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Expanding the Model of Consumer Satisfaction and Dissatisfaction: The Means-End Disconfirmation Model of CS/D

A Dissertation
Presented for the
Doctor of Philosophy Degree

The University of Tennessee - Knoxville

D. Scott Clemons
May 1995

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DEDICATION

This dissertation is dedicated to my wife Christina. Her confidence in me is my foundation. Her encouragement gives me strength. She accepts me without reservation and without question. She gives me a gift which no one else can. A gift which is unfathomable, a gift no one truly deserves. She gives me her Love.

I love you Christy.

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Finally, I wish to express a special appreciation for Robert B. Woodruff for his superb leadership, guidance, and encouragement. Bob has taught me what being a scholar means. But more important, he taught me by example. Without hypocrisy or selfishness, he acted as both a mentor and a confidant. I am certain his teachings will stay with me for a lifetime. Thank you Bob.

ABSTRACT

The importance of consumer satisfaction and dissatisfaction (CS/D) as a component of the marketing concept is well documented. However, a replete understanding of CS/D and its related evaluative processes is yet to be realized. This dissertation examines the current knowledge of CS/D, and identifies several unresolved issues.

In an attempt to resolve some of these issues and better the understanding of CS/D, a new model is proposed which incorporates the means-end theory of evaluation with the currently dominant disconfirmation paradigm of CS/D. Using data collected in a field survey, the "Means-End Disconfirmation Model of Consumer (Dis)Satisfaction" is tested as a Linear Structural Relations model. The results indicate that the proposed model improves upon both the explanation and understanding of consumer (dis)satisfaction. Implications and suggestions for future research are also offered.

Expanding the Model of Consumer Satisfaction and Dissatisfaction: The Means-End Disconfirmation Model of CS/D

Table of Contents

I. INTRODUCTION 1
Overview of the Problem Area 1
Competitiveness and the Marketing Concept 1
Decline of the Marketing Concept 3
Value Delivery Paradigm 10
Definition of the Problem 14
Dominant Consumer Satisfaction Paradigm 15
Some Identified Relevant CS/D Issues 17
A Broader Perspective: CS/D and Values 21
Purpose of the Study 22
Questions for Research 24
Organization of the Dissertation 25

II. REVIEW OF THE CS/D LITERATURE 26
Introduction 26
Theoretical Foundations of CS/D 27
Expectancy-Disconfirmation 28
Equity Theory 33
Attribution Theory 35
Performance and Expectations 37
Major Theoretical Components of CS/D 40
The CS/D Response 41
CS/D: Cognition or Emotion? 41
CS/D as Emotion 45
CS/D: Uni- or Multidimensional? 49
CS/D: Equal to Attitude? 51
Measures of CS/D 55
The CS/D Comparison 64
CS/D Considerations and Standards 68
Summary of Review 76

III. REVIEW OF THE EVALUATION AND MEANS-END LITERATURE 81
Introduction 81
The Nature of Evaluation 81
Learning Theory 82
Expectancy-Value Theory 84
Comparisons of the Models 87

Beliefs 87
Evaluation 89
Predicting behavior v. Identifying cognitive structure 92
What is evaluated? 94
How is evaluation accomplished? 96
Introduction to Means-End 99
Fundamental Elements of the Means-End Chain Model 100
Attributes 103
Consequences 105
Values 107
Values in Marketing 111
The Attribute-Consequence-Values Hierarchy 115
The Means-End Disconfirmation Model of Consumer (Dis)Satisfaction 117

IV. RESEARCH METHODOLOGY 126
Introduction 126
Research Questions and Hypotheses 126
The Operational MED Model of CS/D 126
Study Questions and Hypotheses 129
Research Context 132
Qualitative Study of Context 135
Measurement Development 142
Consumer (Dis)Satisfaction Emotion 142
Disconfirmation 143
Primary Evaluation 146
Behavior 146
Other Measures 147
Pretest of Questionnaire 147
Research Design 150
Sampling Design 150
Survey Administration 150
Data Assimilation and Descriptive Statistics 151
Tests of the Models and Hypotheses 151
LISREL Analysis 152
Summary of Methodology 153

V. DATA ANALYSIS AND RESULTS 154
Introduction 154
Data Preparation 154
Response Rate 154
Missing Data 155
Descriptive Statistics 156
Development of the LISREL Model 157
The Latent Variable Model 157

The Observed Variables Models 162
Test of Hypotheses 163
Summary of Results 177
Sales Hypotheses 177
Service Hypotheses 180
Summary 180

VI. CONCLUSIONS, IMPLICATIONS, AND FUTURE RESEARCH 181
Introduction 181
Interpretation of Results 181
Question 1 182
Question 2 185
Question 3 186
Limitations of Study 187
Contributions of the Study 189
Conceptual Contributions 189
Measurement 191
Application 192
Directions for Future Research 194
Replication & Contextual Extension 195
Further Development of Measures 196
Research Extensions 198
Closing 201

REFERENCES 203

APPENDICES 223
APPENDIX 1
STUDY QUESTIONNAIRE 224
APPENDIX 2
DESCRIPTIVE STATISTICS FOR SALES DEPARTMENT VARIABLES 236
APPENDIX 3
DESCRIPTIVE STATISTICS FOR SERVICE DEPARTMENT VARIABLES 239
APPENDIX 4
DISTRIBUTIONS FOR SALES VARIABLES 242
APPENDIX 5
DISTRIBUTIONS FOR SERVICE VARIABLES 253
APPENDIX 6
LISREL OUTPUT FOR LATENT VARIABLE SALES MODEL . . . 265
APPENDIX 7
LISREL OUTPUT FOR LATENT VARIABLE SERVICE MODEL 284

APPENDIX 8
DESCRIPTIVE STATISTICS FOR SUMMED SALES VARIABLES 303
APPENDIX 9
DESCRIPTIVE STATISTICS FOR SUMMED SERVICE VARIABLES 307
APPENDIX 10
LISREL OUTPUT FOR MANIFEST VARIABLE SALES MODEL 311
APPENDIX 11
LISREL OUTPUT FOR MANIFEST VARIABLE SERVICE MODEL 320

VITA 329

LIST OF TABLES

Table Page

Table 3-1: Illustration of Multi-Attribute Model 85
Table 4-1: Final List of Attributes and Consequences by Sales and Service 141
Table 5-1: Description of Respondents 158
Table 5-2: Overall Fit Indices for Latent Variable Measurement Models 159
Table 5-3: Overall Fit Indices for Observed Variables Models 166
Table 5-4: Test of $H1_{sales}$ and $H1_{service}$, Comparison of Non-nested Models 171
Table 5-5: Test of $H1_{sales}$ and $H1_{service}$, Comparison of Nested Models 172
Table 5-6: Summary of Hypotheses and Results for Sales Data 178
Table 5-7: Summary of Hypotheses and Results for Service Data 179

LIST OF FIGURES

Figure Page

Figure 1-1: Value Delivery Paradigm 12
Figure 1-2: (Dis)confirmation Paradigm of CS/D 16
Figure 2-1: Past Measures of CS/D 57
Figure 2-1: Past Measures of CS/D (Cont.) 58
Figure 2-1: Past Measures of CS/D (Cont.) 59
Figure 2-2: Three Potential Dimensions of Standards 78
Figure 3-1: Illustration of Belief Types 88
Figure 3-2: The Basic Means-End Structure 102
Figure 3-3: The Means-End Disconfirmation Model of CS/D 118
Figure 4-1: The Operational MED Model of CS/D 128
Figure 4-2: Summary of Methodology 133
Figure 5-1: Observed Variables Model for Sales Data 164
Figure 5-2: Observed Variables Model for Service Data 165
Figure 5-3: Test of $H1_{sales}$ and $H1_{service}$, Comparison of Non-nested Models 168
Figure 5-4: Test of $H1_{sales}$ and $H1_{service}$, Comparison of Nested Models 169
Figure 6-1: Simplified Regression Model 200
Figure 6-2: "Vector" Regression Model 202

I. INTRODUCTION

Overview of the Problem Area

Faced with threats from world wide competition, today more than ever companies are forced to continually search for ways to achieve competitive advantage. However, too often the strategies and tactics actually employed have not been able to sustain an advantage for long. As Lele and Sheth (1987) point out, new inventions, increased technology, lower labor costs, government regulation, and corporate size has each failed to provide long-term solutions to the threat of competition. According to them, "Keeping customers happy" appears to be the best, and perhaps the only, long-term defense against competition (Lele & Sheth 1987, p.1). This idea certainly is not a new one. In a landmark *Harvard Business Review* article in 1960 Theodore Levitt stated:

