pure services and GS combinations. The differences between the pure goods mean and each of the pure services

TABLE VI-2

MANOVA UNIVARIATE F TESTS OF NO PRODUCT TYPE EFFECT  
ON THE PERCEPTION OF SIX CHARACTERISTICS

Characteristic	All Products				Conv/Shopping Group				Specialty Group			
	F	d.f. <sup>a</sup>	p	R <sup>2</sup>	F	d.f. <sup>b</sup>	p	R <sup>2</sup>	F	d.f. <sup>c</sup>	p	R <sup>2</sup>
Intangibility	404.18	2 , 952	.0001	0.46	212.54	2 , 963	.0001	0.31	291.35	2 , 962	.0001	0.38
Perishability	314.34	2 , 952	.0001	0.40	345.29	2 , 963	.0001	0.42	82.00	2 , 962	.0001	0.15
Simultaneity of Production and Consumption	294.89	2 , 952	.0001	0.38	322.32	2 , 963	.0001	0.40	102.32	2 , 962	.0001	0.18
Nonstandardization	228.03	2 , 952	.0001	0.33	291.26	2 , 963	.0001	0.38	60.71	2 , 962	.0001	0.11
Buyer Participation in Production	274.23	2 , 952	.0001	0.37	160.38	2 , 963	.0001	0.25	246.82	2 , 962	.0001	0.34
Buyer's Abidance by Seller's Rules	39.03	2 , 952	.0001	0.08	14.60	2 , 963	.0001	0.03	36.42	2 , 962	.0001	0.07

<sup>a</sup>Number of respondents = 326 with three observations for each (one for pure goods, another for GS combinations, and a third for pure services). Thus, the total number of observations in data set = (326)(3) = 978. The number of missing values in this analysis = 23, therefore n = 955.

<sup>b</sup>Number of missing values in this analysis = 12, thus n = 966.

<sup>c</sup>Number of missing values in this analysis = 13, thus n = 965.

TABLE VI-3  
ANOVA TESTS OF NO OVERALL PRODUCT TYPE EFFECT  
ON PERCEIVED INTANGIBILITY

Products	Mean	F	d.f.	p
<u>All Products</u>		409.67	2 , 969 <sup>a</sup>	.0001
Pure Goods	3.59			
GS Combinations	4.77			
Pure Services	7.33			
<u>Conv/Shopping Group</u>		217.55	2 , 970 <sup>b</sup>	.0001
Cold Medication	1.61			
Restaurant Meals	1.59			
Dry Cleaning	3.08			
<u>Specialty Group</u>		290.02	2 , 974 <sup>c</sup>	.0001
Refrigerator	1.98			
Renting an Automobile	3.17			
Hospitalization Insurance	4.25			

<sup>a</sup>Total number of observations in data set = 978. Since the number of missing values = 6, n = 972.

<sup>b</sup>Number of missing values = 5, n = 973.

<sup>c</sup>Number of missing values = 1, n = 977.

TABLE VI-4  
INTANGIBILITY MEAN LSD COMPARISONS

Mean Comparisons	Difference	p
<u>All Products</u>		
Pure Goods vs. Pure Services	3.74	.05
Pure Goods vs. GS Combinations	1.18	.05
GS combinations vs. Pure Services	2.56	.05
<u>Conv/Shopping Group</u>		
Cold Medication vs. Dry Cleaning	1.47	.05
Cold Medication vs. Restaurant Meals	0.02	N.S. <sup>a</sup>
Restaurant Meals vs. Dry Cleaning	1.49	.05
<u>Specialty Group</u>		
Refrigerator vs. Hospital Insurance	2.27	.05
Refrigerator vs. Renting a Car	1.19	.05
Renting a Car vs. Hospital Insurance	1.08	.05

<sup>a</sup>N.S. = not significant.

and GS combinations means are significant at the .05 level (see Table VI-4). Therefore, hypotheses  $H_{1ai}$  and  $H_{1bi}$  are both supported.

However, the difference between the intangibility means of pure services and GS combinations is also significant. Thus, hypothesis  $H_{1ci}$  is not supported.

#### Convenience/Shopping Product Group

As Tables VI-3 and VI-4 show, the intangibility mean of cold medication (the pure good) is smaller than that of dry cleaning (the pure service). The difference between the two means is significant at the .05 level. Therefore,  $H_{1ai}$  is supported for the first product group.

However, there is no significant difference between the means of the pure good and the GS combination (restaurant meals). Thus,  $H_{1bi}$  is not supported for the first group. Also,  $H_{1ci}$  is not supported for this group either since the mean difference is significant.

#### Specialty Product Group

Table VI-3 shows that the mean of refrigerator (the pure good) is smaller than the means of both hospitalization insurance (the pure service) and renting an automobile (the GS combination). The differences between the first mean and each of the two other means are statistically significant at the .05 level as indicated by Table VI-4. Accordingly,  $H_{1ai}$  and  $H_{1bi}$  are supported for this group.

However, the mean difference between the pure service and the GS combination is also significant at the .05 level. Thus,  $H_{1ci}$  is not supported for this group either.

Hypothesis  $H_{1ii}$ : Product Type Effect on Perceived Perishability

Table VI-5 presents the results of the ANOVA test of no overall product type effect on perceived perishability. As the Table indicates, the means of all products as well as the two product groups are significantly different from each other within each group. These findings imply that consumers do perceive different levels of perishability for the three types of products. A separate analysis is presented for all products, and for each of the two product groups in the following paragraphs.

All Products

As Table VI-5 shows, the perishability mean of pure goods is smaller than those of the pure services as well as the GS combinations. According to Table VI-6, the differences between the first mean and each of the two other means are significant at the .05 level. Therefore, hypotheses  $H_{1a1i}$  and  $H_{1b1i}$  are supported for all products in general.

With regard to the mean difference between pure services and GS combinations, it is found to be also significant, as shown in Table VI-6. In addition, subjects perceive a higher degree of perishability for GS combinations ( $\bar{X} = 7.06$ ) than for pure services ( $\bar{X} = 4.42$ ). Thus,  $H_{1c1i}$  is rejected for all products together.

Convenience/Shopping Product Group

The statistical results for the first group follow the pattern of those obtained with all products. The perishability mean of cold medication (1.76) is smaller than those of dry cleaning (2.35), and

TABLE VI-5  
ANOVA TESTS OF NO OVERALL PRODUCT TYPE EFFECT  
ON PERCEIVED PERISHABILITY

Products	Mean	F	d.f.	p
<u>All Products</u>		316.08	2 , 966 <sup>a</sup>	.0001
Pure Goods	3.26			
GS Combinations	7.06			
Pure Services	4.42			
<u>Conv/Shopping Group</u>		217.55	2 , 970 <sup>b</sup>	.0001
Cold Medication	1.76			
Restaurant Meals	4.17			
Dry Cleaning	2.35			
<u>Specialty Group</u>		84.04	2 , 970 <sup>b</sup>	.0001
Refrigerator	1.51			
Renting an Automobile	2.89			
Hospitalization Insurance	2.06			

<sup>a</sup>Total number of observations in data set = 978. Since the number of missing values = 9, n = 969.

<sup>b</sup>Number of missing values = 5, n = 973.

TABLE VI-6  
PERISHABILITY MEAN LSD COMPARISONS

Mean Comparisons	Difference	p
<u>All Products</u>		
Pure Goods vs. Pure Services	1.16	.05
Pure goods vs. GS Combinations	3.80	.05
GS Combinations vs. Pure Services	2.64	.05
<u>Conv/Shopping Group</u>		
Cold Medication vs. Dry Cleaning	0.59	.05
Cold Medication vs. Restaurant Meals	2.41	.05
Restaurant Meals vs. Dry Cleaning	1.18	.05
<u>Specialty Group</u>		
Refrigerator vs. Hospital Insurance	0.55	.05
Refrigerator vs. Renting a Car	1.37	.05
Renting a Car vs. Hospital Insurance	0.83	.05

restaurant meals (4.17). The differences between the first mean and each of the two other means are statistically significant at the .05 level. Consequently, hypotheses  $H_{1a11}$  and  $H_{1b11}$  are supported for this product group.

Since the perishability mean of restaurant meals is greater than that of dry cleaning, and the difference is statistically significant (see Tables VI-5 and VI-6),  $H_{1c11}$  is not supported for this group.

#### Specialty Product Group

As Tables VI-5 and VI-6 indicate, the findings in regard to the second product group are typical to those obtained with all products and the first group. Therefore, hypotheses  $H_{1a11}$  and  $H_{1b11}$  are accepted while hypothesis  $H_{1c11}$  is not accepted for the second product group. It is also noted that the perishability mean of the GS combination of the second group (renting an automobile) is perceived by subjects as greater than the pure service mean of the group (hospitalization insurance); a pattern which is similar to that of all products and the first product group as well.

#### Hypothesis $H_{1111}$ : Product Type Effect on Perceived Simultaneity of Production and Consumption

Table VI-7 displays the results of the ANOVA test of no overall product type effect on the perceived simultaneity of production and consumption. The F values obtained for all products as well as the two product groups are statistically significant ( $p = .0001$ ). Once again, these findings mean that consumers perceive different degrees of this

TABLE VI-7  
ANOVA TESTS OF NO OVERALL PRODUCT TYPE EFFECT  
ON PERCEIVED SIMULTANEITY OF PRODUCTION AND CONSUMPTION

Products	Mean	F	d.f.	p
<u>All Products</u>		298.52	2 , 972 <sup>a</sup>	.0001
Pure Goods	3.79			
GS Combinations	7.65			
Pure Services	4.57			
<u>Conv/Shopping Group</u>		320.60	2 , 975 <sup>b</sup>	.0001
Cold Medication	2.06			
Restaurant Meals	4.34			
Dry Cleaning	2.34			
<u>Specialty Group</u>		104.70	2 , 972 <sup>a</sup>	.0001
Refrigerator	1.74			
Renting an Automobile	3.32			
Hospitalization Insurance	2.24			

<sup>a</sup>Total number of observations in data set = 978. Since the number of missing values = 3, n = 975.

<sup>b</sup>Number of missing values = 0, n = 978.

TABLE VI-8  
SIMULTANEITY MEAN LSD COMPARISONS

Mean Comparisons	Difference	p
<u>All Products</u>		
Pure Goods vs. Pure Services	0.78	.05
Pure goods vs. GS Combinations	3.86	.05
GS Combinations vs. Pure Services	3.08	.05
<u>Conv/Shopping Group</u>		
Cold Medication vs. Dry Cleaning	0.28	.05
Cold Medication vs. Restaurant Meals	2.28	.05
Restaurant Meals vs. Dry Cleaning	2.00	.05
<u>Specialty Group</u>		
Refrigerator vs. Hospital Insurance	0.50	.05
Refrigerator vs. Renting a Car	1.58	.05
Renting a Car vs. Hospital Insurance	1.08	.05

characteristic possessed by the different types of products. The mean differences for all products are examined first, as usual, and then the differences within each product group are examined second.

#### All Products

Table VI-7 shows that the simultaneity mean of pure goods is smaller than those of the pure services and the GS combinations. In addition, Table VI-8 indicates that the differences between the first mean and each of the two other means are statistically significant at the .05 level. Therefore, hypotheses  $H_{1a111}$  and  $H_{1b111}$  are both supported for all products together.

Nonetheless, the simultaneity mean of GS combinations is greater than that of the pure services, and the difference between the two means is also significant. Thus, hypothesis  $H_{1c111}$  is not accepted.

#### Convenience/Shopping Product Group

From Tables VI-7 and VI-8 it is observed that the statistical results of this product group follow the pattern of those obtained with all products. Therefore,  $H_{1a111}$  and  $H_{1b111}$  are supported, and  $H_{1c111}$  is not for the first product group.

Here again, it is observed that the simultaneity mean of the GS combination (restaurant meals) is greater than the pure good mean (dry cleaning).

#### Specialty Product Group

Tables VI-7 and VI-8 also show that the second product group is

similar to the first group as well as all products in terms of subjects' perceptions about the simultaneity of production and consumption. While the absolute values of offering means are different in this group from the offering means of the other product group, the differences between means exactly follow the pattern of those in the other group and all products as well.

Thus, hypotheses  $H_{1a_{iii}}$  and  $H_{1b_{iii}}$  are accepted for this group, while  $H_{1c_{iii}}$  is not. It should be noted here that the simultaneity mean of the GS combination of this group (renting an automobile) is also greater than the mean of the pure service (hospitalization insurance).

Hypothesis  $H_{1iv}$ : Product Type Effect on Perceived Nonstandardization

Table VI-9 portrays the results of the ANOVA test of no overall product type effect on the perceived nonstandardization of products. The means differ significantly ( $p = .0001$ ) from each other across all products together as well as each product group.

All Products

Referring to Table VI-9, it is noted that the pure goods mean is smaller than those of pure services and GS combinations. From Table VI-10 we can see that the differences between the first mean and each of the two other means are statistically significant at the .05 level. Therefore, hypotheses  $H_{1a_{iv}}$  and  $H_{1b_{iv}}$  are both supported for all products in general.

Nevertheless, the GS combinations mean is greater than the pure services mean, and the difference is also statistically significant.

TABLE VI-9  
ANOVA TESTS OF NO OVERALL PRODUCT TYPE EFFECT  
ON PERCEIVED NONSTANDARDIZATION

Products	Mean	F	d.f.	p
<u>All Products</u>		232.29	2, 974 <sup>a</sup>	.0001
Pure Goods	3.45			
GS Combinations	6.40			
Pure Services	5.10			
<u>Conv/Shopping Group</u>		292.90	2, 975 <sup>b</sup>	.0001
Cold Medication	1.48			
Restaurant Meals	3.45			
Dry Cleaning	2.68			
<u>Specialty Group</u>		61.34	2, 974 <sup>a</sup>	.0001
Refrigerator	1.97			
Renting an Automobile	2.95			
Hospitalization Insurance	2.42			

<sup>a</sup>Total number of observations in data set = 978. Since the number of missing values = 1, n = 977.

<sup>b</sup>Number of missing values = 0, n = 978.

TABLE VI-10  
NONSTANDARDIZATION MEAN LSD COMPARISONS

Mean Comparisons	Difference	p
<u>All Products</u>		
Pure Goods vs. Pure Services	1.65	.05
Pure goods vs. GS Combinations	2.95	.05
GS Combinations vs. Pure Services	1.30	.05
<u>Conv/Shopping Group</u>		
Cold Medication vs. Dry Cleaning	1.20	.05
Cold Medication vs. Restaurant Meals	1.97	.05
Restaurant Meals vs. Dry Cleaning	0.77	.05
<u>Specialty Group</u>		
Refrigerator vs. Hospital Insurance	0.45	.05
Refrigerator vs. Renting a Car	0.98	.05
Renting a Car vs. Hospital Insurance	0.53	.05

Thus,  $H_{1civ}$  is not supported for all products together.

#### Convenience/Shopping Product Group

Reviewing the results obtained with the first product group, it might be concluded that the group follows the pattern of all products. Therefore, hypotheses  $H_{1aiv}$  and  $H_{1biv}$  are supported for the first group, whereas hypothesis  $H_{1civ}$  is not. The nonstandardization mean of GS combination in this group (restaurant meals,  $\bar{X} = 3.45$ ) is greater than the pure good mean (dry cleaning,  $\bar{X} = 2.68$ ).

#### Specialty Product Group

The statistical results obtained from the second group are similar to those obtained from the first group as well as all products together. (See Tables VI-9 and VI-10). It is also observed that the GS combination mean in this group (renting an automobile,  $\bar{X} = 2.95$ ) is greater than the pure service mean (hospitalization insurance,  $\bar{X} = 2.42$ ), and that all LSD mean differences are significant.

Accordingly, hypotheses  $H_{1aiv}$  and  $H_{1biv}$  are supported for this product group, but  $H_{1civ}$  is not.

