

A CONSUMER'S TAXONOMY OF SERVICE

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C O P Y R I G H T

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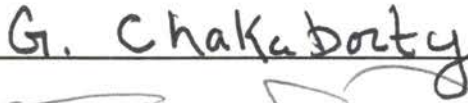
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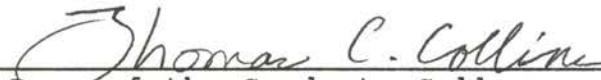
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## PREFACE

The dissertation attempted to empirically develop a taxonomy or classification of services from the consumer's perspective. Prior classifications noted by marketers for products and services from the consumer's perspective were organized. Dimensions used for the classifications were summarized and related to marketing concepts.

Using a Q-sort process to interview consumers, further dimensions were uncovered that consumers use when classifying services. The dimensions were operationalized in a survey instrument. Consumers were surveyed using twenty services. The data was then analyzed to develop classes of services and determine which dimensions significantly affected the classification of services.

Finally, two services from two distant classes were used as stimuli for a survey that measured the quality appraisal of services. Analysis of the quality appraisals indicated that the class of service does not impact the pattern of attributes used to judge quality.

This dissertation would not have been possible without the assistance of many individuals. The advice provided by

my dissertation committee, Dr. Terry Bristol, Dr. Goutam Chakraborty, and Dr. Steve Barr, was invaluable. In particular, I wish to thank my major advisor, Dr. John C. Mowen, for his patience and support during my time at Oklahoma State University and during this process. He has been a tireless mentor.

I would also like to express my gratitude to Scott Jones, and Stillwater National Bank, for providing their customer base for the survey, and financial support to complete the survey.

Finally, but not least, my sincerest appreciation to my soul mate, Joseph. Years ago he planted the seed regarding this degree. He has nurtured the seed through providing an role model and understanding the process.

## TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION . . . . .	1
Background of Services Research . . . . .	2
Research Questions . . . . .	6
Overview of the Research Plan . . . . .	8
Summary. . . . .	14
II. LITERATURE REVIEW . . . . .	16
Prior Classifications of Goods . . . . .	20
Background on Product Classifications	24
Extensions or Deviations of the Basic	
Product Classifications . . . . .	26
Implications for Service	
Classifications . . . . .	28
Dimensions of Prior Classifications. . . . .	29
The Purchase . . . . .	35
The Consumer or Decision Maker . . . . .	40
The Purchase Situation . . . . .	59
Conclusion . . . . .	63
III. METHODOLOGY . . . . .	64
Qualitative Methods . . . . .	65
Sample . . . . .	66
Data Collection. . . . .	67
Analysis . . . . .	69
Quantitative Methods. . . . .	70
Scale Development. . . . .	70
The Sample . . . . .	71
Analysis . . . . .	71
Limited Validation . . . . .	75
Data Collection . . . . .	76
Analysis . . . . .	77
Summary . . . . .	78

Chapter	Page
IV. RESULTS OF RESEARCH . . . . .	80
Qualitative Study . . . . .	80
Sample . . . . .	82
Data Collection. . . . .	86
Analysis . . . . .	87
Quantitative Study. . . . .	99
Numerical Taxonomy . . . . .	99
Measurement Development . . . . .	99
Cluster Analysis. . . . .	110
Limited Validation . . . . .	129
Data Collection . . . . .	129
Analysis. . . . .	133
V. SUMMARY AND CONCLUSIONS . . . . .	143
Discussion . . . . .	143
Overview . . . . .	144
Analysis of Results. . . . .	146
Implications. . . . .	152
Academic Implications. . . . .	152
Managerial Implications. . . . .	154
Limitations . . . . .	156
Future Research . . . . .	159
Summary . . . . .	162
LITERATURE CITED. . . . .	163
APPENDIXES. . . . .	174
APPENDIX A - INTERVIEW CONSENT FORM. . . . .	175
APPENDIX B - PRELIMINARY QUESTIONS FOR INTERVIEW . . . . .	177
APPENDIX C - LIST OF SERVICES. . . . .	179
APPENDIX D - INTERVIEW NOTATION FORM . . . . .	182
APPENDIX E - INTERVIEW SCRIPT. . . . .	184
APPENDIX F - PRETEST INSTRUMENT. . . . .	189
APPENDIX G - PILOT INSTRUMENT. . . . .	195
APPENDIX H - TAXONOMY SURVEY INSTRUMENT. . . . .	201

Chapter	Page
APPENDIX I - PRELIMINARY LIMITED VALIDATION SURVEY	205
APPENDIX J - LIMITED VALIDATION SURVEY. . . . .	207



LIST OF TABLES

Table	Page
I. Organization of Review. . . . .	19
II. Prior Classifications . . . . .	21
III. Respondents' Characteristics. . . . .	84
IV. Distribution of Respondents . . . . .	85
V. Representative Services Named . . . . .	93
VI. Factor Analysis Results - Direct Items. . . . .	106
VII. Factor Analysis Results - Indirect Items. . . . .	108
VIII. Distribution of Sample. . . . .	112
IX. Distribution of Services for Sample . . . . .	114
X. Alpha Scores for Dimensions . . . . .	116
XI. Generalized Squared Distance to Centers . . . . .	119
XII. Discriminant Analysis Results . . . . .	121
XIII. Classification Summary of Clusters. . . . .	124
XIV. MANOVA Results. . . . .	125
XV. Means of Dimension Scores . . . . .	127
XVI. Profile of Clusters . . . . .	128
XVII. Frequency for Limited Validation. . . . .	131
XVIII. Sample Distribution . . . . .	133
XIX. Alpha Scores for SERVQUAL . . . . .	134
XX. Factor Structure of SERVQUAL . . . . .	136

Table	Page
XXI. Correlations of Factors . . . . .	140
XXII. Results of Linear Model Comparison. . . . .	141

LIST OF FIGURES

Figure	Page
1. Procedure for Taxonomy. . . . .	10

## CHAPTER I

### INTRODUCTION

Over the past twenty years the area of services marketing has evolved as a sub-discipline of the marketing field. Although the area has maintained that services marketing is distinct from product marketing, due to the "inherent" differences between services and products (Berry 1980, Rathmell 1966, Lovelock 1980, Shostack 1977), it has devoted little effort to quantifying these differences and how these differences impact the consumer's perception of services.

The recent focus of services research has been on consumer evaluations of the quality of a service once purchased. After five years of research, marketers are still unable to explain the consumer's evaluation of service quality. The solution for this problem may involve determining how consumers organize or classify services. Without understanding how consumers classify services, an essential foundation for any research in the services

domain, it is difficult to understand and predict how consumers evaluate a service once purchased.

### Background of Services Research

The majority of research in the field of services marketing has concentrated on the consumer's evaluation of service quality. Parasuraman, Zeithaml and Berry (1985, 1988) pioneered the service quality construct examining how consumers evaluate the quality of a service once purchased. The examination of the domain of service quality included extensive interviews with consumers and the subsequent development of a scale to measure quality evaluations (SERVQUAL). The scale is a two-part measure of attributes regarding consumer expectations for the service purchased (E version), and evaluations of service performance (P version) after purchase. The authors identified five attribute patterns of service quality: reliability, assurance, empathy, responsiveness, and tangibles.

Subsequent replications of the measurement have failed to support the underlying factor structure of the evaluative attributes. Carman (1990) used the SERVQUAL to measure attitudes toward four types of services he chose as stimuli. His findings were that the pattern of quality attributes differed based on the service used as stimulus.

Cronin's and Taylor's (1992, 1994) findings, using the SERVQUAL, were that quality evaluations were unidimensional, not multidimensional, and that they differ across service industries. Teas (1993) attempted to replicate the original SERVQUAL study using retail services as stimuli but was also unable to replicate the original findings regarding the patterns of attributes used to evaluate quality.

Various reasons have been offered for the lack of SERVQUAL's generalizability. The first reason offered is that the expectations part of the instrument may be faulty. Teas (1993, 1994), and Cronin and Taylor (1992, 1994) found that consumer expectations are relatively constant and, therefore, become a meaningless measure. Cronin and Taylor (1992), comparing the P version of the scale alone to the original scale (P and E versions), found that the P version, by itself, explained more variance in service quality than the P and E versions used together. Peter, Churchill and Brown (1993) and Brown, Churchill and Peter (1993) noted that difference measures, such as the SERVQUAL's use of an E and P version, may have problems with reliability, discriminant validity, and variance restriction.

Another reason noted by researchers is that consumers' evaluations of services may differ across service contexts

or industries. This suggestion was based on the fact that researchers have tended to employ a single stimulus for each sample. With this research design, (i.e. one service stimulus for each sample) one may conclude that the service context may influence the pattern of attributes used to judge quality.

One study used the same stimulus across three separate samples of respondents (Licata, Mowen and Chakraborty 1994). The P (performance) version of the SERVQUAL was employed with a single stimulus, a hospital service. The three samples were a patient sample, a referring physician sample, and a specialist physician sample. Each sample was provided fifteen hospital and specialist attributes on which to evaluate the quality of the hospital's services. The results indicated that when the factors were used to predict the overall quality of the hospital, the pattern of attributes employed by each sample varied in importance (based on beta coefficients).

The specialist physicians, who probably had more first-hand experience with the stimulus, used most of the fifteen attributes to judge the hospital. The significant attributes used by this sample focused on reliability and/or competence. The referring physician sample, while knowledgeable about the hospital, probably had less hands-on experience with the hospital than the specialist but

more than the patient. This sample used the fewest attributes to judge the hospital's quality and focused on the attitude toward, or responsiveness to, the patient. The patient sample, which probably had the least amount of experience with the hospital, judged the hospital using most of the attributes equally to comprise two significant factors.

If the inconsistency of the findings are due to the stimulus (service), the respondent, or an interaction between both, the problem may be that the phenomenon of services has not been fully examined and explained resulting in a faulty foundation upon which to build research. Services researchers have not examined the consumer's perception of services before proceeding to examine how consumers evaluate the quality of services. Hunt (1991) noted that one is capable of predicting a phenomenon only after it has been scientifically explained. For most fields the usual first step to explaining a phenomenon is to develop a classificational schemata of the phenomenon. Once this is accomplished, theory can be developed.

There has never been an empirical study to develop a classificational schemata of services based totally on the consumer's perspective. It seems intuitive that a consumer would classify the purchase of a rental video differently



than the purchase of a funeral director's services. The perceived classification of a service could impact the entire purchase decision making process. It therefore seems that one could not measure the post purchase response to a service purchase without first understanding the pre-purchase classification of the service.

### The Research Questions

This dissertation seeks to provide a foundation for the services marketing area by developing a consumers' taxonomy of services. The goal of the taxonomy is to simply capture how consumers classify services. The resulting taxonomy may: a) enable researchers to understand how consumers perceive classes of services, b) provide insights into the qualities or dimensions of services that are used for classification, and c) predict how the consumer's classification of services will impact the post purchase evaluation of the service. The research questions addressed are as follows.

1. What are consumers' perceived classifications of services?
2. Do consumers employ different dimensional structures in their evaluations of divergent service classes?

3. Does the class of service impact the pattern of attributes employed by the consumer to evaluate service quality?

The contributions of this dissertation can be used by both academicians and managers. By providing the first summary of dimensions used by prior marketers to classify goods and services from the buyer's orientation, a strong nomological network may be formed for future hypothesis generation. The area of services marketing will now have a foundation on which to develop theory via the first empirically derived consumer's classification of services. Utilizing the classification of services to examine what attributes and patterns of attributes consumers use to judge quality may provide a basis for the re-examination of the service quality construct. Finally, through the descriptive summaries developed for the classes of services, the marketing manager can identify appropriate marketing strategies. Managers can also compare marketing strategies with other services that are classified similarly.

## Overview of the Research Plan

### The Taxonomy Research

The dissertation research used the domain sampling model suggested by Churchill (1979). The domain specification begins with a clear definition and continues with a review of pertinent literature based on the definition, and subsequent measurement of the domain. For this dissertation the domain of interest is the consumer's classification of services. Clarification of certain terms regarding the domain are essential. The terms "classes or clusters," "dimensions," and "pattern of attributes of service quality," can be defined, for the purposes of this dissertation, as follows.

\*classes or clusters - the organization of services by a consumer into groups which may impact the decision making process. The services within any class or cluster are more similar to each other than to services in other classes or clusters.

\*dimensions - the direct or indirect (influencing) components or qualities upon which a classification is developed. The dimensions are in the context of the consumer, the service, or the purchase situation.

\*pattern of attributes of service quality - the underlying order of attributes used by consumers to evaluate the quality of a service purchase.

The process for the examination of the domain employed some of the procedures used by Bunn (1993) in classifying the buying decision approaches of industrial buyers. Figure 1 illustrates the two stage process that was utilized to develop the consumer's taxonomy of services. The development of a taxonomy requires a precise definition and identification of the qualities or characteristics (e.g. dimensions) which *a priori* delineate the classes (Hunt 1991). This was accomplished by the processes of literature review and discussion with researchers yielding information on the dimensions consumers may use to classify services.

Steps	Methods
<b>PHASE 1 - TAXONOMY DEVELOPMENT</b>	
Logical Partitioning	
-->1. Specification	*review literature
	*discussion with
	researchers
	*identify dimensions
	*Q-sort interviews
Numerical Taxonomy	
--1. Measure Development	*determine final
	dimensions
	*purify items for
	face validity
	*pre-test
	*pilot test
	*purify items for
	reliability
--> 2. Cluster Analysis	*compute scale scores
	for reliability
	*compute means & std.
	dev. for each stimulus
	*perform initial cluster
	analysis
	*determine number of
	clusters
	*purify to adjust
	cluster members
	*describe cluster
	membership
	*compute means for
	cluster variables
	*perform discriminant
	analysis
	*compute means for
	criterion variables
	*test for differences
	among means
	*develop summary tables
--3. Interpret Cluster Solution	
4. Relate Cluster Membership	
to Indirect Component Dimensions	
5. Describe Categories	

---

\*Procedure borrowed, in part, from Bunn, Michele D. (1993), "Taxonomy of Buying Decision Approaches," Journal of Marketing, 57 (January) pg. 40.

Figure 1. Procedure for Taxonomy Development

The services literature was not adequate to provide information on how consumers might classify services because service researchers have devoted little effort to examining this area. For this reason, the approach used a product analogy by reviewing the literature that included those prior attempts by marketers to classify products, or goods and services, from the consumer's perspective.

The product analogy approach seemed appropriate in light of the fact that Williams and Mowen (1990) noted that there may be more differences among services than between services and products. The authors cautioned against relying solely on the differences between services and products when building marketing theory.

This can be particularly problematic since the services literature has focused empirical research upon using certain service industries and conceptual work across service industries. For example, Parasuraman, Zeithaml and Berry have focused their research on the retail services environment, such as banking, while Zeithaml (1981) and Shostack (1977) have posited on consumer behaviors using a wide range of service contexts. The inconsistency in the literature may mask differences among the service contexts (Williams and Mowen 1990, pg 359). Therefore, it should be possible to review prior goods classification attempts, and

the dimensions used in the classifications, as analogous to the services domain.

Literature review was not sufficient for specification. Q-sort interviews with consumers provided further insights into how services are classified thus completing the first stage of the process. To avoid monothetic classes, the specification stage was followed by a five step "ex post" process.<sup>1</sup> (See Figure 1). This process involved developing a numerical taxonomy that identifies the classes of services by analyzing specific data.

In the first step, measurement development, the qualities or dimensions determined to delineate the classification of services were operationalized via development of scale items to tap the dimensions. The scales were examined by judges for face validity, and pretested to determine further adjustments (Hunt, Sparkman and Wilcox 1982). The pre-tested instrument was then pilot tested and purified for reliability.

The final instrument was administered to adult consumers along with demographic questions (age, income, education, years in the market, ethnicity, gender and marital status). The stimuli used for the scale were the

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<sup>1</sup> Logical partitioning usually results in monothetic classes where each class must possess all a *priori* characteristics to qualify as a separate class (Sokal and Sneath, 1963).

services respondents chose as representative services of groups created in the Q-sort interviews. The instrument was analyzed once again for scale reliability via a Cronbach alpha.

The second step of the numerical taxonomy analyzed the scale via cluster analysis and adjustment of the cluster members (the dimensions of service classes). The third step involved further interpretation of the cluster solutions by examining cluster membership. The fourth step examined external validity by using multiple discriminant analysis. The fifth step clearly defined the clusters by analyzing the differences of dimensions across clusters. Finally, a descriptive summary defined each of the clusters.

#### Limited Validation

The final part of the research used the results of the taxonomy to determine if the consumer's classification of service impacts the patterns of attributes consumers use to judge quality. To effect this four services from two distant clusters were used as stimuli for the P version of the modified SERVQUAL (Parasuraman, Berry and Zeithaml 1991). The survey was administered to students. The SERVQUAL data was analyzed for reliability.



An exploratory factor analysis yielded the attributes and patterns of attributes used to judge quality for each service. The attributes and patterns of attributes, as seen in the factor structure for each service, were then analyzed for associations across services and clusters to determine if the cluster membership of the service impacted the pattern of attributes. Finally, employing a linear model, the factor structures' contributions to the appraisal of overall quality for each service was analyzed to determine if the contributions exhibited an order based on the service's cluster membership.

The results of this part of the dissertation research were not designed to provide a generalizable measure for service quality, but rather to provide insights into the development (or re-examination) of a generalizable measure for service quality.

#### Summary

The area of services marketing research, though providing an interesting conceptual sketch, has ignored a fundamental part of the service domain, the classification by a consumer of services. Thus research on the construct of service quality has been problematic. This dissertation provides the first empirically derived classification of

services based on an integrated summary of dimensions used by prior marketers to classify goods and services. Future theoretical development can utilize the classification as a foundation. The classification was then used to determine if the class of service impacts the attributes used to judge the quality of the service.

## CHAPTER II

### LITERATURE REVIEW

As noted by both Churchill (1979) and Hunt (1991), the initial step to understanding and measuring a phenomenon is to clearly specify its domain. The specification begins with a clear definition and continues with a review of pertinent literature based on this definition. For the purposes of this dissertation the phenomenon of interest is the consumer's perceived classes of services. Definition of the phenomenon includes the qualities or dimensions that may impact the classification of a service.

Meyers-Levy and Tybout (1989) noted that consumers have an existing schema regarding decisions. The schema or classification may be a form of self-defense for consumers, enabling them to simplify their environment (Rosch 1975). Ascribing to this concept, marketers have attempted to classify goods from the consumer's perspective, in an effort to simplify the choice of marketing strategy. It is these classifications around which this literature review is organized.

The organization of the review, as seen in Table 1, is in two major parts. The first part examines prior attempts to classify goods considering the perceptions and behaviors of the consumer. The reasons for this approach, as noted in Chapter I, are first the dearth of effort on the part of services researchers to identify the consumer's classification of services. Another reason is that goods or products may have more in common with services than noted in the services literature (Williams and Mowen 1990).

The second major part of the literature review examines the dimensions marketers used to classify goods. The dimensions used to classify goods represent the qualities or characteristics that marketers assumed affected the consumer's delineation of goods classes. Although marketers have used different labels to describe similar dimensions, the main dimensions will be gleaned from the review.

Part three of the review is organized into three sections related to the dimensions used by marketers to classify goods. The dimensions are reviewed in the following contexts. The first context or section reviews constructs that might apply to the purchase. The second context or section reviews constructs that might apply to the consumer or the decision maker. The third context or section reviews constructs that might apply to the purchase

situation or decision environment. The purpose of this part is to relate the dimensions identified by marketers in goods classifications to extant marketing constructs for operationalizing the dimensions for the numerical taxonomy part of the research.

TABLE I  
THE ORGANIZATION OF THE LITERATURE REVIEW

---

PART 1: PRIOR CLASSIFICATIONS

Review of prior goods/services classifications from the consumer's perspective.

SECTION 1a: Background on product classification attempts.

SECTION 1b: Extensions of product classification attempts.

SECTION 1c: Implications of product classifications for services.

PART 2: DIMENSIONS OF PRIOR CLASSIFICATIONS

Identification and organization of relevant dimensions used in prior classifications of goods/services.

SECTION 2a: THE PURCHASE

Review of dimensions and/or characteristics of the service purchase or decision task that might affect the consumer's classification of services.

SECTION 2b: THE CONSUMER

Review of dimensions and/or characteristics of the decision maker or consumer that might affect the classification of services.

SECTION 2c: THE PURCHASE SITUATION

Review of dimensions and/or characteristics of the purchase situation or decision environment that might affect the consumer's classification of services.

---

## Prior Classifications of Goods

There is a plethora of literature regarding marketers' attempts to identify consumers' classifications of goods. As related to this dissertation, a review of prior classifications is bounded by the following considerations: a) classifications made from only the consumer's perspective or orientation, b) classifications made of tangible and intangible goods, and c) classifications made regarding a good or service from either a profit or nonprofit entity. Table 2 lists the classification attempts made prior that fit the bounds of this review. This table is borrowed, in part, from an article by Murphy and Enis (1986).

TABLE II

PRIOR CLASSIFICATIONS OF GOODS  
FROM THE BUYER'S PERSPECTIVE\*

Researcher, Year	Classes Identified	Dimensions of Classes
Parlin, 1912**	<u>Goods:</u> Convenience, Shopping Emergency	Value, use, effort (mental & shopping) relevance
Copeland, 1923	<u>Goods:</u> Convenience, Shopping,  Specialty	Effort (travel & brand comparison) Level of brand insistence
Bourne, 1956	<u>Goods:</u> Product-plus, brand-minus; Product-minus, brand-plus; Product-minus, brand minus	Level of conspicuousness (social & brand)
Holton, 1958 comparison &	<u>Goods:</u> Convenience, Shopping  (Sub-Class - Specialty)	Price/quality  search cost Limited demand causing special purchase
Luck, 1959	<u>Goods:</u> Convenience, Shopping, Specialty	Brand causes special effort
Bucklin, 1962	<u>Goods:</u> Shopping, Nonshopping (Convenience & shopping) Preference	Effort (shopping) prior to purchase



TABLE II (Continued)

Researcher, Year	Classes Identified	Dimensions of Classes
Dommermuth, 1965	<u>Goods:</u> Shopping matrix (retail outlets by brands searched)	Within product differences
Kaish, 1967	<u>Goods:</u> Convenience, Shopping, Specialty	Effort (Physical and mental)
Nelson, 1970	<u>Goods:</u> Search or Experience	Ability to evaluate
Darby, Karni 1973	<u>Goods:</u> Credence	Inability to evaluate
Mayer, Mason Gee, 1971	<u>Goods:</u> Convenience store/ convenience good Convenience store/ shopping good Convenience store/ specialty good Shopping store/ shopping goods Specialty store/ specialty good	Store (location convenience, service, sales)  Value (price) Satisfaction
Ramond, Assael 1974	<u>Goods:</u> Psychophysical  Distributive velocity,  Mental velocity	Rewards of product knowledge on how these are delivered Stimulus, response and intervening variables on consumer Market and distribution of product

TABLE II (Continued)

Researcher, Year	Classes Identified	Dimensions of Classes
Bucklin, 1976	<u>Goods:</u> Convenience, Specialty, Shopping (Low intensity), Shopping (High intensity)	Brand simi- larity & consumer uncertainty
Jolson, Proia, 1976	<u>Goods:</u> Continuum based on search behavior	Consumer awareness, importance & taste regarding the product
Holbrook, Howard 1977	<u>Goods:</u> Convenience, Preference, Shopping, Specialty	Product characteristics Consumer characteristics (involvement, confidence), Consumer effort & shopping
Fine, 1981 Idea, Issue/Cause	<u>Goods, Services:</u> Tangible product, Service, Profit/	Tangibility, Nonprofit
Lovelock, Weinberg, 1984	<u>Goods, Services:</u> Physical goods, Services, Social Behaviors	Tangibility, Customer & Marketer characteristics
Murphy, Enis 1986	<u>Goods, Services:</u> Specialty, Shopping, Preference, Convenience	Price (effort & risk)
Bowen, 1986	<u>Services:</u> High, Low, Moderate	Customer contact, Marketer's strategy

\*Borrowed, in part, from Murphy, Patrick E. and Ben M. Enis (1986), "Classifying Products Strategically," *Journal of Marketing*, 50 (July), pgs. 26-28.

\*\*Source: Sheth, Jagdish N., David M. Gardner and Dennis E. Garrett (1988), *Marketing Theory: Evolution and Evaluation*, New York: John Wiley and Sons.