> The view that an industry is a customer-satisfying process, not a goods-producing process, is vital for all businessmen to understand. An industry begins with the customer and his needs, not with a patent, a raw material, or a selling skill. (p. 55)

and,

> To produce these customers, the entire corporation must be viewed as a customer-creating and customer-satisfying organism. Management must think of itself not as producing products but as providing customer-creating *value satisfactions*. (p.56 italics added)

Competitiveness and the Marketing Concept

Levitt's statement represents an essential, and arguably the most important, tenet of the "marketing concept." An organization's role is to satisfy the individual customer's needs or requirements while also satisfying its own objectives (American Marketing Association 1985). Importantly, the needs of customers should be balanced with the

capabilities of the entire organization (King 1965). As it was originally conceived, the marketing concept is a management philosophy to be applied to all facets of a business. This notion suggests that managers throughout an organization adopt a "customer-oriented" approach insofar as decisions across all functional areas are coordinated with the common purpose of satisfying customer needs.[1]

Within a competitive environment, a continuous company-wide commitment to satisfying customers has been shown to be a major factor accounting for the difference between successful and unsuccessful companies.[2] Service businesses have shown that retaining only 5% more of their customers through customer satisfaction can boost profits by as much as 100% (Reichheld & Sasser 1990). Lele and Sheth (1987) state that:

> The overwhelming difference between the winners and the rest lies not in *what* they do, but rather *how* they do it . . . The critical difference lies in the fact that, throughout the organization, there is an emphasis on *customer satisfaction at a profit*. These firms never forget either of these goals, and their success lies in their ability to take an integrated, holistic approach that balances these two often conflicting requirements without compromising either customers or the bottom line . . . they don't leave customer satisfaction to the salesforce while everyone else pursues departmental objectives . . . (p.7 italics added)

Today amidst a new set of challenges, such as global marketing and competition, deregulation, shifting channel structures, and the transition from single-product thinking to systems thinking, it is not enough to be "Marketing-oriented." Today a company must

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[1]The term "customer" is used throughout to refer to both end users of product/service offerings (i.e. individual consumers and/or industrial consumers) and trade customers.

[2]The term "successful" refers to companies which were found to 1) maintain a high level of customer satisfaction, while also 2) earning high profits.

be "market-focused" (Bower & Garda 1986).[3] The difference between these two terms is crucial to implementing the marketing concept, and is worth further discussion.

Decline of the Marketing Concept

Surprisingly, though the marketing concept has been touted for decades, some argue that it has failed to provide significant improvements in organizational performance (see Hayes 1988; McGee and Spiro 1988; Webster 1988; Houston 1986; Felton 1959; Bennett & Cooper 1981; Riesz 1980; Bell & Emory 1971). As the popularity of the marketing concept increased during the 1960's, so did corporate discontent resulting from the marketing concept's apparent inability to overcome some real problems faced by businesses (e.g., managers across functions developing a deep understanding of customers). Several explanations have been given for this apparent failure of the marketing concept.

Perhaps the most ostensible rationale for the marketing concept's failure is the lack of a prevalent conceptualization for use among business leaders. Though the marketing concept was formally introduced over three decades ago, there continues to be controversy over what it means. Much of the difficulty may ensue from the abstract nature of early definitions. Sachs and Benson (1978) state:

> [marketing's] underlying philosophy, enunciated in generalities in the beginning, has come to mean different things to different people . . . the vigor of the

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[3]Here, "Marketing-oriented" is postured as an internal perspective having the *marketing function(s)* as the focus of business. Yet, "market-oriented" positions the *consumer* as the focus of business, establishing the marketing function as only a component of the total business effort.

> marketing concept derived from not its validity but from its generality. Like an astute politician, it is grandly vague. (quoted in McGee & Spiro 1988, p.40)

Though it is widely agreed that the marketing concept is a customer-oriented, organizationally-integrated, and profit-directed approach (McGee & Spiro 1988; Webster 1988; Kohli & Jaworski 1990; Lusch & Lacniak 1987; Houston 1986; Payne 1988), diverse meanings of the concept have been manifested in business. McGee and Spiro (1988) suggest that this occurrence is due to management's misunderstanding of the differences between 1) marketing as a philosophy, 2) marketing as a concept, and 3) marketing as implemented. As it was introduced, the marketing concept was more akin to a normative philosophy proposing that business focus first on the customer's needs and desires. However, little has been offered to illustrate what the marketing concept should look like as implemented.[4] When defining marketing, many people, managers included, have equated it to "selling" and "advertising" (McCarthy & Perreault, 1987). Even now, many managers believe adopting the marketing concept means placing a greater amount of emphasis on promotion and salesforce activities (Webster 1988). Others have perceived marketing planning simply as developing annual sales forecasts. Still others perceive the marketing concept to be equivalent to making consumer research the leading factor in all decisions (McGee and Spiro 1988). In short, businesses have often mistakenly implemented the marketing concept by granting Marketing[5] more importance

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[4]For a notable exception see Arthur P. Felton (1959) "Making the Marketing Concept Work," Harvard Business Review, vol. 37 (July August), p. 55-64.

[5]The term Marketing (with a large "M") is used here to refer to the Marketing functions within the firm such as sales, research, promotion, product planning,

(continued...)

within the firm. Consequently, those businesses became "Marketing oriented" in practice rather than "customer oriented" or "market-focused" as the philosophy suggests (see footnote 2). Yet, the marketing concept is not intended to be identified with any single Marketing function. Rather, as Felton states, it is intended to represent:

> a corporate state of mind that insists on the integration and coordination of all of the marketing functions which, in turn, are melded with other corporate functions, for the basic objective of producing maximum long-range corporate profits. (p.55)

Similarly, Webster (1988) asserts:

> In the final analysis, as Drucker and Levitt have noted, marketing is not something that can be delegated to a small group of managers while the rest of the organization goes about its business. Rather it is the whole business as seen from the customer's point of view. Managers at General Electric have captured this idea with the phrase "marketing is too important to be left to the Marketing people."

Corollary to the above discussion, a lack of an integrated effort by the organization may also be to blame for the failure of the marketing concept. Quite often, intraorganizational conflicts resulted in organizations which adopted a "Marketing philosophy" as opposed to a "market philosophy." Previously noted, the marketing concept has often meant handing over the reigns of the firm to the Marketing department. As the popularity of the Marketing department grew in the 1960's, it was easy for those in the Marketing departments to view themselves as "something special" (Hayes 1988, p.13). Antagonisms were often raised in other functional departments as the Marketing department was perceived as being the firm's authority. As a result, conflicts often

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(...continued)
distribution, and pricing. The term marketing (with a small "m") is used to refer to marketing as a philosophy.

resulted as others became discontented with the new role of the Marketing functions. Following past research showing that interdepartmental conflict inhibits communication across departments (Ruekert and Walker 1987), Kohli and Jaworski (1990) propose that such conflicts are detrimental to the successful implementation of the marketing concept:

> . . . interdepartmental conflict appears likely to inhibit market intelligence dissemination, an integral component of market orientation. Additionally, tension among departments is likely to inhibit concerted response by the departments to market needs, also a component of market orientation. [Therefore] the greater the interdepartmental conflict, the lower the market orientation of the organization. (p.9)

A third reason for the marketing concept's apparent failure pertains to the performance measures used by many organizations to evaluate the effectiveness of their efforts (Hayes 1988). The marketing concept stresses satisfying the customer at a profit, suggesting that managers be evaluated on two primary dimensions; 1) the extent to which they contribute to customer satisfaction, and 2) the extent to which they provide a profit for the firm. Webster (1988, p.38) argues:

> Perhaps the key to developing a market-driven, customer oriented business lies in the way managers are evaluated and rewarded. The effort will come to naught if, in the final analysis, managers are evaluated solely in terms of sales volume and short-term profitability and rate-of-return measures.