#### Hypothesis $H_{1v}$ : Product Type Effect on the Perception of Buyer Participation in Production

Mean differences in the perception of buyer participation in production are statistically significant ( $p = .0001$ ) across all products together and the two product groups as well (see Table VI-11).

#### All Products

The mean of buyer participation in the production of pure goods

TABLE VI-11

ANOVA TESTS OF NO OVERALL PRODUCT TYPE EFFECT  
ON PERCEIVED BUYER PARTICIPATION IN PRODUCTION

Products	Mean	F	d.f.	p
<u>All Products</u>		281.08	2, 974 <sup>a</sup>	.0001
Pure Goods	3.48			
GS Combinations	7.38			
Pure Services	5.41			
<u>Conv/Shopping Group</u>		159.14	2, 974 <sup>a</sup>	.0001
Cold Medication	1.76			
Restaurant Meals	3.48			
Dry Cleaning	2.00			
<u>Specialty Group</u>		248.33	2, 975 <sup>b</sup>	.0001
Refrigerator	1.72			
Renting an Automobile	2.89			
Hospitalization Insurance	3.41			

<sup>a</sup>Total number of observations in data set = 978. Since the number of missing values = 1, n = 977.

<sup>b</sup>Number of missing values = 0, n = 978.

TABLE VI-12

## BUYER PARTICIPATION MEAN LSD COMPARISONS

Mean Comparisons	Difference	p
<u>All Products</u>		
Pure Goods vs. Pure Services	1.93	.05
Pure goods vs. GS Combinations	3.90	.05
GS Combinations vs. Pure Services	1.97	.05
<u>Conv/Shopping Group</u>		
Cold Medication vs. Dry Cleaning	0.24	.05
Cold Medication vs. Restaurant Meals	1.72	.05
Restaurant Meals vs. Dry Cleaning	1.48	.05
<u>Specialty Group</u>		
Refrigerator vs. Hospital Insurance	1.69	.05
Refrigerator vs. Renting a Car	2.17	.05
Renting a Car vs. Hospital Insurance	0.48	.05

(3.48) is smaller than those of pure services (5.41) and GS combinations (7.38). The LSD mean differences are statistically significant ( $p = .05$ ). (See Table VI-12). These findings support  $H_{1av}$  and  $H_{1bv}$  for all products together.

However, the mean of buyer participation in the production of GS combinations is greater than that of pure services, and the difference between means is statistically significant; a pattern which is consistently observed in almost all characteristics. Therefore, hypothesis  $H_{1cv}$  is not supported for all products.

#### Convenience/Shopping Product Group

The findings with regard to the first product group follow the pattern observed in the case of all products together. Accordingly, hypotheses  $H_{1av}$  and  $H_{1bv}$  are supported, and hypothesis  $H_{1cv}$  is not.

#### Specialty Product Group

The findings obtained for this group are similar to those obtained for all products as well as the first group. Thus, hypotheses  $H_{1av}$  and  $H_{1bv}$  are supported also for this group, but hypothesis  $H_{1cv}$  is not.

#### Hypothesis $H_{1vi}$ : Product Type Effect on the Perception of Buyer's Abidance by Seller's Rules

Table VI-13 shows that abidance means of the three types of products are significantly different from each other ( $p = .0001$ ). This is true for all products together as well as the two product groups. Even though the absolute values of Fs as well as the variability of

TABLE VI-13  
ANOVA TESTS OF NO OVERALL PRODUCT TYPE EFFECT  
ON PERCEIVED BUYER-SUPPLIER RELATIONSHIP

Products	Mean	F	d.f.	p
<u>All Products</u>		36.00	2 , 971 <sup>a</sup>	.0001
Pure Goods	3.36			
GS Combinations	4.16			
Pure Services	4.64			
<u>Conv/Shopping Group</u>		12.81	2 , 974 <sup>b</sup>	.0001
Cold Medication	1.66			
Restaurant Meals	2.02			
Dry Cleaning	2.11			
<u>Specialty Group</u>		36.29	2 , 972 <sup>c</sup>	.0001
Refrigerator	1.70			
Renting an Automobile	2.14			
Hospitalization Insurance	2.53			

<sup>a</sup>Total number of observations in data set = 978. Since the number of missing values = 4, n = 974.

<sup>b</sup>Number of missing values = 1, n = 977.

<sup>c</sup>Number of missing values = 3, n = 975.

TABLE VI-14  
BUYER-SUPPLIER RELATIONSHIP MEAN LSD COMPARISONS

Mean Comparisons	Difference	p
<u>All Products</u>		
Pure Goods vs. Pure Services	1.28	.05
Pure goods vs. GS Combinations	0.80	.05
GS Combinations vs. Pure Services	0.48	.05
<u>Conv/Shopping Group</u>		
Cold Medication vs. Dry Cleaning	0.45	.05
Cold Medication vs. Restaurant Meals	0.36	.05
Restaurant Meals vs. Dry Cleaning	0.09	N.S. <sup>a</sup>
<u>Specialty Group</u>		
Refrigerator vs. Hospital Insurance	0.83	.05
Refrigerator vs. Renting a Car	0.44	.05
Renting a Car vs. Hospital Insurance	0.39	.05

<sup>a</sup> N.S. = not significant.

responses are smaller than those calculated for other characteristics (e.g. from Table VI-2,  $R^2$  is 0.08 for this characteristic, while it is 0.46 for intangibility), all the Fs are statistically significant. Generally speaking, this means that consumers perceive differences in the buyer-supplier relationship among the three types of products.

#### All Products

As Table VI-13 indicates, the levels of all product means are in the expected direction. The pure goods mean (3.36) is smaller than both the pure services mean (4.64) and the GS combinations mean (4.16). The differences between the first mean and each of the two other means are statistically significant at the .05 level (Table VI-14). Thus, hypotheses  $H_{1avi}$  and  $H_{1bvi}$  are supported for all products together.

However, the mean difference between GS combinations and pure services is significant. Therefore, hypothesis  $H_{1cvi}$  is not supported.

#### Convenience/Shopping Product Group

In the case of the first product group, all the hypotheses  $H_{1avi}$ ,  $H_{1bvi}$ , and  $H_{1cvi}$  are supported. The pure good mean (cold med.,  $\bar{X} = 1.66$ ) is smaller than both the pure service mean (dry cleaning,  $\bar{X} = 2.11$ ) and the GS combination mean (restaurant meals,  $\bar{X} = 2.02$ ). As Table VI-14 reveals, the differences between the first mean and each of the two other means are statistically significant. The difference between the last two means is not significant.

#### Specialty Product Group

The findings obtained from this product group follow the pattern

obtained from all products together. The refrigerator mean (1.70) is smaller than both the hospitalization insurance mean (2.53) and the car rental mean (2.14). The differences between the first mean and each of the two other means are significant at the .05 level (refer to Table VI-14). Thus, hypotheses  $H_{1avi}$  and  $H_{1bvi}$  are supported for the second product group.

The difference between the two means of car rental and hospital insurance is also significant, which leads to rejecting  $H_{1cvi}$  for this product group.

Hypothesis  $H_2$ : Comparison of Subjects' Involvement with the three types of Products

The statistical results obtained from the ANOVA test support the general hypothesis that subjects' involvement differs significantly across the three types of products. The ANOVA F values obtained from the analysis and shown in Table VI-15 are statistically significant at the .0001 level. While this is true for all products together and for each of the two product groups, the F value obtained for the second group is extremely higher than the Fs in the other group and all products.

All Products

Hypothesis  $H_{2a}$  suggests that consumers are more involved with pure services than with pure goods. This hypothesis is supported. The involvement mean of pure goods (25.17) is smaller than that of the pure services (28.44). The difference between the two means is significant. (See Table VI-16).

TABLE VI-15  
ANOVA TESTS OF NO OVERALL PRODUCT TYPE EFFECT  
ON INVOLVEMENT

Products	Mean	F	d.f.	p
<u>All Products</u>		56.75	2 , 975 <sup>a</sup>	.0001
Pure Goods	25.17			
GS Combinations	24.28			
Pure Services	28.44			
<u>Conv/Shopping Group</u>		57.62	2 , 975 <sup>a</sup>	.0001
Cold Medication	10.86			
Restaurant Meals	13.64			
Dry Cleaning	11.38			
<u>Specialty Group</u>		279.48	2 , 975 <sup>a</sup>	.0001
Refrigerator	14.31			
Renting an Automobile	10.64			
Hospitalization Insurance	17.06			

<sup>a</sup>Total number of observations in data set = 978. Since the number of missing values = 0, n = 978.

TABLE VI-16  
INVOLVEMENT MEAN LSD COMPARISONS

Mean Comparisons	Difference	p
<u>All Products</u>		
Pure Goods vs. Pure Services	3.27	.05
Pure goods vs. GS Combinations	0.89	.05
GS Combinations vs. Pure Services	4.16	.05
<u>Conv/Shopping Group</u>		
Cold Medication vs. Dry Cleaning	0.52	N.S. <sup>a</sup>
Cold Medication vs. Restaurant Meals	2.78	.05
Restaurant Meals vs. Dry Cleaning	2.26	.05
<u>Specialty Group</u>		
Refrigerator vs. Hospital Insurance	2.75	.05
Refrigerator vs. Renting a Car	3.67	.05
Renting a Car vs. Hospital Insurance	6.42	.05

<sup>a</sup>N.S. = not significant.

Hypothesis  $H_{2b}$  suggests that consumers are more involved with GS combinations than with pure goods. This hypothesis is not supported. The involvement mean of GS combinations (24.28) is smaller than that of the pure goods (25.17), and the difference is significant at the .05 level.

Hypothesis  $H_{2c}$  suggests that there is no significant difference in the involvement means of pure services and GS combinations. Table VI-16 indicates that the difference between these two means is significant at the .05 level. Therefore,  $H_{2c}$  is not supported either.

The careful examination of Table VI-15 reveals that the reason behind the high involvement with pure goods lies with the refrigerator rather than with the cold medication. Refrigerator seems to be a highly involving good. The mean score of refrigerator involvement has pushed up the mean score of pure goods substantially.

#### Convenience/Shopping Product Group

The involvement mean score of cold medication (10.86) is smaller than those of dry cleaning (11.38) and restaurant meals (13.64). Thus, the findings are in the expected direction for the first product group. However, only the difference between the means of cold medication and restaurant meals is statistically significant at the .05 level (see Table VI-16). Therefore,  $H_{2a}$  is partially supported, but  $H_{2b}$  is completely supported for this group.

On the other hand, the difference between the involvement means of dry cleaning and restaurant meals is significant at the .05 level.

Accordingly,  $H_{2c}$  is not accepted for this group.

Specialty Product Group

Hypothesis  $H_{2a}$  is supported for this group. The involvement mean of refrigerator (14.31) is smaller than that of hospitalization insurance (17.06), and the difference is statistically significant. However, the refrigerator mean is not smaller than that of car rental (10.64). The difference is significant in the opposite direction. Thus,  $H_{2b}$  is not accepted for this group.

Also,  $H_{2c}$  is not supported either since the difference between the means of car rental and hospital insurance is statistically significant.

Hypothesis  $H_3$ : The Association between Product Familiarity and Perceived Risk

Five measures of association are used to test the relationship between product familiarity and perceived risk. These measures are chi square, phi correlation coefficient, contingency coefficient, Cramer's v, and Pearson product-moment correlation coefficient. The statistical results of these tests are presented in Table VI-17, and discussed in more detail in the following sections.

In general, these results support  $H_3$  in that the two variables are related to each other. However, the results support the hypothesis in the opposite direction as the two variables are found to be positively related, contrary to what the hypothesis predicts.

TABLE VI-17  
 MEASURES OF ASSOCIATION  
 BETWEEN PRODUCT FAMILIARITY AND PERCEIVED RISK

Products	Chi Square			phi	Contingency Coeff't (c)	Cramer's v	Pearson Corr'n Coeff't		n
	$\chi^2$	df	p				r	p	
<u>Pure Goods</u>									
Cold Medication	56.16	40	.0464	0.42	0.38	0.19	0.20	.0003	326
Refrigerator	79.92	40	.0002	0.50	0.45	0.22	0.22	.0001	324
<u>GS Combinations</u>									
Restaurant Meals	104.87	40	.0001	0.57	0.49	0.25	0.19	.0007	326
Renting a Car	24.48	40	N.S. <sup>a</sup>	0.27	0.27	0.12	0.05	N.S. <sup>a</sup>	325
<u>Pure Services</u>									
Dry Cleaning	89.84	40	.0001	0.53	0.47	0.24	0.26	.0001	326
Hospital Insurance	76.74	40	.0004	0.49	0.44	0.22	0.19	.0008	326

<sup>a</sup>N.S. = not significant.

It might be recalled that the data collection instrument contained two different scales of product familiarity. The scores obtained from the two scales were correlated. The Pearson product-moment correlation coefficients were 0.24 ( $p = .0001$ ) for cold medication, 0.42 ( $p = .0001$ ) for refrigerator, 0.22 ( $p = .0002$ ) for restaurant meals, 0.63 ( $p = .0001$ ) for renting an automobile, 0.42 ( $p = .0001$ ) for dry cleaning, and 0.45 ( $p = .0001$ ) for hospitalization insurance. These results indicated that the two scales, on the average, enjoy a reasonable degree of validity.

Accordingly, both the 6-point familiarity scale and the 9-point perceived risk scale were used in this series of analyses.

#### Chi Square

The null hypothesis of chi square states that the two variables are independent of each other. If the calculated chi square value is statistically significant, the conclusion should be that the two variables are related. However, the chi square test only tells whether the two variables are related to each other, but it does not indicate the direction of the relationship. Thus, other tests are required to designate the direction.

As Table VI-17 reveals, chi square values for all products are statistically significant at least at the .05 level except for car rental. These results mean that product familiarity and perceived risk are related to each other for all products except car rental where the relationship is very weak.

### Phi Correlation Coefficient

When phi ( $\phi$ ) is applied to 2 X 2 tables, its value equals that of Pearson product-moment correlation coefficient. However, when phi is calculated for 2-way tables with more than two categories, phi is related to chi square ( $X^2$ ) by the following formula:

$$\phi = (X^2 / n)^{1/2}$$

Unlike chi square, phi is not affected by sample size since n is used in the denominator to adjust for differences due to sample size (Green and Tull 1978).

According to Table VI-17, phi ranges in value from 0.27 for car rental to 0.57 for restaurant meals, and between these two values fall the other pure goods and pure services. These values signify a moderate relationship between product familiarity and perceived risk for all products except car rental where the relationship is weak. It is also observed that phi coefficients of both pure services and GS combinations (except car rental) are higher in magnitude than those of pure goods.

### Contingency Coefficient

Contingency coefficient (c) is also related to the chi square test by the following formula:

$$c = (X^2 / X^2 + n)^{1/2}$$

The larger the value of c, the greater the association between the two variables. Since c is based on  $X^2$ , its significance is already established. However, like phi, it has the advantage of not being affected by sample size.

The maximum value of  $c$  is  $(k-1/k)^{1/2}$ , where  $k$  = the number of rows and columns in the contingency table. Therefore,  $c$  is always less than 1 (Green and Tull 1978; Longley-Cook 1971). In our case, the maximum value of  $c$  is  $(14/15)^{1/2} = 0.966$ .

Referring to Table VI-17, the value of  $c$  ranges from 0.27 for car rental to 0.49 for restaurant meals. The  $c$  values of pure goods and pure services fall between these two values. It is also noticed that  $c$  values of pure services and GS combinations (with the exception of car rental) are higher than those of pure goods.

#### Cramer's $v$

Cramer's  $v$  is a conservative estimate of the degree of association between two variables. It is calculated as:

$$v = (\phi^2 / q - 1)^{1/2}$$

where  $\phi$  = phi, and  $q$  = the minimum of the number of rows and the number of columns in the contingency table. In the case of perfect association,  $v = 1$ , whereas its value is 0 in the case of independence (Liebetrau 1983).