## Background on Product Classifications

Most of the classifications noted in Table 2 are results of the Commodity School of Marketing Thought. Marketers in this school attempted to classify commodities as a preliminary step to understanding consumer behavior and decision making. The classifications were based mainly on economic concepts not necessarily on actual behaviors found in the marketer-buyer interaction. It was hoped that from such classification schemes appropriate marketing strategies could be developed (Sheth, Gardner and Garrett 1988).

The first to instill interest in actually classifying goods was Parlin (1912, as noted in Sheth, Gardner and Garrett 1988). He identified three classes of "women's shopping behaviors." Copeland (1923) was the first marketer actually credited with identifying classes of goods. Copeland's classification, like Parlin's, was based on the economic behavior of the consumer in acquiring the good. The classes were defined as:

Convenience - goods purchased with relatively little shopping effort since the stores stocking these commodities are easily accessible.

Shopping goods - goods on which comparisons regarding price, quality, and current style are made.

Specialty - goods that hold a special attraction independent of price.

Other marketers built on Copeland's classification. Holton (1958) noted the need for a slight revision in the classifications since the role of the consumer had not been fully examined. Taking a closer look at the role of the consumer, Holton felt that specialty goods might actually be a sub-class rather than a class because the specialty status is limited in consumer demand. Luck (1959) took exception to this re-ordering of Copeland's classes. He returned specialty goods to a class based on the fact that "specialty" might be a consumer perception based on the advertising of the brand of product.

Bucklin (1962) extended the basic three classes of goods. Examining consumer behavior, Bucklin suggested that the major basis for discrimination might be shopping effort. For this reason, he classified products into shopping or non-shopping classes with convenience and specialty goods being part of the non-shopping class. Up to this point, the classifications noted were developed without thought to theory or testing. Ramond and Assael (1974) attempted to classify products for future theory development and testing by operationalizing the dimensions used to identify classes, though little empirical support has been forthcoming regarding this classification. By and

large, marketers to this point have kept the Copeland/Parlin three part classification in tact.

Extensions or Deviations of The Basic Product Classifications

Table 2 also notes marketers that deviated from the basic three classes of goods noted by Copeland. Holbrook and Howard (1977) extended Copeland's classification to include the additional class of preference good. This is similar to a specialty good with the difference being that a preference good is a non-durable whereas a specialty good is a durable product. Complete deviations from the Copeland/Parlin order of classification can be seen in Bourne's (1956) classification scheme that used the aspects of product class and brand. Dommermuth (1965) classified products by a determination of the number of retail outlets shopped and the number of brands searched. Mayer, Mason and Gee (1971) viewed the classification of goods as a comparison of type of store shopped to type of good needed. Jolson and Proia (1976) took another approach to classifying products by placing them on a continuum based on search behavior.

The marketers noted thus far have focused on classifying products or tangible goods. Six marketers have attempted to classify tangibles and intangibles. Fine

(1981) identified four broad classes of products and services while Lovelock and Weinberg (1984) identified three broad classes of products and services. The most comprehensive attempt to classify tangible and intangible goods was made by Murphy and Enis (1986). Murphy and Enis, utilizing the 1985 AMA definition of marketing that combined ideas, goods, and services as the focus of the marketing process, reiterated the Holbrook and Howard (1977) classification of specialty, shopping, preference and convenience classes. These classes were defined as:

Specialty - products/services for which the consumer will not accept a substitute.

Shopping - products/services for which the consumer is willing to expend a large amount of time and money to obtain.

Preference - highly branded and/or advertised products/services to which the consumer has a predilection.

Convenience - products/services that cause the consumer little purchase effort.

Bowen (1986) attempted a taxonomy of services from both the consumer's perspective and the marketer's strategic perspective. He found three distinct classes, with the major difference between the classes being the level of customer contact.

### Implications for Services Classifications

Services or intangible products, might well fall within the classifications noted by Parlin (1912), Copeland (1923), Holton (1958), Luck (1959), Bucklin (1962, 1976), and Kaish (1967) for tangible products. Convenience services may include laundry, housekeeping, or lawn care. These are services that fit the classic definition of accessibility. The service is familiar to the consumer because he/she can opt to provide the service rather than contracting it to a service provider. Parlin's (1912) emergency services may include emergency room service, funeral services, auto or appliance repair. The need for these services may be based on necessity or criticality leaving little time for a search of alternatives.

Shopping services may include child care, stock broker, or tax preparation. These services usually require a comparison of alternatives. Specialty services might include hair stylist or family physician service. In this case the service has a particular attraction or interest for the consumer. Preference services may be a specific hotel chain or airline from which the consumer will not switch.

Services marketing researchers have sometimes referred to a classification of goods presented by economists as

part of the Economics of Information research stream. The classification has been used by marketers to understand consumer behaviors regarding the purchase and evaluation of services. These are identified in Table 2 with Nelson (1970), and Darby and Karni (1973). Zeithaml (1981) noted that services exist on a continuum based on their evaluative properties. The continuum is bounded by the properties of search (Nelson 1970) (easy to evaluate) to credence goods (Darby and Karni 1973) (impossible to evaluate) with experience goods (Nelson 1970) residing at the midpoint of the continuum.

Search goods or services are those that the consumer can appraise the attributes of prior to purchase, such as checking account services. The consumer can call various banks to compare service features and fees. Experience goods or services are those that the consumer can appraise the attributes of only during or after the purchase/consumption, such as a hair stylist. Credence goods or services are those that the consumer cannot appraise the attributes of even after purchase or consumption, such as a lawyer. Zeithaml's (1981) thesis was that most services fall on the continuum between experience and credence goods.

Summary. Marketers have attempted to classify goods and services for the past eighty-years. The guiding



classification used for most of this period has been the Copeland/Parlin classification of shopping, convenience and specialty goods. The later part of the period saw a persistence in adding to this classification the class of preference good (Holbrook and Howard 1977). Although each classification has dimensions identified upon which the classes are founded, most of the dimensions have not been operationalized to permit empirical support for the classification systems. The next part of this chapter reviews the dimensions used by marketers to classify products and services, and relates the dimensions to marketing constructs. The purpose of relating marketing constructs to the dimensions is to provide a foundation for operationalizing the dimensions for the numerical taxonomy.

#### Dimensions of Prior Classifications

Sheth, Gardner and Garrett (1988) noted in their discussion of the Commodity School of Marketing Thought that the school has not been well developed with respect to syntax, e.g. organization. They suggested that the lack of syntax is due to two deficiencies. The first deficiency involves structure of the concepts. That is, the knowledge developed has been in a random form, for the most part, rather than in a logical grouping. This can be seen in the

various dimensions used to classify goods. There has been no attempt to integrate the dimensions used by marketers in a manner that would form a strong nomological network (Zaltman et al. 1973). Without this network related concepts cannot be grouped to develop hypotheses and related hypotheses cannot be grouped to form theories (pg. 11).

The second deficiency deals with specification of criteria used for classifications. Relationships among the concepts used for dimensions were built on multiple contingencies, weakening any attempt at identifying causal relationships. In summary, the Commodity School of Marketing Thought's deficiency is due to a lack of systematic structure among constructs and specification of the criteria for the constructs used. In an attempt to overcome this deficiency, the dimensions or criteria used to develop classifications of goods listed in Table 2 will be culled down to six dimensions. Four dimensions that related to the consumer are effort, involvement, perceived risk, and preference. The properties of the good/service are the fifth dimension. Finally, situational influences of the purchase situation comprise the sixth dimension. Marketing constructs will be related to these six dimensions.

Consumer Effort Dimensions. Effort is a dimension used for classifying goods by many of the marketers noted in Table 2. Effort has been defined as the value of the sacrifice of shopping effort by Parlin (1912), Copeland (1923) and Mayer, Mason and Gee (1971). Effort has been further divided into shopping effort (Luck 1959, Bucklin 1962, Holbrook and Howard 1977) and mental effort (Kaish 1967). Effort, as defined by the marketers in attempts to classify goods, might be related to information search. Mental effort could be related to internal search whereas shopping effort might be related to external search. The dimension of effort will be examined via information search constructs.

Preference Dimensions. Pre-purchase preference has been used as a dimension by Jolson and Proia (1976), Bucklin (1962), and Copeland (1923). Pre-purchase preference could be related to experience or familiarity with the good which would yield a preference for a specific brand. Knowledge of the good was used as a dimension by Ramond and Assael (1974), which could be related to experience from a prior purchase, or search of alternatives, or advertising (Alba and Hutchinson 1987). The dimension of pre-purchase preference and knowledge will be examined via constructs regarding consumer experience.

Involvement Dimensions. Involvement or relevance has been used as a dimension by Parlin (1912), Jolson and Proia (1976), Holbrook and Howard (1977), and Lovelock and Weinberg (1984). Murphy and Enis (1986), although not using involvement as a major dimension, predicted in their model that preference and convenience goods would hold low involvement for the consumer while shopping and specialty goods would hold high involvement based on the dimensions of risk and effort.

Risk Dimensions. The dimension of risk has been utilized in various forms in classifying goods. Bucklin (1976) used consumer uncertainty as a dimension. Uncertainty is a facet of perceived risk (Taylor 1974). Self-confidence, a dimension used by Holbrook and Howard (1977) influences perceived risk (Taylor 1974). The level of conspicuousness, social and brand, noted as a dimension by Bourne (1956) is related to social risk (Jacoby and Kaplan 1972). Finally, Murphy and Enis (1986) noted that risk related to the overall price of the good (monetary and nonmonetary) was one of two dimensions in their overall classification of goods and services.

Product/Service Properties. Some marketers have used characteristics of the good and/or service as a dimension for classification. Lovelock and Weinberg (1984) and Fine (1981) identified tangibility of the good or service as a

dimension. The services literature discusses the impact of intangibility on the consumer's response to a service purchase. For this reason, certain concepts regarding services will be reviewed in subsequent sections.

Situation Dimensions. Finally, inherent in most of the dimensions used for classification purposes is the situation of the purchase or the framing of the purchase. One of Parlin's (1912) classification dealt with the criticality or necessity of a purchase (emergency good). Many of the marketers that utilized the standard three classifications of goods defined their classifications in terms of the buying situation, (e.g. time/no time to shop), the social situation of the store (Mayer, Mason and Gee 1971), or special purchase task (Holton 1958).

Summary. The problem with most of the attempts to classify goods has been a lack of inter-relations among the dimensions used by marketers for classification. Although the dimensions used by most marketers to classify goods from the consumer's perspective have been labeled slightly differently, they can be related to consumer effort or information search, preference or experience, risk, involvement, properties of the good or service, or characteristics of the purchase situation. To overcome the haphazard application of different labels for similar dimensions, and provide a logical grouping of possible

dimensions used by consumers to classify goods/services, the constructs related to the dimensions will be examined regarding the purchase, the consumer, and the purchase situation.

### The Purchase

Zeithaml (1981) noted that consumers tend to gauge the purchase of a service differently than the purchase of a product. This difference in perception influences subsequent decision processes. The major differences stem from the properties of services (Rathmell 1966, Berry 1980, Lovelock 1980, Shostack 1977). Services, unlike products, are less tangible and therefore difficult to evaluate. Because of the intangible nature of services, Zeithaml (1981) hypothesized that consumers do more post purchase evaluation than prepurchase evaluation.

Another property of services noted that differentiates them from products is the fact they are often customized to the needs of the buyer at the time of the service purchase.

Although a certain level of standardization is possible with some services, such as fast food services, the service provision, if need be can be customized. A lawn care service provider may be able to standardize some of the process by spraying a lawn every month. If the lawn has a

fungus or special weed growth, the lawn care service provider will need to attend to this problem at the same time he/she applies the standard treatment.

Although the differences between services and products has been staunchly defended by service marketers, other marketers have noted that these differences may be less than the differences across service types (Williams and Mowen 1990). Using an ANOVA methodology for comparisons, the authors provided examples of divergence for each of the properties of services. Williams and Mowen felt that focusing merely on the differences between goods and services may lead researchers to a "myopic" view of the total offering, thus hindering any theory development.

Perceived Risk with Services. The level of perceived risk has been noted as higher for a service than a product (Zeithaml 1981, Guseman 1981) due to the difficulty in evaluating most services prior to purchase. Adding to the perception of risk is the fact that few services offer guarantees or warranties. For example, surgeons never offer a money-back guarantee on their service. The problem of evaluation of a service purchase becomes totally a mute point when the buyer does not have the technical expertise to fully understand the service provided. Even if a surgeon provided a money-back guarantee, how could the average patient determine if the service provision was

adequate unless there was a gross error precipitating a lawsuit?

Murray (1991) has noted that because of the higher level of perceived risk associated with services, many decisions regarding the purchase of a service are made under uncertainty. Decisions made under uncertainty, a component of risk, hold the possibility for certain negative consequences. Murray's list of negative consequences included financial, performance, social, psychological, safety and time loss. One way consumers normally attempt to reduce the possibility of negative purchase consequences is to resort to extensive gathering of information thus reducing the inherent risk.

Information Search with Services. Information search in the consumer decision process normally begins internally. That is, consumers call on their memory to recall a group of potential alternatives called the awareness set. The consumer then divides the awareness set into three further sets, the first of which is the evoked or consideration set, which is the group of alternatives that are worthy of further consideration (Mowen 1993).

Zeithaml (1981) noted that the consideration set for a service purchase tends to be small in both size and composition. This is due to the fact that many services need to be experienced to provide information in memory.



In the case of the professional service, advertising is not the norm, thus blocking another source of information recall. For a credence service, even prior experience with a service may not provide information for one's consideration set. Zeithaml also noted that the consumer's evoked set for services may include a self provision set of alternatives which is seldom possible in the consumer's evoked set for products.

If the consumer finds a dearth of internal information for a purchase decision task, external sources are usually sought. Once again, it is difficult for a consumer to gather traditional external information. Few professional services have a rating service, such as Consumers Report, to provide the consumer with performance ratings. As mentioned prior, many services do not advertise. Even for services that may be functioning in a highly competitive environment, such as banks, advertising tends to be fragmented and sporadic providing the consumer with little substantive information. Zeithaml (1981) noted that mass media information on services is only helpful for consumers if the service advertised is a search service.

Another problem with gathering information regarding services is that many services have few alternatives available. Unlike convenience stores or self-service gas stations, there is not a child care facility or a hospital

every four blocks. This lack of alternatives makes gathering shopping information difficult or impossible.

Murray (1991) and Guseman (1981) hypothesized that due to these problems consumers rely more on personal sources of information such as word-of-mouth, expert referrals, or surrogates which are perceived as more believable.

Zeithaml (1981) concurred that word-of-mouth personal sources of information are relied on more in the consumer's search for information in a service purchase situation. These researchers felt word-of-mouth sources of information may also be viewed as an effective way to overcome the perceived risk of the service purchase.

Involvement with Services. Zaichkowsky (1985) noted that product involvement occurs when the product is perceived to be personally important. Based on the inherent risk in purchasing a service, and the inability to reduce the inherent risk by gathering adequate information, most service purchases might be perceived as important and therefore have high levels of involvement. With many product purchases, high involvement results in extensive search for information (Mowen 1993). Information is processed via a central route when gathered under high involvement (Petty and Cacioppo 1986, Petty, Cacioppo and Schumann 1983). In other words, information on substantive attributes is sought and processed.

The service purchase may be highly involving, which would normally initiate central processing of information. Due to limited information available, or the inability of the consumer to process the information, the consumer may be forced to rely on peripheral routes that utilize less than substantive information, depending more on cues such as price, tangibility, or surrogates.

Summary. Service purchases, due to the properties of services, could be perceived differently than product purchases by the consumer. This perception would tend to influence the consumer's classification of the purchase. Such influences include the fact that some services are perceived as inherently more risky purchases than product purchases. The inherent risk makes the service purchase highly involving. Although the consumer may try to reduce the perceived risk by seeking substantive information for central processing, this may not be possible due to a dearth of information and/or the consumer's inability to process pertinent information.

#### The Consumer or Decision Maker

The dimensions of effort, preference, risk, and involvement have been noted in the classification of goods/services. These dimensions can be related to the

constructs of information search (internal and external), experience, risk, and situational and enduring involvement. The following review of literature regarding these constructs is intended to provide information for operationalizing the dimensions.

### Effort

Internal Information Search. The dimension of consumer effort, related to information search, has two parts (Bettman 1979). The first part is mental effort or internal search. When faced with a new decision task, the consumer will go to his/her long term memory to seek relevant information on how to resolve the problem. Influences on the amount of effort used for this task are time, alternatives available, and ability or knowledge (Bettman, Johnson and Payne 1991). If a consumer needs an immediate service, chances are there will be little time for an extensive search of memory. If the consumer needs a complex or technical service, he/she may not have any knowledge of alternatives or the ability to process information on alternatives. Since information from long term memory that is used must be both available and processable (Bettman, Johnson and Payne 1991), the service

purchase situation may be problematic for the consumer to utilize long term memory or internal search processes.

The amount of effort used in recalling possibilities during the internal information search is affected also by the consumer's involvement level in the purchase. The higher the involvement level, the more extensive the search of memory (Mowen 1988). The result of a search of long term memory becomes an awareness set of all possibilities which is further sub-divided into a consideration set of alternatives worthy of further elaboration (Howard and Sheth 1969), and two other groups or sets of alternatives. The first are the inert set or those options to which the consumer is indifferent. The second is the inept set or those options the consumer has rejected. Inherent in this organization of alternatives is the effect of memory and recall.

Alba, Hutchinson and Lynch (1991) discussed the fact that consumers use recall of brands available from memory in the form of taxonomic categories or clusters (Hutchinson 1983). This method of simplifying the information search process is due to the fact that a person's semantic memory has the proclivity to organize items in categories. The organization of brands is often cued by such stimuli as a product display. With a service purchase situation, branding is not always apparent, and there is seldom a

display of services since they are intangible. Therefore, it might be difficult for the consumer to categorize services by brands. The difficulty in utilizing internal search as a sole source of information may cause the consumer to seek external sources of information.

External Information Search. The second part of the information search, the external search process, can not only add to information from memory but also aid the consumer in forming an attitude or changing an attitude toward a purchase alternative (Mowen 1993). The consumer gathers information regarding evaluation criteria used for comparing alternatives, and the relative importance of this criteria. This is effected by seeking information regarding the attributes the alternatives possess and the benefits of those attributes. For a normal product purchase this might take the form of the consumer gathering information from advertising or sales personnel regarding the attributes of a product, such as the wattage level for a stereo receiver. The consumer would also seek information on why wattage levels should be considered when purchasing a stereo receiver, e.g. the wattage provides power for receiving signals.

With a service purchase this task is not always as straight forward. Many services do not advertise, nor do they often have a sales staff to provide such information.

Since the service is intangible, specific tangible attributes are not always available regarding the service alternatives. A parent seeking information for the first time regarding alternatives for child care may not be able to gather information on the attributes of a quality day-care service (e.g. Montessori training, exercise programs, field trips, week-end availability), nor the relative importance of the attributes.

Given these difficulties, many consumers of services rely on personal word-of-mouth information (Zeithaml 1981, Guseman 1981). A parent may rely mainly on another parent's recommendation regarding a day-care service, in essence utilizing the other parent's experiences or internal search information.

Kiel and Layton (1981) found that information search may be a multidimensional construct comprised of time, source, or deliberation. The amount of search may be compressed or spread out regarding time spent. Sources may include media, retailers or sales people, or interpersonal sources. The third dimension may be the number of alternatives deliberated on or seriously considered. The authors found that the greatest predictor of search behavior is the consumer's prior experience with the purchase. This might mean that the greater the consumer's

experience with a service the less effort the consumer will expend in search.

### Experience

Experience or Familiarity. Consumer experience functions at multiple levels beginning with simple experience or familiarity with a purchase, and moving to expertise where the consumer utilizes the experience. A consumer's experience with a product or product class can be from prior usage or purchase, prior information searches, or exposure to advertising (Alba and Hutchinson 1987). The nature and amount of experience a consumer has with a product or brand held in the awareness set influences how the product or brand will be considered in regard to the consideration set, the inert set and the inept set (Woodruff, Cadotte and Jenkins 1983). If a consumer has superficial experience with a product or brand, the product or brand may make it to the consideration set when it should be placed in the inert or inept set.

Experience therefore has many influences on decision making. Jacoby et al. (1986) noted that consumer experience influences the nature of the decision task itself (by enabling the consumer to determine what is known



from what is not known), impacts the environment of the decision (by reducing the uncertainty of a choice or its outcomes), and influences the decision making (approached as an expert or a novice consumer). Alba and Hutchinson (1987) referred to experience as familiarity noting that increases in familiarity often result in consumer expertise.

Expertise. Consumer expertise is the sum of a consumer's capabilities to utilize experiences and knowledge when performing product related tasks (Alba and Hutchinson 1987). In other words, expertise effects the depth of information search and how the consumer's cognitive structure and processes interact to use the information (Jacoby et al. 1986). Alba and Hutchinson (1987) identified five dimensions of expertise which impact how decisions are framed. The first dimension, memory, is effected by expertise in that the more expert the consumer, the more he/she is able to organize and analyze prior experiences. The second dimension, analysis, requires consumer effort. The more expertise the consumer has, the less overall analytical effort is needed because expertise will enable the consumer to know what information is relevant, and the value of the relevant information, thus simplifying the process. The consumer with less expertise would not be as selective in gathering information or

knowing which information is important, thus exerting a great deal more effort.

The third dimension of cognitive structure means that consumers with expertise are better able to discriminate and develop categories. Prior experience helps the consumer complete certain representations of the product thus simplifying the process of classifying or categorizing. The expert consumer, due to experience and expertise, can determine the typical and atypical representatives of choice whereas a novice can only determine the typical representatives of a choice.

Elaboration essentially determines a route for information, such as central or peripheral (Petty, Cacioppo and Schumann 1983). With consumer expertise, the consumer is able to organize information, interpret it, and use it to solve a problem more efficiently using the central route. The final dimension of expertise, cognitive effort, can be less for the expert than the novice. Since the expert is more efficient in the use of his/her cognitive processes, using cognitive effort efficiently means the experienced consumer has expertise.

## Risk

Risk can be defined as an overall perception of the negatives of an action once one considers the negative outcomes and the probability of negative outcomes (Mowen 1993, Dowling 1986). In other words, the consumer might perceive a purchase to be risky if there is a high probability of negative outcomes from making a faulty choice. Bauer (1960) was the first to note that consumers will tend to focus on reducing risk rather than maximizing the utility of the purchase. The higher the degree of perceived risk, the more the consumer will focus on the risk of the purchase and the less he/she will focus on the utility of the purchase. Both Bauer (1960) and Cox (1967) felt that perceived risk was a function of consequences such as cost, importance and uncertainty.

Types of Risk. Because of the emphasis to reduce risk, consumer engage in multiple risk reducing behaviors. Some of these behaviors may trade-off one type of risk for another. Researchers have identified seven types of perceived risk. Jacoby and Kaplan (1972) initially identified five types of risk, those being financial risk, performance risk, physical risk, psychological risk and social risk. The list was added to by Zikmund and Scott (1973, noted in Mowen 1993) with opportunity risk and later

by Peter and Ryan (1976) with time risk. Jacoby and Kaplan noted that similar products may have similar risk hierarchies. From the perspective of the service purchase, one might note that professional health care services hold a high level of performance, physical and financial risk whereas investment services hold a high level of financial, opportunity, performance, and social risk.

As noted by Zeithaml (1981) and Guseman (1981) consumers generally perceive services as riskier purchases than products. Folkes (1988) posited that certain products naturally lead to more perceived risk than others, particularly products that are complex or technical in nature, or carry a high price for purchase, or are new products on the market. Many services fit Folkes' description of risky products. Most professional services (e.g. legal, investment, higher education, medical), are complex or technical and carry a high price tag. If the consumer has not considered a certain service purchase prior, and knows no one that has purchased the service prior, it could be regarded the same as a purchase of a new product.

In addition to the perception of the purchase itself, certain consumer characteristics could lead to a higher perceived level of risk than others. If the consumer is inexperienced the consumer's level of self-confidence will

be lower thus increasing perceived risk (Locander and Herman 1979). If the consumer perceives that he/she is not able to make a satisfactory choice, there will be a higher level of perceived risk (Bettman 1973). These consumer characteristics have been noted in the section on experience. The point is that the expert consumer may perceive a lower level of risk than an inexperienced or ignorant consumer making the same purchase.

Risk Reducing Strategies. As a defense mechanism, consumers will attempt many strategies to reduce the risk of the purchase decision (Taylor 1974). Roselius (1971) noted eleven strategies used by consumers to reduce risk. The most common strategies noted were: a) to stick to purchasing one brand if it meets one's needs (brand loyalty), b) to purchase a major brand (obviously met the needs of the masses), or c) to look for government testing and/or ratings of alternatives.