Still, many firms rarely if ever measure customer satisfaction directly, relying instead upon surrogate measures such as sales, orders received, backorders, and market share (Hayes 1988; Webster 1988). Hunt (1977b) states, "*Profit* has received a great deal of attention, while *satisfaction* has been a victim of relative neglect." However, diverse forces from the competitive, technological, political, and/or legal environments might also impact sales and market share independent of customer satisfaction. Therefore, the

validity of using the surrogate measures as indicators of satisfaction is at best questionable. Perhaps even more problematic, such measures do not contribute to understanding *why* customers are or are not satisfied. Consequently, such measures fail to provide information which may be useful in determining a business's course of action to increase customer satisfaction. In short, such surrogate measures fail to be sufficient substitutes for the "yard stick of true consumer satisfaction" (Howard & Hulbert 1973, quoted in Czepiel, Rosenberg, & Akerele 1974, p. 120).

Most critical of all is that it is too easy for business managers to embrace the ideas of the marketing concept, without fully realizing what must be done to implement the concept. The marketing concept is difficult to implement. It requires firms to deeply understand and rapidly respond to changing markets and environments (Webster 1988; Bower & Garda 1986). However, too many businesses have not developed the analytical tools and other skills necessary to understand changes in customer needs and to communicate these changes to management in a useful fashion (Webster 1988). Furthermore, firms driven by quarterly financial reports may not be receptive to incurring the costs of being market-driven.

Many managers disapprove of the marketing concept as a basis for strategy believing that a total focus on the customer ignores the "distinctive competencies" and financial needs of the organization (McGee & Spiro 1988). Hence, the marketing concept soon gave way to strategic planning with its emphasis directed toward corporate goals (Webster 1988). As Hayes (1988) states:

> [Strategic planning] held the promise of dealing with problems beyond the scope of marketing and providing better business results; *not necessarily better than*

> *those promised by marketing but better than those that marketing had been able to deliver* . . . Marketing inputs to the strategic planning process were important, of course, but sharp focus on the customer, the hallmark of the marketing concept, gave way to a broader focus on the firm's total environment; an environment that included but did not accord the customer more importance than competitors or broad economic, social, political, and technological trends. Strategy was formulated in new ways. Implementation of strategy, formulated by others, became the major role of marketing. (p.12 italics added)

The thrust behind strategic planning was to match the needs of the customer to the competencies of the organization (Ansoff 1965). Based on capabilities and market opportunities, firms would allocate their efforts and resources to one of four product/market strategy vectors (i.e. market penetration, market development, product development, or diversification). At the center of the strategic planning approach is the idea of gaining a "competitive advantage" by finding a combination of organizational competency and market opportunity that gives the firm an edge over the competition.

Interestingly, the strategic planning view is not incompatible with that of the marketing concept. In fact, McGee and Spiro (1988, p.43) have pointed out that quite the opposite is true:

> The marketing philosophy as originally defined does not preclude the recognition and use of distinctive competencies. In fact, the marketing concept's focus on consumer satisfaction and profits demands that a company operating in a competitive environment find a position in the market in which its distinctive competencies provide a competitive advantage.

However, the customer is often largely overlooked within the strategic planning approach. Webster (1988) states:

> The basic premise [of strategic planning] is that customer needs must be balanced against what the firm can do well and what is consistent with its strategy given competitive realities. Customer orientation certainly is not inconsistent with the concept of corporate strategy. But the strategic planning-framework subtly shifts

> the focus of management attention away from customers and toward competitors and market dominance. (p.33)

For instance, criteria used to measure performance have been primarily market growth rate and market domination (Webster 1988). Such short-term financial performance measures tended to revert managers back to a sales-oriented state of mind. In doing so, strategic planning inadvertently guided attention away from customer needs in the direction of competitors, growth, and short-term profitability.

What is needed by managers in order to be market-oriented is a way to learn about and understand the true needs, wants, and values of its customers. Conceivably, due to their abstract nature, customer-based market objectives have tended to be ignored by managers in favor of competition-based and sales-based objectives. They have tended to focus on factors more within their control such as price, product performance, and technological innovations rather than placing the emphasis on delivering a "package of *values*" that, in addition to the dimensions listed above, includes customer service, product applications, use consequences, and perhaps other dimensions valued by the customer (Nevens 1984).

The above discussion serves to illustrate that the marketing concept's failure to meet the needs of contemporary business is not the consequence of an erroneous philosophy, but rather the result of faulty implementation. Managers often misunderstood the meaning of the marketing concept by equating it to a "Marketing orientation" rather than a "market orientation." Others failed to adhere to the integrated organization approach prescribed by the marketing concept by assigning the responsibility of the customer to Marketing function departments. And still others lost

sight of the customer by focusing their efforts on the less abstract, more controllable variables affecting the firm. It must be established in management thinking that if the customer and the market are not seen as the driving force within the firm, then by definition, something or someone else is. Losing sight of customers inevitably opens the door for serious competitive threats. Methods must be developed which enable organizations to become more market-oriented by identifying and assessing the true needs, wants, and values of customers. In short, progress must be made to develop methods for identifying and delivering "value satisfactions" to the customer.

Value Delivery Paradigm

Regardless of how explicitly it is expressed, all organizations have a "predisposition" or inclination to serve a particular stakeholder(s) of the firm (Carothers & Adams 1990). Through its *strategic management process*[6] the organization provides something of worth to the stakeholder. Among others, the strategy includes definitions of *who* the stakeholder is, and *what* will be provided to meet the stakeholder's needs. For

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[6]Strategic management process refers to the formulation and implementation of the organizations strategy. Strategy involves ". . . the determination of the basic goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals" (Alfred D. Chandler, Chapters in the History of the American Industrial Enterprise, Cambridge, Mass: M.I.T. Press, 1962). Current process models expand formulation and implementation to at least five components, adding 1) mission, 2) environmental analysis, and 3) evaluation and control (see Arthur A. Thompson, Jr. and A. J. Strickland, III., Strategic Management: Cases and Concepts. Homewood, Ill.: Richard D. Irwin, Inc., 1990).

the customer it is the product/service offering of the firm[7], for the stockholders it may be dividends.

Within the traditional strategic approach, a statement similar to "satisfying customer needs and wants" is often included in the organization's mission statement or list of objectives. However, performance measures are likely to be profit oriented. Therefore, motivation exists to implement the strategy so as to maximize profit performance, often at the risk of compromising the supposed goal of customer satisfaction. Profit performance becomes the driving force within the firm.

A value delivery system approach to management (Bower & Garda 1986) places the customer first. To be market focused, a company must start by making the needs and wants of the customer the focus of the total business effort (see Figure 1-1). This approach starts with a company *identifying customer "value needs"* (i.e., market segmentation), and *choosing the value needs* which they are willing and able to provide (i.e., target marketing). Following this a company must develop products, services, or product-service combinations capable of *delivering the value* needed by customers. Providing value superior to that of the competition is but a minimal requirement. Companies must also precisely meet customer value need requirements in the most efficient manner (Woodruff, Locander, Barnaby 1991). Finally, a company must develop a promotional mix which effectively communicates the value offering.

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[7]Product/Service offering is defined broadly as any contact made between the customer and the firm. This definition is consistent with that offered by Webster (1988, p.39).