From Table VI-17, we can see that the value of  $v$  ranges from 0.12 for car rental to 0.25 for restaurant meals. The values of  $v$  for other pure goods and pure services fall between these two values. As shown in the table, the conservativeness of the coefficient is reflected on its values with all products. However, it can be noticed that the values of the coefficient for both pure services and GS combinations are higher than those obtained with pure goods.

### Pearson Correlation Coefficient

The value of Pearson correlation coefficient ( r ) obtained for all products follows the pattern observed with all other measures. The value of r ranges from 0.05 for car rental to 0.26 for dry cleaning. All the values are significantly different from zero ( at least at the .0008 level ) with the exception of car rental which is not significant. The magnitude of the coefficient is greater for one pure service ( dry cleaning ) than those of the pure goods. The values of all other coefficients ( except that of renting an automobile ) are close to each other.

Since all coefficients are positive in terms of their sign, they connote a positive relationship between product familiarity and perceived risk. Therefore, it might be concluded that hypothesis  $H_3$  is supported ( since the two variables are found moderately related ) but in the opposite direction.

Moreover, as expected, the magnitude of the relationship between the two variables is found greater for both pure services and GS combinations ( except renting an automobile ) than for pure goods. This phenomenon is consistently observed in four of the five measures used.

Hypothesis  $H_4$ : The Perceived Importance of Price across the three Types of Products

The ANOVA F values displayed in Table VI-18 and their high level of significance support the general hypothesis that the three types of products differ from each other in terms of the perceived importance of

TABLE VI-18  
ANOVA TESTS OF NO OVERALL PRODUCT TYPE EFFECT  
ON THE PERCEIVED IMPORTANCE OF PRICE

Products	Mean	F	d.f.	p
<u>All Products</u>		23.60	2 , 974 <sup>a</sup>	.0001
Pure Goods	6.22			
GS Combinations	7.17			
Pure Services	6.74			
<u>Conv/Shopping Group</u>		39.24	2 , 974 <sup>a</sup>	.0001
Cold Medication	2.56			
Restaurant Meals	3.30			
Dry Cleaning	3.16			
<u>Specialty Group</u>		5.59	2 , 975 <sup>b</sup>	.0039
Refrigerator	3.67			
Renting an Automobile	3.88			
Hospitalization Insurance	3.59			

<sup>a</sup>Total number of observations in data set = 978. Since the number of missing values = 1, n = 977.

<sup>b</sup>Number of missing values = 0, n = 978.

TABLE VI-19  
PRICE MEAN LSD COMPARISONS

Mean Comparisons	Difference	p
<u>All Products</u>		
Pure Goods vs. Pure Services	0.52	.05
Pure goods vs. GS Combinations	0.95	.05
GS Combinations vs. Pure Services	0.43	.05
<u>Conv/Shopping Group</u>		
Cold Medication vs. Dry Cleaning	0.60	.05
Cold Medication vs. Restaurant Meals	0.74	.05 <sup>a</sup>
Restaurant Meals vs. Dry Cleaning	0.14	N.S. <sup>a</sup>
<u>Specialty Group</u>		
Refrigerator vs. Hospital Insurance	0.08	N.S. <sup>a</sup>
Refrigerator vs. Renting a Car	0.21	.05
Renting a Car vs. Hospital Insurance	0.29	.05

<sup>a</sup>N.S. = not significant.

price.

### All Products

Table VI-18 indicates that the mean of price importance of pure goods (6.22) is smaller than the means of both pure services (6.74) and GS combinations (7.17). Table VI-19 also indicates that the differences between the first mean and each of the two other means are statistically significant ( $p = .05$ ). Therefore  $H_{4a}$  and  $H_{4b}$  are supported for all products together.

However, the mean importance of price of GS combinations is greater than the pure services mean, and the difference between the two means is significant; a finding which is consistently observed in relation to four of the six service characteristics before. Therefore,  $H_{4c}$  is rejected.

### Convenience/Shopping Product Group

From Table VI-18, it can be seen that the perceived importance of price of cold medication (2.56) is less than those of dry cleaning (3.16) and restaurant meals (3.30). According to Table VI-19, the differences between the first mean and each of the two other means are statistically significant ( $p = .05$ ). Consequently,  $H_{4a}$  and  $H_{4b}$  are supported for the first product group.

Also, from these tables it can be noticed that the difference between the means of restaurant meals and dry cleaning is not significant. Accordingly,  $H_{4c}$  is also supported for this product group.

### Specialty Product Group

In general, it is observed that the mean importance of price is higher for the three offerings of the second product group than it is for the three offerings of the first group.

The price of refrigerator is perceived as important as the price of hospitalization insurance. The mean importance of price for these offerings is 3.67 and 3.59 respectively. (See Table VI-18). The difference between the two means is not significant (as shown in Table VI-19). Therefore,  $H_{4a}$  is not supported for the second product group.

The price of car rental is perceived more important than that of refrigerator, and the mean difference is significant at the .05 level. Consequently,  $H_{4b}$  is supported for this product group.

The price of car rental is also perceived more important (3.88) than that of hospitalization insurance (3.59). The mean difference is significant ( $p = .05$ ). Thus,  $H_{4c}$  is rejected for this product group.

### Hypothesis H<sub>5</sub>: The Perceived Importance of Recommendations of Family and Friends across Product Types

The results of the ANOVA F tests presented in Table VI-20 support the general hypothesis that the three types of products differ significantly from each other in terms of the perceived importance of recommendations of family and friends. The calculated F values for all products as well as the two product groups are statistically significant at the .0001 level.

TABLE VI-20

ANOVA TESTS OF NO OVERALL PRODUCT TYPE EFFECT  
ON THE PERCEIVED IMPORTANCE OF FAMILY AND FRIENDS RECOMMENDATIONS

Products	Mean	F	d.f.	p
<u>All Products</u>		25.01	2, 974 <sup>a</sup>	.0001
Pure Goods	6.34			
GS Combinations	7.30			
Pure Services	6.67			
<u>Conv/Shopping Group</u>		118.33	2, 975 <sup>b</sup>	.0001
Cold Medication	2.92			
Restaurant Meals	4.05			
Dry Cleaning	2.82			
<u>Specialty Group</u>		22.86	2, 974 <sup>a</sup>	.0001
Refrigerator	3.42			
Renting an Automobile	3.25			
Hospitalization Insurance	3.85			

<sup>a</sup>Total number of observations in data set = 978. Since the number of missing values = 1, n = 977.

<sup>b</sup>Number of missing values = 0, n = 978.

TABLE VI-21

RECOMMENDATIONS MEAN LSD COMPARISONS

Mean Comparisons	Difference	p
<u>All Products</u>		
Pure Goods vs. Pure Services	0.33	.05
Pure goods vs. GS Combinations	0.96	.05
GS Combinations vs. Pure Services	0.63	.05
<u>Conv/Shopping Group</u>		
Cold Medication vs. Dry Cleaning	0.10	N.S. <sup>a</sup>
Cold Medication vs. Restaurant Meals	1.13	.05
Restaurant Meals vs. Dry Cleaning	1.23	.05
<u>Specialty Group</u>		
Refrigerator vs. Hospital Insurance	0.43	.05
Refrigerator vs. Renting a Car	0.17	N.S. <sup>a</sup>
Renting a Car vs. Hospital Insurance	0.60	.05

<sup>a</sup>N.S. = not significant.

### All Products

Table VI-20 shows that the mean importance of recommendations of pure goods (6.34) is less than those of GS combinations (7.30) and pure services (6.67). The differences between the first mean and each of the two other means are statistically significant according to Table VI-21. Therefore,  $H_{5a}$  and  $H_{5b}$  are supported for all products.

Nonetheless, the mean importance of recommendations of GS combinations is greater than that of pure goods, and the mean difference is significant at the .05 level. Consequently,  $H_{5c}$  is not supported.

### Convenience/Shopping Product Group

Cold medication and dry cleaning are perceived to have similar degrees of importance with regard to family and friends recommendations. The difference between the two means is not significant (see Table VI-21). Thus,  $H_{5a}$  is not supported for the first product group.

The perceived importance of recommendations with regard to restaurant meals is much greater than those of both cold medication and dry cleaning. The differences between the first mean and each of the two other means are statistically significant at the .05 level. Therefore,  $H_{5b}$  is supported for this product group, but  $H_{5c}$  is not.

### Specialty Product Group

The perceived importance of recommendations with regard to refrigerator is less than that of hospitalization insurance. The mean difference is statistically significant at the .05 level. Accordingly,  $H_{5a}$  is supported for this group.

The mean importance of recommendations for refrigerator, however, is greater than that for renting an automobile, and the difference between the two means is not significant. (See Table VI-21). Therefore,  $H_{5b}$  is not supported for this product group.

The mean importance of recommendations for hospitalization insurance is greater than that for renting an automobile. Since the difference between the two means is statistically significant,  $H_{5c}$  is not supported either for this group.

Hypothesis  $H_6$ : The Perceived Importance of Employee Friendliness across Product Types

The importance of courtesy and friendliness of employees is perceived significantly different across the three types of products as Table VI-22 reveals. All F values are highly significant particularly for the first product group.

All Products

As expected, the mean importance of friendliness for pure goods is less than those of GS combinations and pure services. The differences between the first mean and each of the two other means are statistically significant at the .05 level. Therefore,  $H_{6a}$  and  $H_{6b}$  are supported.

However, the mean importance of friendliness for GS combinations is much higher than that of pure services, and the difference is statistically significant. Thus,  $H_{6c}$  is not supported.

TABLE VI-22  
ANOVA TESTS OF NO OVERALL PRODUCT TYPE EFFECT  
ON THE PERCEIVED IMPORTANCE OF EMPLOYEE FRIENDLINESS

Products	Mean	F	d.f.	p
<u>All Products</u>		168.10	2 , 971 <sup>a</sup>	.0001
Pure Goods	5.62			
GS Combinations	8.23			
Pure Services	6.89			
<u>Conv/Shopping Group</u>		369.57	2 , 975 <sup>b</sup>	.0001
Cold Medication	2.30			
Restaurant Meals	4.57			
Dry Cleaning	3.43			
<u>Specialty Group</u>		6.21	2 , 971 <sup>a</sup>	.0021
Refrigerator	3.32			
Renting an Automobile	3.65			
Hospitalization Insurance	3.46			

<sup>a</sup>Total number of observations in data set = 978. Since the number of missing values = 4, n = 974.

<sup>b</sup>Number of missing values = 0, n = 978.

TABLE VI-23  
FRIENDLINESS MEAN LSD COMPARISONS

Mean Comparisons	Difference	p
<u>All Products</u>		
Pure Goods vs. Pure Services	1.27	.05
Pure goods vs. GS Combinations	2.61	.05
GS Combinations vs. Pure Services	1.34	.05
<u>Conv/Shopping Group</u>		
Cold Medication vs. Dry Cleaning	1.13	.05
Cold Medication vs. Restaurant Meals	2.27	.05
Restaurant Meals vs. Dry Cleaning	1.14	.05
<u>Specialty Group</u>		
Refrigerator vs. Hospital Insurance	0.14	N.S. <sup>a</sup>
Refrigerator vs. Renting a Car	0.33	.05
Renting a Car vs. Hospital Insurance	0.19	.05

<sup>a</sup> N.S. = not significant.

### Convenience/Shopping Product Group

The perceived importance of friendliness for cold medication is less than that attached to both restaurant meals and dry cleaning. The means of the three offerings are 2.30, 4.57, and 3.43 respectively. The differences between the first mean and each of the two other means are statistically significant at the .05 level. (See Table VI-23). Thus,  $H_{6a}$  and  $H_{6b}$  are supported for this group.

However, the difference between the means of restaurant meals and dry cleaning is significant. Therefore,  $H_{6c}$  is not supported for this group.

It is interesting to note that the friendliness mean importance of restaurant meals is the highest among the three offerings in this group. While it is true that the GS combination mean is higher than those of the pure good as well as the pure service also in the second group and in relation to other evaluative criteria, its value is substantially higher in the first group. This is understandable since the courtesy and friendliness of restaurant attendants are important factors in making a patronage decision.

### Specialty Product Group

As expected, the perceived importance of friendliness for refrigerator is less than that perceived for hospitalization insurance. However, the difference between the two means is not statistically significant (see Table VI-23). Therefore,  $H_{6a}$  is partially supported with regard to the second product group.

Also, the refrigerator mean is less than the car rental mean, and the mean difference is statistically significant at the .05 level. Accordingly,  $H_{6b}$  is supported in regard to the second group.

Nevertheless,  $H_{6c}$  is not supported for this product group since the friendliness mean importance for renting an automobile is greater than the mean of hospitalization insurance, and the difference in means is statistically significant.

Hypothesis  $H_7$ : The Perceived Importance of Location across the Three Types of Products

The findings indicate that consumers attach different degrees of importance to the locations of the three types of products. Table VI-24 displays the results of the ANOVA test of no overall product type effect on the perceived importance of location across the three types of products. The F values for all products as well as the two product groups are statistically significant at the .0001 level.

All Products

The location of pure goods is perceived less important than that of GS combinations and that of pure services as well. The difference between the first mean and each of the two other means are statistically significant at the .05 level (see Table VI-25). These findings lend support to hypotheses  $H_{7a}$  and  $H_{7b}$ .

However, as consistently noticed throughout the research, the location of GS combinations is considered more important than that of

TABLE VI-24  
ANOVA TESTS OF NO OVERALL PRODUCT TYPE EFFECT  
ON THE PERCEIVED IMPORTANCE OF LOCATION

Products	Mean	F	d.f.	p
<u>All Products</u>		29.38	2 , 970 <sup>a</sup>	.0001
Pure Goods	5.72			
GS Combinations	6.82			
Pure Services	6.42			
<u>Conv/Shopping Group</u>		47.16	2 , 970 <sup>a</sup>	.0001
Cold Medication	3.14			
Restaurant Meals	3.25			
Dry Cleaning	4.03			
<u>Specialty Group</u>		88.90	2 , 972 <sup>b</sup>	.0001
Refrigerator	2.58			
Renting an Automobile	3.56			
Hospitalization Insurance	2.38			

<sup>a</sup>Total number of observations in data set = 978. Since the number of missing values = 5, n = 973.

<sup>b</sup>Number of missing values = 3, n = 975.

TABLE VI-25  
LOCATION MEAN LSD COMPARISONS

Mean Comparisons	Difference	p
<u>All Products</u>		
Pure Goods vs. Pure Services	0.70	.05
Pure goods vs. GS Combinations	1.10	.05
GS Combinations vs. Pure Services	0.40	.05
<u>Conv/Shopping Group</u>		
Cold Medication vs. Dry Cleaning	0.89	.05
Cold Medication vs. Restaurant Meals	0.11	N.S. <sup>a</sup>
Restaurant Meals vs. Dry Cleaning	0.78	.05
<u>Specialty Group</u>		
Refrigerator vs. Hospital Insurance	0.20	.05
Refrigerator vs. Renting a Car	0.98	.05
Renting a Car vs. Hospital Insurance	1.18	.05

<sup>a</sup>N.S. = not significant.

pure services, and the difference in means is statistically significant at the .05 level. Consequently,  $H_{7c}$  is rejected.

#### Convenience/Shopping Product Group

The importance of location is perceived less for cold medication than for both dry cleaning and restaurant meals as expected. However, the difference between the means of cold medication and dry cleaning is significant, whereas the difference between the means of cold medication and restaurant meals is not. Therefore,  $H_{7a}$  is supported, while  $H_{7b}$  is partially supported for the first product group.

The difference in means between the location importance of dry cleaning and restaurant meals is statistically significant (refer to Table VI-25). Accordingly,  $H_{7c}$  is not supported for this product group.