For example, if the consumer finds that a certain investment service, e.g. Merrill Lynch or Dean Witter, consistently meets his/her investment needs, perceived risk will be reduced by continuing to purchase services from that investment house. Faced with the first time purchase of investment services, the consumer may resort to a nationally known investment service such as Merrill Lynch or Dean Witter. For most services, government testing or

ratings are not an available strategy to reduce the perceived risk of the purchase. Guseman (1981) noted that the most common risk reducing strategies with services were to use a convenient service provided regularly (a form of brand loyalty) or to rely on a friend's past purchase experience.

### Involvement

Information on personal involvement has been left until last because involvement enfolds portions of the constructs examined prior. Involvement is usually viewed as a moderating variable (Rothschild and Houston 1977). It moderates the amount of information sought regarding a purchase (Clark and Belk, 1978, Mittal 1989). Mittal (1989) noted that the increase in information search was dependent on the outcome desired from the purchase, either a functional or expressive outcome.

If the consumer was focused on a functional outcome or satisfaction from the performance of the purchase there would likely be more information search. The functional outcome for a product could be related to the service outcome (Parasuraman, Berry and Zeithaml 1991) of a service purchase, the actual service performed, e.g. check cashed, haircut, motel room. The other possible focus might be on

the expressive outcome of the purchase where the consumer seeks satisfaction from the social-psychological nature of the exchange (Udel 1964). The expressive outcome for a product purchase could be related to the service process, the social and psychological parts of the service exchange, e.g. the politeness of the bank teller, the friendliness of the barber, the accommodating nature of the motel desk clerk.

Antecedents of Involvement. Involvement has certain antecedents related to the consumer (Zaichkowsky 1986), such as the consumer's value system, experience, interests and/or needs. With personal involvement the consumer is involved with any communications regarding the purchase (advertisements, sales pitches) and the product or service itself. Personal antecedents to involvement lead to an increased perceived importance with product class, differences in alternative product attributes, and personal preferences (Zaichkowsky 1986). In other words, for the consumer with a high level of involvement in a purchase the product class of the purchase will become important since the consumer will be seeking differences in attributes among products in the class in order to develop preferences.

Types of Involvement. The literature on involvement has identified four types of personal involvement. The

first is low involvement. According to Zaichkowsky's (1986) definition this would be when the product/service has little connection with the consumer's interests, needs, or values.

Kassarjian (1980) noted that some consumers consistently have low involvement with purchasing situations. He listed two types of low involvement individuals, the first being the "detached type." This individual has minimal interest in the purchase. If forced into a highly involving purchase, (e.g. high perceived risk) the individual will focus on the product or situation. Another type of low involvement individual is the "know nothing." This individual tends to be blissfully ignorant of most purchase situations. If forced into a high involvement purchase, he/she will focus on superficial attributes such as availability, packaging, or affordability.

This is consistent with earlier findings by Rothschild (1974) that consumers with low levels of involvement tend to consider fewer attributes of the product, have wider latitudes of acceptance for alternatives, with a reduced range for rejected alternatives. As well as having a naturally low level of involvement with most purchases, some consumers can have zero involvement with a specific



purchase, essentially behaving without an attitude toward the purchase (Rothschild and Houston 1977).

Rothschild and Houston (1977) identified a mid-range level of involvement labeled higher order loyal involvement. With this type of involvement behavior results from deeply formed attitudes yielding intense brand loyalty. This type of involvement would require prior purchase experience for the brand loyal attitude to result. An example of this type of consumer in the service area would be the business traveler that will only fly American Airlines or stay at a Ramada Inn.

The third type of involvement is high personal involvement. Rothschild and Houston (1977) labeled this as higher order information involvement where the consumer's behavior results from rigorously seeking and analyzing information. Zaichkowsky's (1986) definition would note this consumer as one that finds the purchase highly related to his/her needs, values, interests, making it very important. The results of this involvement are that the consumer seeks and considers many attributes but has a rather narrow latitude of acceptance and a wide range of rejection (Rothschild 1974). The net effect might be more discerning buying behavior.

The fourth type of involvement is unlike the three noted prior. The three types of involvement noted prior

are, for the most part temporary, caused by the need to purchase. The fourth type of involvement, enduring or ongoing involvement (Rothschild 1979) is when the product is strongly related to the individual's self concept or needs. The individual maintains an interest in gathering and updating information on the product. Bloch (1981) defined it best as "the inner state reflecting long term product interest or attachment (pg. 312)." This type of involvement does not need the normal components of involvement such as perceived risk. It may be a pure form of self expression. It takes place independent of any decision task (Bloch, Sherrell and Ridgway 1986). An example of ongoing or enduring involvement with a service purchase might be the stock market enthusiast who follows the market or certain investment accounts regardless of any actual money invested in them.

Dimensions of Involvement. Researchers have debated whether the construct of involvement is unidimensional or multidimensional. Zaichkowsky (1986) measured the construct as unidimensional while Laurent and Kapferer (1985) measured the construct as multidimensional. Jain and Srinivasan (1990), utilizing multiple measures for the construct of involvement, purified a scale that resulted in five dimensions. Those dimensions were relevance (personal importance), pleasure (reward from the purchase), sign or

symbol (expression of the purchase), risk importance (importance of negative consequences), and risk probability (probability of a mispurchase).

The various dimensions impact certain buying behaviors. The highest amount of information search occurs when the involvement dimensions of relevance, pleasure, and risk are foremost. The consumer's discrimination of brand differences is highest when the dimensions of risk are foremost.

Effect on Information Processing. Involvement not only effects the amount of information sought but also the way information is processed. Motivation or involvement is a major component in the Elaboration Likelihood Model (Petty, Cacioppo and Schumann 1983, Petty and Cacioppo 1986) which states that elaboration is affected by motivation (personal relevance, the individual's need for cognition, and personal responsibility) and/or ability (prior knowledge, message comprehensibility, distraction, and repetition). In other words, if a person is highly involved and able to process information, the information will be processed in one fashion, via a central processing route. This central processing route examines information deeply by seeking issue relevant arguments.

The opposite of this situation is if the individual has low motivation and/or unable to process available

information, the processing will be done peripherally focusing on cues or information sources. The important point of the model is that central route processing, which develops more enduring attitudes, is possible only with motivation (involvement) and ability to process issue relevant arguments (Petty and Cacioppo 1984).

Viewing the ELM in light of certain service purchases poses an interesting question. With some service purchases, as noted prior, information is difficult to obtain. Some service purchases are so technical that information obtained on them might be difficult to process. This being the case, it might well be that central route processing regarding a service purchase might only be possible with a highly involving service that is simple to comprehend and provides adequate information. Services such as surgical services, funeral services, and legal services, which may normally be highly involving to the individual, might cause a peripheral route to processing since the information on these services is difficult to obtain and difficult to process once obtained.

Summary. Information search or effort is comprised of both internal and external search (Bettman 1979). Internal sources of information are from the consumer's long term memory. For this type of information to be useful it must be available and processable. Usually, internal

information comes from experience in prior purchases, prior external information searches or recall of advertisements (Alba and Hutchinson 1987). This information may be organized into categories. If there is a lack of internal information, the consumer then turns outward to external sources, such as advertising, rating services, sales personnel, or word-of-mouth endorsements. The depth and breadth of external search is dependent on the consumer's experience and expertise, perception of risk, and involvement.

Risk, the overall perception of the negatives of action once one considers the negative outcomes, and probability of negative outcomes (Mowen 1993), tend to override the consumer's concern for maximizing the utility of a purchase (Bauer 1960). The types of risk one may perceive as part of a purchase are physical, social, financial, psychological, performance, opportunity, and time (Jacoby and Kaplan 1972, Zikmund and Scott 1973, Peter and Ryan 1976). Consumers will engage in various risk reducing strategies as a defense mechanism. These may involve trading off one type of risk for another, depending on a specific brand, or depending on a government rating of a product, or depending on a friends past purchase experiences. Risk has been noted as one dimension of personal involvement.

Personal involvement is a moderating variable that affects the amount of information sought, and the method of processing information. If the involvement level is high, extensive information will be sought. Given availability of information and ability to process the information, the processing under high involvement will be via the central route focusing on issue relevant arguments. If the involvement level is low, limited information will be sought and processing will be via a peripheral route, focusing on superficial points. Enduring or ongoing involvement, which is not situation specific or triggered by a purchase need, is a form of high involvement in which the individual continually acquires and processes information that is related strongly to his/her self-concept. The consumer related dimensions of information search, experience, risk and personal involvement may influence the way an individual organizes or classifies a service for further decision making.

#### The Purchase Situation or Decision Environment

Dimensions that might relate to the purchase situation are those that affect the buyer, but are not actually part of the buyer or decision maker (Mowen 1993). Belk (1975) noted that situational variables are "all

factors particular to time and place. (pg. 158)" with person or decision maker, and choice or purchase, excluded. He noted five situational factors that could affect the buyer's purchase, such as physical factors, social factors, temporal factors, task definition factors, and antecedent states.

Task. The definition of the purchase task can be made by the consumer based on his/her motivation, but impacted by the situation (Belk 1975). For example, the task or purchase may hold a certain degree of difficulty due to complexity of the task. Complexity may be a result of little information or information that is difficult to obtain or understand. When this occurs, consumers often resort to word-of-mouth influence (Mowen 1993). Zeithaml (1981) noted that when a choice cannot be objectively tested, such as a service, or does not actively communicate attributes via advertising, the consumer feels more comfortable using personal recommendations from friends. This is often a way for the consumer to utilize another's experience or long term memory when his/her experience is lacking (Guseman 1981).

Solomon (1986) had noted that consumer's will often use a surrogate in situations where there is little information available, or the information available requires a certain level of expertise or knowledge to

evaluate. The surrogate consumer is viewed as a professional whose expertise would permit the surrogate to simplify the decision making process. The surrogate may have access to information not available to the normal consumer. The surrogate's experience will permit a knowledgeable evaluation of information resulting in a recommendation or purchase for the consumer. Surrogate consumers are often used with services, such as an interior designer, stock broker, or referring physician.

Zaichkowsky (1986) noted that situational involvement increased one's interest regarding the object. The increase in interest could result from the purchase or use of the product/service, or the occasion of use. If the use is very important the results impact information search, time spent on alternatives, and strong consideration of price (Zaichkowsky 1986).

Temporal Influences. Another situational variable that might impact effort is time, or as Belk labeled it temporal influences. If the buyer is pressed for time regarding a decision, he/she may not gather adequate information but rely on availability. When one's car breaks down at 2 AM, the only piece of information needed is which towing service operates on a 24-hour basis. Other attributes become irrelevant in making a decision.



Social Influences. Social situational influences, according to Belk (1975), are comprised of those influences brought about by other individuals involved in the buyer's activity. For example, with the purchase of a health club membership, social influences impacting the decision are the other members. The members may or may not be the type with which one would want to associate.

Physical Influences. Physical situational influences could also influence the framing of a decision. Using the example of a health club membership again, the physical environment of the club (e.g. clean dressing rooms, sauna available, equipment in good repair) could influence the purchase situation. By the same token, a physical situational influence could result in a negative perception. If the health club does not have the correct aerobic floor, or the aerobic instructors are not careful to avoid over-exertion, the purchase situation may have a negative physical situational influence.

Summary. Belk's (1975) situational influences of physical, social, temporal, and task definition can impact various dimensions of the purchase. Temporal influences may effect the information search. The situational influences of physical, social and temporal could increase the perceived risk of a purchase situation, thus affecting the way the buyer frames the decision. Finally,

involvement in the purchase situation can be influenced by the buyer's definition of the purchase task, temporal influences and social influences. These situational influences could impact the way the buyer organizes or classifies the service for further decision making.

#### CONCLUSION

Many marketers have classified goods based on the dimensions of effort or information search, experience, involvement, risk, properties of the good or service, and situational influences. The methodology outlined in Chapter III will attempt to operationalize these concepts to provide a numerical taxonomy of services.

## CHAPTER III

### METHODOLOGY

The methodology for this dissertation attempts to answer the research questions stated previously.

1. What are consumers perceived classifications of services?
2. Do consumers employ different dimensional structures in their evaluations of divergent service classes?
3. Does the class of service impact the pattern of attributes employed by consumers to evaluate service quality?

The methodology employed a triangulation technique of qualitative and quantitative processes (Deshpande 1983, Hunt 1991). The first part of this chapter explains the process used in the qualitative Q-sort interviews. The results of the literature review and interviews provided information for the second stage of the study, the numerical taxonomy.

The quantitative methodologies used in developing a numerical taxonomy of services comprise part two of this chapter. The results of the numerical taxonomy not only attempt to answer the first and second research question but also provide stimuli for the final study. Part three of this chapter describes the methods and analysis techniques employed for a study of the patterns of attributes used by consumers to judge the quality of various classes of services.

#### QUALITATIVE METHODS

The first part of the process of the taxonomy, the logical partitioning, was effected through Q-sort interviews with consumers. The purpose of the Q-sort interviews was three fold. First, the interviews determined if the dimensions identified through the review of literature were all inclusive. The second purpose was to examine first hand how individuals distinguish and group services. The third purpose was to reduce the number of services that could be used as stimuli for the numerical taxonomy.

## Sample

When using an interview methodology the range of insights examined is an important consideration. If the sample of respondents used for the interviewing has little variation, a limited range of insights will be gained. A limit in sample range will also raise concerns regarding representativeness and generalizability of the data. To overcome these concerns, a quota sample that would mirror the population seemed appropriate. Seidman (1991) noted that research should first identify the range of the population of interest and then choose a sample that utilizes the maximum variations within the population range. For most research, he noted that the range can be covered with 25 respondents.

The ranges of the population of interest for the interviews included the following considerations.

1. Age - 25 to 65.
2. Gender - male and female.
3. Education - some high school to terminal degree.
4. Ethnicity - Caucasian-American, African-American, Hispanic-American, Asian-American, foreign born.
5. Marital status - never married, married, single (separated, divorced, widowed).

6. Length of residence - new to community to spent whole life in community.

To ensure a broad range of respondents twenty-five respondents were contacted by phone. The phone call indicated the purpose of the interview, payment for the interview (\$15), and the length of the interview (thirty minutes). Twenty respondents of the twenty-five contacted agreed to the interview.

### Data Collection

The Interview. The interview followed the standard procedures noted by McCracken (1988). Each respondent was read a standard consent form (See Appendix A). The respondent was asked to sign the form. The interviewer retained a signed copy of the consent form while the respondent was given a blank consent form. The respondent was then given a preliminary questionnaire asking for certain demographic information (See Appendix B). The information requested on the preliminary questionnaire was used to document the sample's characteristics.

The Q-sort. The interview used a modified Q-sort technique (Stephenson 1953). The respondents were provided with sixty index cards, each having the name of a different service printed on it. The sixty services were chosen from

a list of services culled from articles reviewed for Chapter Two, either mentioned as examples or used as stimuli for research (see Appendix C). The stack of cards were shuffled prior to the interview to provide randomness to the stimuli. The first part of the Q-sort involved asking the respondent to look over the entire stack.

The second part of the Q-sort involved asking the respondent to divide the stack into two piles. By beginning first with two piles the respondent's thought processes were gradually brought to the mental task of discriminating or classifying the services. The respondent was then asked what criteria was used to divide the stack. The answers were recorded on a response form (see Appendix D). The respondents were then asked to divide each of the two stacks into three piles, thus expanding the mental task into more discriminations. Once again, the respondent was asked the criteria used to divide the stacks into three piles each.

To prepare for the next task, the respondent was asked to note any thoughts he/she might have had about some of the services noted on the cards. The last task required the respondent to pick one service from each of the six piles that might be representative of the pile. The respondent was then asked why he/she chose each service as representative of the pile.

## Analysis

Interview Analysis. The analysis of the interviews was in two parts. The first part of the analysis profiled the sample by analyzing the frequency of respondents in the categories noted on the preliminary interview questionnaire (see Appendix B). These categories were age, gender, years in the community, ethnicity, birth place, marital status and level of educational attainment.

The second part of the analysis involved a review of the notes made during each Q-sort interview. Three judges as well as the researcher independently reviewed the notes made on each Q-sort. Through subsequent discussion among the judges and researcher additional dimensions that may have surfaced were examined.

A critical result of the qualitative process was determining whether the dimensions found through the literature review were all inclusive. Hempel (1965) noted that classification systems have higher reliability when they are based on several indicators. Reliability becomes particularly important when the classification is to be used for prediction. The dimensions identified through a review of the Q-sort transcripts were noted as direct component dimension, or those dimensions that reflect what consumers think. The dimensions identified through the



literature review but not identified in the transcripts were noted as indirect component dimensions.

The services chosen as representative of the groups of services respondents created in the Q-sort were analyzed. Twenty services were identified for use as stimuli in the numerical taxonomy based on the type of industry represented, respondents' comments regarding the service, and frequency of choice.

## QUANTITATIVE METHODS

### Scale Development

Existing scales that might measure the dimensions were reviewed (Bruner and Hensel 1992, Bearden, Netemeyer and Mobley 1993). When appropriate, an existing scale was used to measure a dimension. If there was not an existing scale available, multiple items (minimum of three) were developed to measure the dimension. The instrument with scale items to measure all the dimensions and demographic questions (age, income, education, years in the market, marital status, ethnicity and gender), was attached to twenty service stimuli and judged by three professors for face validity.

The resulting version from the face validity judging was pretested on ten adult consumers (Hunt, Sparkman and Wilcox 1982). After further revisions resulting from the pre-test analysis a third version was pilot tested using one hundred and twelve undergraduate students. The pilot test results permitted purification of the instrument for the numerical taxonomy.

### Sample

The sample for the numerical taxonomy was comprised of adult consumers that were currently in an on going service relationship. To effect this two sources of respondents were used. Seven hundred customers of a bank were mail surveyed with a 40% response rate. Active members of two churches were surveyed in person. The results of the surveys yielded 233 usable surveys from bank customers and 76 usable surveys from church members. The distribution by service stimuli were such that each service stimuli had a minimum of 15 usable surveys.

### Analysis

The first analysis involved checking the internal consistency for each scale dimension via Cronbach alpha.

Once the instrument was finally purified it was ready for the further multivariate techniques of cluster analysis, discriminant analysis and MANOVA.

Cluster Analysis. A cluster analysis was employed on the direct dimensions. To maintain the  $N \times N$  matrix necessary for cluster analysis, the respondents' scores for each service stimulus were averaged for each of the direct dimensions. It was this average score that was part of the cluster matrix, not the individual respondent's scores. The method of cluster analysis used was a hierarchical agglomerative employing the WARD method option. This option is chosen to minimize the variance within each cluster (Aldenderfer and Blashfield 1984, Punj and Stewart 1983). The cluster analysis employed the SAS CLUSTER procedure.

The similarity measure of choice for this analysis was the Mahalanobis  $D^2$  using the correlations of variables from the variance-covariance matrix. This is also referred to as a distance measure. Aldenderfer and Blashfield (1984) noted that when a cluster analysis procedure is specified, one should also explain the method for determining the number of clusters and the validity of the cluster solution. To determine the number of clusters two procedures were utilized. The first procedure involved checking the dendogram. The second procedure involved the

use of the agglomeration schedule using the Ward method. This has been compared to the use of a Scree plot in factor analysis (Aldenderfer and Blashfield 1984).

To determine the reliability and validity of the cluster solution, various discriminant analysis procedures were employed. With this process the clusters become the group variables for a discriminant analysis. The direct dimensions, which were used to form the clusters, become the predictor variables for the first discriminant analysis. The distance measures for each cluster were compared for the various direct dimensions. The second process involved using a sequential (iterative) discriminant analysis, as used by Bunn (1993). This has been noted as an extension of the centroid K-means method (Dillon and Goldstein 1984).

Multiple Discriminant Analysis. Analyzing the service clusters in light of the direct dimensions provides only part of the information sought in this study. There is also an interest in how the indirect dimensions influence the service classification. To understand this a multiple discriminant analysis procedure was utilized. The clusters were the dependent variables while the indirect dimensions were the independent variables. Once again the data was collapsed across respondents with the mean score for each

indirect dimension for each cluster being used in the independent variable part of the equation.

The results of the analysis provided information on the number of significant ( $\alpha < .05$ ) discriminant functions. The procedure also provided F statistics to indicate the significance level for each indirect dimension. The results identified the indirect dimensions that were significant ( $\alpha < .05$ ) influencing the direct dimensions when the consumer classifies a service. Those indirect dimensions found not to be significant were dropped from further analysis.

MANOVA Analysis. The importance of the direct dimensions on a consumer's classification of services and the significance of various indirect dimensions on the classification process should vary across the classes of service. To determine the differences across classes or clusters, and where the differences can be found, a MANOVA procedure was utilized. The clusters were the independent variables while the significant indirect and direct dimensions were the dependent variables. The mean score for the indirect and direct dimensions for each cluster were used in the equation.

The first part of the procedure employed a preliminary test for appropriateness of the data using Bartlett's Test of Sphericity. Following this an omnibus test was

performed to determine if a difference existed across clusters. Since the omnibus test indicated a significant ( $\alpha < .05$ ) difference, an additional procedure was employed to determine specifically where the differences existed. To overcome the possibility of alpha inflation, this additional procedure was a Bonferroni Test of Inequality (Bray and Maxwell 1985).

Descriptive Analysis. The results of the analyses to this point provided information to describe how the dimensions, both direct and indirect, are used by consumers when classifying services. To organize this information a descriptive table was generated that profiles, for each class of service, the level of each dimension. The table also provides a list of services that comprise each cluster. This table of descriptions might provide insights for further theoretical development regarding service purchases.

#### LIMITED VALIDATION

The third research question this dissertation attempts to answer is if the class of service impacts the attributes and patterns of attributes consumers use to judge the quality of a service purchase. To effect this, it seems appropriate to return to the work done by Parasuraman,

Zeithaml and Berry (1988) regarding the determinants of service quality or the criteria consumers use to judge service quality. In the 1988 study, the authors found five patterns of attributes (quality dimensions) as criteria to judge services. These were reliability, responsiveness, empathy, assurance and tangibles.

#### Data Collection

The existing P version of the modified SERVQUAL (Parasuraman, Berry and Zeithaml 1991) was used. The survey also included an item regarding the overall quality of the service. The choice of stimuli used for the instrument were two services from two distant clusters. A preliminary survey of respondents identified four services the sample had purchased/used in the past calendar year that were part of two distant clusters (using the generalized squared distance as an indication).

Sample. The sample was one hundred and thirty-five undergraduate students. Data collection took place during normal class time. The respondents that volunteered to take part in the research were provided with extra credit points.

## Analysis

As a manipulation check of the stimuli used in the limited validation, a discriminant analysis was employed on the services' clusters using the four significant dimensions as the independent variables. The CROSSVALIDATE option was specified.

The reliability of the instrument was tested via Cronbach alpha. An alpha was extracted for the overall sample as well as for each of the four service stimuli. An exploratory factor analysis was then employed on the modified SERVQUAL items for each service. As suggested by Stewart (1981) the process included a Kaiser's MSA to determine the adequacy of the items for factor analysis. Criteria for analysis of the factors followed that suggested by Hair, Anderson and Tatham (1987). Items included in each factor had a factor loading of 0.50 or more and did not load more than 0.50 on any other factor.

The resulting factor structures were compared via Pearson correlations of factor index scores to determine if the class of service affected the factor structure. Finally, the factor scores for each service were entered as independent variables in a model with overall quality for the service as the dependent variable. The contribution of the factors on overall quality were identified for each



service to determine if the class of service impacted the contribution of factors to overall quality.

#### SUMMARY

The purpose of the methodology was to answer three research questions noted prior. The first two research questions are as follows.

1. What are the consumer's perceived classifications of services?
2. Do consumers employ different dimensional structures in their evaluations of divergent service classes?

A triangulation technique (Deshpande 1983, Hunt 1991) of qualitative Q-sort interviews and a quantitative numerical taxonomy was employed to answer these two questions. The numerical taxonomy used cluster analysis, discriminant analysis, multiple discriminant analysis and MANOVA procedures. The taxonomy or clusters were described regarding the levels of the dimensions that result in each cluster and the services that comprise each cluster.

The third research question, "Does the class of service impact the patterns of attributes employed by the consumer to evaluate service quality?" was answered via a limited validation of the SERVQUAL. Four services, two from two distant clusters, were used as stimuli to test the

P version of the modified SERVQUAL. An exploratory factor analysis was employed for each service. The factors for each service were then compared using correlations. The relative contribution of the factors in predicting overall quality were examined for each service in a linear model. The correlations and linear models were then used to determine if the class of service (cluster) affected the evaluation of overall quality.