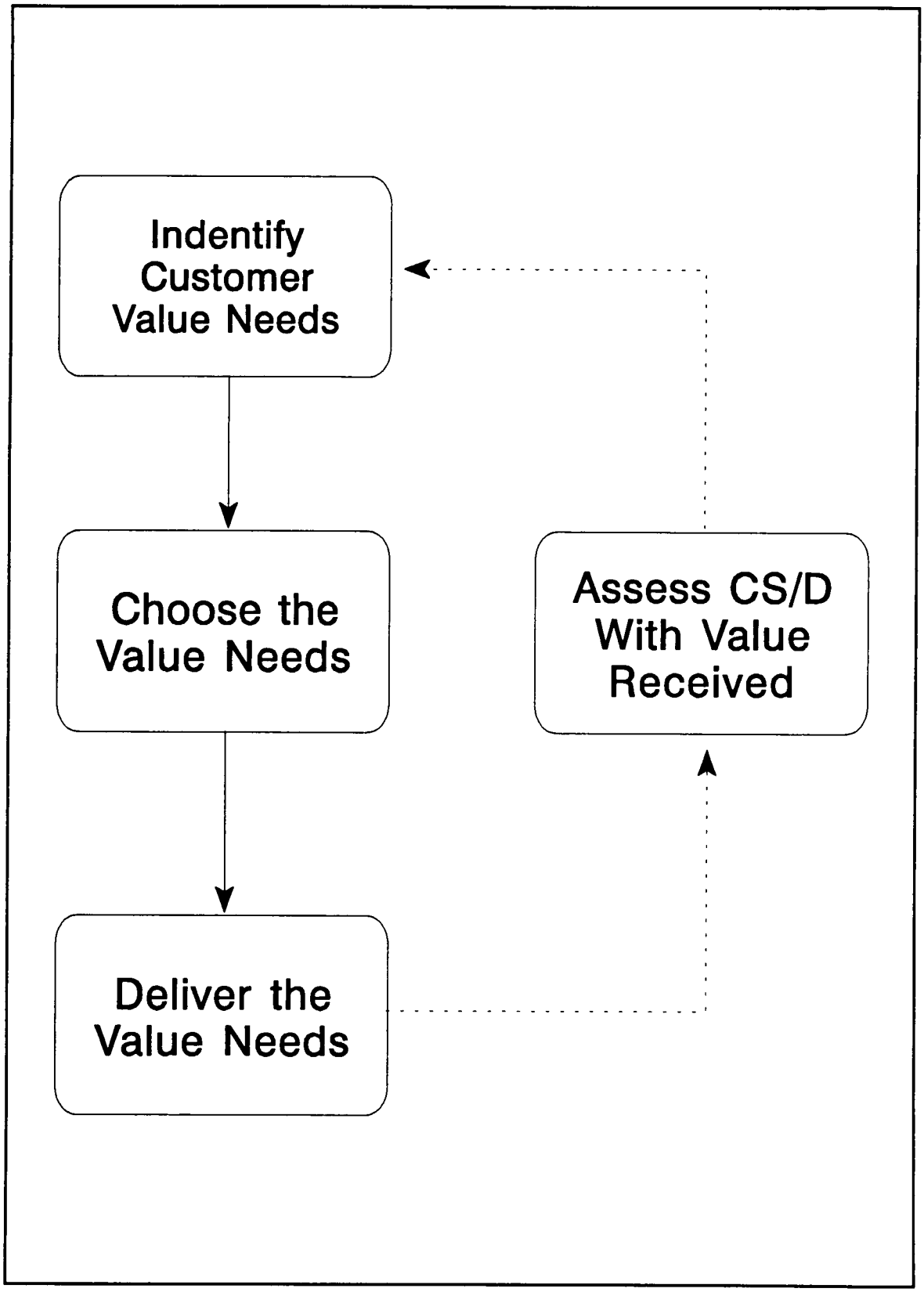


Figure 1-1: Value Delivery Paradigm

The impetus behind the value-delivery notion lies in the assertion that customers are not buying products as *things*, but rather they are buying products *as promises of satisfaction, or promises of what the product will do for them* (Levitt 1984). "Basically, customers buy your product (or service) because it will do something worthwhile for them and do it better than competitive products" (Bower & Garda 1986). It is precisely this notion of value delivery that has often been neglected by business.

Implementing the marketing concept requires that managers know how to create customer satisfaction by delivering "best comparative net customer value" (Carothers & Adams 1990). Bennett and Cooper (1981, p.59) emphasize this point when presenting the "product value concept":

> The product value concept is a business orientation that recognizes that *product value* is the key to profits. It stresses competing on the basis of customer need satisfaction with superior, higher value products. *Value depends on the customer's perception* of the product attributes, which are largely a function of the firm's technological design, and manufacturing strengths and skills. (italics added)

Yet, when the marketing concept was introduced in the early 1960's, there existed little if any collective knowledge of what was meant by "satisfy the customer" or the process by which customers become satisfied (Hunt 1983).[8] It is conceivable that many, if not all, of the implementation problems discussed above are either directly or indirectly the result of deficient knowledge of imperative marketing concept components like "value" and "satisfaction." Unquestionably, in order for managers to successfully implement the marketing concept, they must have a sufficient understanding of the satisfaction

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[8]As of 1982, Keith Hunt reported 560 articles published on the subject of consumer satisfaction, dissatisfaction and/or complaining behavior. However, prior to 1972 only 7 articles had been published on the topic of CS/D&CB.

phenomenon, the meaning of customer value, and their relationship to each other and to the implementation of the marketing concept. In short, the principle of delivering "value-satisfying" goods and services is well embraced. However essential questions still need to be addressed, such as: "How do customers assess value received?"; "How do firms deliver value?"; "What is the relationship, if any, between value and satisfaction?"; And importantly, "How can a company determine if value/satisfaction has been received by its customer?"

Definition of the Problem

According to the marketing concept, a universal purpose of all business organizations is to deliver superior value to customers in order to achieve higher customer satisfaction. However, despite its apparent importance, only in the last two decades has the study of customer satisfaction and dissatisfaction (CS/D) received the amount of attention from marketing researchers worthy of a concept so central to the foundations of the marketing discipline (Churchill & Surprenant 1982; Hunt 1983). Still, research addressing postpurchase consumer satisfaction has received far less attention than prepurchase concerns (Wilton & Nicosia 1986). A survey of articles published over 15 years (1974-1989) in the Journal of Consumer Research revealed that only 53 directly address the post-purchase consumption experience, while over 400 articles relate to prepurchase and purchase phenomena.

The recognition of CS/D as an important topic of study was evidenced in 1976 by the organization of a conference singularly dedicated to consumer satisfaction,

dissatisfaction and complaining behavior.[9] Though initially descriptive in nature, research began to include examinations of the antecedents and consequences of CS/D as the area began to mature (Oliver 1977, 1980; LaTour and Peat 1979; Woodruff, Cadotte and Jenkins 1983; Westbrook 1980a). Out of much of this research, one theoretical paradigm has emerged as being dominant in the study of CS/D.

Dominant Consumer Satisfaction Paradigm

Much of the research on CS/D has assumed that the state of satisfaction results from a confirmation/disconfirmation process (see Figure 1-2). In essence, CS/D is a customer's *reaction* to a post-use experience with a product, service, or retailer. The *confirmation/disconfirmation* process involves comparisons between some established standard(s) of performance and his/her post-use perceptions of performance. In general, if the customer perceives the performance of the product to exceed his/her relevant standard(s), then positive disconfirmation occurs contributing to a positive satisfaction response. If the customer perceives the performance of the product attribute to fall short of the relevant standard(s), then negative disconfirmation occurs contributing to a dissatisfaction response. Discussed more fully in the next chapter, the direct effects of both standards (i.e., Expectations Effect) and performance (i.e., Performance Effect) have been shown to accompany some disconfirmations. Interestingly, CS/D theory is generally unclear regarding the outcome of confirmation when perceived performance

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[9]The formation of the conference referred to here, The 1976 Conference on Consumer Satisfaction/Dissatisfaction and Complaining Behavior, was an effort made notably by H. Keith Hunt and Ralph L. Day.