#### Specialty Product Group

The location importance of refrigerator is considered higher than the location importance of hospitalization insurance, but lower than that of car rental (see Table VI-24). Mean differences in both cases are statistically significant. Therefore,  $H_{7b}$  is supported for this product group, but  $H_{7a}$  is not. The explanation of these findings is simple. The location of hospitalization insurers is considered of the least importance among the three offerings in this group since hospital insurance can frequently be arranged by mail.

On the other hand, the refrigerator location is more important since this offering is a specialty item which means that the consumer might 'shop' for it. The location of car rental companies is then

deemed by consumers as the most important among the three offerings in this group because it means a great deal of convenience in picking up and dropping off the rented car.

Mean importance of car rental location is greater than that of hospitalization insurance, and the difference in means is significant at the .05 level. Accordingly,  $H_{7c}$  is not supported for the second group.

#### Discussion and Interpretation of Findings

The general thesis of this study is that consumers perceive differences between pure goods, on one hand, and pure services and GS combinations, on the other. The perceived differences are assumed to exist in service characteristics as well as the relative importance attached by consumers to the evaluative criteria they employ before making the buying decision. The findings presented so far strongly support this.

The MANOVA results provide evidence that the three types of products do differ from each other regarding consumers' perceptions of six characteristics. These characteristics are intangibility, perishability, simultaneity of production and consumption, nonstandardization, buyer participation in production, and buyer's abidance by seller's rules and procedures. The multivariate  $F$ s obtained from MANOVA are statistically significant at the .0001 level for all products together, and for each of the two product groups as well (Table VI-1).

The MANOVA univariate F tests also produced high F values which are significant also at the .0001 level for all individual characteristics and across all products as well as each product group (Table VI-2).

Another indication of the relative 'intensiveness' of each characteristic as perceived by consumers across the three product classes is  $R^2$  obtained for each characteristic. In general,  $R^2$  provides us with an idea about the percentage of variance in the dependent variable (each characteristic) explained by variation in the independent variable (product type or class).

According to Table VI-2 (p. 145), and in the case of all products,  $R^2$  (in a descending order) is 0.46 for intangibility, 0.40 for perishability, 0.38 for simultaneity of production and consumption, 0.37 for buyer participation in production, 0.33 for nonstandardization, and 0.08 for buyer's abidance by seller's rules.

In the case of the two product groups, the rank order of  $R^2$  may be slightly different. But the two product groups, in general, share the fact that the values of the coefficient of determination ( $R^2$ ) for the first five characteristics are much higher than that of the last one.

The value of  $R^2$  for each of the six characteristics might be interpreted as an indication of the importance consumers attach to that characteristic. For instance, in the case of all products together, intangibility might be viewed as the most important characteristic that distinguishes pure goods from GS combinations, and distinguishes both from pure services. Buyer's abidance by seller's rules, on the other

hand, might be considered of the least importance in distinguishing among the three classes of products.

The series of ANOVA tests and mean LSD comparisons performed on the six characteristics individually has revealed a major finding which represents a trend shared by all six characteristics. It is hypothesized that consumers perceive a higher degree of each of the six characteristics for both pure services and GS combinations than for pure goods. The series of hypotheses dealing with this postulation are supported in general.

However, the series of hypotheses suggesting that consumers perceive similar degrees of the six characteristics for both pure services and GS combinations are not supported. Differences between the pure services means and GS combinations means are statistically significant at the .05 level. This is true for all six characteristics with the exception of buyer's abidance by seller's rules in the case of the first product group.

Moreover, the GS combinations means are greater than the pure services means in relation to four characteristics; all except intangibility, and buyer's abidance by seller's rules (sometimes referred to as buyer-supplier relationship). All mean differences in the perception of the characteristics of pure services and GS combinations are statistically significant at the .05 level.

The significantly higher means obtained with GS combinations for four characteristics signal the high importance consumers attach

to the four characteristics in relation to this product class, in particular. While the implications of these findings are discussed in more detail later in this chapter, it is appropriate to say here that marketers of GS combinations might incorporate some changes into their management and marketing strategies in order to mitigate consumers' perceptions about these characteristics, and their negative consequences.

As can be seen from the statistical results discussed in the last section, the analysis plan of the study is not limited to the examination of differences among the three types of products collectively. Even though this procedure might be justified by the product typology validation undertaken in the pretests, the study's six products are divided into two separate product groups, with each group including one offering from each product class. The analysis is undertaken for all products together, and then for each individual product group.

The purpose of this procedure is, first, to make generalizations about the three product classes collectively. Second, individual differences between the two product classes can then be isolated and examined after controlling for some extraneous variables such as cost and search effort and time. The first product group contains items that might be classified as convenience/shopping items, whereas the second group includes specialty items.

This procedure proves useful in explaining two of the insignificant effects of product type obtained in relation to two evaluative

criteria. The first criterion is price. When ANOVA and LSD analysis are performed on the second product group, the difference in price importance between refrigerator and hospitalization insurances is not significant. ( $H_{4a}$ ). Now, it can be seen that because cost of product is an important element for specialty items, and since refrigerator and hospital insurance are both specialty items, price importance as an evaluative criteria did not differ significantly between the two items.

The other insignificant effect of product type is found in relation to location in the case of the first product group ( $H_{7b}$ ). The difference in location importance between cold medication and restaurant meals is also insignificant because both items are convenience to shopping items. They both share the characteristic of being available more easily and more frequently than the spacialty items of the other product group. Thus, location importance for both items is perceived almost the same.

The findings obtained in regard to the first hypothesis have certain implications both for the academician and for the practitioner. On the academic level, these findings lend empirical support to the conceptual underpinnings of the service theory stating that services are distinguished from goods by their characteristics and, accordingly, they require a marketing strategy that is different from the one used with goods.

For the practitioner, the findings imply that consumers, in general, are able to distinguish among the three classes of products

based on the degree of each characteristic that each product class possesses. The more consumers perceive of service characteristics, the more assurance they need about service dependability, consistency of quality, courtesy, speed, and expertise in handling customer orders, and friendliness of personnel.

Besides, and as the literature reveals that the information available from service providers about their services is scarce, these marketers should give serious attention to their communication strategies. First, they should increase both the quantity and the quality of information about their services through personal and impersonal channels. Second, they might use tangible cues in their messages to overcome the intangible nature of their services (Krentler 1981). Third, they may provide consumers with simplified service literature in the form of brochures and booklets emphasizing the quality standards they adhere to, and explaining the different aspects and dimensions of their services.

As products from each class are isolated and segmented into single groups that share a common characteristic (e.g., low cost, low search effort, location, etc.), the importance of service characteristics will vary from one group to the other. Accordingly, the marketing and communication strategies of the service provider should also vary so that consumers react favorably to the marketing effort and identify with the service provider's message.

In other words, for instance, if the service provider is able to understand consumers' perceptions of the importance of his service

characteristics in relation to other goods and GS combinations (of, say, similar cost, search effort, and location importance), he might capitalize on these characteristics which are perceived as most important from the consumer's viewpoint.

If these characteristics evoke a high degree of perceived risk and involvement, which is true as evidenced by the empirical findings of this study, the service provider might design the marketing strategy that reduces perceived risk, and utilizes consumers' high involvement in active learning about service attributes, or even changes consumers' beliefs about them.

The fact that consumers perceive higher degrees of perishability, simultaneity of production and consumption, nonstandardization, and participation in production for GS combinations than for both pure goods and pure services has an important implication for GS combination providers. After examining these four characteristics, it might be concluded that the GS combination provider must give attention to two strategic moves.

First, he should emphasize the quality of his offerings, even more than the pure service provider should, in order to overcome the anxiety created by the offerings' perishability and nonstandardization. Second, he should increase his personnel training so that the buyer-supplier interaction becomes a pleasant experience to the customer, who participates in service production.

This conclusion is justified by the fact that consumers attach

a significantly higher degree of importance to the courtesy and friendliness of GS combination providers than that attached to the friendliness of both pure goods and pure services providers. (See Tables VI-22 and VI-23).

On the other hand, the pure service provider might capitalize on the fact that consumers perceive higher degree of intangibility and abidance by seller's rules for pure services than for both pure goods and GS combinations.

First, consumers' feeling that pure services are highly intangible requires more assurance and emphasis by the service provider on the 'content' and quality of the service offering. This assurance should be manifested in the service provider's communication with consumers. Demonstrations, illustrations, and back-up facilities and personnel should be available , easily accessible, and made known to consumers.

Second, consumers' perceptions that they should abide by the service provider's rules and procedures make these consumers a captive audience, even though these perceptions are not very strong, as this study reveals. To avoid any negative effect of these perceptions, the service provider might show the consumer that he is willing to accommodate a consumer's preference for a certain time, a certain offering, or a certain provider. In fact, well-trained personnel who are more courteous and friendly might play a vital role in mitigating the impact of this characteristic on consumer satisfaction.

The study findings with regard to product involvement ( $H_2$ )

indicate that pure services are more involving than pure goods. They also reveal that within each product class, some items are more involving than others. For instance, refrigerator ( $\bar{X} = 14.31$ ) is more involving than cold medication ( $\bar{X} = 10.86$ ), and both are pure goods. Similarly, hospitalization insurance ( $\bar{X} = 17.06$ ) is more involving than dry cleaning ( $\bar{X} = 11.38$ ), and both are pure services. This finding is consistent with previous research, even though previous studies are limited to pure goods only. (See for example Bloch 1981).

The class of GS combinations, on the other hand, are more or less involving depending on the offering nature. In the first product group, restaurant meals ( $\bar{X} = 13.64$ ) are more involving than both cold medication ( $\bar{X} = 10.86$ ) and dry cleaning ( $\bar{X} = 11.38$ ). The differences between means are significant at the .05 level. Nevertheless, in the second group, renting an automobile ( $\bar{X} = 10.64$ ) is less involving than both refrigerator ( $\bar{X} = 14.31$ ) and hospital insurance ( $\bar{X} = 17.06$ ). Mean differences are also significant in the second product group.

The findings with regard to GS combinations confirm the importance of giving more attention to this type of products as a separate and distinctive product class. The fact that these items include elements from both goods and services complicates the situation since services are more involving, and goods, in general, are less involving. Therefore, it should be expected that those GS combinations with more service elements will be more involving than those with more good elements.

This proposition is empirically supported by the findings of

this study since mean involvement with restaurant meals ( a GS combination) is 13.64, while it is only 10.64 with car rental (another GS combination). Apparently, service elements and the duration of personal interaction with employees are greater in the case of restaurant meals than in the case of car rental.

The findings of the study support the hypothesis ( $H_3$ ) that product familiarity and perceived risk are related. However, the evidence obtained from the study indicates that the two variables are positively, not inversely, related. As predicted, the magnitude of this relationship is found higher for pure services and GS combinations than for pure goods.

The finding that the two variables are positively related might be interpreted in terms of the desire of consumers to be more familiar with the product (being a good or service) when it is perceived as characterized by high risk. When perceiving higher risk, consumers tend to look for information about the product, watch others using it, and perhaps buy and use the product on a trial basis. However, being more familiar with the product does not seem to reduce its perceived risk. It should be noted, however, that no assumption is made here about the direction of causality between the two variables. Usually, measures of association do not indicate any cause-effect relationships between variables. Therefore, more research is needed to assess the nature of causality, if any, between these two variables.

Four evaluative criteria are tested in this study. These criteria are price, recommendations of family and friends, friendliness

and courtesy of personnel, and location importance. It is hypothesized that consumers will evaluate these criteria as more important for pure services as well as GS combinations than for pure goods. This set of hypotheses are supported for all products with minor differences in the case of individual product groups. In addition, the findings reveal that consumers attach higher importance to the four criteria in the case of GS combinations than in the case of pure services, and the mean differences are statistically significant.

The interpretation of these results, particularly in relation to the rejected hypotheses, and their implications follow.

First, with regard to price, all product type effects are statistically significant and in the predicted direction except one effect found in the second product group. The mean difference in price between refrigerator and hospital insurance is not significant. The reason behind this was discussed before. At the cost of repetition, classifying the six products of the study into two separate groups according to being convenience, shopping, or specialty items isolates some extraneous variables which neutralize the effect of product type on price. The second product group represents specialty items for which the cost element is important.

The data generated by this study support this conclusion. For instance, if the importance means of price obtained for the first product group (2.56, 3.30, 3.16) are compared with those obtained for the second group (3.67, 3.88, 3.59), it is noticed that all the means

in the first group are lower than those in the second group.

With respect to the perceived importance of family and friends' recommendations, all product type effects are significant and in the expected direction except two effects. In the case of the first product group, recommendations are perceived as important for cold medication as they are for dry cleaning. In the case of the second group, recommendations are also perceived as important for refrigerator as they are for renting an automobile. In both cases mean differences are not significant (see Tables VI-20 and VI-21).

These results might be interpreted in terms of the degree of perceived risk for each product. Referring to Table VI-26, when both offerings within each product class are taken together, then it might be concluded that perceived risk of pure goods is less than that of GS combinations, and that the latter is less than that of pure services.

TABLE VI-26  
PERCEIVED RISK OF SIX PRODUCTS<sup>a</sup>

Products	Mean
<u>Pure Goods</u>	10.16
Cold Medication	4.77
Refrigerator	5.39
<u>GS Combinations</u>	10.86
Restaurant Meals	5.63
Renting an Automobile	5.23
<u>Pure Services</u>	11.40
Dry Cleaning	4.39
Hospitalization Insurance	7.01

<sup>a</sup>n = 326 for all products except refrigerator where n = 324.

However, when individual offerings are compared to each other within each product group, this trend in the direction of perceived risk might be disturbed. For instance, in the first group, perceived risk of cold medication (4.77) is slightly higher than that of dry cleaning (4.39). This finding explains why the recommendations means of these two products are not significantly different from each other. It is interesting to note that the recommendations mean of cold medication (2.92) is also slightly higher than that of dry cleaning (2.82).

The same phenomenon can be found in the second product group. The recommendations means of refrigerator and car rental are not significantly different from each other. It is likely that the difference between these two means is not significant because both offerings have similar degrees of perceived risk. Therefore, the importance of family and friends' recommendations is also perceived the same for the two offerings. While the perceived risks of these two products are close (5.39 and 5.23), the importance means of recommendations for the two products are also close (3.42 and 3.25), and in the same direction as well.

All product type effects on the third criterion, perceived importance of employee friendliness, are significant and in the predicted direction except one effect. In the case of the second product group, the friendliness mean of refrigerator (3.32) is less than the hospital insurance mean (3.46) as expected, but the mean difference is not significant.

This finding might be explained in terms of the more personal

contact and face-to-face interaction that is required in the case of refrigerator than in the case of hospitalization insurance. Frequently, group hospitalization insurance packages are developed by insurance companies and offered to employers who, in turn, offer them to their employees. Even in the case of self-employed consumers, arrangements can be made by mail for completing and returning the insurance policies as well as claim forms. While these facts should not underestimate the importance of friendliness for insurance agents or representatives, the importance of friendliness for selling a refrigerator should not be undervalued either.

Finally, with respect to the fourth evaluative criterion, the importance of location, all product type effects are statistically significant and in the expected direction except two effects. One of these effects is in the expected direction, but not significant, and the other one significant, but not in the expected direction.

In the first product group, location importance mean of cold medication (3.14) is less than that of restaurant meals (3.25), which agrees with the direction suggested in the hypothesis ( $H_{7b}$ ). However, the difference between the two means is not statistically significant (Tables VI-24 and VI-25). This finding implies that the store location of cold medication is perceived as important as restaurants location.

The high importance of store location for cold medication might be explained by the nature of the product. It is understandable that consumers looking for this product do not want to waste much time

locating it. In these situations, consumers wish to obtain the medication as soon as possible to mitigate the cold miseries. This is, of course, an exceptional case, and may not be generalized among all other pure goods. In addition, the fact that cold medication is a convenience good makes location an important factor for achieving sales volume. This conclusion is supported by the data, where the refrigerator's location is perceived less important ( $\bar{X} = 2.58$ ) than that of cold medication ( $\bar{X} = 3.14$ ). Usually, consumers are willing to travel farther and 'shop' for a specialty good than for a convenience one.