## CHAPTER IV

### RESULTS OF RESEARCH

The results of the research are organized in three sections of this chapter. The first section explains the process and results of the qualitative study involving Q-sort interviews with consumers. The second section explains the processes and results of the numerical taxonomy survey of adult consumers. The third section explains the processes and results of the limited validation of the SERVQUAL.

#### Qualitative Study

The first phase of the numerical taxonomy required using qualitative research methodology in the form of Q-sort interviews (See Figure 1). The purposes of the interviews were threefold. First, to determine if the dimensions noted in the Chapter II literature review were all inclusive. These dimensions were organized in three contexts, the consumer context, the service context, and the purchase situation context. For the consumer context,

the dimensions of search, experience, involvement, and perceived risk were identified. For the service context the dimensions of information availability, alternative choices, and the evaluative properties of the service were identified. For the purchase situation, the dimensions of time, physical, social, and task definition were identified (Belk 1975).

The second purpose of the interviews was to examine first hand how people distinguish and group services. This was done by providing respondents with cards noting sixty services and asking them to eventually separate the sixty services into six distinct piles (See Appendix C for a list of services used).

Services, for the purposes of this study, were conceptualized as being on three levels. The first level, the most abstract, was the industry level. The next level was the categories of services within industries. The last level, the most specific, was comprised of exemplars of the categories. For example, an industry might be health care, with categories of family medicine, specialized medicine, counseling, in-patient, out-patient, or emergency room service. Exemplars of specialized medicine might be heart by-pass surgery, pediatric immunization, or an eye examination. The sixty services used in the interviews were all categories of services within various industries.

The interview process began by asking the respondents to first separate the sixty services into two distinct piles, then separating each of the two piles into three distinct piles. After each task the respondents were queried as to the rationale behind their behavior. Responses were noted on interview forms (Appendix D).

The third purpose of the interviews was to reduce the number of service categories gleaned from the literature (the sixty services listed in Appendix C), to a manageable number for later use as stimuli in the numerical taxonomy. This was done by having respondents choose a representative service from each of the six piles.

### The Sample

Seidman (1991) noted the importance of collecting insights during the interview research from a wide range of respondents. To ensure representativeness of the population of interest, and generalizability of results, the sample should represent the broad ranges of the population. As noted in Chapter Three, the range of the population of interest was as follows.

1. Age - 25 to 65.
2. Gender - male and female (M or F).

3. Education - some high school (<H.S.), high school graduate (H.S.G.), some college (S.C.), college graduate (C.G.), graduate degree (G.D.), terminal degree (Term.).
4. Ethnicity - Caucasian-American (C-A), African-American (Af-Am), Hispanic-American (H-A), Asian-American (As-Am), Native-American (N-A), Foreign born (For.).
5. Marital status - never married (N), married (M), single (S), (separated, divorced, widowed).
6. Length of residence - new to community (<1), to spent whole life in community (Life).

To ensure that there was broad variation among the sample chosen, and that the sample mirrored the population, a quota sampling was made. Twenty-five individuals that would fit the categories identified were contacted. Twenty individuals finally agreed to be interviewed.

The respondents' category placement is illustrated in Table III which follows. Respondents were distributed evenly on gender. Regarding age, the range of ages were from twenty-five to seventy-five years of age. The full range of ethnicity, marital status, education, and length of residence (Yrs. in Market) were represented in the sample. The sample was drawn from two markets, a major MSA as well as a small city.

TABLE III  
DISTRIBUTION OF RESPONDENTS' CHARACTERISTICS

Resp.	Sex	Age	Ethn.	Marital Status	Educat.	Yrs. in Market	Market
1	F	55+	C-A	M	S.C.	10-20	St.
2	F	25-34	C-A	M	S.C.	life	St
3	M	45-54	C-A	M	S.C.	1-9	Tu.
4	F	35-44	Af-Am	S	S.C.	1-9	Tu.
5	F	35-44	C-A	M	S.C.	10-20	St.
6	M	35-44	N-A	M	C.G.	1-9	St.
7	M	35-44	C-A	M	S.C.	10-20	St.
8	M	55+	C-A	M	Term.	20+	St.
9	F	25-34	As-Am	M	G.D.	<1	St.
10	M	35-44	Af-Am	M	S.C.	life	Tu.
11	M	35-44	H-A	M	G.D.	10-20	St.
12	F	25-34	C-A	N	S.C.	1-9	Tu.
13	M	25-34	For.	N	S.C.	1-9	St.
14	M	25-34	C-A	N	C.G.	1-9	St.
15	F	25-34	C-A	N	S.C.	1-9	St.
16	M	35-44	C-A	S	H.S.G.	1-9	St.
17	M	25-34	Af-Am	S	H.S.G.	1-9	St.
18	F	25-34	C-A	M	<H.S.	1-9	St
19	F	25-34	C-A	M	H.S.G.	10-20	St.
20	F	55+	C-A	S	H.S.G.	10-20	St.

A summary of the frequency distribution of the twenty respondents by categories follows in Table IV.

TABLE IV  
DISTRIBUTION OF INTERVIEW RESPONDENTS

Category	Number (%age)
<b>Sex</b>	
Male	10 (50%)
Female	10 (50%)
<b>Age</b>	
25-34	9 (45%)
34-44	7 (35%)
45-54	1 ( 5%)
55 or more	3 (15%)
<b>Ethnicity</b>	
Caucasian American	13 (65%)
African American	3 (15%)
Asian American	1 ( 5%)
Native American	1 ( 5%)
Hispanic American	1 ( 5%)
Foreign Born	1 ( 5%)
<b>Marital Status</b>	
never married	4 (20%)
currently married	12 (60%)
currently single	4 (20%)
<b>Education</b>	
Some high school	1 ( 5%)
High school grad	4 (20%)
Some college or technical	10 (50%)
College graduate	2 (10%)
Graduate work or degree	2 (10%)
Terminal degree	1 ( 5%)
<b>Years in market</b>	
Less than 1 year	1 ( 5%)
1-9 years	10 (50%)
10-20 years	6 (30%)
more than 20 years	1 ( 5%)
all life	2 (10%)
<b>Market</b>	
Stillwater	16 (80%)
Tulsa	4 (20%)



## Data Collection

The Pretest. An interview script and index cards noting sixty service categories were prepared. To ensure that the interview script would serve the purposes of the research, the interview was pretested on three adults. The pretest respondents were asked after the interview if they would suggest any changes to the instructions given during the interview. Suggestions were incorporated into the final script. The final script can be found in Appendix E.

The Interviews. Each respondent was given \$15 for his/her time in the interview. The interview followed the standard procedures noted by McCracken (1988). Each respondent was read a standard consent form (See Appendix A). The respondents were asked to sign the form. The signed forms have been retained by the interviewer while the respondents were given an unsigned consent form for their records. Respondents were then asked to complete a preliminary questionnaire asking for certain demographic information (See Appendix B). The information on this preliminary questionnaire was tabulated for Table III and Table IV.

The script for the interview can be found in Appendix E. The script was meant to, first get respondents thinking about what services are, then ask them to review service purchases they made in the past year. Once this had been

accomplished, the Q-sort began (Stephenson 1956). Each respondent was told that they would eventually make six piles out of the sixty cards, but would begin the process by making two distinct piles. After making the two distinct piles, respondents were asked what reasons they used to separate the cards.

Respondents were then asked to make three distinct piles from each of the two piles. Once this was accomplished, they were once again asked what reasons they used to separate the cards. Finally, respondents were asked to choose one card or service from each of the six piles that they felt represented each pile. Once completed, the respondents were asked why they chose the cards or services as representative of the piles. Finally, respondents were asked if they had any other thoughts while going through the sorting process. Interviews were recorded on an Interview Notation Form (See Appendix D).

### Analysis

Analysis of Dimensions. Interview notes were reviewed by three professors and the interviewer to determine if any further dimensions had been uncovered during the interviews. The analysis involved noting overall themes

used by respondents in making the two sorts and choosing a representative service from each pile.

Themes that were noted within all three parts of the interview among the respondents were: a) need for the service, b) personal or family relevance, c) hedonic or pleasure themes, d) money related themes, e) experience with the services theme, f) a frequency or time orientation theme, and g) what was labeled a self-service theme.

The theme of need, or task definition, was noted by all the respondents. Comments such as "I'd divide the cards by what I would eventually need versus what I will not need in the future." and "I decided if I was inclined to use it or need it." and "This pile is necessities." illustrate the theme of need. Hedonic or pleasure themes were noted by most of the respondents by comments such as "These are fun and leisure things." or "These services are entertainment, not business." or "These are pleasure things." Personal or family relevance themes were noted by comments such as "These are the most important to me." or "All the representative services chosen are related to me in some way." or "I picked the one service from each pile that was most relevant to our family."

Money related themes could be illustrated by comments such as "These are things you have to pay for the first of each month." or "These are things that are related to money

issues." or "These have to do with finances." Experience themes were noted by comments such as "I figured if I had used the service I would put it in this pile." or "The choice was determined by my use of the service in the past." or "These are services I have not used in the past year or so."

The frequency or time orientation theme was noted in comments such as "I noticed that some of these I purchase regularly or only once a year." or "These are emergency, 'I need it now' services." or "These piles are things I use once a week, once every three months, and less often. In other words most frequently to least frequently used." The self-service theme was illustrated by such comments as "All these services I can do for myself." or "These are chores I can do myself." or "These are routines performed by yourself."

The dimensions of need, hedonic or pleasure, and personal or family relevance, are part of the concept of multidimensional involvement (Laurent and Kapferer 1985, McQuarrie and Munson 1986, Jain and Srinivasan 1990). Consumer involvement was identified through the literature review. Consumer experience was also identified through the literature review. Money related themes could be related to perceived risk, which was identified through the literature review. Perceived risk is part of

multidimensional involvement. Frequency or time orientation, which could be related to the situational influence of time (Belk 1975) noted through the literature review, appeared to be part of a consumer context.

The dimension of self service was not identified through the literature review, although Zeithaml (1981) hypothesized that for services of a nonprofessional nature the evoked set of the consumer may include a "self-provision" for service. Therefore the dimension of self-service becomes an additional dimension to be measured. In reviewing the interviews, the judges also felt that there appeared to be strong feelings or overall affect regarding many of the services. Affect was not identified in the literature review and therefore becomes an additional dimension to be measured.

It was determined that the themes identified during the interviews might be the direct components used for the classification of services. The reason for this was that, as noted in the script used for the interviews (Appendix E), the respondents were asked for top-of-mind reasons for their choices of piles and representative services. There was no extensive probing done during the interview. Because of this, it was determined that the following dimensions might be viewed as direct components of service classification.

Consumer Contexts:

1. multidimensional involvement (need, personal relevance, hedonic or pleasure, and perceived risk),
2. experience,
3. self-service.
4. temporal or time orientation.
5. affect.

These direct component dimensions were operationalized into a survey instrument and purified. The results of the survey were used in the cluster analysis and discriminant analysis.

The following dimensions, noted in the Chapter Two literature review, were not themes found in the Q-sort interviews and become the indirect components.

Consumer Contexts:

1. search.

Service Contexts:

1. choices available,
2. information availability,
3. evaluative properties of the service.

Purchase Situation Contexts:

1. physical,
2. social,
3. task definition.

These indirect dimensions were operationalized and purified along with the direct dimensions for the survey. Analysis of the indirect dimensions was done by multidiscriminant analysis and MANOVA.

Representative Service Choices. As noted earlier, in the third part of the interview respondents were asked to choose a representative service from each of the six piles. The representative services were categories of services that were part of eight industries. The industries represented were leisure or entertainment, transportation, repair, insurance, health care, education and learning, home services, and specialized or professional services. The following table (Table V) indicates the categories chosen within each industry and the frequency of times the service category was chosen as representative.

The services noted as representative were reviewed in light of the comments made by respondents, the frequency of mention, and membership in an industry. Based on these three criteria, twenty services were chosen to become stimuli for the quantitative part of the numerical taxonomy. The twenty services chosen have asterisks in Table V.

TABLE V

## SERVICES NAMED BY RESPONDENTS AS REPRESENTATIVE

INDUSTRY/Category (Frequency of mention)	INDUSTRY/Category (Frequency of mention)
<b>FINANCIAL</b>	<b>LEISURE/ENTERTAINMENT</b>
Credit card (5)*	Amusement park (7)*
Checking account (3)*	Movies (3)
Home mortgage (2)	Concert (1)
Investment (4)*	Hotel/motel (3)*
	Museum (1)
	Resort (1)
	Travel agent (1)
<b>HEALTH CARE</b>	<b>TRANSPORTATION</b>
Weight loss (4)	Air travel (3)*
Family medicine (5)*	Auto leasing (1)
EMR** (1)	Mass transit (3)
Specialized medicine (5)	Taxi service (2)
Counseling (4)*	
<b>HOME SERVICES</b>	<b>SPECIALIZED/PROFESSIONAL</b>
Gas utility (1)	Tax preparation (2)*
Trash collection (2)*	Legal (7)*
Appliance repair (2)	Word processing (2)
Plumbing repair (1)	Copying/FAX (2)
Laundry (1)	Employment service (3)*
Maid/housekeeping (2)*	Funeral service (2)*
Interior design (3)*	Hair stylist/barber (1)*
Lawn care (3)	
Moving/storage (4)*	
Pest service (2)	
Real estate (1)	
<b>INSURANCE</b>	
Auto (2)*	
Homeowners (3)	
Life (3)	
<b>LEARNING</b>	
Child care (4)*	
Higher education (7)*	
Library (1)	
Public education (2)	
**Note: Emergency Medical Room service	



From the financial industry the categories of credit card, checking account and investment were chosen. All have respectable frequencies of respondent choices (5, 3, and 4 respectively). Respondents seemed to have diverse experiences with these services. There also was an indication that some of these services were perceived as necessities while some were not perceived as necessities. Some respondents felt these services held a degree a risk associated with their purchase. Checking account was identified by some respondents as relevant to the individual or family. Finally, the three categories could be perceived differently on the self-service dimension (e.g. one could exist on a cash basis and/or make one's investment decisions, or leave these services to a service provider).

The health care industry categories of family medicine and counseling were chosen. Based on respondents' comments both had respectable frequencies of choice (5 and 4 respectively). Both appeared to hold a degree of personal or family relevance. Respondents, overall, noted a degree of experience with these services. Both services could be perceived as necessary or unnecessary by consumers. Respondents were mixed regarding the self-service capabilities for these services. For example, one respondent noted that he takes care of most family

medicine. Another respondent noted that she substitutes her religion for counseling.

Choices from the home industry include maid/housekeeping, interior design, moving/storage, and trash collection. These categories had respectable frequencies (2, 3, 4, 2 respectively). Regarding these four categories of services, respondents had a wide range of experiences with them as well as differing perceptions of personal or family relevance. Also, some respondents perceived these could be handled via self-service. Most noted the need or necessity for trash collection whereas many noted that maid/housekeeping or interior design services were something they did for themselves. A few respondents noted that when moving/storage is needed it represents a dramatic change in one's life that included feelings of risk.

From the insurance industry the category of auto insurance was chosen. Although the frequency was only 2, most respondents noted that this was a service everyone needed, therefore it might be quite relevant and most would have experience in purchasing the service. Auto insurance was also a category that could not be perceived as having a self-service option due to most state laws mandating auto coverage.

In the learning industry, the categories of child care and higher education were chosen. Both had the highest frequencies for the industry (4 and 7 respectively). Many respondents had either first hand or close experience with these services. Respondents indicated these services were personally relevant. In today's market, both of these services represent a financial concern for the service purchaser. The interesting point in choosing these services is that they may represent opposite ends of the self-service continuum. While one cannot provide him/herself with legitimate higher education, one can opt to care for his/her own children as opposed to contracting this service.

From the leisure/entertainment industry, the categories of amusement park and hotel/motel were chosen. The frequency of choices were 7 and 3 respectively. Comments indicated that many individuals may regard these services as leisure or entertainment, and also costly, a luxury (not necessity), and having a great deal of personal or family relevance. All respondents had experience with these services. These services did not seem to hold a self-service option for the respondents.

From the transportation industry the category of air travel was chosen. All respondents noted having recent experience with this service. The perceived risk may be

high for the service purchase. Respondents noted that the service, when utilized, was very relevant, either from a leisure perspective or an emergency/necessity perspective. Finally, this is a service that few individuals can provide for themselves.

The industry that was noted as specialized or professional, for lack of another title, contained five service categories chosen. These were tax preparation, legal, employment services, funeral services, and hair stylist or barber. Each of these services seemed to be unique from the perspective of respondents' experiences, relevance, perceived risk, necessity, and self service capabilities.

Summary. Based on the Q-sort interviews it was decided that for the quantitative part of the numerical taxonomy twenty service categories would be used as stimuli. These services are:

1. credit card,
2. checking account,
3. investment,
4. family medicine,
5. counseling,
6. trash collection,
7. maid/housekeeping,
8. interior design,

9. moving/storage,
10. auto insurance,
11. child care/day care,
12. higher education,
13. amusement park,
14. hotel/motel,
15. air travel,
16. tax preparation,
17. legal,
18. employment service,
19. funeral service,
20. hair stylist/barber.

The direct dimensions to operationalize and measure are:

Consumer Contexts:

1. multidimensional involvement (need and/or personal relevance, hedonic or pleasure, and perceived monetary risk),
2. experience,
3. self-service,
4. temporal or time orientation
5. affect.

The indirect dimensions to operationalize and measure are:

Consumer Contexts:

1. search.

Service Contexts:

1. choices available,
2. information availability,
3. evaluative properties of the service.

Purchase Situation Contexts:

1. physical,
2. social,
3. task definition.

Quantitative Study

Numerical Taxonomy

Measurement Development

Item Generation. In keeping with the suggestions of Churchill (1979), at least three items were generated to operationalize each dimension. Existing marketing scales were reviewed seeking scales to measure the eleven dimensions identified from the Q-sort interviews. It was determined that only items from existing scales that operationalized multidimensional involvement could be borrowed.

Items to operationalize the relevance or importance dimension of involvement were borrowed from McQuarrie and Munson (1986), and Jain and Srinivasan (1990). Items to

operationalize the hedonic or pleasure dimensions of involvement were borrowed from Higie and Feick (1988), and Jain and Srinivasan (1990). Items to operationalize the sign dimension of involvement were borrowed from Higie and Feick (1988), and Jain and Srinivasan (1990). Items to operationalize the risk dimension of involvement were borrowed from McQuarrie and Munson (1986), Ratchford (1987), and Jain and Srinivasan (1990). Items to tap the remaining dimensions were generated.

Seventy items were generated to tap all dimensions using a seven point Likert scale. Six questions regarding demographics were also included (age, marital status, ethnicity, years in the market and education). The instrument was judged by three professors for wording of items and face validity. Only items that all judges found to have face validity were kept. Sixty-five items were retained. Minor wording changes were made to the sixty-five items. The instrument containing the sixty-five items and six demographic questions was attached to a cover page that provided the name of a service and gave instructions on how to use the Likert scale (See Appendix F).

Pretest. Ten services were chosen at random from the list of twenty for a pretest among ten adult consumers. The services used for the pretest were airlines (air travel), family medicine, day care, legal, investment, hair

stylist/barber, moving and storage, amusement/theme parks, maid/housekeeping, and personal counseling. The pretesters were asked to complete the questionnaire in the presence of the researcher.

The pretest followed the suggestions of Hunt, Sparkman and Wilcox (1982). First it was noted how long each pretester took to complete the instrument. Time varied from ten to twenty-two minutes. After each pretester completed the instrument he or she was asked for impressions regarding the items. The pretesters noted items that seemed redundant or had ambiguous wording. They also noted if the service stimuli provided was clear and understandable.

Based on the pretest analysis, each item was again examined by the researcher and a professor for clarity and face validity. Certain items that the pretesters had noted as clearly redundant were also judged for further use. The instrument was then reduced to fifty-four items. In the classification/demographic part of the questionnaire, a question was added regarding the last time the respondent had used the service noted as the stimulus. Appendix G contains the resulting instrument.

Pilot test. The fifty-four item instrument was then administered to one hundred and twelve undergraduate marketing students for the purposes of purifying the scale



items for subsequent use (See Appendix G). The students were given extra credit points for completing the questionnaire. Each of the twenty stimuli were used at least five times in the pilot test.

The analysis of the pilot test was designed to purify the instrument yielding the most reliable items that tapped each construct or dimension for the numerical taxonomy survey of consumers. To ensure the quality of the purification procedure three criteria were used in judging the value of the items.

The first criteria was intercorrelation. Although the dimensions within each component might be related, the items of a dimension should not correlate significantly with any other dimensional items in the component (Hair, Anderson and Tatham 1987). For example, the items generated to tap the construct of experience, a direct component dimension, should not correlate significantly ( $>.50$ ,  $p<.05$ ) with any items designed to tap other dimensions in the direct component, such as risk, hedonic, relevance, sign, self service or time orientation.

To test for this problem a Pearson correlation was run for all items within the direct and indirect components. Based on this analysis, certain items were identified as being highly correlated to other construct items within the component and subject to deletion.

The second criteria used was a Cronbach alpha for the *a priori* dimensions as well as an item to total correlation (Churchill 1979). Peter (1979) noted that for early research, a minimal alpha level of .50 to .60 should be maintained. Since over half of the items used in the pilot test were newly generated (not borrowed from existing, purified scales), this criteria seems appropriate. Comparing item to total correlations, Cronbach alpha for dimensions, and the Pearson correlation of items, certain items were deleted in preparation for the next step of the purification process.

The third criteria involved an exploratory factor analysis for items. The factor analysis procedures utilized a varimax rotation. As noted by Hair, Anderson and Tatham (1987), an orthogonal rotation is appropriate when the purpose of the research is to reduce the number of original variables or reduce the number of variables to a smaller set of uncorrelated variables that may be used for later prediction (pg. 238). The authors also noted that few variables are realistically uncorrelated. The resulting factor matrix might be utilized for subsequent statistical techniques, such as cluster analysis, discriminant analysis, multiple discriminant analysis, and MANOVA.

Stewart (1981) noted certain "good sense" measures that should be employed when using an exploratory factor analysis technique. The first measure is to determine if the data set is appropriate for using a factor analysis procedure. This can be determined by employing a Kaiser-Meyer-Olkin measure of sampling adequacy (Kaiser MSA). In other words, are the variables used appropriate for a factor analysis.

Another test of appropriateness might be to compare a common factor analysis to those utilizing a correlation matrix and a covariance matrix. Each of these analyses controls for a different problem. The common factor analysis, in using a reduced correlation matrix, may identify latent dimensions not anticipated a priori. A factor analysis using the full correlation matrix may eliminate differences due to mean and dispersion of observations. A factor analysis using the covariance matrix may eliminate differences associated with the mean of observations.

Based on Stewart's (1981) suggestion, the three forms of factor analysis were employed for the items comprising the dimensions of the direct component and the indirect component. The factor analysis for each component was also tested for appropriateness using a Kaiser's MSA. The criteria for number of factors were the scree plot and

roots criterion. Factors were required to have an eigenvalue greater than 1. The items within each factor were examined for appropriate loadings. According to Hair, Anderson and Tatham (1987) this means an item must have at least a loading of .50 and not load on any other factor with a value of .50 or greater.

The communalities of each item were also examined. Items were retained only if their communality was greater than .4 (Stewart 1981). Items not meeting the criteria were deleted and another factor analysis was run. When each factor analysis, common, correlation matrix, and covariance matrix, yielded similar results, and communalities of items were  $> .4$ , and the correlation of items within a component were  $< .5$ , and the Cronbach alpha was acceptable, the purification of the instrument was completed. The results of the purification can be found in Table VI, which follows.