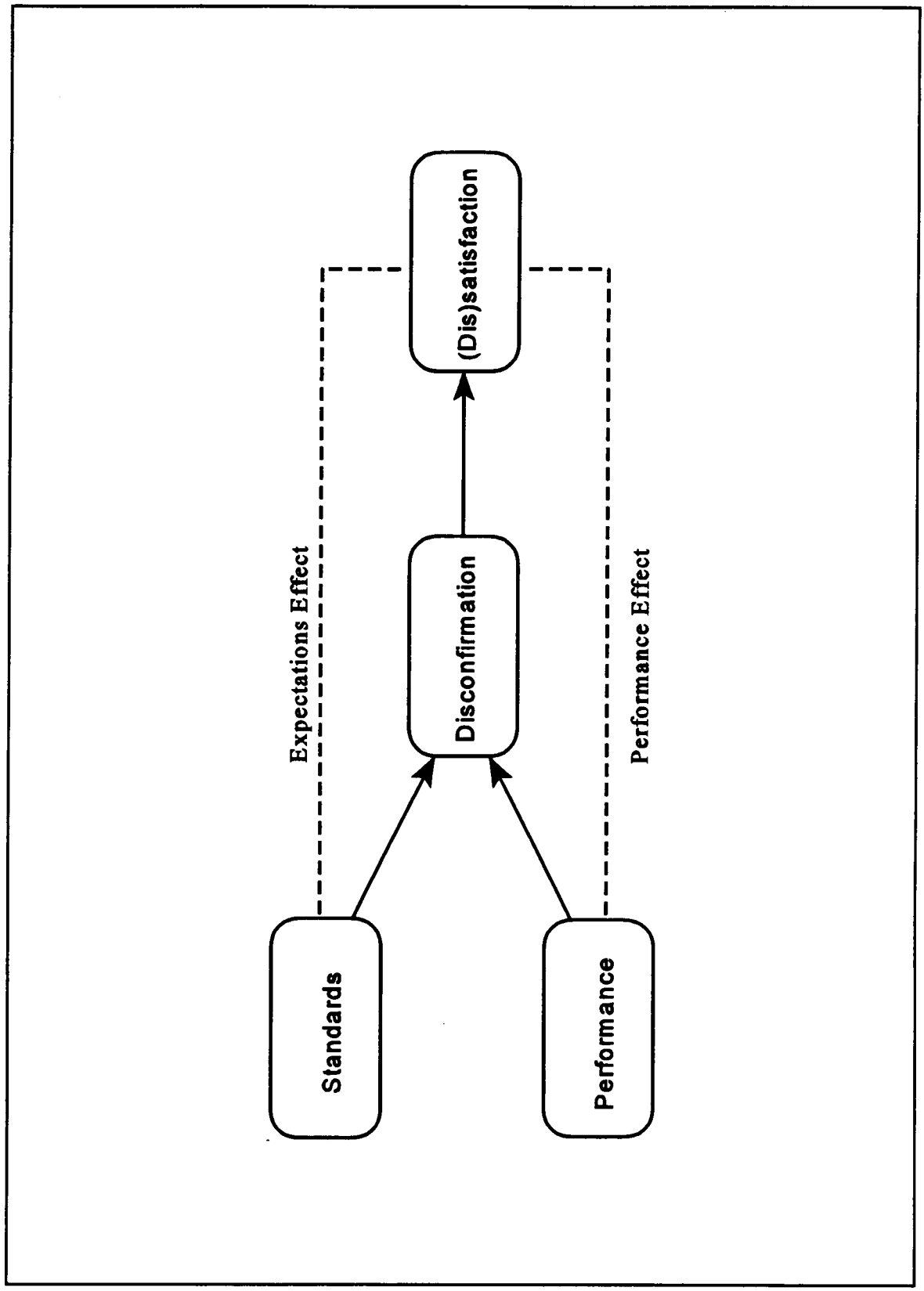


Figure 1-2: (Dis)confirmation Paradigm of CS/D

exactly matches expectations (for a notable exception see Woodruff, Cadotte, and Jenkins 1983). Though there seems to be agreement regarding the comparative nature of the phenomenon, issues remain concerning various facets of this process.

Some Identified Relevant CS/D Issues

Even though researchers typically conceptualize a comparison process leading to a CS/D response, there is disagreement regarding the nature of this comparison. Further, the nature of the response itself is in question. For example, as will be discussed more fully in the following chapter, it is unclear whether the state of CS/D should be viewed as a cognitive or emotional construct (Day 1977; Hunt 1977a; Oliver 1981). To illustrate, Hunt (1977a) conceptualizes CS/D as a cognitive evaluation of whether the pleasurableness of a use experience was at least as good as it was supposed to be. Others (e.g. Day 1983; Woodruff, Cadotte, & Jenkins 1983) view CS/D as the emotional response to the confirmation or disconfirmation of performance standards. This issue is important in that it is often not clear to which conceptualization is being referred when researchers use the terms "satisfaction" and "dissatisfaction." Furthermore, previous research has shown that cognition and emotion potentially result in different types of behavioral outcomes (see Izard, Kagan, & Zajonc 1984). In particular, cognition and emotion have been shown to have differential effects on postpurchase consumer behavior (Westbrook 1987; Holbrook et al. 1984; Westbrook 1980a). Therefore, the issue of whether CS/D is considered a cognitive or an emotional construct is of critical importance to the study of CS/D and the role it has upon subsequent postpurchase

consumer behavior. It will be important for researchers to distinguish between the effects of both the cognitive and emotional components of the CS/D phenomenon, as well as to identify the conditions within which each is likely to exhibit the greatest amount of influence on subsequent postpurchase concepts.

A second issue surrounds the standards believed to be used by customers in evaluating and reacting to product experiences. For example, the disconfirmation-of-expectations paradigm contends that CS/D results from the disparity between prepurchase performance expectations and perceptions of postpurchase performance (Anderson 1973; Oliver 1980a). Competing paradigms assert that CS/D results from comparisons involving other standards such as norms (Woodruff, Cadotte, & Jenkins 1983; Cadotte, Woodruff, & Jenkins 1982, 1987), causal attributions concerning purchase/use outcomes (Weiner, Russell, and Lerman 1978,), the perceived equity or "fairness" of the market exchange (Swan & Mercer 1982; Huppertz 1979; Huppertz et al. 1978), or that CS/D is directly influenced by product performance (Churchill & Surprenant 1982; Tse & Wilton 1988). Though for the most part each approach is discussed as involving an "explicit" comparison, others do not (e.g. direct performance effect, and causal attribution). Regardless, what is made apparent by past studies is that different types of standards (i.e. equity, other brands, performance expectations) are perhaps used in making postpurchase evaluations. Identifying the reasons why customers use different standards would certainly make a contribution to the area. For example, if it can be determined that certain customers more often use other brands as standards in

making postpurchase evaluations, then organizations can plan strategies so as to more effectively position their product offering against competing products.

In past investigations, product attribute beliefs have readily been used to represent prepurchase evaluative standards (Fishbein 1963; Cohen et al. 1972; Rosenberg 1956). It therefore is not surprising to see product attribute beliefs used as standards in postpurchase investigations. Yet, treating standards in such a way raises a question concerning what these evaluative standards are based upon. Alluding to this issue, Woodruff, Cadotte, and Jenkins (1982) state:

> Quite possibly, consumers will use different kinds of expectations bases in different use situations. If so, building classifications schemes will become critically important. What are the characteristics of use situations that lead to particular kinds of bases being used? *What characteristics of consumers are related to use of different bases?* These issues suggest the importance of investigating the conditions under which certain bases are most likely to be used. (p.119, italics added)

This statement becomes relevant now more than ever before. Of utmost importance to organizational managers is their ability to identify the aspects considered by customers when making postpurchase judgments of product value and satisfaction. As organizations today struggle to identify product aspects that will appeal to, and are *desired* by, their customers, little is known about the bases customers use to judge the *desirability* of such aspects.

Furthermore, researchers have questioned the consistency with which customers judge the same product aspects, and the importance of these aspects across time (e.g. see Woodruff, Cadotte, & Jenkins 1983). For example, consider the potential difference between prepurchase choice aspects considered by consumers and those considered

during postpurchase. During the prepurchase product evaluation stage, customers generally have a choice between competing products. Therefore, the customer may choose to evaluate aspects on which the alternative products are most likely to differ.[10] However, after the purchase customers might choose to evaluate product aspects that are more closely related to their needs and wants. Certainly, the possibility exists that prepurchase considerations may differ from postpurchase considerations. Therefore, from both theoretical and practical standpoints, logic precludes using prepurchase product attributes as the sole basis for postpurchase customer evaluations. Rather, other possible standards for postpurchase evaluation must be identified, explored, and tested. Such standards should be more closely tied to potentially more constant postpurchase dimensions, and less tied to more transient prepurchase evaluative dimensions.

A final issue concerns the nature of the disconfirmation process used by customers in forming postpurchase evaluations. Though there seems to be agreement on the multidimensional nature of the comparison process, the issue still remains as to whether this process takes place at the attribute level, or at a higher, more general level of abstraction (Woodruff, Cadotte, and Jenkins 1982, 1983). That is, do customers react to product performance on specific attribute-by-attribute basis, or are more global comparisons made?

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[10]Such evaluative dimensions are referred to as "determinant" dimensions or attributes. See: Mark I. Alpert, "Identification of Determinant Attributes: A Comparison of Methods," Journal of Marketing Research, vol. 8 (May 1971), pp. 184-191.

A Broader Perspective: CS/D and Values

Milton Rokeach (1968) has provided a possible means by which to resolve the above issues. As will be explained more fully in later chapters, one's personal values system (PVS) is thought to determine what one expects from a product or service (Prakash 1984). PVS refers to the set of ". . . centrally held, enduring beliefs which guide actions and judgments across specific situations and beyond immediate goals to more ultimate end-states of existence" (Rokeach 1968, p.161). The term "values" as it is used here should not be equated with the term "value" as it is used within expectancy-value research exemplified by the models of Rosenberg (1956) and Fishbein (1963). The latter use has been taken to refer to the worth of product attributes, or inherent features which represent the "value" of a product to a customer. Personal values are generally thought to be responsible for the selection and maintenance of the ends or goals that people strive towards (i.e. terminal values) and, at the same time, regulate the methods and manner in which such striving takes place (i.e. instrumental values) (Rokeach 1968; Vinson, Scott, and Lamont 1977).