The other effect which is not consistent with hypothesis  $H_{7c}$  deals with the relationship between pure services and GS combinations. The importance mean difference between these two classes of products is statistically significant. In fact, and interestingly enough, this is not found with regard to location importance only. Indeed, significant differences are found between pure services and GS combinations in terms of all evaluative criteria tested in this study. It might be recalled that significant differences are also found between pure services and GS combinations in relation to the perception of all six characteristics.

Consumers consider GS combinations as more perishable, more nonstandardized, their production and consumption are inseparable, and buyers are more participative in their production. Moreover, price, recommendations of family and friends, employee friendliness, and location are all perceived more important for GS combinations than for pure services.

These findings strongly suggest that there is a link between service characteristics, on one hand, and the importance consumers attach to their evaluative criteria, on the other hand. The other findings obtained with regard to perceived risk and involvement confirm this link. In general, the study findings are consistent with the spirit of the conceptual model of service evaluation displayed in Figure I-2.

Additionally, the findings signal the distinctive position of GS combinations, and their prominence over pure services. The fact that they have elements from both goods and services does not place them in the middle of the continuum, as some service scholars suggest. Rather, it may place them on the other side of the continuum after pure services, not before them.

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CHAPTER VII  
SUMMARY, CONCLUSIONS, AND DIRECTIONS  
FOR FUTURE RESEARCH

In this chapter, an overview is first presented for the theoretical background of the study, hypotheses, research design, and the results of the inquiry. Then, the contribution of the study, its implications, limitations, and conclusions are discussed in the next section. Finally, directions for future research are suggested.

Summary

Theoretical Background

For a long time, service research has been focusing on the different aspects of single service industries (such as health care, banking, or transportation). One of the major limitations of this approach is that it is restricted in its focus. Generalizations across other services cannot be made, and the common dimensions and attributes among these and other services cannot be discovered.

Another limitation of this approach is that single services are examined in isolation of goods. Since services are not directly compared with goods, policy implications cannot be made.

Some researchers (e.g., Bateson and Langeard 1982; Langeard et. al. 1981; Lovelock 1980) have postulated that common characteristics exist across many services, and that these characteristics result from

the interactive and experiential nature of services, which usually involve the consumer. These and other scholars have conceptually identified and discussed a set of service characteristics which distinguish them from physical goods as a separate product class. These characteristics include intangibility, perishability, inseparability of production and consumption, nonstandardization, service delivery, lack of ownership, buyer participation in production, and buyer-supplier relationship (buyer's abidance by seller's rules).

It is argued that these characteristics contribute to a higher degree of ambiguity that surrounds the purchase decision when it comes to services. This ambiguity is manifested in the lack of complete or already available information on services by their providers, lack of universal and reliable measures of service quality, uncertainty about service performance and its consequences, and face-to-face interaction with service personnel, among other things.

These conditions are proposed to prompt consumers' involvement with services, and evoke their perceived risk. Additionally, they induce consumers to employ more subjectivity in evaluating services than in evaluating goods. They also incite consumers to seek more informal sources of information for services than for goods. Besides, these conditions allow consumers to be more service-provider loyal, and to heighten the importance of courtesy and friendliness of service providers.

Since this dissertation suggests a comparative analysis of services versus goods, two literature reviews are presented in two

separate chapters. First product cue studies in the goods sector are presented and discussed in Chapter II. This review covers research on the following cues: price, brand image, store image, physical (intrinsic) cues, and product familiarity. Second, review of the service literature is presented in Chapter III, and covers research on service characteristics, evaluative criteria, and perceived risk. Chapter III is concluded with a section reviewing research on product involvement, and its implications to services.

While it is unfair to summarize the research done in these fields in a few statements, some light can be shed on the major trends in each field. The following points summarize the major findings of research on product cues in the goods sector.

1. There is evidence of a positive relationship between price and the evaluation of quality. Moreover, the price cue tends to be significant in situations of ambiguity where consumers cannot assess quality by any other means. Since services are characterized by a high degree of ambiguity, as discussed before, price is expected to be important in service evaluation.
2. Brand name correlates positively with goods quality. However, it is likely that brand name is product-specific, and the importance of brand name versus price depends on the product category. Compared to goods research, service research has focused on the reputation of service provider, instead. Reputation has been shown to be important for services. Since information available on services is sparse, consumers are expected to rely more on informal sources.
3. The evidence indicates that the effect of store image in the goods

sector is unclear. The case with services is likely to be different as the store image and the service provider image (reputation) are combined with each other.

4. Research on the intrinsic cues of goods has produced conflicting results as to their effect on goods evaluation. However, the evidence showed that in the absence of both the physical cues and brand name, the price cue had a significant effect on product judgment.
5. There is evidence that familiarity with goods is strongly related to their evaluation. The literature also indicates that a lower degree of perceived risk is related to familiarity and expertise with a good, particularly when familiarity is based on information obtained from personal sources, or based on experience.

Likewise, the major findings of the service literature review might be summarized in the following points.

1. Product class (type) might be one of the important factors in the evaluation process. Thus, consumers tend to have a higher degree of involvement with services, and to evaluate them more consciously than goods (Swan and Trawick 1979).
2. The four dimensions of time, control, efficiency, and risk are found important across six service industries (Bateson and Langeard 1982).
3. The variables quality, decor and music, and price have significant main effects on consumers' preferences among local pizza restaurants (Meyer 1981). In addition, the interaction effects quality x decor, and price x decor were also significant.
4. Consumers agree that competence varies among service providers, that there is a high degree of risk associated with services, that buyers are

service-provider loyal, and that they do not realize a service provider's lack of ability (Schutz and Casey 1981). Consumers are also found to rely on family and friends as the major source of information about service providers.

5. Location, range of services, ease of obtaining services, qualifications, friendliness, reputation, complaint handling, price, credit, and previous experience are found in individual service studies as important criteria for selecting the service provider.
6. Service characteristics are conceptualized to trigger situational ambiguity, and increase consumer's perceived risk and involvement. They also tempt consumers to engage in extensive information search and seek personal sources of information.
7. Empirical evidence indicates that consumers perceive a higher degree of risk for pure services and GS combinations than for pure goods. However, they perceive similar degree of risk for both pure services and GS combinations (Lewis 1976).
8. The review of the product involvement literature indicates the lack of agreement among researchers on the construct's definition, dimensions, and operationalization. However, the literature reveals some important points. First, high risk perception seems to evoke a high degree of involvement. Second, products differ in their influence to incite involvement. Third, for any particular product class, the level of involvement differs across consumers (Ray 1979).

### Hypotheses

Seven major hypotheses are suggested. The first hypothesis

predicts that consumers perceive higher degrees of six characteristics for pure services and GS combinations than for pure goods. The hypothesis also suggests that consumers perceive similar degrees of the six characteristics for both pure services and GS combinations.

The second hypothesis suggests that consumers are more highly involved with the evaluation of pure services and GS combinations than with the evaluation of pure goods. It also suggests that consumers have similar levels of involvement with pure services and GS combinations.

The third hypothesis postulates that product familiarity and perceived risk are inversely related. It is suggested that this relationship holds for all types of products, but the magnitude of the relationship is higher for pure services and GS combinations than for pure goods.

The fourth through the seventh hypotheses deal with four evaluative criteria. These are price, recommendations of family and friends, friendliness and courtesy of employees, and location. It is suggested that consumers attach more importance to these four criteria when they evaluate pure services as well as GS combinations than they do when they evaluate pure goods. Differences between pure services and GS combinations in terms of the importance attached to the four criteria are hypothesized to be insignificant.

#### Pretests

Three pretests are undertaken with three independent samples

consisting of 212 graduate and undergraduate business students. The first pretest is undertaken with 92 subjects to measure the relative importance of 15 evaluative criteria across 15 service industries. This pretest was needed to assist in selecting the criteria that were valued by subjects as most important across the fifteen services in order to insure the universality of the criteria.

This procedure was necessary since these criteria were tested by other researchers individually or in smaller sets, and with fewer services.

The results of the first pretest show that, on the average, 11 criteria are perceived as most important, three as least important, and one as neither important nor unimportant. Four criteria are selected from the most important ones, and included in the study.

The second pretest is undertaken with two independent samples of 120 subjects in total. The purpose of this pretest is to validate the product typology (of pure goods, GS combinations, and pure services). Subjects of the first sample were asked to rate thirty products of the three types on each of six service characteristics using a 5-point scale. They were also asked to divide one hundred points among the six characteristics according to their perceived importance in defining the type of product. Product scores were then calculated as the weighted average of the sum of characteristic ratings.

On the other hand, subjects of the other sample were asked to directly classify the same thirty products into the three types.

The validation procedure, then, entailed factor analyzing the product scores obtained from the two samples, and clustering all products into three groups with a 3-factor solution using the Principal Component method and varimax rotation. A total of 19 products met the classification criteria (of these are 8 pure goods, 4 GS combinations, and 7 pure services). From these, two items were selected from each class to be included in the study.

The third pretest focused on testing the validity and reliability of the product involvement scale suggested in Chapter IV. The second sample that is used in the second pretest is also the same sample that is used for the third pretest. Subjects were asked to respond to a 5-point scale with three products. Shampoo, auto repair, and life insurance were selected for this pretest to represent the three types of products respectively.

The five items of the involvement scale represent five dimensions. They are normative importance, commitment, time, product complexity, and overall cost. The reliability tests focused on the scale's internal consistency and included Coefficient Alpha, and split-half tests. Validity tests focused on construct validity and included item-total correlation, one-factor solution factor analysis using both the Principal Factor and Maximum Likelihood methods, and correlation between the scale and another measure.

This series of tests indicated that both the reliability and validity of the scale were high when the time dimension is deleted. Thus, the four other items constituted the involvement scale used in the

final questionnaire.

### The Sample

A cross-sectional convenience sample of 436 heads of household was selected from the New York Metropolitan area and the surrounding suburbs including New Jersey and Long Island. A total of 352 questionnaires were returned to the investigator representing 81.8 percent of the sample contacted. Twenty six questionnaires were excluded because they were either incomplete or extremely biased. A total of 326 usable questionnaires were entered the analysis, representing 75.8 percent of the total number of subjects contacted.

### Method

The six service characteristics are measured using 5-point semantic differential scales. The wording of the bipolar adjectives has been modified based on the results of the pretests as well as the advice of marketing research experts.

Product involvement is measured using a 5-point scale consisting of four items. The four dimensions contained in the scale are normative importance, commitment, product complexity, and overall cost. This scale was tested in the pretests for validity and reliability and demonstrated a high degree of both.

Overall risk is measured using the Jacoby and Kaplan's (1972) scale. The predictive and construct validity of this scale has been established by these researchers.

Product familiarity is measured by two scales suggested and used by Bettman and Park (1980) and Park and Lessig (1981). The first scale has three dimensions: information search, product usage, and product ownership. Since services do not lend themselves to ownership, the third dimension was operationally defined as purchase experience. The second scale is a 6-point self-assessment measure of familiarity. A validity check was made by correlating the scores obtained from the two scales. The results indicate that the scales enjoy a reasonable degree of validity.

The relative importance of the four evaluative criteria are measured using a 5-point scale, where 1 = least important, and 5 = most important. To eliminate the halo effect in measuring the importance of these criteria, all products are rated within criteria rather than rating each product separately on all criteria (Lehmann 1985; Wilkie and Pessemier 1973).

When administering the questionnaire, the sample was not divided into three separate groups, each group evaluating one product type. Rather, each subject was asked to evaluate all three types of products since the same consumer practically evaluates and compares all types of products in the same shopping trip. Therefore, the number of completed questionnaires was 326, but the number of observations in the MANOVA and ANOVA analyses were 978 representing three responses for the three types of products from each respondent.

### Data Analysis

To test  $H_1$ , MANCOVA is performed first with product type as the independent variable manipulated at three levels: pure goods, GS combinations, and pure services. There are six dependent variables represented by the scores of the six characteristics.

Once the significance of mean differences in product types is established by the MANOVA multivariate and univariate F tests, a series of one-way ANOVA tests are then performed on the scores of the six characteristics separately. The independent variable in these ANOVA tests is also product type. The purpose of these tests is to examine differences in product type means using the LSD method.

To test  $H_2$  and  $H_4$  through  $H_7$ , a similar series of one-way ANOVA tests are performed. Differences between the three means of the three product classes with regard to involvement as well as the importance of the four evaluative criteria are tested using the LSD method also. To test  $H_3$ , five tests of association between product familiarity and perceived risk are undertaken. They are chi square, phi correlation coefficient, contingency coefficient, Cramer's v, and Pearson product-moment correlation coefficient.

### Study Findings

Figure VII-1 displays the study findings. In general, all the differences between pure goods, on one hand, and pure services and GS combinations, on the other, are statistically significant. Pure goods

FIGURE VII-1  
SUMMARY OF STUDY FINDINGS

Hypothesis	All Products		1st Product Group		2nd Product Group	
	Finding	Direction	Finding	Direction	Finding	Direction
H <sub>1ai</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>1aii</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>1aiii</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>1aiv</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>1av</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>1avi</sub>	Supported	Expected	Not Supp.	-----	Supported	Expected
H <sub>1bi</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>1bii</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>1biii</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>1biv</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>1bv</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>1bvi</sub>	Not Supp.	-----	Not Supp.	-----	Not Supp.	-----
H <sub>1ci</sub>	Not Supp.	-----	Not Supp.	-----	Not Supp.	-----
H <sub>1cii</sub>	Not Supp.	-----	Not Supp.	-----	Not Supp.	-----
H <sub>1ciii</sub>	Not Supp.	-----	Not Supp.	-----	Not Supp.	-----
H <sub>1civ</sub>	Not Supp.	-----	Not Supp.	-----	Not Supp.	-----
H <sub>1cv</sub>	Not Supp.	-----	Supported	Expected	Not Supp.	-----
H <sub>1cvi</sub>	Not Supp.	-----	Supported	Expected	Not Supp.	-----
H <sub>2a</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>2b</sub>	Not Supp.	Opposite	Supported	Expected	Not Supp.	Opposite
H <sub>2c</sub>	Not Supp.	-----	Not Supp.	-----	Not Supp.	-----
H <sub>3</sub>	Supported	Opposite	Supported	Opposite	Supported	Opposite
H <sub>4a</sub>	Supported	Expected	Supported	Expected	Not Supp.	-----
H <sub>4b</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>4c</sub>	Not Supp.	-----	Not Supp.	-----	Not Supp.	-----
H <sub>5a</sub>	Supported	Expected	Not Supp.	-----	Supported	Expected
H <sub>5b</sub>	Supported	Expected	Supported	Expected	Not Supp.	-----
H <sub>5c</sub>	Not Supp.	-----	Not Supp.	-----	Not Supp.	-----
H <sub>6a</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>6b</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>6c</sub>	Not Supp.	-----	Not Supp.	-----	Not Supp.	-----
H <sub>7a</sub>	Supported	Expected	Supported	Expected	Supported	Opposite
H <sub>7b</sub>	Supported	Expected	Supported	Expected	Supported	Expected
H <sub>7c</sub>	Not Supp.	-----	Not Supp.	-----	Not Supp.	-----

are rated less on all six service characteristics than the other product classes. The four evaluative criteria are also deemed less important for pure goods than for the other types of products.

However, the differences between GS combinations and pure services are found statistically significant, contrary to what is hypothesized. Moreover, GS combinations means are found greater than those of pure services for four of the six characteristics (all but intangibility and buyer's abidance by seller's rules), and all four evaluative criteria. Few exceptions are found with individual product groups, and are discussed in detail in Chapter VI.

Consumers' involvement with pure services is found higher than their involvement with pure goods as hypothesized. This is true for all products together and each single product group. Involvement with GS combinations is higher or lower than involvement with pure goods depending on the product group. Involvement with the GS combination is lower than involvement with the pure good in the second product group, but it is higher in the first group.