TABLE VI

FACTOR ANALYSIS RESULTS OF DIRECT COMPONENT ITEMS  
USING CORRELATION MATRIX, VARIMAX ROTATION

Factor	Item	Loading	Communality	Item- to Total
FACTOR 1-EXPERIENCE (eigenvalue=4.90, variance=.204, alpha=.82)				
Item	1	.80	.80	.76
Item	2	.79	.73	.75
Item	3	.77	.67	.76
Item	4	.72	.62	.82
FACTOR 2-RELEVANCE/IMPORTANCE (eigenvalue=2.78, variance=.116, alpha=.84)				
Item	1	.91	.85	.78
Item	2	.84	.72	.81
Item	3	.69	.70	.81
Item	4	.66	.79	.81
Item	5	.53	.72	.82
FACTOR 3-RISK (eigenvalue=2.50, variance=.104, alpha=.82)				
Item	1	.85	.73	.74
Item	2	.80	.70	.75
Item	3	.78	.66	.78
Item	4	.74	.66	.80
FACTOR 4-HEDONIC/PLEASURE (eigenvalue=2.00, variance=.084, alpha=.77)				
Item	1	.84	.75	.60
Item	2	.83	.77	.64
Item	3	.70	.60	.82
FACTOR 5-SELF SERVICE (eigenvalue=1.89, variance=.079, alpha=.76)				
Item	1	.82	.69	.64
Item	2	.80	.75	.66
Item	3	.77	.62	.75
FACTOR 6-SIGN (eigenvalue=1.55, variance=.064, alpha=.70)				
Item	1	.85	.73	.54
Item	2	.81	.76	.52
Item	3	.63	.56	.73
FACTOR 7-TIME (eigenvalue=1.34, variance=.056, r=.46)				
Item	1	.84	.76	-
Item	2	.82	.74	-
MSA=.679				
Total variance=.706				

The results of the purification for the direct component dimensions yielded seven factors and twenty-four items. The MSA was .679, which is acceptable (Kaiser and Rice, 1974), and the total variance was .706. The items to tap the concept of time or time orientation were reduced from four to two and comprise the factor labeled Time. The items to tap the concept of experience were reduced from six to four, and the self-service items were reduced from four to three. The resulting twenty-four items all have communality measure greater than .55 and item to total alphas of .52 or more. It was therefore determined that these twenty-four items, would be retained for the numerical taxonomy survey.

The results of the indirect component's purification can be found in Table VII on the next page. Five factors were retained containing thirteen items. All items had communalities greater than .45. The factor analysis for the indirect component dimensions resulted in a MSA of .565, which is acceptable. Total variance was .689.

The first factor, labeled Availability, loaded using the items from the information availability and alternative sources dimensions. The factor labeled SEC is comprised of three of the four items generated to tap the search, experience, and credence evaluative properties of the service. The items to tap the concept of search were

reduced from four to two four items. The items to tap the concepts of task definition and social were both reduced from three to two. The items generated to tap the purchase situation context of physical were not retained based on the criteria used.

TABLE VII  
FACTOR ANALYSIS RESULTS OF INDIRECT COMPONENT ITEMS  
USING CORRELATION MATRIX, VARIMAX ROTATION

Factor	Item	Loading	Communality	Item-to Total
FACTOR 1-AVAILABILITY (eigenvalue=2.59, variance=.199, alpha=.78)				
	Item 1	.86	.78	.70
	Item 2	.83	.74	.72
	Item 3	.71	.59	.74
	Item 4	.70	.63	.76
FACTOR 2-SEC (eigenvalue=1.91, variance=.147, alpha=.61)				
	Item 1	.76	.64	.46
	Item 2	.74	.61	.53
	Item 3	.66	.55	.53
FACTOR 3-SEARCH (eigenvalue=1.78, variance=.137, r=.52)				
	Item 1	.88	.79	-
	Item 2	.83	.73	-
FACTOR 4-TASK (eigenvalue=1.36, variance=.105, r=.50)				
	Item 1	.84	.76	-
	Item 2	.84	.76	-
FACTOR 5-SOCIAL (eigenvalue=1.32, variance=.102, r=.26)				
	Item 1	.79	.72	-
	Item 2	.75	.67	-
MSA=.565				
Total variance=.689				

The items generated to tap the overall concept of affect were not included in the pilot test but were analyzed for reliability. The items yielded a Cronbach alpha of .76, with all items yielding an item-to-total > .63. Based on these results, the overall affect items were retained for the numerical taxonomy.

Summary. Utilizing information from the literature review and Q-sort interviews, an instrument was developed to tap the direct and indirect components for the numerical taxonomy. The first instrument contained sixty-five items and six classification questions that had been judged by three professors for face validity. The instrument was pretested with ten adults. Using the results from the pretest, the instrument was culled to fifty-four items and seven classification questions which were again examined for face validity. The fifty-four item instrument was pilot tested on one hundred twelve undergraduate marketing majors.

The pilot instrument was purified using the multiple criteria of intercorrelations of items within either direct or indirect components, Cronbach alpha measures for each dimension, and three forms of exploratory factor analysis. The results yielded seven direct component dimensions containing twenty-four items, and five indirect component dimensions containing thirteen items. In addition, three



new items were generated to tap physical influence. The four affect items were also included in the instrument yielding a total of forty-four items. The retained items can be found in Appendix H. These forty-four items were used in the survey for the numerical taxonomy. The data collected in the purification survey was not included in the numerical taxonomy.

### Cluster Analysis

Sample. The sample chosen for the cluster analysis was identified as adults that were engaged in an on going service relationship. This included customers of a bank with small branches in two major MSAs and a base operation in a small city. In addition, members of two churches, one in a major MSA and one in a small city, were surveyed.

Seven hundred customers were randomly chosen from a bank's customer data base. Taking every nth name yielded a breakdown of 535 customers (76.4%) from the bank's home market (a small city) and 165 customers (23.6%) from the bank's metropolitan branches. A mail survey was created that included an introductory letter from the bank's president, the survey instrument, and a \$1 incentive. Each of the twenty services used as stimulus were mailed to 35

customers. A sample of the survey instrument used can be found in Appendix H.

Overall, 283 surveys were returned for an initial response rate of 40.4%. Of this return, 50 surveys were incomplete or unusable yielding 233 completed, usable surveys. Due to the anonymous nature of the survey, a follow-up survey of nonrespondents was not possible.

The survey instrument was also taken to two churches during the coffee hour that followed the Sunday services. Congregational members were told that the church would receive \$2 for each completed survey returned. At the first church, in a small city, 33 surveys were handed out with 31 being returned completed by the end of the day for a response rate of 93.9%. At the second church, in a major MSA, 50 surveys were handed out with 45 being returned completed at the end of the day for a response rate of 90.0%.

The combination of survey techniques, mail and in person, yielded a total of 309 completed surveys. Each service used as a stimulus was represented at least 15 times in the completed survey sample. Table VIII, which follows, indicates the distribution of characteristics of the sample.

TABLE VIII  
DISTRIBUTION OF CHARACTERISTICS OF SAMPLE

Characteristic	Frequency	Percent
<b>Sex</b>		
Female	142	47.5
Male	157	52.5
<b>Marital Status</b>		
Never married	84	27.8
Currently married	179	59.3
Currently single	39	12.9
<b>Age</b>		
25-34	123	41.0
35-44	40	13.3
45-54	48	16.0
55-64	33	11.0
65 or more	56	18.7
<b>Education</b>		
some high school	8	2.6
high school grad	23	7.6
some college	106	35.1
college grad	61	20.2
grad work/degree	57	18.9
terminal degree	47	15.6
<b>Ethnicity</b>		
African American	3	1.0
Asian American	6	2.0
Caucasian	239	79.1
Hispanic American	3	1.0
Native American	22	7.3
Foreign born	29	9.6
<b>Market</b>		
Major MSA	96	31.1
Small city	213	68.9
<b>Years in the Market</b>		
< 1 yr	18	6.0
1-9 yrs	108	35.8
10-20 yrs	51	16.9
> 20 yrs	76	25.2
all my life	49	16.2

Regarding the services used as stimulus for the surveys, the distribution can be found in the following table, Table XIX. The distribution for the respondent's last use of the stimulus (service) is also in Table XIX. Overall, 53.1% of the respondents had used the stimulus presented in the past 5 years with 9.7% of the respondents using the stimulus (service) over 5 years ago. Slightly more than one third of the sample (37.2%) had never used the stimulus (service) presented.

TABLE IX  
 DISTRIBUTION OF SERVICE (STIMULUS)  
 AND THE LAST USE OF THE SERVICE FOR  
 THE SAMPLE

Category	Frequency	Percent
<b>Service</b>		
Family medicine	15	4.9
Hotels/motels	15	4.9
Amusement parks	15	4.9
Auto insurance	15	4.9
Funeral director	16	5.2
Trash collection	16	5.2
Personal counseling	15	4.9
Checking account	15	4.9
Credit card	16	5.2
Interior design	17	5.5
Barber/hairstylist	15	4.9
Financial investment	15	4.9
Housekeeping/maid service	15	4.9
Legal	15	4.9
Airlines	16	5.2
Day care	15	4.9
Income tax preparation	15	4.9
Moving/storage	16	5.2
Employment agency	16	5.2
Colleges/universities	16	5.2
<b>Last time service used</b>		
Last month	82	26.5
In past 6 mos.	30	9.7
In past 6-12 mos.	25	8.1
In past 5 years	27	8.7
Over 5 years ago	30	9.7
Never used	115	37.2

Cluster Analysis. The first step in the cluster analysis required purification of the instrument by employing a reliability check via coefficient alpha levels

for all dimensions. Table X, which follows, lists the alphas and the item-to-total coefficient for each item within the dimension. According to Churchill (1979) and Nunnally (1967), a "low" alpha would be less than .50 for the early stages of basic research.

Using this rule, the reliability of the direct dimensions appears to be appropriate. The reliability of the indirect dimensions of social and SEC are quite questionable (coefficients of .40 and .48 respectively). Likewise, the first item in the indirect dimension of physical, with an item-to-total score of .24, indicates extremely low item-to-total correlation.

TABLE X  
 COEFFICIENT ALPHA SCORES FOR DIMENSIONS  
 AND ITEM-TO-TOTAL FOR ITEMS IN  
 THE DIMENSIONS

Dimension	Alpha/r	Item-to-Total
Direct: Experience	.76	.62
		.61
		.78
Relevance	.92	.91
		.91
		.90
		.88
		.89
Self-service	.84	.76
		.80
		.77
Affect	.84	.86
		.72
		.74
Risk	.74	.71
		.63
		.63
		.76
Hedonic (pleasure)	.71	-
		-
Time	.59	-
		-
Sign	.58	-
		-
Indirect: Search	.73	-
		-
Task	.51	-
		-
Availability	.73	.69
		.63
		.63
		.70
Social	.25	-
		-
Physical	.58	.24
		.58
		.58
SEC	.31	-
		-

The cluster analysis procedure requires the use of only the direct dimensions whose coefficient alphas appeared to be sufficient. Based on this criteria all the direct dimensions and their items were used as is. The first step in preparation of the cluster analysis is to obtain means for each dimension for each service. As noted in Chapter Three, the individual respondent scores were collapsed across services so that the matrix used for the cluster analysis represented SERVICES X DIMENSIONS. This reduced the number of observations for the cluster analysis to twenty (the number of service stimuli used in the survey).

The method of cluster analysis used was a hierarchical agglomerative in the SAS CLUSTER procedure with a WARD method option. This option was chosen to minimize the variance within each cluster (Aldenderfer and Blashfield 1984, Punj and Stewart 1983).

With the variety of services used as stimuli, it is possible that one or more services might not fit into a cluster. That is, that a group of services might not have the property of density that could define it as a group of data points compared to other areas that do have a group of data points (Aldenderfer and Blashfield 1984). Hair, Anderson and Tatham (1987) note this phenomenon as entropy



group or a group of observations that do not fit any cluster.

Anticipating this possibility, the SAS CLUSTER procedure included a TRIM=10 option (where 10% of the points with the lowest estimated probability densities are omitted from the cluster analysis, SAS Institute 1985). This resulted in observations (services) being trimmed with an estimated density of 0.0000268171 or less.

Interpretation of Cluster Solution. The cluster procedure yielded a Ward's minimum variance cluster analysis agglomeration schedule that indicated the best solution was that of six clusters yielding an  $R^2$  of .779, a Pseudo F of 6.46, and a Pseudo  $t^2$  of 2.28. An examination of the dendrogram confirmed this solution. To determine the reliability and validity of the cluster solution found in the agglomeration schedule and the dendrogram various methods were employed.

First the generalized squared distance between clusters was compared using a discriminant analysis technique where the clusters represented the groups and the dimensions used for the cluster analysis were the predictor variables. This is a similarity measure that uses the Mahalanobis  $D^2$ . Table XI, which follows, lists the generalized squared distance between clusters (using the correlations of variables from the variance-covariance

matrix). The range for generalized squared distances ranged from a minimum of 26.68 between clusters 4 and 6, to a maximum of 131.65 between clusters 3 and 4. Overall, the generalized squared distances between clusters tend to indicate that there is homogeneity within the clusters and heterogeneity between the clusters.

TABLE XI  
GENERALIZED SQUARED DISTANCE TO CLUSTER CENTERS

From 1 Clus	To Clus					
	2	3	4	5	6	
1	0					
2	40.82	0				
3	96.70	27.74	0			
4	32.78	51.60	131.65	0		
5	55.12	36.33	48.39	85.62	0	
6	31.96	27.03	71.47	26.68	42.18	0

The second process in the discriminant analysis involved checking a classification summary using a linear discriminant function. With this process the generalized squared distance function is employed to gauge the probability of membership in each cluster. The analysis yields not only a probability of membership for each cluster but an error rate for membership. The classification yielded a matrix of cluster by cluster with

all ones on the diagonal and an error rate for membership of 0.0000. The posterior probability of membership in the cluster analysis was .967. Based on the cluster analysis and the validation of the cluster solution it would appear that a six cluster solution, with one cluster being an entropy group, might be appropriate.

Relating Cluster Membership. As noted in Chapter Three, analyzing the service clusters in light of the direct dimensions provides only part of the information sought in this study. There remains to be found how the indirect dimensions of search, availability, task, physical situational influence, social situational influence, and the evaluative properties of the service (search, experience or credence qualities) impact the classification. A multiple discriminant analysis procedure was employed to determine the impact of the indirect dimensions on the classification.

To effect this, once again the mean for each indirect dimension was collapsed across services. The mean of the indirect dimensions was then utilized as independent variables while the clusters became the dependent variables. Two SAS procedures were initially employed for this analysis. The first procedure, CANDISC, yielded a total standardized canonical coefficient for each of the indirect dimensions and a univariate F statistic. The

canonical coefficient is useful in determining the utility of the discriminant function. In other words, it measures the association or degree of relationship between the dependent variable groups and the discriminant function with the larger the positive number resulting in greater association with the discriminant function (Klecka 1980).

The second procedure, a stepwise discriminant analysis (SAS STEPDISC) employed a forward selection to yield a good discrimination model (SAS Manual 1985). Table XII, which follows, illustrates the results of the Canonical Multiple Discriminant Analysis and the Stepwise Multiple Discriminant analyses.

TABLE XII  
RESULTS OF THE MULTIPLE DISCRIMINANT ANALYSIS  
TO TEST THE FUNCTION OF THE INDIRECT DIMENSIONS  
IN THE CLUSTER SOLUTION

Dimension	F	p<	R <sup>2</sup>	Total Func.1	Std. Coeff. Func.2
Search	1.24	.3428	.31	-.702	.811
Task	.98	.4656	.26	1.13	-.91
Avail.	9.12	.0005	.77	2.34	.24
Social	.73	.6169	.21	-.36	.23
SEC	.56	.7230	.17	-.15	-.29
Physical	.85	.5376	.24	.25	.43

Note: Only Avail. entered the stepwise analysis yielding a Wilk's Lambda of .235,  $p < .0005$ .

Based on both multiple discriminant analyses it would seem that the only significant ( $\alpha < .05$ ) dimension that influences the cluster solution is the dimension of availability. Availability also shows a strong relative importance as a contributor to the discriminant score, as seen in the standardized coefficient (Klecka 1980). As operationalized in the survey, this dimension refers to the availability of information on a service and the availability of choices for the service. The other dimensions, yielding small, insignificant F statistics add little to the overall discrimination and therefore do not pass the test of entry.

Often, multiple discriminant analysis employs a split sample validation. Due to the small sample size (20 observations or services) a split validation was not possible. In lieu of a split validation another option was added to the STEPWISE procedure, that of CROSSVALIDATE. This option is particularly useful for small samples since it analyzes the discriminant function in an iterative fashion comparing one observation to all others.

When all indirect dimensions were used with the cross validation option, the error count estimate for membership in the cluster solution yielded 90%, meaning that only 10% were correctly specified. Since there are 6 clusters, one would expect an 83.3% error rate if membership was randomly

assigned. The 90% error rate indicated that when all indirect dimensions were used in the cross validation the solution is worse than a random assignment. The cross validation was then run a second time with only the availability dimension. This analysis improved the cluster membership by reducing the total error rate of cluster membership to 23.6%. The error rate of 23.6% is a vast improvement over the expected random error rate of 83.3%. Table XIII, which follows, illustrates the classification summary of the cross validation option using only the availability dimension. In light of these results all indirect dimensions except availability were dropped from further analysis.

TABLE XIII

CLASSIFICATION SUMMARY USING THE CROSS VALIDATE  
OPTION WITH ONLY AVAILABILITY PREDICTING  
THE CLUSTER GROUPS

From Cluster	Into Cluster					
	1	2	3	4	5	6
1	100					
2	0	33.3				
3	0	0	100			
4	0	0	0	25		
5	0	0	0	0	100	
6	0	0	0	0	0	100

Describing the Categories. The final analysis of the cluster solution involves finding how the various dimensions vary across the classes of service and determining where the differences exist. To effect this a MANOVA procedure was utilized. The clusters were used as independent variables while the direct dimensions and remaining indirect dimension became the dependent variables. Once again, the mean scores were used in the model.

The initial part of the MANOVA involved a preliminary test of appropriateness utilizing the Bartlett's Test of

Sphericity. The results of this test indicated that a MANOVA procedure was preferable to ANOVA. The measure of departure from homogeneity, the Greenhouse-Geisser Epsilon, yielded .533. According to LaTour and Miniard (1983), the farther this statistic is from 1 (meaning perfect homogeneity), the more possible a Type I error rate distortion is possible using an ANOVA procedure. The MANOVA model was also supported by the F statistic of 11.37,  $p < .0002$ .

The omnibus tests for the model indicated a difference does exist across clusters yielding a Wilk's Lambda value of 0.00014,  $F = 4.18$ ,  $p < 0.0001$ . Table XIV, which follows, provides information on the differences in dimensions across clusters.

TABLE XIV

MANOVA RESULTS OF DIFFERENCES IN DIMENSIONS  
ACROSS THE SIX CLUSTERS

Dimension	F	<p	R <sup>2</sup>
Experience	11.67	.0001	.81
Relevance	2.53	.0781	.48
Hedonic (pleasure)	1.24	.3430	.31
Sign	3.04	.0459	.52
Time	2.66	.0686	.49
Risk	2.98	.0490	.52
Affect	7.75	.0011	.74
Self-service	8.51	.0007	.75
Availability	9.12	.0005	.77



Employing a guideline of significance of  $<.05$ , the results of the MANOVA indicate that differences in dimensions do exist across clusters for experience, availability, self service, and affect. The dimensions of sign and risk may also contain differences across clusters but are rather close to the  $p < .05$  significance level. There is not a significant difference across clusters for the dimensions of time, hedonic, and relevance.

To determine where differences exist, two post hoc procedures were employed for a comparison of means of dimensions across clusters. Scheffe's contrast method was employed as a most conservative measure of contrasts, and Bonferroni's measure of inequality was employed to control for experimentwise alpha inflation and Type I error. With both procedures, differences were noted for only experience, affect, self-service, and availability. These four dimensions also yielded the most significant F statistics and  $R^2$ s. The dimensions of risk and sing, though significant in the overall MANOVA, do not yield individual significant differences. The means for each dimension that were used for the post hoc tests can be found in Table XV, which follows.

TABLE XV  
MEANS OF DIMENSIONS FOR EACH CLUSTER  
BASED ON A 7 POINT SCALE

Dimension	Cluster					
	1	2	3	4	5	6
Experience:	3.82	4.58	3.13	5.53	3.57	5.21
Relevance:	4.61	5.32	4.36	5.82	5.22	4.90
Hedonic:	4.01	4.82	4.36	4.82	4.43	4.67
Sign:	3.55	3.48	4.29	4.27	3.17	3.16
Time:	3.98	3.87	4.96	4.25	4.12	5.18
Risk:	3.96	5.19	5.39	4.77	5.30	4.75
Affect:	4.58	3.84	3.61	4.30	2.47	3.53
Self service:	2.67	3.61	4.57	2.26	2.46	3.08
Availability:	2.87	4.57	4.29	4.85	4.81	5.36

The final part of describing the clusters or classifications involves labeling and profiling the clusters. In this case, the means for each dimension were used to develop the profile as shown in Table XVI, which follows. Table XVI labels each cluster, notes the mean for each dimension for each cluster, the differences found via the Bonferroni procedure, and describes the level of each dimensions for each cluster.

TABLE XVI  
PROFILE OF CLUSTERS

	1	2	3	4	5	6
Label	Entropic	Neces- sary En- counters	Do-It Myself	Can't Do-It Myself	Nega- tive Feeling	Avail- -able
Exper.	3.82 <sup>4</sup>	4.58 <sup>3</sup>	3.13 <sup>4,6,2</sup>	5.53 <sup>1,3,3</sup>	3.57 <sup>4</sup>	5.21 <sup>3</sup>
Affect	4.58 <sup>5</sup>	3.84 <sup>5</sup>	3.61	4.30 <sup>5</sup>	2.47 <sup>1,4,2</sup>	3.53
Self serv.	2.67 <sup>5</sup>	3.61 <sup>4</sup>	4.57 <sup>1,3,4</sup>	2.26 <sup>3,2</sup>	2.46 <sup>3</sup>	3.08
Avail.	2.87 <sup>11</sup>	4.57 <sup>1</sup>	4.29 <sup>1</sup>	4.85 <sup>1</sup>	4.81 <sup>1</sup>	5.36 <sup>1</sup>
Exper.	Average	Above Average	Average	Very Familiar	Average	Very Fami- liar
Affect	Positive	Neutral	Neutral	Positive	Very Nega- tive	Neu- tral
Self serv.	Not Possible	Average	Possible	Not Possible	Not Pos- sible	Not Pos- sible
Avail.	Limited	Above Average	Above Average	Above Average	Above Average	Exten- sive

Note: Superscripts indicate the cluster(s) mean(s) that differs significantly ( $p < .05$ ) from the mean noted for the dimension using Bonferroni T test ( $T_{crit} = 3.53$ ).

The following is a list of the services that comprised each cluster.

Cluster 1 - Entropic Cluster

Services: Trash Collection  
Amusement Parks

Cluster 2 - Necessary-Encounters-Over-Life Cluster

Services: Tax Preparation  
Moving/Storage  
Family Medicine  
Financial Investment  
Checking Account  
Housekeeping

Cluster 3 - I-Can-Do-It-Myself Cluster

Services: Interior Design  
Employment Agency  
Personal Counseling  
Day Care

Cluster 4 - I-Can't-Do-It-Myself Cluster

Services: Airline Travel  
College/University  
Barber/hairstylist  
Auto Insurance

Cluster 5 - Negative Feeling Cluster

Services: Funeral Director  
Legal

Cluster 6 - Available-Services Cluster

Services: Credit Card  
Hotels/motels

Limited Validation

Data Collection

To answer the third research question, whether the class of service impacts the pattern of attributes employed by the consumer to evaluate service quality, a limited

validation of the SERVQUAL (Parasuraman, Zeithaml and Berry 1988) was conducted. It was essential that the sample (undergraduate students in two universities) be able to judge the quality of four services, two each from different clusters. To determine which services would be chosen as stimuli a preliminary survey was conducted asking students how recently they had used fifteen of the twenty services used in the numerical taxonomy. The services not represented were those in the entropic cluster and those in the "I can do it myself" cluster. The choices for frequency of use were: the past twelve months, in the last two years or never used (See Appendix I for a sample of the survey form).

The results indicated that the four services used in the past twelve months by most of the students that were also part of the most distant clusters were family medicine, barber/hairstylist, checking account and auto insurance. Table XVII indicates the results of the survey. Family medicine and checking account were part of cluster 2 while barber/hairstylist and auto insurance were part of cluster 4. The generalized squared distance between these two clusters was 51.60. A surrogate for a manipulation test was run on these two clusters using the CROSSVALIDATE option in SAS DISCRIM. The classification summary resulted in ones in the diagonal with 0.0000 error count estimate.

These four services were then used as stimuli for the limited validation.