The relationship between values and value is seen here as having crucial importance to both 1) the study of customer satisfaction and to 2) the implementation of the marketing concept. Recall that the successful implementation of the marketing concept requires that organizations provide value-satisfying product offerings. However, a major obstacle faced by firms has been the inability to identify what constitutes "value" in the eyes of it customers. The concept of "values", as it is described above, has the

promise of removing this obstacle. In short, it may be said that *values* are the bases on which a customer determines what has *value*.

The present study will attempt to link the concepts of "values" and "value" in this way, and to investigate their relationships to customer satisfaction and/or dissatisfaction reactions. Broadening the set of concepts included within the study of CS/D to include personal values will increase the understanding of how customers formulate standards used to evaluate product experiences. Moreover, it is felt that personal values may provide a way to explain the varying roles of cognition and emotion within postpurchase consumer behavior.

Purpose of the Study

In accordance with the broad issues discussed previously, the overriding purpose of the present study is to discover whether a consumer's PVS has an important influence on their satisfaction and/or dissatisfaction experienced with product use, and if so how. A general model of CS/D has been developed to explicitly incorporate the role of PVS as a basis for evaluating product performance in consumer satisfaction and dissatisfaction processes. This general purpose has three major parts. First, the study will attempt to propose an expanded conceptualization of the CS/D phenomenon, encompassing its relevant states and processes, by further explicating the roles of values, cognition, and emotion in postpurchase behavior. The appropriateness of using the proposed CS/D conceptualization within CS/D research will be empirically tested.

A second purpose is to provide insight directed at resolving the standards issue raised by Woodruff et al. (1983). An attempt will be made to identify the individual factors which influence a customer's choice of standards used to make postpurchase evaluations subsequently leading to satisfaction and/or dissatisfaction responses. The research will attempt to uncover both the nature and bases of these evaluative standards. For example, are the postpurchase standards used by customers more similar to the attribute-based dimensions used in "expectancy-value" models (Cohen, Fishbein, & Ahtola 1972), or are they more like consequence and value-based dimensions?

Finally, the nature of the disconfirmation process will be investigated with respect to the dimensionality of the comparison. The research will attempt to determine whether comparisons are made on an attribute-by-attribute basis, or if comparisons are made at a more global level. A more global level comparison might involve the customer evaluating the product as to the realized consequences of using the product, as opposed to evaluating the product as to the performance of a specific attribute.

Beyond examining the antecedent role of a PVS process, this study contributes to the more general goals of better conceptualizing the CS/D construct, and predicting the effects of CS/D on other postpurchase consumer variables. The specific objectives of this study are as follows:

1. To propose an expanded theoretical model of CS/D to include a values-based process.

2. To empirically evaluate the added contribution of a values-based process in explaining variation in CS/D beyond that offered by the traditional disconfirmation process model.

3. To empirically evaluate the added contribution of a values-based process in explaining variation in other postpurchase consumer variables (e.g. repurchase intention, attitude, complaining behavior, etc.) beyond that offered by the traditional disconfirmation process model.

4. To assess the theoretical and practical implications of the study; and

5. To propose avenues for future CS/D research.

Questions for Research

Below are several research questions that must be answered in order to achieve the above objectives.

1. Do consumers' personal values systems predict the set of standards they use to evaluate postpurchase product experiences; that is, are evaluative standards "values-based"?

2. Do values-based standards play a greater role in consumer postpurchase CS/D evaluations than product attribute-based standards?

3. Is the relationship between values and satisfaction moderated by the number of value connections made between the consumer and the product (i.e., the complexity of one's values belief structure)?

4. Does including values-based standards in the CS/D model improve upon our ability to understand and explain variation in consumers' *satisfaction* and/or *dissatisfaction* processes over a model employing only product attribute-based standards?

5. Does the disconfirmation and evaluation of values-based standards have a greater affect on other postpurchase constructs (e.g. attitudinal affect, attitude beliefs, behavioral intentions, etc.) than the disconfirmation of a general set of standards?

6. Does a values-based model of CS/D account for more total variation than a disconfirmation of attributes CS/D model?

Organization of the Dissertation

Following the introduction to the problem area and statement of the research objectives presented in Chapter 1, the next two chapters provide a review of the literature relevant to the present study. Chapter 2 examines the literature on consumer satisfaction and dissatisfaction (CS/D), and includes a brief examination of emotion. Chapter 3 deals with the literature on evaluation and the role which personal and consumer values play in consumers' (dis)satisfaction evaluations. The proposed Means-End Model of Consumer (Dis)Satisfaction is also introduced.

Chapter 4 presents the hypotheses used to test the proposed model of consumer (dis)satisfaction, and explains the research design used to test this model. Included is a detailed description of the study methodology and the planned data analysis.

Chapter 5 presents the analysis of the data. The details of the data analysis and the results of the hypotheses tests are included.

Chapter 6 summarizes the results of the research and the expected contributions of this study to CS/D theory and to marketing practice.

II. REVIEW OF THE CS/D LITERATURE

Introduction

The first chapter identified several problems with past attempts to provide customer value and satisfaction. With respect to CS/D, specific issues raised included the nature of the CS/D response, the nature of the CS/D comparison and evaluation, and the divergence of evaluative standards used in the comparison. These issues must be addressed if businesses are to achieve competitive advantage through customer satisfaction. Before a firm can be a "customer satisfying" organism (Levitt 1960), it must be able to answer such questions as: What causes customers to become satisfied? How do we know if they are (dis)satisfied? and, Why are some customers satisfied and others dissatisfied with the same product?

The purpose of this chapter is to provide an understanding of the theoretical and conceptual foundations of CS/D. The chapter begins with a discussion of the theoretical foundations of CS/D research. Next, the most widely accepted CS/D concepts are reviewed in more detail with respect to the role of each in explaining the CS/D phenomenon. In particular, the section raises issues regarding the conceptualization and measurement of each concept. The implications of the literature for the present study are then discussed.

Theoretical Foundations of CS/D

The concept of consumer (dis)satisfaction is important to businesses because it is generally assumed to be related to important market variables such as repeat sales, market share, consumer loyalty, and profitability (see Lele & Sheth 1987; Bearden & Teel 1983). Furthermore, direct measures of CS/D are thought to provide organizations a form of market feedback superior to other more indirect forms such as complaining, complimenting, market share, and sales (Lele & Sheth 1987; Richens 1983; Day & Ash 1979; Day and Bodur 1978; Andreasen & Best 1977).

CS/D is also important to consumers in that it acts as a learning cue for future behavior. That is, if a brand purchase failed to meet a consumer's needs, the resulting disappointment of the experience is likely to lead to an change in attitude (Oliver 1980a, 1981). Therefore, with the next purchase, the consumer may change brands in order to avoid another disappointment. In this sense, CS/D with a particular consumption experience is differentiated from consumers' overall evaluations of a product (Holbrook & Corfman 1985; Olshavsky 1985), yet can be considered as an influence on global evaluative states such as overall quality, purchase intentions, and behavior (e.g., LaBarbera & Mazursky 1983). Thus, CS/D ". . . serves to link processes culminating in purchase and consumption with postpurchase phenomena such as attitude change, repeat purchase, and brand loyalty" (Churchill & Surprenant 1982, p.491). Given its ostensible influence on future behavior, CS/D is arguably the most important postpurchase consumer behavior construct.

Most researchers accept the notion that the CS/D phenomenon involves 1) a consumer's postpurchase comparison between the perceived performance of a product and some held standard, and 2) a subsequent phenomenological reaction to the comparison (see Oliver 1989; Tse & Wilton 1988; Hunt 1977b; Day 1984). However, research investigating this notion has been grounded within several different theoretical traditions including attribution theory, adaptation level theory, equity theory, assimilation theory, and contrast theory (see Oliver & DeSarbo 1988). Consequently, several process theories have been proposed to explain the mechanisms by which such comparisons result in a consumer satisfaction and/or dissatisfaction outcome. This section will present four leading theory-based explanations of CS/D which have been identified in the literature.