Statistically significant differences are found between the involvement with both GS combinations and pure services. This finding along with other findings with respect to GS combinations signal two important implications. First, the saliency of GS combinations as a product class distinguished from pure services as well as pure goods. Second, the importance of considering each GS combination offering separately in terms of the degree of involvement it evokes.

Finally, product familiarity and perceived risk are found to be related to each other, and the relationship is positive. Thus, the hypothesis is supported but in the opposite direction. In addition, the magnitude of the relationship is moderately higher for both pure services and GS combinations than for pure goods, as predicted.

#### Contribution, Implications, Limitations and Conclusions

This study has several contributions and implications both for service marketing theory, and for service strategic marketing planning.

First, the study provides an empirical support of the proposition that consumers perceive significant differences between pure goods, on one hand, and both pure services and GS combinations, on the other. While this proposition has been conceptually advanced by service scholars before, this is the first study to test it empirically.

Second, the study provides an empirical evidence of the saliency of GS combinations in terms of the degree of service characteristics (except intangibility and buyer's abidance by seller's rules), and the high importance attached to four evaluative criteria by consumers. This trend is strongly observed throughout the study findings.

Third, the findings provide an empirical evidence that pure services and GS combinations should be viewed as two separate and distinctive product classes as opposed to pure goods. The different degrees of involvement they entice, and the significantly higher means

of GS combination characteristics and evaluative criteria have an important implication to the marketers of these products. The two classes of products might require different marketing and communications strategies. Promotional appeals and messages for the two product classes, for instance, may embody different symbolic stimuli.

Fourth, this is the first study to identify and analyze pure goods, GS combinations, and pure services on the basis of a product typology procedure that is empirically tested and validated. Products tested in previous research (including both goods and services) were selected based on the researcher's subjective judgment. In addition, previous research either tested single pure goods against single pure services, or contrasted single services with other services without distinguishing between pure services and GS combinations.

Fifth, the statistically significant differences in the mean importance of four evaluative criteria between pure goods, on one hand, and both pure services and GS combinations, on the other, confirm several propositions advanced in the service literature and the goods literature as well.

For instance, it is suggested that in the absence of an objective measure of quality, and in situations where other product attributes are characterized by a high degree of ambiguity, price tends to be important (e.g., Blois 1981; Monroe 1982; Sternthal and Craig 1982). The findings of this study support this proposition. The price cue is found more important for both pure services and GS combinations than for pure goods, as a product class, in general. The line of

reasoning advanced in the service literature between service characteristics and the ambiguity surrounding the purchase situation, on one hand, and between the ambiguity surrounding the purchase situation and the importance attached to certain evaluative criteria, on the other, creates a link between service characteristics and the importance attached to their evaluative criteria. The findings of the study confirm this link.

Perceived risk and involvement are found to be two variables that explain the ambiguity surrounding service buying, and as such they are likely to explain the relationship between service characteristics and evaluative criteria.

The findings that consumers perceive both informal recommendations and employee friendliness as more important for pure services and GS combinations than for pure goods are consistent with previous research dealing with individual services. These findings together with those obtained from the tests of service characteristics, perceived risk, and involvement confirm the conceptual relationships developed by other service researchers (e.g. Dubinsky and Levy 1981; Weinberger and Brown 1977).

The high degree of intangibility, perishability, and nonstandardization as perceived by the study subjects for pure services and GS combinations are associated with high degrees of perceived risk, involvement, and importance attached to informal communications and employee friendliness. While this study did not measure causality among these variables, the findings of the study provide a ground for proposing

causality among them.

The finding as to the high importance of location for pure services and GS combinations confirm the findings of previous research particularly with regard to dry cleaning (Schutz and Casey 1981). Location convenience seems to be highly important for those services which are characterized by higher degrees of inseparability of production and consumption, and consumer's participation in service production. This implies the necessity of consumer participation, or at least his or her presence in service production (e.g., haircut, dentist, etc.). In some other situations it means convenience to the consumer in terms of the time and travel effort spent in reaching the service provider (e.g., dry cleaning, banking, etc.).

The study, nevertheless, has some limitations. First, no causal relationships are assumed or tested in the study. Inferences about the link between service evaluative criteria, perceived risk, involvement, and the importance attached to their evaluative criteria are made on the basis of the significant differences obtained for these variables, which confirm several propositions advanced in the service literature.

Second, considering the negative effect of subject fatigue, as a result of a very lengthy questionnaire, on the accuracy of data, only two offerings from each product class, and only four evaluative criteria are included in the data collection instrument. Future research might consider other offerings and other evaluative criteria.

In conclusion, the interest in service marketing has been growing in the last decade among academicians and practitioners as well. While the fragmented efforts of service students contribute to building a theory of service marketing, this theory is far from being complete. More empirical work is needed to verify many of the conceptual relationships implied by the theory. Moreover, replication studies are desired to insure the generalizability of the theory among different services, different situations, and across different consumer segments and locations. This study is only one step toward building that theory.

#### Directions for Future Research

The field of service marketing is still young and fertile. Research is promising in this field since many conceptual relationships about service marketing await empirical testing.

This study measures the magnitude, direction, and differences in six service characteristics, product familiarity, perceived risk, involvement, and the importance of four evaluative criteria. A comparative analysis is performed on pure goods, GS combinations, and pure services. Neither the hypotheses nor the research design assume causality in these relationships. Future research may investigate cause-effect relationships by isolating some of these variables and testing them in a controlled situation.

This study attempted to control for some extraneous variables (such as cost, search time and effort) by dividing the six products of

the study into two separate groups. The first group represents convenience/shopping items, and the second group contains specialty items. Accordingly, we were able to explain why some of the relationships were not statistically significant. Future research may identify other extraneous variables and control for their effect on the three types of products.

Future research may also focus on the nature of the relationship between GS combinations and pure services. In particular, researchers may examine the specific reasons behind the saliency of GS combinations means over pure services means, and the unexpected differences between the two classes of products.

Another direction for future research is to examine the individual components of perceived risk (e.g., financial, performance, social, psychological, physical, time, etc.) with respect to both pure services and GS combinations. This study focuses only on overall risk. Based on the evidence obtained from this study, it is possible that pure services and GS combinations vary in terms of consumers' perceptions of the different components of risk. The two types of products may be contrasted against each other as well as against pure goods across the different components of risk.

Finally, Patton (1981) examined the effect of quantity of information on brand choice decisions in the case of hand-held electric food mixers. Subjects tended to select the brands with the most information particularly when brands varied in quality. Since services vary in quality, researchers may examine the effect of information quantity

on service choice decisions. They may also examine the proposition that a service marketer can compensate for the ambiguity of service quality by increasing the quantity of information about his service.

APPENDIX I  
PRETEST QUESTIONNAIRE A  
(Product Typology Survey A)

PART I

Services possess certain characteristics. Goods also possess some other characteristics. For instance, it is said that services are intangible and cannot be stored, while physical goods are tangible and can be stored. Different products possess different degrees of these and other characteristics.

In the following section, you will find a list of some goods and services. Please rate each good and service on each characteristic by circling the number that closely corresponds to your belief of the degree of the characteristic that a product possesses. The two following examples are given for illustration purposes.

Example 1

<u>Goods/Services</u>	<u>Completely Perishable</u>			<u>Not Subject To Deterioration under Normal Use</u>	
Furniture	5	4	3	2	①
Professional House Painter	⑤	4	3	2	1

In this example, the respondent feels that furniture is not perishable, thus he or she circles the number "1". On the other hand, the respondent feels that the services of a professional house painter are completely perishable, thus circles the number "5".

Example 2

<u>Goods/Services</u>	<u>Seller Completely Decides When Consumer Buys/Uses Product</u>			<u>Buyer Completely Decides When to Buy/Use Product</u>	
Microwave Oven	5	4	3	2	①
Dentist Services	5	④	3	2	1

The respondent circles No. "1" for microwave oven because he or she believes the buyer has a completely free will in deciding when to buy this product. However, he or she circles No. "4" for dentist's services because the dentist's appointment schedule mandates some days and times which may not be desired by the free will of the patient.

1. Intangibility

For each of the following products, circle the number that, in your belief, reflects the degree of intangibility of that product.

<u>Goods/Services</u>	<u>Completely Intangible</u>			<u>Completely Tangible</u>	
1. Electric Can Opener . . . . .	5	4	3	2	1
2. Haircut/Hair Styling. . . . .	5	4	3	2	1
3. Physician's Services. . . . .	5	4	3	2	1
4. Plumber's Services. . . . .	5	4	3	2	1
5. Wrist Watch . . . . .	5	4	3	2	1
6. Lawyer's Services . . . . .	5	4	3	2	1
7. Cold Medication . . . . .	5	4	3	2	1
8. Auto Repair . . . . .	5	4	3	2	1
9. Shampoo . . . . .	5	4	3	2	1
10. Hotels. . . . .	5	4	3	2	1
11. Professional Carpet Cleaning. . . . .	5	4	3	2	1
12. Banking . . . . .	5	4	3	2	1
13. Dress Shoes . . . . .	5	4	3	2	1
14. Renting a Moving Van. . . . .	5	4	3	2	1
15. Small Appliance Repair. . . . .	5	4	3	2	1
16. Mouthwash . . . . .	5	4	3	2	1
17. Automobile. . . . .	5	4	3	2	1
18. Life Insurance. . . . .	5	4	3	2	1
19. Income Tax Counseling . . . . .	5	4	3	2	1
20. Restaurant Meals. . . . .	5	4	3	2	1
21. Refrigerator. . . . .	5	4	3	2	1
22. Large Appliance Repair. . . . .	5	4	3	2	1
23. Carpenter-Builder's Services. . . . .	5	4	3	2	1
24. Airlines. . . . .	5	4	3	2	1
25. Dry Cleaning. . . . .	5	4	3	2	1
26. Toothpaste. . . . .	5	4	3	2	1
27. Renting an Automobile . . . . .	5	4	3	2	1
28. Resorts . . . . .	5	4	3	2	1
29. Hospitalization Insurance . . . . .	5	4	3	2	1
30. Transistor Radio AM-FM. . . . .	5	4	3	2	1

## 2. Perishability

For each of the following products, circle the number that, in your belief, reflects the degree of perishability (i.e., deterioration under normal use ) of that product.

<u>Goods/Services</u>			<u>Not Subject to Deterioration under Normal Use</u>		
	<u>Completely Perishable</u>				
1. Electric Can Opener . . . . .	5	4	3	2	1
2. Haircut/Hair Styling. . . . .	5	4	3	2	1
3. Physician's Services. . . . .	5	4	3	2	1
4. Plumber's Services. . . . .	5	4	3	2	1
5. Wrist Watch . . . . .	5	4	3	2	1
6. Lawyer's Services . . . . .	5	4	3	2	1
7. Cold Medication . . . . .	5	4	3	2	1
8. Auto Repair . . . . .	5	4	3	2	1
9. Shampoo . . . . .	5	4	3	2	1
10. Hotels. . . . .	5	4	3	2	1
11. Professional Carpet Cleaning. . . . .	5	4	3	2	1
12. Banking . . . . .	5	4	3	2	1
13. Dress Shoes . . . . .	5	4	3	2	1
14. Renting a Moving Van. . . . .	5	4	3	2	1
15. Small Appliance Repair. . . . .	5	4	3	2	1
16. Mouthwash . . . . .	5	4	3	2	1
17. Automobile. . . . .	5	4	3	2	1
18. Life Insurance. . . . .	5	4	3	2	1
19. Income Tax Counseling . . . . .	5	4	3	2	1
20. Restaurant Meals. . . . .	5	4	3	2	1
21. Refrigerator. . . . .	5	4	3	2	1
22. Large Appliance Repair. . . . .	5	4	3	2	1
23. Carpenter-Builder's Services. . . . .	5	4	3	2	1
24. Airlines. . . . .	5	4	3	2	1
25. Dry Cleaning. . . . .	5	4	3	2	1
26. Toothpaste. . . . .	5	4	3	2	1
27. Renting an Automobile . . . . .	5	4	3	2	1
28. Resorts . . . . .	5	4	3	2	1
29. Hospitalization Insurance . . . . .	5	4	3	2	1
30. Transistor Radio AM-FM. . . . .	5	4	3	2	1

### 3. Simultaneity of Production and Consumption

Some goods, such as pencils and shoes, can be produced and stored at one time, and sold and consumed at other times. Some other services, such as fast food meals and dentist's services, must be produced and consumed simultaneously. For the latter type of services, many of the offerings are tailored personally to customer's specifications.

For each of the following products, circle the number that, in your belief, reflects the degree of simultaneity of its production and consumption.

<u>Goods/Services</u>	<u>Completely Simultaneous</u>			<u>Completely Separate</u>	
1. Electric Can Opener . . . . .	5	4	3	2	1
2. Haircut/Hair Styling. . . . .	5	4	3	2	1
3. Physician's Services. . . . .	5	4	3	2	1
4. Plumber's Services. . . . .	5	4	3	2	1
5. Wrist Watch . . . . .	5	4	3	2	1
6. Lawyer's Services . . . . .	5	4	3	2	1
7. Cold Medication . . . . .	5	4	3	2	1
8. Auto Repair . . . . .	5	4	3	2	1
9. Shampoo . . . . .	5	4	3	2	1
10. Hotels. . . . .	5	4	3	2	1
11. Professional Carpet Cleaning. . . . .	5	4	3	2	1
12. Banking . . . . .	5	4	3	2	1
13. Dress Shoes . . . . .	5	4	3	2	1
14. Renting a Moving Van. . . . .	5	4	3	2	1
15. Small Appliance Repair. . . . .	5	4	3	2	1
16. Mouthwash . . . . .	5	4	3	2	1
17. Automobile. . . . .	5	4	3	2	1
18. Life Insurance. . . . .	5	4	3	2	1
19. Income Tax Counseling . . . . .	5	4	3	2	1
20. Restaurant Meals. . . . .	5	4	3	2	1
21. Refrigerator. . . . .	5	4	3	2	1
22. Large Appliance Repair. . . . .	5	4	3	2	1
23. Carpenter-Builder's Services. . . . .	5	4	3	2	1
24. Airlines. . . . .	5	4	3	2	1

<u>Goods/Services</u>	<u>Completely Simultaneous</u>			<u>Completely Separate</u>	
25. Dry Cleaning. . . . .	5	4	3	2	1
26. Toothpaste. . . . .	5	4	3	2	1
27. Renting an Automobile . . . . .	5	4	3	2	1
28. Resorts . . . . .	5	4	3	2	1
29. Hospitalization Insurance . . . . .	5	4	3	2	1
30. Transistor Radio AM-FM. . . . .	5	4	3	2	1

#### 4. Nonstandardization

Nonstandardization is the degree of uncertainty in obtaining the same level of product quality every time a consumer buys the same product.

For each of the following products, circle the number that, in your belief, reflects the degree of standardization of that product.