TABLE XVII  
FREQUENCY OF RESPONSES FOR LIMITED VALIDATION  
PRELIMINARY SURVEY

Service	Used in last 12 Months	Used in last 2 Years	Never Used
Amusement Park	37	34	17
Family Medicine	67	18	8
Checking Account	79	3	6
Employment Agency	4	8	78
Personal Counselor	12	11	65
Airline	43	23	20
Barber/hairstylist	81	2	5
Auto Insurance	71	7	11
Lawyer	13	10	64
Hotel or motel	73	11	4
Credit Card	68	2	15
Tax Preparation	42	6	40
Moving/storage	13	14	63
Child Care	6	1	80
Funeral Director	4	2	82

Survey. The survey utilized the P version of the modified SERVQUAL (Parasuraman, Berry and Zeithaml 1991). A sample of the survey can be found in Appendix J. At the beginning of the instrument, students were asked for classificational information. A service was then presented. The respondents were asked, in open-ended format, to note the circumstances under which the service had been recently used. The purpose of the open-ended

questions was not for analysis but to get the respondent thinking about the service. After each of the service presentations, thirty-two questions were posed. The first question asked for an overall appraisal of quality of the service.

Following the overall quality question, the twenty-two refined SERVQUAL items were worded for use with each service. For later analyses items were added to the SERVQUAL regarding features of the service, durability of the service, and performance of the service. Question thirty asked the respondent if he/she would recommend the service to a friend. The final question asked the last time the service was used. These additional items were not be part of the limited validation analysis of the SERVQUAL.

Sample. The sample of respondents were undergraduate students in an introduction to marketing class in two universities. One university was a state university in a small city the other was a private university in a major MSA. A total of 135 students completed the surveys. The frequency of characteristics for the sample can be found in Table XVIII. All students were offered extra credit points to complete the survey.

TABLE XVIII  
DISTRIBUTION OF CHARACTERISTICS OF THE  
LIMITED VALIDATION SURVEY

Characteristic	Frequency	Percent
<b>University:</b>		
State	96	71.1
Private	39	28.9
<b>Class in School</b>		
Sophomore	33	24.4
Junior	72	53.3
Senior	30	22.2
<b>College of Enrollment</b>		
Business	93	68.9
Education	9	6.7
Arts & Sci.	24	17.8
Agricul.	4	3.0
Other	5	3.7
<b>Ethnicity</b>		
Caucasian	103	76.3
African-Am.	3	2.2
Hispanic-Am.	2	1.5
Asian-Am.	2	1.5
Native Am.	3	2.2
Foreign born	22	16.3
<b>Sex</b>		
Female	74	54.8
Male	61	45.2

### Analysis

Reliability. The survey instrument was first analyzed for reliability of the SERVQUAL dimensions using a Cronbach Alpha measure. The alpha for each dimension for each



service was appraised as well as over all four services. The results of the tests can be found in Table XIX. All dimensions, both analyzed individually by service stimulus and in combination, indicated satisfactory reliability.

TABLE XIX  
CRONBACH ALPHA SCORES FOR DIMENSIONS  
OF THE SERVQUAL

Dimension	Family Medicine	Barber Hairstylist	Checking Account	Auto Insur.	Combined
Reliability	.85	.88	.91	.94	.84
Responsiveness	.83	.88	.89	.91	.82
Assurance	.83	.91	.92	.93	.85
Empathy	.86	.90	.89	.91	.88
Tangibles	.79	.88	.85	.87	.84

Factor Structure. In order to determine the pattern of attributes that consumers use to judge the quality of a service an exploratory factor analysis was employed for each service stimulus. To make a relevant comparison to research conducted prior by the researcher the twenty-two SERVQUAL items were subjected to a varimax rotation (Mowen, Licata and McPhail 1993; Licata, Mowen and Chakraborty

1994). Overall, the resulting factor structures by stimulus were as follows:

family medicine - MSA (Kaiser Measure of Sampling Adequacy) of .90, a four factor solution, total variance of .657,

checking account - MSA of .93, three factor solution, total variance of .705,

barber/hairstylist - MSA of .93, three factor solution, total variance of .705, and

auto insurance - MSA of .94, three factor solution, total variance of .753.

To determine which items comprised each factor items were judged by the criteria of have a loading equal to or greater than .50, while not having a loading on another factor of more than .50 (Hair, Anderson and Tatham 1987). The criteria eliminated some items from the factor structure. The resulting factor items are found in Table XX, which follows.

TABLE XX

FACTOR STRUCTURE AND LOADINGS\* FOR FOUR SERVICE STIMULI  
UTILIZING THE MODIFIED SERVQUAL

Family Medicine	Checking Account	Barber/ Hairstylist	Auto Insurance
<u>Factor 1</u>			
Alpha=.92 Variance=.46 Rel 4 (.80) Res 2 (.77) Rel 3 (.75) Rel 2 (.72) Res 1 (.69) Rel 1 (.69) Asr 1 (.68) Res 3 (.64) Res 4 (.59) Asr 3 (.58)	Alpha=.96 Variance=.57 Rel 5 (.83) Rel 4 (.76) Asr 4 (.75) Rel 3 (.76) Asr 3 (.74) Asr 2 (.74) Rel 1 (.74) Rel 2 (.73) Res 3 (.72) Asr 1 (.71) Res 1 (.70) Res 2 (.69) Res 4 (.63)	Alpha=.95 Variance=.57 Emp 4 (.82) Emp 1 (.81) Emp 3 (.80) Emp 5 (.80) Asr 2 (.73) Asr 3 (.72) Asr 4 (.70) Rel 3 (.64) Res 4 (.58) Asr 1 (.57) Emp 2 (.55)	Alpha=.96 Variance=.61 Rel 1 (.88) Rel 3 (.87) Rel 2 (.81) Rel 4 (.80) Asr 1 (.79) Rel 5 (.78) Res 3 (.78) Res 2 (.77) Asr 2 (.73) Res 1 (.67) Res 4 (.66)
<u>Factor 2</u>			
Alpha=.81 Variance=.09 Asr 4 (.76) Emp 4 (.63) Asr 4 (.57) Rel 5 (.55)	Alpha=.85 Variance=.08 Emp 4 (.78) Emp 3 (.71) Emp 2 (.71) Emp 5 (.66)	Alpha=.90 Variance=.08 Res 2 (.81) Rel 4 (.77) Res 1 (.76) Rel 1 (.73)	Variance=.08 Emp 2 (.82)
<u>Factor 3</u>			
Alpha=.79 Variance=.06 Tan 2 (.80) Tan 4 (.72) Tan 1 (.66) Tan 3 (.58)	Alpha=.85 Variance=.05 Tan 2 (.89) Tan 1 (.88) Tan 4 (.72) Tan 3 (.62)	Alpha=.88 Variance=.05 Tan 2 (.85) Tan 4 (.84) Tan 1 (.82) Tan 3 (.68)	Alpha=.87 Variance=.05 Tan 2 (.86) Tan 1 (.84) Tan 3 (.78) Tan 4 (.72)
<u>Factor 4</u>			
Variance=.05 Emp 3 (.77) Emp 2 (.72) Emp 5 (.62)			
*Factor loadings are in parenthesis Rel is Reliability, Res is Responsiveness, Asr is Assurance, Emp is Empathy, and Tan is Tangibles			

Items that did not survive the criteria, due to low loading or double loading, were not included in Table XX. For the stimulus checking account, the first item in the empathy dimension double loaded and was dropped. For the stimulus barber/hairstylist, the second reliability item and the third responsiveness item double loaded, and the fifth item for reliability did not load. Finally, for auto insurance, the first, third, fourth, and fifth item for empathy, and the third and fourth items for assurance did not load. In addition, the fourth factor for family medicine was dropped from further analysis due to the very low variance (.05) explained by the factor.

None of the four factor structures even closely resembled the five specific dimensions of reliability, responsiveness, empathy, assurance and tangibles. The first factor for each service, which explains most of the variance, is a mixture of attributes. Factor one for family medicine contains mainly reliability and responsiveness items. Factor one for checking account contains a combination reliability, assurance and responsiveness items. Factor one for barber/hairstylist contains mainly empathy and assurance items. Factor one for auto insurance contains reliability, responsiveness, and assurance items.

Factor Comparisons. To answer the third research question one must examine the items and their patterns to see if they are cluster specific. A visual examination of the factor structure is not enough to answer the research question. To aid in determining if there is a relationship between the pattern of attributes and cluster membership, two additional tests were conducted. The first test was a correlation of factors across services using factor index scores (the means of items for each factor). Finally, these index scores were placed in a linear model to determine their contribution to overall quality.

For each factor for each service a mean score was derived. These mean scores or factor indexes were then subjected to a Pearson correlation to determine if significant associations existed. Table XXI, which follows, illustrates the results of the correlation test.

Using an alpha of  $< .05$ , checking account and auto insurance, checking account and barber/hairstylist, and barber/hairstylist and auto insurance significantly correlated across the first factor. For the second factor, all the services except family medicine and auto insurance correlated. For the third factor, all services correlated. Based on the correlations it does not appear as though the pattern of attributes used to judge overall quality follow an order based on cluster membership.

An additional test was employed to determine if there was an order to the factor structure that might be due to cluster membership. The factor index scores for each service were used as independent variables in a linear model with the overall quality rating for the service, (the first item on the survey), as the dependent variable. Table XXII, which follows, illustrates the results of the analysis.

TABLE XXI  
CORRELATION OF FACTORS ACROSS FOUR  
SERVICES

Comparison	r	p<
<b>FACTOR 1</b>		
Family medicine to Checking account	.035	.6917
Family medicine to Barber/hairstylist	.124	.1525
Family medicine to Auto insurance	-.005	.9591
Checking account to Barber/hairstylist	.307	.0004
Checking account to Auto insurance	.224	.0136
Barber/hairstylist to Auto insurance	.276	.0019
<b>FACTOR 2</b>		
Family medicine to Checking account	.182	.0391
Family medicine to Barber/hairstylist	.181	.0362
Family medicine to Auto insurance	.081	.3702
Checking account to Barber/hairstylist	.370	.0001
Checking account to Auto insurance	.265	.0034
Barber/hairstylist to Auto insurance	.350	.0001
<b>FACTOR 3</b>		
Family medicine to Checking account	.186	.035
Family medicine to Barber/hairstylist	.368	.0001
Family medicine to Auto insurance	.295	.0009
Checking account to Barber/hairstylist	.181	.0400
Checking account to Auto insurance	.221	.0149
Barber/hairstylist to Auto insurance	.191	.0329

TABLE XXII

RESULTS OF LINEAR MODEL ANALYSIS USING  
 FACTOR INDEX SCORES AS INDEPENDENT VARIABLES  
 AND OVERALL QUALITY AS A DEPENDENT VARIABLE

Factor	F	p<	R <sup>2</sup>
Family Medicine - overall model	7.20	.0001	.88
Factor 1	6.67	.0001	
Factor 2	2.56	.0045	
Factor 3	13.59	.0001	
Checking Account - overall model	3.56	.0001	.80
Factor 1	5.40	.0001	
Factor 2	1.19	.3005	
Factor 3	.91	.5436	
Barber/hairstylist - overall model	5.70	.0001	.88
Factor 1	9.05	.0001	
Factor 2	1.27	.2429	
Factor 3	2.25	.0106	
Auto Insurance - overall model	2.62	.0001	.74
Factor 1	3.51	.0001	
Factor 2	.58	.7175	
Factor 3	.70	.7773	

Note: Factor statistics are for Type I SS analysis.



For the service of family medicine, it appears that all three factors contribute significantly to overall quality. For checking account service, a service in the same cluster as family medicine, it appears that only the first factor contributes to overall quality. For services in the fourth cluster, barber/hairstylist and auto insurance, the relative contribution to overall quality for each service is also dissimilar. Factor 1 and Factor 3 contribute to an overall quality appraisal of barber/hairstylist service whereas only Factor 1 contributes to an overall quality appraisal for auto insurance services.

Based on the correlation of factors and the linear model, the pattern of attributes used to appraise overall quality does not seem to follow the order of clusters. The pattern of attributes for checking account and auto insurance service not only correlated across all factors but also appear to contribute a single factor to the appraisal of overall quality. In contrast, the services of family medicine and barber/hairstylist use multiple factors as contributors to overall quality appraisals.

## CHAPTER V

### SUMMARY AND CONCLUSIONS

The summary and conclusions chapter is organized around four major sections. The first section, a discussion section, reviews the purposes of the research, provides an overview of the research, and an analysis of the results of the research. The second section highlights the implications, both academic and managerial, of the results of the research. The third section notes the limitations of the research. The fourth and final section identifies future research indicated by the results of the dissertation.

#### Discussion

The purpose of the dissertation research was to answer three simple questions.

1. What are consumers perceived classifications of services?
2. Do consumers employ different dimensional structures in their evaluations of divergent service class?

3. Does the class of service impact the pattern of attributes employed by the consumer to evaluate service quality?

To answer questions one and two, a taxonomy of services was developed using logical partitioning and numerical taxonomy processes. To answer question three a limited validation of the extant measure of service quality, the SERVQUAL, was performed. Overall, the dissertation research was designed to provide a foundation for the services marketing area.

#### Overview

In the process of answering the three research questions, the dissertation research has made some contributions to the field of services marketing beyond the answers to the research questions. As part of the logical partitioning process, it was necessary to organize all prior classifications of goods and services from the consumers perspective. The organization included examining the dimensions of the classifications beyond their labels to determine similarities. Zaltman et al. (1986) noted that prior classification attempts had not accomplished this thus leaving no nomological network for hypothesis development.

In order to operationalize the dimensions of prior classifications for the numerical taxonomy, dimensions not only had to be organized, but also related to marketing concepts. This represents the first attempt by a marketer to organize dimensions of prior classifications and relate them to marketing concepts, thus creating the nomological network needed for future hypothesis development.

To operationalize the dimensions it was necessary to observe first hand how and why consumers classify services. To this researcher's knowledge, this is the first time such interviews have been conducted. The research also provides the services marketing field with a purified instrument that operationalizes the dimensions or qualities of services, strictly from the consumer's perspective, in an attempt to classify services.

Finally, the dissertation research provides not only the first empirically derived classification of services from the consumer's perspective, but also profiles the classification. The classification can be utilized as a foundation for further research in the services marketing area as well as a foundation for marketing managers to develop strategies.

## Analysis of Results

Qualitative. Results of the interviews reinforced the literature regarding certain dimensions that consumers use to classify services. Experience with the service, for example, appeared to be a strong reason for placing certain services in one class or another. The Q-sort interviews also found two additional qualities or dimensions. The dimensions of time orientation and affect have not been noted in the literature on classifying goods or services. Consumers do perceive certain services as time saving. Respondents also seemed to exhibit strong feelings or affect regarding services.

An important finding of the qualitative research was the dimension of self service. Respondents often noted which services they could provide for themselves (whether they wanted to or not) and which they could not. Although Zeithaml (1981) noted that, for non-professional services, there may be a self-service provision, some respondents applied the self-service provision to professional services as well (such as counseling, family medicine, and employment placement). In light of this it may be that the greatest difference between products and services is not intangibility, inseparability, heterogeneity and

perishability but the self-service provision. Products do not exhibit this quality.

Taxonomy. The results of the taxonomy were very clean with impressive results. The validation reinforced the cluster solution by yielding a low error rate, and a high posterior probability of membership. The generalized squared distances between the clusters indicated that there was heterogeneity between the clusters. The resulting cluster solution did not reinforce any of the prior classifications made by marketers. As a matter of fact, it found that there are some services that are not classified at all, although this phenomenon might only apply to this scheme or classification.

The taxonomy did not confirm that there were three or four classes of services, as stated by prior researchers. The Copeland (1923) classification did not stand up, mainly because search behavior was not a dimension that was significant in creating classes of services. The four classification model of Holbrook and Howard (1977) and Murphy and Enis (1986) was not supported either. As a matter of fact, some of the dimensions used by Murphy and Enis to explain the classification of all goods and services, those of nonmonetary effort (time) and risk, proved to be nonsignificant in the classification. The dimensions of search (related to effort) and risk did not

survive the validation test of the cluster analysis, thus indicating that these dimensions do not predict the cluster or class of service.

Murphy and Enis's hypothesis, that involvement would vary across classes, was also not reinforced. The post hoc test of differences for the dimensions of the cluster analysis indicated that the construct of multidimensional involvement (risk, relevance, sign, hedonic) did not exhibit a significant difference across clusters.

Prior classifications never indicated that there might be a good or service, that consumers were so ambivalent toward, that it is not part of any classification. Sokal and Sneath (1963) noted that most taxonomies in nature find species that are not part of any taxonomy. It would seem intuitive that this would hold for perceptions of services (and probably products).

Given all the dimensions operationalized to create the taxonomy, it is interesting that only four were significant (based on the multiple discriminant analysis and post hoc MANOVA tests). The statistic for experience ( $F=11.67$ ,  $p<.0001$ ) was by far the greatest of any of the dimensions. This would tend to indicate that consumers judge a service first on prior experience.

The items for the experience dimension referred to the concept of experience as expressed by Alba and Hutchinson

(1987). That is, experience being conceptualized as prior purchase experience or intent to purchase experience. Zeithaml's (1981) thesis regarding services was that experience is due largely to one's having done the service for one's self. It would appear that self-service and experience are not the same concepts and are used differently by consumers when classifying services. The next significant dimension used to classify services was availability. This dimension was operationalized as the availability of information and the availability of choices. Zeithaml (1981) noted that services usually do not advertise. Therefore information about a service, unlike with a product, may be difficult to find. She also noted that, for pure services, there are usually not abundant choices for the consumer, which may in turn cause a search of choices.

Due to the marketplace, this may no longer be true for all services. Note the sixth cluster whose label is "Available services" or services perceived as quite available, such as hotels/motels and credit cards. One would be hard pressed to find a consumer who had not received at least three credit card solicitations over the past year (with abundant information included), or who could not recall a motel in even the smallest town.



The significant dimension of self-service yielded interesting information regarding services. Law or custom may mandate that consumers may not provide certain services for themselves, such as auto insurance or a college education or air travel. It is interesting to note that consumers feel that barber or hairstylist services are also not capable of self-service. This would raise a question as to the life cycle of certain home hair products, such as hair color or perms. If consumers perceive that they cannot provide barber or hairstylist services for themselves certain home hair care products may be in the decline stage of the product life cycle.

Finally, the significant dimension of affect played a major role in defining one cluster. There appears to be certain services whose overriding description is negative affect. For the sample, these included lawyers and funeral directors. This provides a real challenge for lawyers who, as a profession, have recently begun to use promotion to gain customers.

Limited Validation. The limited validation of the SERVQUAL found that the attributes and patterns of attributes used to judge service quality did not replicate the five dimensions of reliability, responsiveness, assurance, empathy and tangibles. The attributes and pattern of attributes also did follow the order of cluster

membership. Examining the results of the analysis, it is difficult to determine what order they did follow. The classification of service does not appear to impact the attributes or the pattern of attributes used by consumers to evaluate quality.

Summary. The three research questions were answered in the analysis. Regarding research question one, it appears that consumers do classify services. The classification does not follow any classification presented by prior marketers but a more detailed classification encompassing five classes and a neutral or entropic class.

Regarding research question two, consumers do employ different dimensional structures in their classification of services. It appears that consumers use the dimensions of experience (as defined by prior purchase/use or intent to purchase), availability of information on the service and choices of the service, the ability to provide the service to one's self, and affect to classify services.

Finally, regarding research question three, the class of service appears to have no impact on the attributes and pattern of attributes used by consumers to evaluate services. Unfortunately this finding only eliminates one explanation regarding the lack of generalizability of the SERVQUAL.

## Implications

Research should have implications for both academicians as well as marketing managers. A wise academician known to this researcher once noted that "Research that is completely theoretical with no implications for managers leaves our front line people helpless. Research that is completely applied with no theoretical underpinnings is little more than war stories." This research has implications for both academicians and marketing managers.

### Academic Implications

The findings indicate that marketers may have to reevaluate the classification schemes for goods and services presented by prior marketers. We teach these classifications to students as gospel. Are they valid? Have they been operationalized? If the classifications proposed by prior marketers for services does not hold up once empirically tested could it be that product classifications may also be faulty?

The research confirms what service researchers have hypothesized regarding many of the perceptions of services. Since the dimensions of relevance and perceived risk had

above average means for all classes, and there was no significant difference found across clusters for these dimensions, it may be that services overall hold a high degree of relevance and perceived risk.

A key finding in the research is that there is a difference between products and services. Since the four differences noted by services marketers have been stated, (i.e. intangibility, inseparability, perishability and heterogeneity), marketers have noted exceptions for each. Although checking account services are intangible, the consumer has a checkbook and a statement as a representation of the service, thus providing tangibility. Services have been standardized by many service providers to improve profitability, thus limiting the heterogeneity characteristic. Channels of service distribution, such as travel agents, lead to the question of whether services are really perishable. Finally, one only has to turn on a light switch to realize that services can be rendered without the service provider present. Of particular note is the finding that many consumers feel that most services, not just professional services, and those not mandated by law or convention, can be provided by one's self.

Another implication for academicians is that the self service provision in services does not necessarily translate into experience. Consumers seem to feel that

experience is related to purchase and use and is not related to providing the service for one's self. The concept of experience and familiarity presented by Alba and Hutchinson (1987), appears to apply to services and products.

#### Managerial Implications

The classification of services provides marketing managers with many new tools upon which to base strategy. Essential to the use of these tools is understanding the placement of the manager's service in the classification. This means that research into consumer perceptions of the manager's service is an essential first step. Based on the consumer's classification of the service, the marketing manager can manipulate many parts of the marketing mix to his/her advantage.

Borrowing strategies. The manager can note other services in their own service class and borrow strategies. For example, although the class labelled as "Necessary Encounters" contains seemingly dissimilar services it is possible that tax preparation services, whose demand may be seasonal, could borrow certain strategies from moving and storage services, whose demand may also be seasonal.

Changing classes. Another strategy may be to attempt to move one's service from one class to another. The class labelled "I can do it myself" has services that many consumers feel they do not need to purchase. The marketing manager may try, through their marketing mix strategy, to move the service to another class such as "Necessary encounters" or "I can't do it myself." This could be done by emphasizing that the sacrifice of time spent in doing the service one's self is far greater than the monetary sacrifice to purchase the service.

Utilizing a dimension. If a manager determines that his/her service is part of the entropic class, the door is wide open to change this perception. This may be done by changing the dimensions of experience (through trial use), affect (by promoting the fact that the service yields a positive feeling), self service (one can't do as great a job as the service can provide), or availability (either selective distribution for an exclusive image or extensive distribution to blanket the market). An example of a service using this strategy is MCI and ATT. Both provide customers the opportunity to use the service without a switching charge. MCI attempts to increase the positive affect of the service by offering discounts to the consumer and his/her most frequently called party.

If a manager's service is part of the "Negative feeling" class the strategies are clear - reduce the negative affect and increase the positive affect. For some services this may be difficult, such as funeral directors. Some funeral directors have begun offering budget pricing to reduce the negative affect of the service purchase. Lawyers, who have recently begun to market their services, may have a more difficult time reducing the negative affect of the service. If price reduction is not enough, lawyers may need to increase positive publicity regarding their services to reduce the perceived risk and negative affect.

Finally, for the marketing manager attempting to understand how his/her customers appraise the quality of the service offered, the manager may have to be cautious when utilizing the SERVQUAL instrument. The SERVQUAL appears to be a "pool" of items that may measure "an" appraisal of quality. How the consumer utilizes this pool may provide insights for the manager regarding service improvement. The SERVQUAL does not appear to be a template that all marketing managers can use to tailor their services into quality offerings.

#### Limitations

The research for this dissertation was iterative. That is, each step provided information needed to complete

the next step of the research. The benefit of this type of research is that current information is available for each step. The problem with this type of research is, if there is a fault in one step it tends to affect each subsequent step. Based on these advantages and disadvantages, the following limitations of the research are noted.

1. The initial sample of services was culled from the literature examined for the review in Chapter II. Although the list appeared to be representative of most services available to consumers today, the list's representativeness was not confirmed except by face validity.
2. Cluster analysis requires a large sample. The reason being that cluster analysis allows only an  $N \times N$  matrix demanding that observations may need to be collapsed. For the purposes of this research this meant that 309 observations, which would normally be a respectable sample, had to be reduced to 20 data points (services) for the cluster analysis. Whenever analysis involves less than 30 data points, the sample (data points) is suspect. The small amount of data points also increases the possibility of Type I errors regarding significant dimensions.