Expectancy-Disconfirmation

The expectancy-disconfirmation paradigm currently dominates the study of CS/D. As described by Oliver (1977, 1980a), expectancy-disconfirmation consists of two subprocesses having independent effects on CS/D: 1) the formation of expectations, and 2) the disconfirmation of those expectations through performance comparisons (see Figure 1-2). Expectancy-disconfirmation theory holds that consumers first form expectations of product or service performance prior to purchase or use. Subsequently, purchase and use convey to the consumer beliefs about the actual or perceived performance of the product or service. Consumers then compare the perceived performance to prior expectations (i.e. disconfirmation). CS/D is seen as the outcome of

this comparison.

Several studies provide support for the notion that expectations and disconfirmation have independent effects on measures of CS/D (Swan and Trawick 1981; Bearden and Teel 1983; LaBarbera and Mazursky 1983; Oliver 1980a; Churchill and Surprenant 1982; Tse and Wilton 1988; Oliver & DeSarbo 1988). Oliver & DeSarbo (1988) note:

> The expectation level appears to provide a baseline around which disconfirmation judgements are made; the higher (lower) one's expectations, the higher (lower) the subsequent satisfaction judgement, ceteris paribus. The disconfirmation effects are thought to originate from their associated emotional experiences. The delight of a positive disconfirmation enhances a satisfaction judgement, while the disappointment of a negative disconfirmation decreases it. (p.496)

Similarly, others (see LaTour and Peat 1979) propose that CS/D is a function of the interaction between expectations and performance evaluations. If a consumer has low expectations, but is pleasantly surprised by the product's performance, then s/he experiences a higher level of satisfaction than a consumer having higher expectations. That is, positive disconfirmation combined with a positive perception of performance results in more satisfaction than the positive perception of performance alone.

The reported effects of expectations and disconfirmation processes are consistent with those of assimilation and contrast theory, respectively. Proposed by Hovland, Harvey, and Sherif (1957), assimilation theory provides a theoretical basis for the proposition that expectations directly influence CS/D (Olshavsky & Miller 1972; Olson & Dover 1979). Because consumers are reluctant to acknowledge discrepancies from prior expectations, they assimilate subsequent product judgments toward their initial

expectations. Presumably, consumers with high expectations tend to be more satisfied than consumers having low expectations.

Contrast theory (Dawes, Singer, and Lemons 1972) suggests that people have a tendency to exaggerate the discrepancy between expectations and performance (i.e., enhance disconfirmation beliefs). Consistent with this theory, Anderson (1973) proposes that on occasions when product performance differs from expectations the perceived ("subjective") discrepancy will be greater than the actual ("objective") discrepancy which in turn intensifies the experienced CS/D. In short, some believe that consumers tend to "magnify" the perceived discrepancy in the direction of disconfirmation.

Such "magnification" of discrepancies is perhaps explained by the degree of "unexpectedness" of the product performance. Woodruff et al. (1983) suggest that consumers acquire latitudes of acceptance and rejection contingent upon their range of experience-based norms. Product performance deviations which fall within the range of experience-based norms are considered to be confirming, while those outside this range are regarded as disconfirming. Hence, two degrees of disconfirmation are suggested: 1) performance deviations considered probable or acceptable, and 2) those which are considered less probable but perhaps plausible.[11] Oliver (1989, p.3 italics added) proposes a third category of ". . . widely discrepant performance levels which are highly unlikely based upon experience -- levels that are in some sense totally unexpected or

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[11]Woodruff et al. (1983) employ "zone of indifference" to represent the *probability* of perceptions occurring. The first degree represents when perceptions fall within the "zone of indifference" (i.e., high probability). The second degree represents when perceptions are believed to fall outside the zone (i.e., low probability).

surprising. These latter performance levels will be referred to as evoking *surprise disconfirmation*." Conceptualizing disconfirmation as consisting of three distinct varieties is significant in that 1) confirming experiences may result in little or no further processing on the part of consumers, 2) "ordinary" disconfirming experiences may result in moderate levels of further processing, while 3) surprise disconfirmation may result in a ". . . much greater focus on the surprise event and larger amounts of further processing" (Oliver 1989, p.3).

Though expectations and disconfirmation are shown to have independent effects on CS/D, the disconfirmation effect is generally thought to be the greater of the two (Oliver 1981). However, Oliver & DeSarbo (1988) suggest that the relative influence of expectations and disconfirmation on CS/D may differ across individuals:

> . . . it may be instructive to consider the possibility that some consumers are more expectations-influenced, some are more disconfirmation-influenced, and others use both as separate effects in the satisfaction response. (p.496)

Furthermore, Oliver (1980b, p.208) states:

> In the simplest terms, (assimilation and contrast effects) are modalities of response to discrepancy. Assimilation favors small changes from the adaptation level as a result of disconfirmation; contrast favors larger movements. A preference for larger vs. smaller movements is individually determined. It is, in all likelihood, influenced by personal variables such as involvement, commitment, confidence, and personality and it is not necessarily related to objective discrepancy.

The implication that consumers vary with respect to the manner in which they react in a CS/D experience is important. Still, no empirical evidence has been offered to date explaining when expectation effects will be greater than disconfirmation effects, and visa versa. However, LaTour and Peat (1979) have offered what may be the best

conjecture to date. They suggest that the differential effects of expectation and disconfirmation might be explained by the "ambiguous" nature of attributes.[12] They state:

> . . . for ambiguous dimensions, expectations above the objective performance level may increase judgements about the quality or performance of the product and therefore increase satisfaction. But, even though expectations above objective performance levels may increase judgements about the level of an attribute believed to be possessed by a product, there will still be some discrepancy between the level believed to be obtained and the expectation level (unless the attribute dimension is totally ambiguous) . . . According to contrast theory, this discrepancy which remains between the subjective and expected attribute levels will contribute to dissatisfaction . . . [however] the more ambiguous the attribute, the more the consumer will be forced to rely on the expectation-producing information rather than personal judgement in forming a belief about the attribute level. The more ambiguous the attribute, the smaller the discrepancy between the subjectively obtained level and the expected level, and thus the more effective high expectations would be in producing greater satisfaction. Clearly, if dimensions are unambiguous, expectations above objective levels of performance would not produce any increase in perceived quality and the result of such expectations would be consumer dissatisfaction. (p.433)

Conceivably, consumers might differ with respect to the aspects to which they react in a use situation. For example, consumers may compare the performance of the focal product to beliefs about "concrete" attributes, performance experienced with other brands (Cadotte, Woodruff, & Jenkins 1987), performance "normal" for the product type (Cadotte, et al. 1987), or to desires or values (Olshavsky & Spreng 1989, Westbrook & Reilly 1984). Other possibilities exist as well. Furthermore, these aspects may vary greatly with respect to "ambiguity." That is, the gas mileage (concrete attribute) of an

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[12]Here, the term attributes refers to any aspect of the product or its use (i.e., characteristics, qualities, consequences, values, goals, etc.). A similar conceptualization is offered by Fishbein and Ajzen 1975).

automobile is less ambiguous than its reliability or prestige (desires or values). Therefore, potentially, the nature of CS/D evaluations might differ depending upon the standards salient to the consumer.

While past CS/D study has addressed various processes in isolation, to date no comprehensive theory that includes multiple reaction tendencies and multiple comparison types has been offered. Furthermore, with few exceptions (e.g., see Kasmer 1989; Bolfing 1985; Forman 1986; Churchill & Surprenant 1982), individual difference effects on CS/D have not been identified. These concerns suggest the need for further theoretical development in these areas.

Equity Theory

Equity theory is concerned with inputs and outputs of parties involved in an exchange. Though equity theory has received a great deal of attention in other areas of study (e.g., sociology, social psychology, and organizational behavior), it has received very limited attention in marketing (Huppertz, Arenson, & Evens 1978; Huppertz 1979). Moreover, much of the interest in equity theory has emerged within the study of CS/D (Oliver & DeSarbo 1988).

Past research demonstrates that consumers are able to retrospectively identify the inputs to and outcomes from an exchange for both themselves and for merchants (Huppertz 1979). Consumers can evaluate input/outcome combinations with respect to "fairness", and express their satisfaction or dissatisfaction with inequitable or "unfair" exchanges (Fisk and Coney 1982; Mowen and Grove 1983; Huppertz et al. 1978).