<u>Goods/Services</u>	<u>Standardization Not Possible</u>			<u>Complete Standardization</u>	
1. Electric Can Opener . . . . .	5	4	3	2	1
2. Haircut/Hair Styling. . . . .	5	4	3	2	1
3. Physician's Services. . . . .	5	4	3	2	1
4. Plumber's Services. . . . .	5	4	3	2	1
5. Wrist Watch . . . . .	5	4	3	2	1
6. Lawyer's Services . . . . .	5	4	3	2	1
7. Cold Medication . . . . .	5	4	3	2	1
8. Auto Repair . . . . .	5	4	3	2	1
9. Shampoo . . . . .	5	4	3	2	1
10. Hotels. . . . .	5	4	3	2	1
11. Professional Carpet Cleaning. . . . .	5	4	3	2	1
12. Banking . . . . .	5	4	3	2	1
13. Dress Shoes . . . . .	5	4	3	2	1
14. Renting a Moving Van. . . . .	5	4	3	2	1
15. Small Appliance Repair. . . . .	5	4	3	2	1
16. Mouthwash . . . . .	5	4	3	2	1
17. Automobile. . . . .	5	4	3	2	1
18. Life Insurance. . . . .	5	4	3	2	1
19. Income Tax Counseling . . . . .	5	4	3	2	1

<u>Goods/Services</u>	<u>Standardization</u>			<u>Complete</u>	
	<u>Not Possible</u>			<u>Standardization</u>	
20. Restaurant Meals. . . . .	5	4	3	2	1
21. Refrigerator. . . . .	5	4	3	2	1
22. Large Appliance Repair. . . . .	5	4	3	2	1
23. Carpenter-Builder's Services. . . . .	5	4	3	2	1
24. Airlines. . . . .	5	4	3	2	1
25. Dry Cleaning. . . . .	5	4	3	2	1
26. Toothpaste. . . . .	5	4	3	2	1
27. Renting an Automobile . . . . .	5	4	3	2	1
28. Resorts . . . . .	5	4	3	2	1
29. Hospitalization Insurance . . . . .	5	4	3	2	1
30. Transistor Radio AM-FM. . . . .	5	4	3	2	1

#### 5. Buyer Participation in Production

In some situations, the consumer may be required to participate in the production process (e.g., activities required by consumers in using automatic teller machines for banking, in self-service gas stations, in salad-bar fixings at fast-food restaurants, etc.). In some other situations, the consumer does not participate at all in production (e.g., manufacturing consumer goods).

For each of the following products, circle the number that, in your belief, reflects the degree of consumer participation in production.

<u>Goods/Services</u>	<u>Participation</u>			<u>No Buyer</u>	
	<u>Absolutely</u>			<u>Participation</u>	
	<u>Necessary</u>			<u>Whatsoever</u>	
1. Electric Can Opener . . . . .	5	4	3	2	1
2. Haircut/Hair Styling. . . . .	5	4	3	2	1
3. Physician's Services. . . . .	5	4	3	2	1
4. Plumber's Services. . . . .	5	4	3	2	1
5. Wrist Watch . . . . .	5	4	3	2	1
6. Lawyer's Services . . . . .	5	4	3	2	1
7. Cold Medication . . . . .	5	4	3	2	1
8. Auto Repair . . . . .	5	4	3	2	1
9. Shampoo . . . . .	5	4	3	2	1
10. Hotels. . . . .	5	4	3	2	1

<u>Goods/Services</u>	<u>Participation Absolutely Necessary</u>			<u>No Buyer Participation Whatsoever</u>	
11. Professional Carpet Cleaning. . . . .	5	4	3	2	1
12. Banking . . . . .	5	4	3	2	1
13. Dress Shoes . . . . .	5	4	3	2	1
14. Renting a Moving Van. . . . .	5	4	3	2	1
15. Small Appliance Repair. . . . .	5	4	3	2	1
16. Mouthwash . . . . .	5	4	3	2	1
17. Automobile. . . . .	5	4	3	2	1
18. Life Insurance. . . . .	5	4	3	2	1
19. Income Tax Counseling . . . . .	5	4	3	2	1
20. Restaurant Meals. . . . .	5	4	3	2	1
21. Refrigerator. . . . .	5	4	3	2	1
22. Large Appliance Repair. . . . .	5	4	3	2	1
23. Carpenter-Builder's Services. . . . .	5	4	3	2	1
24. Airlines. . . . .	5	4	3	2	1
25. Dry Cleaning. . . . .	5	4	3	2	1
26. Toothpaste. . . . .	5	4	3	2	1
27. Renting an Automobile . . . . .	5	4	3	2	1
28. Resorts . . . . .	5	4	3	2	1
29. Hospitalization Insurance . . . . .	5	4	3	2	1
30. Transistor Radio AM-FM. . . . .	5	4	3	2	1

### 6. Client Relationship

Some goods and services cannot be purchased and consumed at the absolute discretion of the consumer. For instance, a passenger must abide by a railroad's or airline's departure and arrival schedule. For other products such as snacks, clothes and books the consumer can freely decide when, how, and where to buy and use the product.

For each of the following products, circle the number that, in your belief, reflects the extent to which a consumer is able to decide freely on when, where, and how to buy and use that product.

<u>Goods/Services</u>	<u>Seller Completely Decides</u>			<u>Buyer Completely Decides</u>	
1. Electric Can Opener . . . . .	5	4	3	2	1
2. Haircut/Hair Styling. . . . .	5	4	3	2	1
3. Physician's Services. . . . .	5	4	3	2	1
4. Plumber's Services. . . . .	5	4	3	2	1
5. Wrist Watch . . . . .	5	4	3	2	1
6. Lawyer's Services . . . . .	5	4	3	2	1
7. Cold Medication . . . . .	5	4	3	2	1
8. Auto Repair . . . . .	5	4	3	2	1
9. Shampoo . . . . .	5	4	3	2	1
10. Hotels. . . . .	5	4	3	2	1
11. Professional Carpet Cleaning. . . . .	5	4	3	2	1
12. Banking . . . . .	5	4	3	2	1
13. Dress Shoes . . . . .	5	4	3	2	1
14. Renting a Moving Van. . . . .	5	4	3	2	1
15. Small Appliance Repair. . . . .	5	4	3	2	1
16. Mouthwash . . . . .	5	4	3	2	1
17. Automobile. . . . .	5	4	3	2	1
18. Life Insurance. . . . .	5	4	3	2	1
19. Income Tax Counseling . . . . .	5	4	3	2	1
20. Restaurant Meals. . . . .	5	4	3	2	1
21. Refrigerator. . . . .	5	4	3	2	1
22. Large Appliance Repair. . . . .	5	4	3	2	1
23. Carpenter-Builder's Services. . . . .	5	4	3	2	1
24. Airlines. . . . .	5	4	3	2	1
25. Dry Cleaning. . . . .	5	4	3	2	1
26. Toothpaste. . . . .	5	4	3	2	1
27. Renting an Automobile . . . . .	5	4	3	2	1
28. Resorts . . . . .	5	4	3	2	1
29. Hospitalization Insurance . . . . .	5	4	3	2	1
30. Transistor Radio AM-FM. . . . .	5	4	3	2	1

PART II

Part I measures the dimensions along which goods and services vary. However, the importance of each dimension in determining the type of good or service may differ from one consumer to the other.

In the following section, please divide 100 points among the following six characteristics according to the importance or weight you attach to each. It is necessary that the total sum of these points should be 100, and no more. These characteristics are stated in no particular order.

1. Intangibility . . . . .	_____
2. Perishability . . . . .	_____
3. Simultaneity of Production and Consumption. . .	_____
4. Nonstandardization. . . . .	_____
5. Buyer Participation in Production . . . . .	_____
6. Client Relationship . . . . .	_____
	_____
TOTAL. . . . .	<u>100</u>

Thank You So Much For Your Participation In This Survey.

APPENDIX II

PRETEST QUESTIONNAIRE B

(Product Typology Survey B and  
Product Involvement Measurement)

PART I

Different products may have all goods elements, all services elements, or a combination of elements from both goods and services. You are asked to classify a number of products into one of three categories:

A Pure Good which is defined as an offering that involves a tangible and storeable good that can be physically owned, but with no accompanying service.

A Good-Service Combination which is defined as an offering which involves a tangible good with an accompanying service, or an intangible service with an accompanying good.

A Pure Service which is defined as an offering that cannot be physically owned or stored, and does not involve any tangible good.

For instance, you may believe that a package of frozen food is a pure good. If so, circle the number "1", as follows:

<u>Products</u>	<u>Pure Good</u>	<u>Good-Service Combination</u>	<u>Pure Service</u>
Frozen Food . . . . .	①	2	3

If you feel that fast food is a good-service combination (that is, a service involving some goods elements such as meat, bread, etc.), then circle the number "2", as follows:

<u>Products</u>	<u>Pure Good</u>	<u>Good-Service Combination</u>	<u>Pure Service</u>
Fast Food . . . . .	1	②	3

Finally, if you feel that a haircut is a pure service, then circle the number "3", as follows:

<u>Products</u>	<u>Pure Good</u>	<u>Good-Service Combination</u>	<u>Pure Service</u>
Haircut . . . . .	1	2	③

IT IS IMPORTANT THAT YOU CIRCLE ONLY ONE NUMBER FOR EACH PRODUCT.

<u>Products</u>	<u>Pure Good</u>	<u>Good-Service Combination</u>	<u>Pure Service</u>
1. Electric Can Opener . . . . .	1	2	3
2. Haircut/Hair Styling. . . . .	1	2	3
3. Physician's Services. . . . .	1	2	3
4. Plumber's Services. . . . .	1	2	3
5. Wrist Watch . . . . .	1	2	3
6. Lawyer's Services . . . . .	1	2	3
7. Cold Medication . . . . .	1	2	3
8. Auto Repair . . . . .	1	2	3
9. Shampoo . . . . .	1	2	3
10. Hotels. . . . .	1	2	3
11. Professional Carpet Cleaning. .	1	2	3
12. Banking . . . . .	1	2	3
13. Dress Shoes . . . . .	1	2	3
14. Renting a Moving Van. . . . .	1	2	3
15. Small Appliance Repair. . . . .	1	2	3
16. Mouthwash . . . . .	1	2	3
17. Automobile. . . . .	1	2	3
18. Life Insurance. . . . .	1	2	3
19. Income Tax Counseling . . . . .	1	2	3
20. Restaurant Meals. . . . .	1	2	3
21. Refrigerator. . . . .	1	2	3
22. Large Appliance Repair. . . . .	1	2	3
23. Carpenter-Builder's Services. .	1	2	3
24. Airlines. . . . .	1	2	3
25. Dry Cleaning. . . . .	1	2	3
26. Toothpaste. . . . .	1	2	3
27. Renting an Automobile . . . . .	1	2	3
28. Resorts . . . . .	1	2	3
29. Hospitalization Insurance . . . .	1	2	3
30. Transistor Radio AM-FM. . . . .	1	2	3

PART II

For each of the three following goods and services, please read the statements outlined below, and circle the single number that most closely corresponds to your feelings about each statement.

Shampoo

1. I rate shampoo as being of the highest 5 4 3 2 1 lowest importance to me personally.
2. If my preferred brand of shampoo was not available at the store, it would make little 5 4 3 2 1 big difference to me if I had to choose another brand of shampoo.
3. It takes me a long 5 4 3 2 1 short time to consume a single bottle of shampoo.
4. Shampoo is a complex 5 4 3 2 1 simple product.
5. The cost (price, personal feeling, social embarrassment) of a bad choice of a brand of shampoo is so high 5 4 3 2 1 so low.
6. When I consider buying shampoo, I give it more 5 4 3 2 1 less thought and concern before I buy it.

Auto Repair

1. I rate auto repair as being of the highest 5 4 3 2 1 lowest importance to me personally.
2. If my preferred auto repair shop was not available, it would make little 5 4 3 2 1 big difference to me if I had to choose another shop.
3. It takes me a long 5 4 3 2 1 short time until I come back for another auto repair.
4. Auto repair is a complex 5 4 3 2 1 simple service.

5. The cost (price, personal feeling, social embarrassment) of a bad choice of an auto repair shop is so high 5 4 3 2 1 so low.
6. When I consider an auto repair to be done for my car, I give it more 5 4 3 2 1 less thought and concern before I select the repair shop.

### Life Insurance

1. I rate life insurance as being of the highest 5 4 3 2 1 lowest importance to me personally.
2. If my preferred type of life insurance was not available , it would make little 5 4 3 2 1 big difference to me if I had to choose another type of life insurance.
3. It takes me a long 5 4 3 2 1 short time to complete a life insurance policy.
4. Life insurance is a complex 5 4 3 2 1 simple product.
5. The cost (price, personal feeling, social embarrassment) of a bad choice of life insurance is so high 5 4 3 2 1 so low.
6. When I consider buying life insurance, I give it more 5 4 3 2 1 less thought and concern before I buy it.

Thank You So Much For Your Participation In This Survey.

APPENDIX III

PRETEST QUESTIONNAIRE C

(Survey of the Perceived Importance  
of Fifteen Service Evaluative Criteria)

The following sections consider some criteria which may or may not be important to the consumer in evaluating services before he or she makes a purchase decision.

For each of the following criteria, please indicate how important it is for choosing a service provider by circling the appropriate number opposite to each service. For instance, if you believe that providing a wide range of services is a somewhat important criterion in selecting a bank, then circle the number "3" opposite to Banks as follows:

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	③	2	1

Proceed following the same approach for all other services.

#### 1. Providing a Wide Range of Services

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

## 2. Providing or Allowing the Use of Credit

	<u>Extremely Important</u>	<u>Quite Important</u>	<u>Somewhat Important</u>	<u>Slightly Important</u>	<u>Not At All Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

## 3. Developing a Close Personal Relationship with Customers

	<u>Extremely Important</u>	<u>Quite Important</u>	<u>Somewhat Important</u>	<u>Slightly Important</u>	<u>Not At All Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

4. Having Lots of Parking Space

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

5. Recommendations by Family and Friends

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

6. Staying Open on Weekends and Evenings

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

7. Reputation/Image of the Service Provider

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

8. Handling Complaints

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

9. Ease of Obtaining Services (Setting an appointment, waiting in line, etc.)

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

10. Previous Experience of Service Provider (How long in business)

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

11. Location Convenience

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

12. Promptness of Service (The time it takes to deliver the service)

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

13. Price of Service

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

14. Physical Environment (Interior decorations, music, etc.)

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repair	5	4	3	2	1
Travel Agencies	5	4	3	2	1

15. Friendliness and Courtesy of Employees

	<u>Extremely</u> <u>Important</u>	<u>Quite</u> <u>Important</u>	<u>Somewhat</u> <u>Important</u>	<u>Slightly</u> <u>Important</u>	<u>Not At All</u> <u>Important</u>
Banks	5	4	3	2	1
Commercial Airlines	5	4	3	2	1
Insurance Companies	5	4	3	2	1
Auto Repair/Service	5	4	3	2	1
Hotels/Motels	5	4	3	2	1
Dry Cleaning/Laundry	5	4	3	2	1
Plumbing Services	5	4	3	2	1
Photo Processing	5	4	3	2	1
Recreation/Resorts	5	4	3	2	1
Fast Food Outlets	5	4	3	2	1
Parcel Delivery	5	4	3	2	1
Carpet Cleaning	5	4	3	2	1
Moving and Storage	5	4	3	2	1
Home Repairs	5	4	3	2	1
Travel Agencies	5	4	3	2	1

16. Is there any other criterion which you believe important in selecting a service, in general, or in particular? Please specify the criterion or criteria, and their degree of importance.

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Thank You So Much For Your Participation In This Survey.

APPENDIX IV

COVER LETTER AND STUDY QUESTIONNAIRE

Baruch  
College  
The City  
University of  
New York  
17 Lexington  
Avenue  
New York  
N.Y. 10010



A STUDY OF CONSUMER GOODS AND SERVICES

Dear Respondent:

You are one of a small group of consumers whom I am asking to participate in this survey. The purpose of this study is to find out how people feel about goods and services, and the factors affecting their purchase.

Since a relatively few people are being surveyed, your response is very important to me. Please complete the questionnaire and return it at your earliest convenience. Answer each question as best as you can. Your answers will, of course, be strictly confidential.

Thank you for your cooperation.

Sincerely,

*A. A. Soliman*

A. A. Soliman  
Department of Marketing  
Baruch College of the City  
University of New York.

A STUDY OF CONSUMER GOODS AND SERVICES

PART I

In the following section, you will find a list of six goods and services that are frequently purchased by consumers. Please rate each of them along the characteristics mentioned below by circling the number that most closely corresponds to your belief as to the degree to which each good or service possesses each characteristic.

1. For each of the following goods and services, please circle the number that, in your opinion, reflects the degree of its INTANGIBILITY. A tangible product can be seen, touched, smelled, or tasted. An intangible product cannot be seen, touched, smelled, or tasted.