3. Certain dimensions, although operationalized, pretested and pilot tested, did not generate an acceptable alpha. These were the purchase influence dimensions of social and physical and the service dimension of search-experience-credence. It might be easy to say that these are not relevant to the study. Instead, the inability to successfully operationalize these dimensions appears to be a possible limitation. One cannot determine the contribution of these dimensions if the operationalization had been successful - an unanswered question.
4. Due to the type of surveys conducted it was not possible to ascertain the differences between respondents and non-respondents. It will therefore remain unanswered if the responses were indeed representative of the population.
5. The research meticulously sought the responses of adult consumers through both the qualitative interviews and numerical taxonomy surveys. This is a plus for the study. The limitation is that the research then changed samples and turned to the responses of students for the limited validation. Although the study was a limited

validation it may have held more validity if an adult consumer sample was used.

6. Using correlations of factors based on the cluster association may have been a faulty procedure. Correlations are based on linear associations. The clusters are based on linear distances. A better test of association might have been to use a confirmatory factor analysis.
7. Although the classification may seem interesting, it merely is a beginning. There is no evidence to this point that the classes of services impact consumers' behaviors.

#### Future Research

A fortunate consequence of this research is providing avenues for future inquiries. The following are some that are suggested.

1. The current research began by utilizing a list of sixty services gleaned from the literature review. Other criteria could be used, such as government codes (SIC), or criteria provided by service marketers (as might be found through a survey).

2. The cluster solution that resulted in the classification is attractive. Future research might utilize more services to determine if the classification solution can be replicated. Utilizing more services might also indicate if any Type I errors were made regarding the dimensions used by consumers to classify services.
3. Researchers might examine why certain services are not worthy of the consumer's classification. The results of this research might provide insights into the classification of the other services and also into how the dimensions are used by consumers to classify services.
4. Services, like products, evolve over time. Today lawyers, funeral directors and doctors, to mention a few, are heavily advertising. Does this promotion effort change the perception of the service? In other words, are there some services that may be classified in one category today, placed in a different category in the future? If so, why? Longitudinal research could provide the answers. One only has to look back on Parlin's (1913) classification of goods to intuit that time may change some classifications.

5. Regarding the limited validation, an additional test using confirmatory factor analysis might shed more light on the results of the current research. This could be done by using the a priori dimensions of SERVQUAL as a model and forcing the limited validation data to the model. Another possibility might be to use a model gleaned from one of the services used in the limited validation and forcing it on the data from the other services.
6. Future research might reverse validate the classes of services in Q-sort interviews. In other words, the respondents would be given one of the significant dimensions and asked to classify the services based on the dimension. This process might shed light on the findings of the taxonomy.
7. Finally, the taxonomy might yield a model to link the dimensions and consumer segments to further explore what makes a difference in the classes of services. The model could posit not only the effects of the dimensions on the classes but also the effects of consumer characteristics on the dimensions.

### Summary

The research has added to the body of information on services marketing by providing the first empirically derived classification of services strictly from the consumer's perspective. The research was able to answer the questions posed in the dissertation but, as should be, raised further questions. Many of these questions could provide future lines of inquiries for services marketing researchers. One thing may be certain. Marketers have a long way to go before they fully understand the consumer's perception of services.

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**APPENDIXES**

APPENDIX A  
SAMPLE INTERVIEW CONSENT FORM

## APPENDIX A

## INTERVIEW CONSENT FORM

My name is Jane Licata. I am conducting research for my Ph.D. dissertation entitled "A Taxonomy of Services." The research is sponsored by the Department of Marketing, College of Business at Oklahoma State University. I am the principal investigator and may be contacted by phone at 372-1387 if you have any questions. You may also contact Beth McTernan, University Research Services, 001 Life Sciences East, Oklahoma State University, Stillwater, OK, telephone 744-5700. The interview will be tape recorded so notes of this interview can be made and analyzed at a later date.

Thank you for your willingness to participate in this research project. Your participation is greatly appreciated. Before beginning the interview, let me review some of your rights as a participant.

1. Your participation in this interview is entirely voluntary.
2. You are free to refuse to answer any question at any time.
3. You are free to withdraw from the interview at any time.

This interview will be kept strictly confidential and will be available only to members of the research team. These members are the principal investigator, Jane Licata, her dissertation committee and transcribers of the interview.

Excerpts of this interview may be made part of the final research report, but under no circumstances will your name or identifying characteristics be included in this report.

Please sign this form to show that I, Jane Licata, have read you its contents.

\_\_\_\_\_ Respondent's Signature

\_\_\_\_\_ Respondent's Name Printed

\_\_\_\_\_ Date

(One signed copy to interviewer, unsigned copy to respondent)

Source: McCracken, Grant David (1988) The Long Interview, Beverly Hills, CA: Sage Publications, page 69.

APPENDIX B

SAMPLE PRELIMINARY QUESTION FOR INTERVIEW

## APPENDIX B

## PRELIMINARY QUESTIONS FOR INTERVIEW

Please circle the category applicable to you for each question.

1. Sex?
  1. female
  2. male
2. Age?
  1. 25-34
  2. 35-44
  3. 45-55
  4. 55 or more
3. Highest level of education?
  1. some high school
  2. high school graduate (GED as well)
  3. some college or technical school
  4. college graduate or technical school graduate
  5. graduate college work or degree
  6. terminal degree (Ed.d., Ph.D., MD, OD, MFA, etc.)
4. Years living in Stillwater/Tulsa?
  1. less than 1 year in town
  2. 1 - 9 years in town
  3. 10 - 20 years in town
  4. more than twenty years in town
  5. lived here all my life
5. Ethnic background?
  1. Caucasian-American
  2. African-American
  3. Hispanic-American
  4. Asian-American
  5. Native American
  6. Foreign born (please state country\_\_\_\_\_)
6. Marital status?
  1. never married
  2. currently married
  3. currently single (separated, divorced, widowed)

Date\_\_\_\_\_

Place of Interview\_\_\_\_\_

Time\_\_\_\_\_

Interviewer\_\_\_\_\_

Respondent number\_\_\_\_\_

APPENDIX C

SERVICE CATEGORIES USED FOR THE Q-SORT

## APPENDIX C

## SERVICE CATEGORIES USED FOR THE Q-SORT

1. Auto repair
2. Auto loan
3. Auto insurance
4. Auto leasing
5. Air travel
6. Appliance repair
7. Amusement/Theme park
8. Child care/day care
9. Concert/play/show
10. Credit card
11. Copying/FAX
12. Counseling
13. Checking account
14. Cable service
15. Dental - maintenance
16. Dental - specialized (filling, root canal)
17. Diet/weight loss
18. Dry cleaning/laundry
19. Employment/placement
20. Electricity
21. Family physician
22. Funeral service
23. Gas service (natural/bottled)
24. Higher education
25. Hospital - emergency room
26. Hospital - in-patient
27. Housekeeping/maid service
28. Health club/gym
29. Hair stylist/barber
30. Home mortgage
31. Hotel/motel
32. Investment/brokerage service
33. Interior design
34. Long distance phone service
35. Library
36. Legal services
37. Lawn care
38. Life insurance

## APPENDIX C (continued)

39. Movie
40. Moving/storage
41. Mass transit
42. Museum
43. Pest service - maintenance
44. Pest service - infestation
45. Property insurance
46. Physician - specialist
47. Package delivery
48. Plumbing repairs
49. Phone service
50. Public education
51. Real estate broker
52. Resort
53. Surgeon
54. Stock broker
55. Taxi
56. Travel agent
57. Tailor
58. Tax preparer/consultant
59. Trash collection
60. Word processing



APPENDIX D  
SAMPLE INTERVIEW NOTATION FORM



APPENDIX E  
SAMPLE INTERVIEW SCRIPT

APPENDIX E  
INTERVIEW SCRIPT

"I want to talk with you about buying services. Services are intangibles, you can't hold them in your hand. Usually, you pay for someone to do something for you, or to you or something you own. For example, a lawn care service will mow and trim your lawn and you will pay them for providing this service. A moving company will load all your furniture on a truck and move it where ever you want. You will pay them for the loading, the hauling, and the unloading of your furniture. A barber or hairdresser would cut your hair. A laundry service would wash and iron your clothes for you. Would you like more examples?"

*If more examples are needed, examples of a bank checking account, a dentist, and a travel agent will be used.*

"Now I want you to tell me about some of the services you have purchased in the past year or two."

*Interviewer will provide the respondent with feedback regarding the services noted. For example, if the respondent identifies a product, the interviewer will indicate that it is not a service. When the respondent identifies services, the interviewer will reinforce the identification by stating the respondent is correct. When respondent seems able to provide examples of services without help the interview will continue.*

"Specifically going back to the point when you realized you had to purchase one of these services, how did you feel? Please tell me your attitude towards the purchase? "

*Pause*

"Now I want you to continue to see yourself as a consumer or purchaser of services. Here is a deck of 60 index cards. On each card is the name of a service. The sixty services are a wide range of services.

I'm going to shuffle these cards to make sure they are in no particular order."

*The interviewer will shuffle the cards twice and place them in front of the respondent. (See Appendix C for services noted on the cards.)*

## APPENDIX E (continued)

"Please look over the entire deck. If you do not understand a card or the service noted on it please let me know."

*The respondent will be provided ample time to look over all 60 cards.*

"You are eventually going separate these cards into 6 distinct piles based on your own reasons. For now I want to you to look at each card and make two separate, distinct stacks of the cards. In other words the cards in the first pile should be similar to each other in your own mind, but different from the cards you place in the second pile."

*If necessary, the interviewer will help the respondent by placing the first card to the left, then asking if the respondent would place the second card with the first, or start another stack. This prompting would continue until the respondent seems able to determine the placement of the cards without the help of the interviewer.*

"That was very good. I can imagine how difficult the job was. In deciding which pile to place each card, what was your main reason?

Were there other reasons for your decisions?"

*When the respondent has finished explaining his/her rationale in making the two stacks, the interview will continue.*

"Now I want you to pick up the stack on your left and look through it."

*Pause.*

"I want you to make three piles out of this one stack. Once again at your own choice or discretion. The three piles should each be different from each other, but the cards within each pile should be similar in your own mind. For example, place the first card down. Look at the next card. Is it similar to the card you just put down? If it is similar place it on top of the card you laid down. If it is not similar, start another pile.

Now look at the next card. Is it similar to the cards that you just placed down. If it is then add it to a pile. If not, start another pile. Remember, you can only have three piles."

## APPENDIX E (continued)

*Time will be given for this task.*

"Very good. You are almost finished. Now pick up the stack on your right and look through it."

*Pause.*

"Make three piles out of this stack as well using the same process. Remember that each of the three piles should be different, but the cards within each pile should be similar in your own mind. For example, place the first card down. Look at the next card. Is it similar to the card you just put down? If it is similar place it on top of the card you laid down. If it is not similar, start another pile.

Now look at the next card. Is it similar to the cards that you just placed down. If it is then add it to a pile. If not, start another pile. Remember, you can only have three piles."

*Time will be given for this task.*

"Terrific! What caused you to place a card in one pile or another?"

"Where there other reasons you used to make the decision as to which pile a card belongs?"

*When the respondent has finished answering the questions, the interviewer will ask for the last task.*

"You have made six piles out of the cards. I want you to look through each pile and choose one service that seems to best represent the pile. In other words, choose a typical service or example service from each pile and place it above the pile."

*Time will be given for the task.*

"Beginning with the pile to your far left, please tell me what caused you to choose each service from each pile."

"Were there any other reasons, or thoughts you had about the choice you made?"

*When the respondent has finished answering the question, the interviewer will begin concluding the interview.*

## APPENDIX E (continued)

"Did you have any other thoughts while going through the process?"

"I want to thank you for taking time to go through this interview. Your responses will be very helpful in understanding how people classify services. Do you have any questions of me?"

*If the respondent has questions, the interviewer will answer them. If no questions are forthcoming, the interview will be concluded.*

APPENDIX F  
SAMPLE OF PRETEST INSTRUMENT



CONSUMER ATTITUDE QUESTIONNAIRE .

The purpose of this survey is to find out consumers' attitudes toward services. Specifically, we want to know your attitudes toward the service provided with amusements and/or theme parks in general.

Please read these instructions carefully as you begin.

In the questionnaire you are about to fill out we ask questions which make use of rating scales with seven places. You are to circle the number that best describes your attitude as a consumer. For example, if you were asked whether "Honda makes good cars" on such a scale, the seven places should be interpreted as follows:

	strongly disagree							strongly agree
Honda makes good cars	1	2	3	4	5	6	7	

If you strongly agree that Honda makes good cars, then you would circle number 7 as follows:

	strongly disagree							strongly agree
Honda makes good cars	1	2	3	4	5	6	7	

If you strongly disagree that Honda makes good cars, then you would circle number 1 as follows:

	strongly disagree							strongly agree
Honda makes good cars	1	2	3	4	5	6	7	

If you agree or disagree less strongly and somewhere in between these extremes, you could circle the appropriate number 2 through 6.

Please turn the page and begin.

Remember	strongly disagree	strongly agree
On previous occasions I have considered purchasing this service.	1 2 3 4 5 6 7	
This is a service I have never purchased.	1 2 3 4 5 6 7	
I consider myself to be an expert on this service.	1 2 3 4 5 6 7	
I am not at all familiar with this service.	1 2 3 4 5 6 7	
I regularly use this service.	1 2 3 4 5 6 7	
This is an important service.+	1 2 3 4 5 6 7	
I have no concern for this service.+	1 2 3 4 5 6 7	
This service is irrelevant.+	1 2 3 4 5 6 7	
This service means a lot to me.+	1 2 3 4 5 6 7	
This is a valuable service.	1 2 3 4 5 6 7	
This is a beneficial service.++	1 2 3 4 5 6 7	
This service matters to me.+	1 2 3 4 5 6 7	
This service is essential.++	1 2 3 4 5 6 7	
This service is needed.++	1 2 3 4 5 6 7	
This is a service I can do for myself.	1 2 3 4 5 6 7	
If I needed this service, I would have to purchase it.	1 2 3 4 5 6 7	
I don't usually buy this service because either myself or someone in my family can provide this service.	1 2 3 4 5 6 7	
If I need this service I do it myself.	1 2 3 4 5 6 7	
This is a boring service.+++	1 2 3 4 5 6 7	
This is an unexciting service.+++,,+	1 2 3 4 5 6 7	
This is an appealing service.+++	1 2 3 4 5 6 7	
This is a fun service.+++,,+	1 2 3 4 5 6 7	
Using or purchasing this service says nothing about me.+++	1 2 3 4 5 6 7	
When I know someone has used or purchased this service it tells me about the person.+++	1 2 3 4 5 6 7	
Others may use my purchase of this service to judge me.++,+++	1 2 3 4 5 6 7	
I only need this service on an emergency basis.	1 2 3 4 5 6 7	
When I need this service, I usually have ample time to consider all options before making a purchase.	1 2 3 4 5 6 7	

The people that provide this service have convenient locations. 1 2 3 4 5 6 7

The people that provide this service usually have attractive places of business. 1 2 3 4 5 6 7

This is a service that is usually brought to the customer. 1 2 3 4 5 6 7

There are few sources of information on this service. 1 2 3 4 5 6 7

There is plenty of adequate information on this service. 1 2 3 4 5 6 7

Generally, I find the people that provide this service to be quite pleasant. 1 2 3 4 5 6 7

Generally, there is a line of people waiting to receive this service. 1 2 3 4 5 6 7

This service is usually used in a social situation. 1 2 3 4 5 6 7

In order to understand the benefits of this service you need to compare options. 1 2 3 4 5 6 7

I could understand the benefits of this service without even purchasing it. 1 2 3 4 5 6 7

Once I purchase this service, I could only decide if the service person did a poor job but could not tell if the service person did a good job. 1 2 3 4 5 6 7

Once I purchase this service, it would be difficult for me to determine if the provider of this service had done a good job. 1 2 3 4 5 6 7

Everyone I see purchasing this service seems to be enjoying themselves. 1 2 3 4 5 6 7

Using this service would make me feel good. 1 2 3 4 5 6 7

After I've used this service I am in positive mood. 1 2 3 4 5 6 7

Generally, when people use this service they feel bad. 1 2 3 4 5 6 7

\*\*\*\*\*  
 Now, for the purposes of classification, please circle the category that describes you for each of the following.

## Age

- |                    |                         |
|--------------------|-------------------------|
| 1. 25-34 years old | 4. 55-64 years old      |
| 2. 35-44 years old | 5. 65 years old or more |
| 3. 45-54 years old |                         |

## Sex

- |           |         |
|-----------|---------|
| 1. Female | 2. Male |
|-----------|---------|

## Ethnicity

- |                       |                      |
|-----------------------|----------------------|
| 1. African-American   | 4. Hispanic-American |
| 2. Asian-American     | 5. Native American   |
| 3. Caucasian-American | 6. Foreign born      |

I would purchase this service because I have insufficient time to do it myself.	1	2	3	4	5	6	7
I purchase this service because I hate doing this myself.	1	2	3	4	5	6	7
It is easy to go wrong when choosing someone to supply this service.+	1	2	3	4	5	6	7
This is a risky service.+	1	2	3	4	5	6	7
It is easy to choose someone to supply this service.+	1	2	3	4	5	6	7
If I were to make a poor choice of someone to supply this service it would be highly upsetting.++	1	2	3	4	5	6	7
I really have little to lose if I make a poor choice as to who should supply this service.+++	1	2	3	4	5	6	7
If I make a mistake in choosing who should supply this service it is not a big deal.	1	2	3	4	5	6	7
If I choose the wrong person to supply this service it could be very costly.	1	2	3	4	5	6	7
Before choosing someone to supply this service, I would call around and talk to various sales people for the service.	1	2	3	4	5	6	7
I like to look at advertisements to obtain information on this service.	1	2	3	4	5	6	7
I would ask friends if they could give me any information on this service.	1	2	3	4	5	6	7
I would ask relatives if they could give me any information on this service.	1	2	3	4	5	6	7
Before purchasing this service, I seek out people who are knowledgeable about it.	1	2	3	4	5	6	7
I would choose the first alternative I found to supply this.	1	2	3	4	5	6	7
I don't need to consider a lot of alternatives before choosing someone to supply this service.	1	2	3	4	5	6	7
This service is purchased for special occasions.	1	2	3	4	5	6	7
This is a service that is usually purchased as a gift.	1	2	3	4	5	6	7
Use of this service is usually under unique circumstances.	1	2	3	4	5	6	7
There are many places in the area from which to get this service.	1	2	3	4	5	6	7
It is not easy to find more than one or two options for this service.	1	2	3	4	5	6	7
If I need this service, I have to travel quite a distance to get it.	1	2	3	4	5	6	7

## Years living in the area

- |                     |                       |
|---------------------|-----------------------|
| 1. less than 1 year | 4. more than 20 years |
| 2. 1 - 9 years      | 5. all my life        |
| 3. 10 - 20 years    |                       |

## Marital status

1. never married
2. currently married
3. currently single (separated, divorced, widowed)

## Highest level of education completed

1. some high school
2. high school graduate (GED as well)
3. some college or technical school
4. college graduate
5. graduate work or degree
6. terminal degree (Ed.D, Ph.D., MD, OD, MFA, etc.)

- + McQuarrie and Munson 1986
- ++ Jain and Srinivasan 1990
- +++ Higie and Feick 1988
- ++++ Ratchford 1987

APPENDIX G  
SAMPLE OF PILOT INSTRUMENT  
USED FOR PURIFICATION

### CONSUMER ATTITUDE QUESTIONNAIRE

The purpose of this survey is to find out consumers' attitudes toward services. Specifically, we want to know your attitudes toward the service provided with amusements and/or theme parks in general.

Please read these instructions carefully as you begin.

In the questionnaire you are about to fill out we ask questions which make use of rating scales with seven places. You are to circle the number that best describes your attitude as a consumer. For example, if you were asked whether "Honda makes good cars" on such a scale, the seven places should be interpreted as follows:

	strongly disagree									strongly agree
Honda makes good cars	1	2	3	4	5	6				7

If you strongly agree that Honda makes good cars, then you would circle number 7 as follows:

	strongly disagree									strongly agree
Honda makes good cars	1	2	3	4	5	6				7

If you strongly disagree that Honda makes good cars, then you would circle number 1 as follows:

	strongly disagree									strongly agree
Honda makes good cars	1	2	3	4	5	6				7

If you agree or disagree less strongly and somewhere in between these extremes, you could circle the appropriate number 2 through 6.

Please turn the page and begin.

Remember	strongly disagree	strongly agree
On previous occasions I have considered purchasing this service..	1 2 3 4 5 6 7	
This is a service I have never purchased.	1 2 3 4 5 6 7	
I consider myself to be an expert on this service.	1 2 3 4 5 6 7	
I am not at all familiar with this service.	1 2 3 4 5 6 7	
I regularly use this service.	1 2 3 4 5 6 7	
This is an important service.	1 2 3 4 5 6 7	
I have no concern for this service.	1 2 3 4 5 6 7	
This service is irrelevant.	1 2 3 4 5 6 7	
This service means a lot to me.	1 2 3 4 5 6 7	
This is a valuable service.	1 2 3 4 5 6 7	
This service is needed.	1 2 3 4 5 6 7	
This is a service I can do for myself.	1 2 3 4 5 6 7	
If I needed this service, I would have to purchase it.	1 2 3 4 5 6 7	
I don't usually buy this service because either myself or someone in my family can provide this service.	1 2 3 4 5 6 7	
If I need this service I do it myself.	1 2 3 4 5 6 7	
This is a boring service	1 2 3 4 5 6 7	
This is an unexciting service.	1 2 3 4 5 6 7	
This is a fun service.	1 2 3 4 5 6 7	
Using or purchasing this service says nothing about me.	1 2 3 4 5 6 7	
When I know someone has used or purchased this service it tells me about the person.	1 2 3 4 5 6 7	
Others may use my purchase of this service to judge me.	1 2 3 4 5 6 7	
I only need this service on an emergency basis.	1 2 3 4 5 6 7	
When I need this service, I usually have ample time to consider all options before making a purchase.	1 2 3 4 5 6 7	
I would purchase this service because I have insufficient time to do it myself.	1 2 3 4 5 6 7	
I purchase this service because I hate doing this myself.	1 2 3 4 5 6 7	



Remember	1	2	3	4	5	6	7
	strongly disagree			strongly agree			
It is easy to go wrong when choosing someone to supply this service.	1	2	3	4	5	6	7
Deciding who to buy this service from is risky.	1	2	3	4	5	6	7
If I were to make a poor choice of someone to supply this service it would be highly upsetting.	1	2	3	4	5	6	7
If I make a mistake in choosing who should supply this service it is not a big deal.	1	2	3	4	5	6	7
I like to look at advertisements to obtain information on this service.	1	2	3	4	5	6	7
I would ask friends if they could give me any information on this service.	1	2	3	4	5	6	7
I would ask relatives if they could give me any information on this service.	1	2	3	4	5	6	7
I don't need to consider a lot of alternatives before choosing someone to supply this service.	1	2	3	4	5	6	7
This service is purchased for special occasions.	1	2	3	4	5	6	7
This is a service that is usually purchased as a gift.	1	2	3	4	5	6	7
Use of this service is usually under unique circumstances.	1	2	3	4	5	6	7
There are many places in the area from which to get this service.	1	2	3	4	5	6	7
I have few choices available as to where I can get this service.	1	2	3	4	5	6	7
If I need this service, I have to travel quite a distance to get it.	1	2	3	4	5	6	7
The people that provide this service have convenient locations.	1	2	3	4	5	6	7
The people that provide this service usually have attractive places of business.	1	2	3	4	5	6	7
There are few sources of information on this service.	1	2	3	4	5	6	7
There is plenty of adequate information on this service.	1	2	3	4	5	6	7
Generally, I find the people that provide this service to be quite pleasant.	1	2	3	4	5	6	7
Generally, there is a line of people waiting to receive this service.	1	2	3	4	5	6	7
When this service is used there is normally other people present.	1	2	3	4	5	6	7

- In order to understand how this service would benefit me I would have to comparison shop. 1 2 3 4 5 6 7
- I could understand the benefits of this service without even purchasing it. 1 2 3 4 5 6 7
- Even after I purchase this service it would be difficult for me to determine if the service person had done a good job. 1 2 3 4 5 6 7
- I need to purchase and use this service to understand how it will benefit me. 1 2 3 4 5 6 7
- Everyone I see purchasing this service seems to be enjoying themselves. 1 2 3 4 5 6 7
- Using this service would make me feel good. 1 2 3 4 5 6 7
- After I've used this service I am in positive mood. 1 2 3 4 5 6 7
- Generally, when people use this service they feel bad. 1 2 3 4 5 6 7

\*\*\*\*\*  
 Now, for the purposes of classification, please circle the category that describes you for each of the following.

When was the last time you used this service?