<u>Goods/Services</u>	<u>Completely Tangible</u>					<u>Completely Intangible</u>
Cold Medication . . . . .	1	2	3	4	5	5
Restaurant Meals. . . . .	1	2	3	4	5	5
Dry Cleaning. . . . .	1	2	3	4	5	5
Refrigerator. . . . .	1	2	3	4	5	5
Renting an Automobile . .	1	2	3	4	5	5
Hospitalization Insurance	1	2	3	4	5	5

2. For each of the following goods and services, please circle the number that, in your opinion, reflects the degree of its PERISHABILITY.

<u>Goods/Services</u>	<u>Can be Bought and Stored before Use (Not Perishable)</u>					<u>Cannot be Bought &amp; Stored before Use (Completely Perishable)</u>
Cold Medication . . . . .	1	2	3	4	5	5
Restaurant Meals. . . . .	1	2	3	4	5	5
Dry Cleaning. . . . .	1	2	3	4	5	5
Refrigerator. . . . .	1	2	3	4	5	5
Renting an Automobile . .	1	2	3	4	5	5
Hospitalization Insurance	1	2	3	4	5	5

3. Some items, such as pencils and shirts, can be produced and stored at one time, and transported, sold, and used by consumers at other points in time. Some other items, such as services provided by physicians, dentists, and movie theaters, must be used at the same time they are performed.

For each of the following goods and services, please circle the number that, in your opinion, reflects the degree to which each item must be used by consumers IMMEDIATELY at the time of its production or performance.

<u>Goods/Services</u>	<u>To be Used Any Time after its Production</u>			<u>Might be Used at the Time of its Production</u>	
Cold Medication . . . . .	1	2	3	4	5
Restaurant Meals. . . . .	1	2	3	4	5
Dry Cleaning. . . . .	1	2	3	4	5
Refrigerator. . . . .	1	2	3	4	5
Renting an Automobile . .	1	2	3	4	5
Hospitalization Insurance	1	2	3	4	5

4. As consumers, we are frequently concerned with quality. For mass-produced items, such as canned food and toilet paper, we might expect a consistent degree of quality every time we buy the same brand. For some other things that are made to order, such as professional carpet cleaning or appliance repair, we might also be concerned about getting the same quality work every time we request the work to be done.

For each of the following goods and services, please circle the number that, in your opinion, reflects the degree of its QUALITY CONTROL; that is, how certain you are that you will get the same level of quality every time you purchase the same item, or request the same work to be done.

<u>Goods/Services</u>	<u>Standard Quality</u>			<u>Nonstandard Quality</u>	
Cold Medication . . . . .	1	2	3	4	5
Restaurant Meals. . . . .	1	2	3	4	5
Dry Cleaning. . . . .	1	2	3	4	5
Refrigerator. . . . .	1	2	3	4	5
Renting an Automobile . .	1	2	3	4	5
Hospitalization Insurance	1	2	3	4	5

5. Sometimes, we use automatic teller machines while banking, or fill our own gas in self-service gas stations. In these situations, we participate in doing the job. When we go to the hair stylist or the physician, we have to be there by ourselves, even though we do not perform any part of the job. For many manufactured goods, the consumer is not required to be present at the factory while the goods are being produced.

For each of the following goods and services, please circle the

number that, in your opinion, reflects the degree of CONSUMER PARTICIPATION or PRESENCE at the factory or service firm while the item is being produced or performed.

<u>Goods/Services</u>	<u>No Buyer Participation Whatsoever</u>					<u>Participation Absolutely Necessary</u>
Cold Medication . . . . .	1	2	3	4	5	
Restaurant Meals. . . . .	1	2	3	4	5	
Dry Cleaning. . . . .	1	2	3	4	5	
Refrigerator. . . . .	1	2	3	4	5	
Renting an Automobile . .	1	2	3	4	5	
Hospitalization Insurance	1	2	3	4	5	

6. We can buy certain things, such as snacks and books, whenever we want, and use them whenever we wish. However, for some other things, we cannot decide when and where to use them. For instance, we must abide by a railroad's schedule.

For each of the following goods and services, please circle the number that, in your opinion, reflects the extent to which a consumer can FREELY DECIDES WHEN AND WHERE to use it.

<u>Goods/Services</u>	<u>Buyer Completely Decides</u>			<u>Seller Completely Decides</u>	
Cold Medication . . . . .	1	2	3	4	5
Restaurant Meals. . . . .	1	2	3	4	5
Dry Cleaning. . . . .	1	2	3	4	5
Refrigerator. . . . .	1	2	3	4	5
Renting an Automobile . .	1	2	3	4	5
Hospitalization Insurance	1	2	3	4	5

PART II

For each of the following goods and services, please read the statements outlined below, and circle the number that most closely corresponds to your feelings about each statement.

For example, if you feel that a good or a service is of the highest importance to you, then circle the number "5". If, on the other hand, the good or service is of the lowest importance to you, then circle the number "1". If the good or service is neither important nor unimportant to you, then circle the number between "1" and "5"

that closely reflects your opinion, and so on.

### Cold Medication

7. a. I rate cold medication as being of the highest 5 4 3 2 1 lowest importance to me personally.
- b. If my preferred brand of cold medication was not available at the store, it would make a big 5 4 3 2 1 little difference to me if I had to choose another brand.
- c. My preferred cold medication is a complex 5 4 3 2 1 simple product.
- d. Overall, the costs of a bad choice of a brand of cold medication are so high 5 4 3 2 1 so low.

### Restaurant Meals

8. a. I rate restaurant meals as being of the highest 5 4 3 2 1 lowest importance to me personally.
- b. If my preferred restaurant was not available, it would make a big 5 4 3 2 1 little difference to me if I had to choose another restaurant.
- c. I prefer that restaurant meals be complex 5 4 3 2 1 simple offerings.
- d. Overall, the costs of a bad choice of a restaurant are so high 5 4 3 2 1 so low.

### Dry Cleaning

9. a. I rate dry cleaning as being of the highest 5 4 3 2 1 lowest importance to me personally.
- b. If my preferred dry cleaner was not available, it would make a big 5 4 3 2 1 little difference to me if I had to choose another dry cleaner.
- c. Dry cleaning is a complex 5 4 3 2 1 simple service.
- d. Overall, the costs of a bad choice of a dry cleaner are so high 5 4 3 2 1 so low.

### Refrigerator

10. a. I rate refrigerator as being of the highest 5 4 3 2 1 lowest importance to me personally.

- b. If my preferred brand of refrigerator was not available at the store, it would make a big 5 4 3 2 1 little difference to me if I had to choose another brand.
- c. Refrigerator is a complex 5 4 3 2 1 simple product.
- d. Overall, the costs of a bad choice of refrigerator are so high 5 4 3 2 1 so low.

#### Renting an Automobile

- 11. a. I rate renting a car as being of the highest 5 4 3 2 1 lowest importance to me personally.
- b. If my preferred car-rental company was not available, it would make a big 5 4 3 2 1 little difference to me if I had to choose another company.
- c. Car rental is a complex 5 4 3 2 1 simple service.
- d. Overall, the costs of a bad choice of a car-rental company are so high 5 4 3 2 1 so low.

#### Hospitalization Insurance

- 12. a. I rate hospitalization insurance as being of the highest 5 4 3 2 1 lowest importance to me personally.
- b. If my preferred hospitalization insurance company was not available, it would make a big 5 4 3 2 1 little difference to me if I had to choose another company.
- c. Hospitalization insurance is a complex 5 4 3 2 1 simple business.
- d. Overall, the costs of a bad choice of hospitalization insurance company are so high 5 4 3 2 1 so low.

#### PART III

- 13. All purchase decisions involve a certain amount of "risk." On the whole, considering all sorts of factors together, about how risky would you say it is to buy an unfamiliar brand or service offering of each of the following items?

Please circle the number that, in your opinion, reflects the degree of overall risk for each item.

<u>Goods/Services</u>	<u>Not Risky at All</u>									<u>Extremely Risky</u>
Cold Medication . . .	1	2	3	4	5	6	7	8	9	
Restaurant Meals. . .	1	2	3	4	5	6	7	8	9	
Dry Cleaning. . . . .	1	2	3	4	5	6	7	8	9	
Refrigerator. . . . .	1	2	3	4	5	6	7	8	9	
Renting an Automobile	1	2	3	4	5	6	7	8	9	
Hospitalization Ins.	1	2	3	4	5	6	7	8	9	

14. Have you ever looked for information about each of the following goods and services by asking friends, going to the library and searching for information, discussing them with salespeople, or reading their advertisements carefully?

If you have done any of these, please check ( X ) Yes; if not please check ( X ) No.

Cold Medication . . . . .	_____	1. Yes.	_____	2. No.
Restaurant Meals. . . . .	_____	1. Yes.	_____	2. No.
Dry Cleaning. . . . .	_____	1. Yes.	_____	2. No.
Refrigerator. . . . .	_____	1. Yes.	_____	2. No.
Renting an Automobile . . . . .	_____	1. Yes.	_____	2. No.
Hospitalization Insurance . . . . .	_____	1. Yes.	_____	2. No.

15. Have you used the following goods and services, whether you purchased them or not? Please check ( X ) Yes or No.

Cold Medication . . . . .	_____	1. Yes.	_____	2. No.
Restaurant Meals. . . . .	_____	1. Yes.	_____	2. No.
Dry Cleaning. . . . .	_____	1. Yes.	_____	2. No.
Refrigerator. . . . .	_____	1. Yes.	_____	2. No.
Renting an Automobile . . . . .	_____	1. Yes.	_____	2. No.
Hospitalization Insurance . . . . .	_____	1. Yes.	_____	2. No.

16. Have you ever purchased the following goods and services? Please check ( X ) Yes or No.

Cold Medication . . . . .	_____	1. Yes.	_____	2. No.
Restaurant Meals. . . . .	_____	1. Yes.	_____	2. No.
Dry Cleaning. . . . .	_____	1. Yes.	_____	2. No.

Refrigerator. . . . . \_\_\_\_\_ 1. Yes.                    \_\_\_\_\_ 2. No.  
 Renting an Automobile . . . . . \_\_\_\_\_ 1. Yes.                    \_\_\_\_\_ 2. No.  
 Hospitalization Insurance . . . . . \_\_\_\_\_ 1. Yes.                    \_\_\_\_\_ 2. No.

17. People differ in terms of the degree of their familiarity and experience with goods and services. FAMILIARITY is the degree of consumers' knowledge about the features important to them in choosing among different brands or suppliers of a certain good or service.

Based on this definition of familiarity, please indicate for each of the following goods and services how familiar you are, by circling the appropriate number.

<u>Goods/Services</u>	<u>Unfamiliar</u>						<u>Very</u>
							<u>Familiar</u>
Cold Medication . . . . .	1	2	3	4	5	6	
Restaurant Meals. . . . .	1	2	3	4	5	6	
Dry Cleaning. . . . .	1	2	3	4	5	6	
Refrigerator. . . . .	1	2	3	4	5	6	
Renting an Automobile . . .	1	2	3	4	5	6	
Hospitalization Insurance .	1	2	3	4	5	6	

PART IV

18. Assume that you are going to purchase the following goods and services. Other things being equal, how important is price information to you for each item? Please circle the number that most closely reflects the degree of importance you attach to price for each item.

<u>Goods/Services</u>	<u>Price</u>			<u>Price</u>	
	<u>Least</u>	<u>Important</u>		<u>Most</u>	<u>Important</u>
Cold Medication . . . . .	1	2	3	4	5
Restaurant Meals. . . . .	1	2	3	4	5
Dry Cleaning. . . . .	1	2	3	4	5
Refrigerator. . . . .	1	2	3	4	5
Renting an Automobile . .	1	2	3	4	5
Hospitalization Insurance	1	2	3	4	5

19. For some of the following items, you might seek the opinions and recommendations of friends and family members. For other items, you might not need additional information. The question is: How important are the recommendations of family members and friends

that you seek before buying any item among the following? Please circle the appropriate number.

<u>Goods/Services</u>	<u>Recommendations</u>			<u>Recommendations</u>	
	<u>Least Important</u>			<u>Most Important</u>	
Cold Medication . . . . .	1	2	3	4	5
Restaurant Meals. . . . .	1	2	3	4	5
Dry Cleaning. . . . .	1	2	3	4	5
Refrigerator. . . . .	1	2	3	4	5
Renting an Automobile . .	1	2	3	4	5
Hospitalization Insurance	1	2	3	4	5

20. Assume that for each of the following goods and services there is a number of firms competing for your business. For you, how important is friendliness and courtesy of sales people? Please circle the number that closely reflects the importance you attach to friendliness and courtesy of employees for each item.

<u>Goods/Services</u>	<u>Friendliness &amp; Courtesy</u>			<u>Friendliness &amp; Courtesy</u>	
	<u>Least Important</u>			<u>Most Important</u>	
Cold Medication . . . . .	1	2	3	4	5
Restaurant Meals. . . . .	1	2	3	4	5
Dry Cleaning. . . . .	1	2	3	4	5
Refrigerator. . . . .	1	2	3	4	5
Renting an Automobile . .	1	2	3	4	5
Hospitalization Insurance	1	2	3	4	5

21. Other things being equal, assume that each of the following goods and services is available through a number of competing firms that are located far from each other. In your opinion, how important is it that the firm be near you? Please circle the appropriate number.

<u>Goods/Services</u>	<u>Location</u>			<u>Location</u>	
	<u>Least Important</u>			<u>Most Important</u>	
Cold Medication . . . . .	1	2	3	4	5
Restaurant Meals. . . . .	1	2	3	4	5
Dry Cleaning. . . . .	1	2	3	4	5
Refrigerator. . . . .	1	2	3	4	5
Renting an Automobile . .	1	2	3	4	5
Hospitalization Insurance	1	2	3	4	5

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PART V

And Now, I would like to get some information about you and your family. This information will be used for statistical analysis only, and will be kept strictly confidential.

For each of the following questions, please check ( X ) one category.

22. Your Age

1. Under 25 years.     3. 35-44 years.     5. 55-65 years.  
 2. 25-34 years.     4. 45-54 years.     6. Over 65.

23. Your Sex

1. Male                       2. Female.

24. Your Education

1. Graduated from Grammar School.     5. Graduated from College.  
 2. Attended High School.     6. Attended Post-Graduate.  
 3. Graduated from High School.     7. Completed Master or  
 4. Attended College.                      Doctorate.

25. Your Occupation

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26. Your Annual Household Income

(Including all full- and part-time jobs for all household members before tax).

1. Under \$10,000.                       6. \$50,000-\$59,999.  
 2. \$10,000-\$19,999.                       7. \$60,000-\$74,999.  
 3. \$20,000-\$29,999.                       8. \$75,000 or Over.  
 4. \$30,000-\$39,999.                       9. Do Not Know.  
 5. \$40,000-\$49,999.

27. Your Marital Status

1. Single.                       3. Separated.                       5. Widowed.  
 2. Married.                       4. Divorced.

28. Number of Household Members Including Yourself

- |                  |                  |                             |
|------------------|------------------|-----------------------------|
| <u>    </u> 1. 1 | <u>    </u> 4. 4 | <u>    </u> 7. 7            |
| <u>    </u> 2. 2 | <u>    </u> 5. 5 | <u>    </u> 8. More than 7. |
| <u>    </u> 3. 3 | <u>    </u> 6. 6 |                             |

29. Number of Children (11 years & Less) Living in Your Household

- |                  |                             |                      |
|------------------|-----------------------------|----------------------|
| <u>    </u> 1. 1 | <u>    </u> 4. 4            | <u>    </u> 7. None. |
| <u>    </u> 2. 2 | <u>    </u> 5. 5            |                      |
| <u>    </u> 3. 3 | <u>    </u> 6. More than 5. |                      |
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*Thank You So Much For Your Participation.*

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