- |                               |                                 |
|-------------------------------|---------------------------------|
| 1. last month                 | 4. in the past 5 years          |
| 2. in the past 6 months       | 5. over 5 years ago             |
| 3. in the past 6 to 12 months | 6. I've never used this service |

Age

- |                    |                         |
|--------------------|-------------------------|
| 1. 25-34 years old | 4. 55-64 years old      |
| 2. 35-44 years old | 5. 65 years old or more |
| 3. 45-54 years old |                         |

Sex

- |           |         |
|-----------|---------|
| 1. Female | 2. Male |
|-----------|---------|

Ethnicity

- |                       |                      |
|-----------------------|----------------------|
| 1. African-American   | 4. Hispanic-American |
| 2. Asian-American     | 5. Native American   |
| 3. Caucasian-American | 6. Foreign born      |

Years living in the area

- |                     |                       |
|---------------------|-----------------------|
| 1. less than 1 year | 4. more than 20 years |
| 2. 1 - 9 years      | 5. all my life        |
| 3. 10 - 20 years    |                       |

Marital status

- |  |
|--|
| 1. never married                                   |
| 2. currently married                               |
| 3. currently single (separated, divorced, widowed) |

## Highest level of education completed

1. some high school
2. high school graduate (GED as well)
3. some college or technical school
4. college graduate
5. graduate work or degree
6. terminal degree (Ed.D, Ph.D., MD, OD, MFA, etc.)

APPENDIX H  
SAMPLE OF PURIFIED INSTRUMENT  
FOR NUMERICAL TAXONOMY

With the following items, please circle your attitude toward the service of SERVICE STIMULI in general.

Remember	strongly disagree	strongly agree
On previous occasions I have considered purchasing this service.	1 2 3 4 5 6 7	
This is a service I have never purchased.	1 2 3 4 5 6 7	
I consider myself to be an expert on this service.	1 2 3 4 5 6 7	
I am not at all familiar with this service.	1 2 3 4 5 6 7	
I have no concern for this service.	1 2 3 4 5 6 7	
This service is irrelevant.	1 2 3 4 5 6 7	
This service means a lot to me.	1 2 3 4 5 6 7	
This is a valuable service.	1 2 3 4 5 6 7	
This service is needed.	1 2 3 4 5 6 7	
This is a service I can do for myself.	1 2 3 4 5 6 7	
I don't usually buy this service because either myself or someone in my family can provide this service.	1 2 3 4 5 6 7	
If I need this service I do it myself.	1 2 3 4 5 6 7	
This is a boring service	1 2 3 4 5 6 7	
This is an unexciting service.	1 2 3 4 5 6 7	
This is a fun service.	1 2 3 4 5 6 7	
Using or purchasing this service says nothing about me.	1 2 3 4 5 6 7	
When I know someone has used or purchased this service it tells me about the person.	1 2 3 4 5 6 7	
Others may use my purchase of this service to judge me.	1 2 3 4 5 6 7	
I would purchase this service because I have insufficient time to do it myself.	1 2 3 4 5 6 7	
I purchase this service because I hate doing this myself.	1 2 3 4 5 6 7	
It is easy to go wrong when choosing someone to supply this service.	1 2 3 4 5 6 7	
Deciding who to buy this service from is risky.	1 2 3 4 5 6 7	
If I were to make a poor choice of someone to supply this service it would be highly upsetting.	1 2 3 4 5 6 7	

	disagree							agree
If I make a mistake in choosing who should supply this service it is not a big deal.	1	2	3	4	5	6	7	
I would ask friends if they could give me any information on this service.	1	2	3	4	5	6	7	
I would ask relatives if they could give me any information on this service.	1	2	3	4	5	6	7	
This service is purchased for special occasions.	1	2	3	4	5	6	7	
Use of this service is usually under unique circumstances.	1	2	3	4	5	6	7	
There are many places in the area from which to get this service.	1	2	3	4	5	6	7	
I have few choices available as to where I can get this service.	1	2	3	4	5	6	7	
There are few sources of information on this service.	1	2	3	4	5	6	7	
There is plenty of adequate information on this service.	1	2	3	4	5	6	7	
Generally, there is a line of people waiting to receive this service.	1	2	3	4	5	6	7	
When this service is used there is normally other people present.	1	2	3	4	5	6	7	
I could understand the benefits of this service without even purchasing it.	1	2	3	4	5	6	7	
Even after I purchase this service it would be difficult for me to determine if the service person had done a good job.	1	2	3	4	5	6	7	
I need to purchase and use this service to understand how it will benefit me.	1	2	3	4	5	6	7	
Everyone I see purchasing this service seems to be enjoying themselves.	1	2	3	4	5	6	7	
Using this service would make me feel good.	1	2	3	4	5	6	7	
After I've used this service I am in positive mood.	1	2	3	4	5	6	7	
Generally, when people use this service they feel bad.	1	2	3	4	5	6	7	
This service takes place in a colorful, not drab, setting.	1	2	3	4	5	6	7	
This service takes place in a fast paced setting.	1	2	3	4	5	6	7	
The setting where this service takes place is usually comfortable.	1	2	3	4	5	6	7	

## When was the last time you used this service?

1. last month
2. in the past 6 months
3. in the past 6 to 12 months
4. in the past 5 years
5. over 5 years ago
6. I've never used this service

## Age

1. 25-34 years old
2. 35-44 years old
3. 45-54 years old
4. 55-64 years old
5. 65 years old or more

## Sex

1. Female
2. Male

## Ethnicity

1. African-American
2. Asian-American
3. Caucasian-American
4. Hispanic-American
5. Native American
6. Foreign born

## Years living in the area

1. less than 1 year
2. 1 - 9 years
3. 10 - 20 years
4. more than 20 years
5. all my life

## Marital status

1. never married
2. currently married
3. currently single (separated, divorced, widowed)

## Highest level of education completed

1. some high school
2. high school graduate (GED as well)
3. some college or technical school
4. college graduate
5. graduate work or degree
6. terminal degree (Ed.D, Ph.D., MD, OD, MFA, etc.)

APPENDIX I  
SAMPLE OF PRELIMINARY  
SURVEY FOR LIMITED VALIDATION STUDY



## STUDENT SURVEY

1. Class:
- |              |             |
|--------------|-------------|
| 1. Sophomore | 3. Senior   |
| 2. Junior    | 4. Graduate |
2. College of enrollment:
- |                         |                               |
|-------------------------|-------------------------------|
| 1. College of Business  | 3. College of Arts & Sciences |
| 2. College of Education | 4. College of Agriculture     |
| 5. Other _____          |                               |
3. First language:
- |            |                |
|------------|----------------|
| 1. English | 2. Other _____ |
|------------|----------------|
3. Ethnicity:
- |                       |                       |
|-----------------------|-----------------------|
| 1. Caucasian-American | 4. Asian American     |
| 2. African American   | 5. Native American    |
| 3. Hispanic American  | 6. Foreign born _____ |

Please check how recently you have used the following services.

	This Year Last 12 Months	In Last Two Years	Never Used
Amusement park	___	___	___
Family medicine (your family doctor or a doctor at the University Health Center	___	___	___
Checking account	___	___	___
Employment agency	___	___	___
Personal Counselor	___	___	___
Airline	___	___	___
Barber/hairstylist	___	___	___
Auto insurance	___	___	___
Lawyer	___	___	___
Hotel or motel	___	___	___
Credit Card	___	___	___
Tax preparation	___	___	___
Moving or storage company	___	___	___
Child care	___	___	___
Funeral director	___	___	___

APPENDIX J  
SAMPLE OF LIMITED VALIDATION SURVEY

1. Class:
 

1. Sophomore	3. Senior
2. Junior	4. Graduate
2. College of enrollment:
 

1. College of Business	3. College of Arts & Sciences
2. College of Education	4. College of Agriculture
5. Other _____	
3. First language:
 

1. English	2. Other _____
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4. Ethnicity:
 

1. Caucasian-American	4. Asian American
2. African American	5. Native American
3. Hispanic American	6. Foreign born _____
5. Sex
 

1. Female	2. Male
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**DIRECTIONS:** This survey deals with your opinions about **FAMILY MEDICAL SERVICES**. This could be your family doctor at home or the doctor you see at the University Health Center.

Please think about the family medical services you have used in the past. In the following space please give a brief description of the circumstances under which you most recently used a family medical service.

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The following set of statements relate to your feelings about family medical services. For each statement, please show the extent to which you believe your family medical service has the feature described by the statement. Circle a 7 if you strongly agree that it has that feature, and circle a 1 if you strongly disagree that it has that feature. You may circle any of the numbers in the middle that show how strong your feelings are. There are no right or wrong answers.

Simply circle the number that indicates your perceptions.

Please turn the page and begin.

Overall, I would judge the quality of my family medical service as:

	Poor							Exceptional
	1	2	3	4	5	6	7	
							strongly disagree	strongly agree
1. My family medical service has modern-looking equipment.	1	2	3	4	5	6	7	
2. My family medical service's physical facilities are visually appealing.	1	2	3	4	5	6	7	
3. The employees at the family medical service appear neat.	1	2	3	4	5	6	7	
4. Materials associated with the service (such as pamphlet) are visually appealing at my family medical facility.	1	2	3	4	5	6	7	
5. When my family medical service promises to do something by a certain time, it does so.	1	2	3	4	5	6	7	
6. When you have problems, my family medical service shows a sincere interest in solving it.	1	2	3	4	5	6	7	
7. My family medical service performs the service right the first time.	1	2	3	4	5	6	7	
8. My family medical service provides services when it promises to do so.	1	2	3	4	5	6	7	
9. My family medical service insists on error-free records.	1	2	3	4	5	6	7	
10. The employees of my family medical service tell you exactly when services will be performed.	1	2	3	4	5	6	7	
11. Employees of my family medical service give you prompt service.	1	2	3	4	5	6	7	
12. Employees of my family medical service are always willing to help patients.	1	2	3	4	5	6	7	
13. Employees of my family medical service are never too busy to respond to your requests.	1	2	3	4	5	6	7	
14. The behavior of employees at my family medical service instill confidence in patients.	1	2	3	4	5	6	7	
15. You feel safe in your transactions with my family medical service.	1	2	3	4	5	6	7	
16. Employees of my family medical service are consistently courteous to you.	1	2	3	4	5	6	7	
17. Employees at my family medical service have the knowledge to answer your questions.	1	2	3	4	5	6	7	
18. My family medical service gives you individual attention.	1	2	3	4	5	6	7	
19. My family medical service has operating hours convenient to all its patients.	1	2	3	4	5	6	7	
20. My family medical service has employees who give you personal attention.	1	2	3	4	5	6	7	
21. My family medical service has your best interests at heart.	1	2	3	4	5	6	7	
22. Employees of my family medical service understand your specific needs.	1	2	3	4	5	6	7	
23. Overall, there are many characteristics that I can use to judge the quality of my family medical service.	1	2	3	4	5	6	7	
24. My family medical service provides a lot of service features.	1	2	3	4	5	6	7	
25. Based on the features that are most important to me of, I would say the performance of my medical service is outstanding.	1	2	3	4	5	6	7	
26. The results of family medical services will probably be around for a long time.	1	2	3	4	5	6	7	
27. The benefits of family medical services will last only a short time.	1	2	3	4	5	6	7	
28. Considering all the features of my family medical service the overall performance appears satisfactory.	1	2	3	4	5	6	7	

29. If I were to compare the performance of my family medical service to others nationwide I would say it is the best. 1 2 3 4 5 6 7
30. I would recommend my family medical service to a friend. 1 2 3 4 5 6 7
31. The last time I used family medical services was
- |                            |                           |
|----------------------------|---------------------------|
| 1. in the last 6 months    | 4. in the last 3 years    |
| 2. in the last 6-12 months | 5. more than 3 years ago  |
| 3. in the last 2 years     | 6. I have never used this |

**DIRECTIONS:** This survey deals with your opinions about **BARBER OR HAIRSTYLIST SERVICES** (barber services perhaps if you are a male or hairstylist services if you are a female). These could be barber/hairstylist services you have experienced at home or while at the University.

Please think about the barber/hairstylist services you have used in the past. In the following space please give a brief description of the circumstances under which you most recently used a barber or hairstylist.

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The following set of statements relate to your feelings about barber/hairstylist services. For each statement, please show the extent to which you believe your barber/hairstylist has the feature described by the statement. Circle a 7 if you strongly agree that it has that feature, and circle a 1 if you strongly disagree that it has that feature. You may circle any of the numbers in the middle that show how strong your feelings are. There are no right or wrong answers.

Simply circle the number that indicates your perceptions.

Please turn the page and begin.

Overall, I would judge the quality of my barber/hairstylist service as:

	Poor							Exceptional													
	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
								strongly disagree							strongly agree						
1. My barber/hairstylist has modern-looking equipment.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
2. My barber/hairstylist's physical facilities are visually appealing.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
3. The employees at the barber/hairstylist appear neat.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
4. Materials associated with the service (such as pamphlet or style books) are visually appealing at my barber/hairstylist.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
5. When my barber/hairstylist promises to do something by a certain time, it does so.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
6. When you have problems, my barber/hairstylist shows a sincere interest in solving it.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
7. My barber/hairstylist performs the service right the first time.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
8. My barber/hairstylist provides services when it promises to do so.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
9. My barber/hairstylist insists on error-free records.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
10. The employees of my barber/hairstylist tell you exactly when services will be performed.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
11. Employees of my barber/hairstylist give you prompt service.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
12. Employees at my barber/hairstylist are always willing to help customers.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
13. Employees at my barber/hairstylist are never too busy to respond to your requests.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
14. The behavior of employees at my barber/hairstylist instill confidence in customers.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
15. You feel safe in your transactions with my barber/hairstylist.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
16. Employees at my barber/hairstylist are consistently courteous to you.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
17. Employees at my barber/hairstylist have the knowledge to answer your questions.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
18. My barber/hairstylist gives you individual attention.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
19. My barber/hairstylist has operating hours convenient to all its customers.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
20. My barber/hairstylist employees who give you personal attention.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
21. My barber/hairstylist has your best interests at heart.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
22. Employees at my barber/hairstylist understand your specific needs.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
23. Overall, there are a many characteristics that I can use to judge the quality of my barber/hairstylist.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
24. My barber/hairstylist's service provides a lot of service features.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
25. Based on the features that are most important to me of, I would say the performance of my barber/hairstylist is outstanding.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
26. The results of barbers/hairstylists' services will probably be around for a long time.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
27. The benefits of barbers/hairstylists will last only a short time.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
28. Considering all the features of my barber or hairstylist's service the overall performance appears satisfactory.	1	2	3	4	5	6	7	1	2	3	4	5	6	7							

29. If I were to compare the performance of my barber/  
hairstylist to others nationwide  
I would say it is the best. 1 2 3 4 5 6 7
30. I would recommend my barber/hairstylist to  
a friend. 1 2 3 4 5 6 7
31. The last time I used a barber or hairstylist was
- |                            |                           |
|----------------------------|---------------------------|
| 1. in the last 6 months    | 4. in the last 3 years    |
| 2. in the last 6-12 months | 5. more than 3 years ago  |
| 3. in the last 2 years     | 6. I have never used this |



**DIRECTIONS:** This survey deals with your opinions about **CHECKING ACCOUNT SERVICES**. These could be checking account services you have experienced at home or while at the University.

Please think about the checking account services you have used in the past. In the following space please give a brief description of the circumstances under which you most recently used a checking account service.

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The following set of statements relate to your feelings about checking account services. For each statement, please show the extent to which you believe your checking account provider has the feature described by the statement. Circle a 7 if you strongly agree that it has that feature, and circle a 1 if you strongly disagree that it has that feature. You may circle any of the numbers in the middle that show how strong your feelings are. There are no right or wrong answers.

Simply circle the number that indicates your perceptions.

Please turn the page and begin.

Overall, I would judge the quality of my checking account service as:

	Poor						Exceptional
	1	2	3	4	5	6	7
	strongly disagree						strongly agree
1. My checking account service has modern-looking equipment.	1	2	3	4	5	6	7
2. Where I have my checking account, the physical facilities are visually appealing.	1	2	3	4	5	6	7
3. The employees where I have my checking account appear neat.	1	2	3	4	5	6	7
4. Materials associated with the service (such as brochures, statements) are visually appealing where I have my checking account.	1	2	3	4	5	6	7
5. When my checking account service promises to do something by a certain time, it does so.	1	2	3	4	5	6	7
6. When you have problems, my checking account service shows a sincere interest in solving it.	1	2	3	4	5	6	7
7. My checking account service performs the service right the first time.	1	2	3	4	5	6	7
8. My checking account provides services when it promises to do so.	1	2	3	4	5	6	7
9. My checking account service insists on error-free records.	1	2	3	4	5	6	7
10. The employees that provide my checking account service tell you exactly when services will be performed.	1	2	3	4	5	6	7
11. Employees that provide my checking account service give you prompt service.	1	2	3	4	5	6	7
12. Employees that provide my checking account service are always willing to help customers.	1	2	3	4	5	6	7
13. Employees that provide my checking account service are never too busy to respond to your requests.	1	2	3	4	5	6	7
14. The behavior of the employees that provide my checking account instill confidence in customers.	1	2	3	4	5	6	7
15. You feel safe in your checking account transactions.	1	2	3	4	5	6	7
16. Employees that provide my checking account are consistently courteous to you.	1	2	3	4	5	6	7
17. Employees that provide my checking account have the knowledge to answer your questions.	1	2	3	4	5	6	7
18. My checking account service gives you individual attention.	1	2	3	4	5	6	7
19. My checking account service has operating hours convenient to all its customers.	1	2	3	4	5	6	7
20. The employees that provide my checking account give you personal attention.	1	2	3	4	5	6	7
21. My checking account service has your best interests at heart.	1	2	3	4	5	6	7
22. Employees that provide my checking account service understand your specific needs.	1	2	3	4	5	6	7
23. Overall, there are many characteristics that I can use to judge the quality of my checking account service.	1	2	3	4	5	6	7
24. My checking account service provides a lot of service features.	1	2	3	4	5	6	7
25. Based on the features that are most important to me of, I would say the performance of my checking account is outstanding.	1	2	3	4	5	6	7
26. The results of checking account services will probably be around for a long time.	1	2	3	4	5	6	7
27. The benefits of checking account services will last only a short time.	1	2	3	4	5	6	7

28. Considering all the features of my checking account service the overall performance appears satisfactory. 1 2 3 4 5 6 7
29. If I were to compare the performance of my checking account to others nationwide I would say it is the best. 1 2 3 4 5 6 7
30. I would recommend my checking account service to a friend. 1 2 3 4 5 6 7
31. The last time I used a checking account service was
- |                            |                           |
|----------------------------|---------------------------|
| 1. in the last 6 months    | 4. in the last 3 years    |
| 2. in the last 6-12 months | 5. more than 3 years ago  |
| 3. in the last 2 years     | 6. I have never used this |

**DIRECTIONS:** This survey deals with your opinions about **AUTO INSURANCE SERVICES**. These could be the auto insurance services you have experienced at home or while at the University.

Please think about the auto insurance services you have used in the past. In the following space please give a brief description of the circumstances under which you most recently used auto insurance services.

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The following set of statements relate to your feelings about auto insurance services. For each statement, please show the extent to which you believe your auto insurance provider has the feature described by the statement. Circle a 7 if you strongly agree that it has that feature, and circle a 1 if you strongly disagree that it has that feature. You may circle any of the numbers in the middle that show how strong your feelings are. There are no right or wrong answers.

Simply circle the number that indicates your perceptions.

Please turn the page and begin.

Overall, I would judge the quality of my auto insurance service as:

	Poor						Exceptional					
	1	2	3	4	5	6	7	8	9	10	11	12
							strongly disagree			strongly agree		
1. My auto insurance service has modern-looking equipment.	1	2	3	4	5	6	7					
2. Where I have my auto insurance, the physical facilities are visually appealing.	1	2	3	4	5	6	7					
3. The employees where I have my auto insurance appear neat.	1	2	3	4	5	6	7					
4. Materials associated with the service (such as brochures, statements) are visually appealing where I have my auto insurance.	1	2	3	4	5	6	7					
5. When my auto insurance service promises to do something by a certain time, it does so.	1	2	3	4	5	6	7					
6. When you have problems, my auto insurance service shows a sincere interest in solving it.	1	2	3	4	5	6	7					
7. My auto insurance service performs the service right the first time.	1	2	3	4	5	6	7					
8. My auto insurance provides services when it promises to do so.	1	2	3	4	5	6	7					
9. My auto insurance service insists on error-free records.	1	2	3	4	5	6	7					
10. The employees that provide my auto insurance service tell you exactly when services will be performed.	1	2	3	4	5	6	7					
11. Employees that provide my auto insurance service give you prompt service.	1	2	3	4	5	6	7					
12. Employees that provide my auto insurance service are always willing to help customers.	1	2	3	4	5	6	7					
13. Employees that provide my auto insurance service are never too busy to respond to your requests.	1	2	3	4	5	6	7					
14. The behavior of the employees that provide my auto insurance instill confidence in customers.	1	2	3	4	5	6	7					
15. You feel safe in your auto insurance transactions.	1	2	3	4	5	6	7					
16. Employees that provide my auto insurance are consistently courteous to you.	1	2	3	4	5	6	7					
17. Employees that provide my auto insurance have the knowledge to answer your questions.	1	2	3	4	5	6	7					
18. My auto insurance service gives you individual attention.	1	2	3	4	5	6	7					
19. My auto insurance service has operating hours convenient to all its customers.	1	2	3	4	5	6	7					
20. The employees that provide my auto insurance give you personal attention.	1	2	3	4	5	6	7					
21. My auto insurance service has your best interests at heart.	1	2	3	4	5	6	7					
22. Employees that provide my auto insurance service understand your specific needs.	1	2	3	4	5	6	7					
23. Overall, there are a many characteristics that I can use to judge the quality of my auto insurance service.	1	2	3	4	5	6	7					
24. My auto insurance service provides a lot of service features.	1	2	3	4	5	6	7					
25. Based on the features that are most important to me of, I would say the performance of my auto insurance is outstanding.	1	2	3	4	5	6	7					
26. The results of auto insurance service will probably be around for a long time.	1	2	3	4	5	6	7					
27. The benefits of auto insurance service will last only a short time.	1	2	3	4	5	6	7					

28. Considering all the features of my auto insurance service the overall performance appears satisfactory. 1 2 3 4 5 6 7
29. If I were to compare the performance of my auto insurance to others nationwide I would say it is the best. 1 2 3 4 5 6 7
30. I would recommend my auto insurance service to a friend. 1 2 3 4 5 6 7
31. The last time I used an auto insurance service was
- |                            |                           |
|----------------------------|---------------------------|
| 1. in the last 6 months    | 4. in the last 3 years    |
| 2. in the last 6-12 months | 5. more than 3 years ago  |
| 3. in the last 2 years     | 6. I have never used this |

VITA

Jane Wetherington Licata  
Candidate for the Degree of  
Doctor of Philosophy

Thesis: A CONSUMER'S TAXONOMY OF SERVICE

Major Field: Business Administration

Biographical:

Education: Received Bachelor of Science Degree in Clothing, Textiles and Marketing, University of Connecticut, 1966; received Master of Arts in Public Administration, The Ohio State University, 1984; completed requirements for the Doctor of Philosophy degree at Oklahoma State University in July, 1994.

Professional Experience: Adjunct Professor, Department of Marketing, University of Tulsa, August, 1993, to May, 1994. Teaching Assistant, Department of Marketing, Oklahoma State University, January, 1993, to May, 1993. Graduate Research Assistant, Department of Marketing, Oklahoma State University, August, 1991, to January, 1993. Graduate Research Assistant, Department of Marketing, Louisiana State University, August, 1990, to May, 1991. Assistant vice president and director of marketing, Sunburst Bank, Baton Rouge, Louisiana, August, 1985, to August, 1990.

Professional Associations: American Marketing Association, Academy of Marketing Science.

OKLAHOMA STATE UNIVERSITY  
INSTITUTIONAL REVIEW BOARD  
FOR HUMAN SUBJECTS RESEARCH

Date: 08-30-93

IRB#: BU-94-004

Proposal Title: A TAXONOMY OF SERVICES

Principal Investigator(s): John C. Mowen

Reviewed and Processed as: Exempt

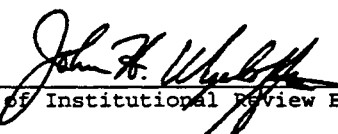
Approval Status Recommended by Reviewer(s): Approved

APPROVAL STATUS SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.  
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL. ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

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Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature:

  
Chair of Institutional Review Board

Date: August 31, 1993