The relationship between equity and CS/D is straightforward. Satisfaction is believed to occur when a consumer perceives her/his outcome-to-input ratio as being proportionate to that of some significant other. When a consumer perceives his/her outcome-to-input ratio as higher (lower) than that of the other, s/he is likely to experience greater (dis)satisfaction (Oliver & DeSarbo 1988). Interestingly, recent findings reveal that while buyer's outcomes have a strong affect on their perceived equity, their inputs do not (Oliver & Swan 1989). Furthermore, they suggest an "egoistic" element to judgements of "fairness" in that buyers desired high seller inputs and high outcomes for themselves, but were not as concerned with the sellers outcomes (Oliver & Swan 1989, p.32). Despite casting doubt on the overall equity model of CS/D, these findings have interesting implications for the buyer-seller diad and CS/D with salespeople.

It is easy to conceive of equity effects as a special case of disconfirmation. Disconfirmation is typically viewed as the comparison between consumers' prepurchase beliefs and postpurchase perceptions. However, equity judgements may be considered a special case of disconfirmation if disconfirmation is conceived as any postpurchase comparison between consumer perceptions and his/her standards. In this case, performance is the consumer's input/output ratio, while the comparison standard is the corresponding ratio perceived for the seller.

Equity theory typically has been used to understand interpersonal phenomenon (e.g., consumer and merchant) (Fisk & Coney 1982; Huppertz et al. 1978; Huppertz 1979). Therefore, equity theory may perhaps be better suited for explaining CS/D with merchants than for products or services (Oliver & Swan 1989; Bagozzi 1986). However,

it can be argued that equity theory applies in any relationship, such as between a consumer and other consumers. Conceivably, equity could even apply to a consumer (i.e., present experience) and himself (i.e., previous experience). More study is needed to assess the degree with which reactions to interpersonal equity might play a part in explaining satisfaction with product/service experiences, and the standards used by consumers in making equity judgements.

Attribution Theory

Attribution theory adds an interesting extension to the area of CS/D. It suggests that (dis)satisfaction outcomes may be modified by the perceived cause of the performance experienced. For example, the nature of dissatisfaction with poor performance of a product may be different if the consumer believes that s/he used the product improperly. In this case, the consumer may feel "regret" as opposed to "anger" had the poor performance been attributed to a product malfunction. The exact nature of the consumer response is believed to depend upon three descriptive dimensions of the product-use outcome; stability (i.e., are the causes temporary or permanent?), locus of causality (i.e., are the outcomes consumer or marketer related?), and controllability (i.e., are these causes under volitional control or are they constrained by outside factors that cannot be influenced?) (Weiner, Russell, and Lerman 1978, 1979; Folkes 1984). Folkes (1984) has shown locus of causality to be the dominant attribution dimension for satisfaction. Weiner et al. (1978) found that satisfaction scores are higher when successes are attributed to one's ability and effort (i.e. internal attributions) than when

they are attributed to the task, the efforts of others, or luck (i.e. external attributions). The latter attributions were likely to result in responses such as appreciation and gratification. Folkes (1984) and Richens (1985) have shown similar effects on CS/D. Their findings, along with those of Wiener et al. (1978; 1979), suggest that satisfaction should be more extreme for internal than for external attributions in the event of product successes.

Interestingly, attribution is said to mediate the influence of "successful" or "failing" performance experience on subsequent reactions. An underlying assumption is that consumers determine "successes" and/or "failures" prior to attribution. These success/fail determinations appear conceptually similar to disconfirmation evaluations. Indeed, Oliver (1989) exhibits attribution as being a mediating factor between disconfirmation and satisfaction. As such, it may be better to view attribution theory as complementary, rather than alternative, to expectancy-disconfirmation theory.

Still, the notion that internal attributions lead to greater satisfaction is interesting in that it suggests a relationship between product use outcomes and self. Conceivably, CS/D may be related to the degree of which product use outcomes match or reinforce one's self concept (Woodruff, Schumann, & Clemons 1990). In relation to product outcomes, "success" might represent a sense of accomplishment or achievement, while "failure" might imply a sense of self deficiency or inadequacy. Further research is needed to discover the ways in which standards are used by consumers to determine whether product-use outcomes are successes and/or failures, and the factors influencing internal versus external attributions.

Performance and Expectations

The final paradigm for understanding CS/D suggests direct effects of product/service performance and expectations on CS/D (see Figure 1-2). Under certain conditions, the disconfirmation construct alone is believed to fall short of explaining the CS/D response (LaTour & Peat 1979; Tse & Wilton 1988). Oliver & DeSarbo (1988) conclude that performance may "overwhelm" the other psychological response tendencies (e.g. expectation disconfirmation, equity judgements, etc.) to determine CS/D. Similarly, expectations also have been shown to have direct effects on CS/D. Several studies have provided evidence for the direct effects of performance and expectations on product or service satisfaction (Churchill and Surprenant 1982; Olshavsky and Miller 1972; Tse and Wilton 1988).

Cognitive dissonance theory provides one explanation for the performance effect (Festinger 1957). The way in which an individual chooses to reduce dissonance after a disconfirming experience depends upon the cost of the alternative reduction strategies. Extending this notion to the area of CS/D, Tse and Wilton (1988) state:

> . . . after a bad (or good) product experience, the psychological costs of adjusting the product performance cognition in line with a pre-experience anchor may exceed the costs of not adjusting the performance cognition but modifying the pre-experience anchor. In this case, product performance perception will dominate in the postconsumption evaluations and hence the construct is important in CS/D formation. (p. 205)

Their findings show that consumers experiencing disconfirmation tend to modify their prepurchase expectations to be more agreeable with the product experience. Therefore, they argue that the effects of perceived performance be modeled separately from other effects (e.g., expectations and disconfirmation).

Other reasons also have been given for why performance might dominate in determining CS/D. In their study of brand loyalty, Cohen and Houston (1972) suggest that if learning from experience is an important consumption motive, then whenever a product performs well a consumer is likely to be satisfied, regardless of prior expectations and disconfirmation. A third possible explanation of the performance effect emerges from a study by Forman (1986) investigating the impact of purchase decision confidence on satisfaction. It may be that performance dominates expectation and disconfirmation in determining CS/D if the confidence with which the consumer holds his/her expectations is low. For example, if a consumer's product use experience is pleasurable, but short of expectations, and the consumer's confidence in her/his expectations is low, then the consumer may respond more to the performance of the product rather than to the tenuous expectations and their subsequent disconfirmation.

Still, others (Klinger 1971; Holbrook and Hirschman 1982) argue that the consequences of consumption ". . . appear in the fun that a consumer derives from a product -- the enjoyment that it offers and the resulting feeling of pleasure that it evokes" (Klinger 1971, p.18). For example, presumably art can be appreciated and enjoyed for its own sake, without judgments of utility or comparisons to prior expectations. However, the process by which performance independently effects CS/D is not clear. As stated before, pleasurable performance might directly influence satisfaction, but how do consumers determine a product's pleasurableness? Zajonc (1968, 1980) maintains that "mere exposure" to an object may elicit an affective response. Though some acknowledge that affect might precede cognitive processes, this would be likely only in

contexts in which either 1) the behavior is spontaneous or impulsive or 2) the affective reaction originates from a relatively strong arousing stimulus or performance immediately prior to assessment of the affect and cognitions (Bagozzi 1982). Generally speaking, to assume that a product's performance can be determined "good or bad", "pleasurable or unpleasurable" suggests some type of appraisal. Therefore, rather than to suggest that performance effects are independent of disconfirmation effects, it might be better to treat performance effects as a special case of disconfirmation. That is, performance effects might be the result of disconfirmation involving performance standards formed after the purchase or within the use situation, or perhaps disconfirmation involving standards other than expected product performance (e.g., goals or values). Regardless of the explanation, the direct effect of performance has been shown to be a prevalent influence on CS/D (Tse & Wilton 1988; Churchill & Surprenant 1982). This relationship warrants further investigation in order to identify the internal mechanism(s) by which product or service performance influences CS/D.

The direct effect of expectations (or standards) on CS/D may perhaps be explained in two ways. First, in circumstances where standards are difficult to confirm, expectations might have a dominant influence on CS/D. For example, in situations where the time span between product purchase and the realization of product outcomes is large (i.e., life insurance), consumers may rely on their initial expectations in subsequent evaluations. Another explanation might be the nature of the standards themselves. Standards which are more abstract in nature might perhaps hinder the consumer's ability to (dis)confirm the standard relative to performance. For example, if a consumer

purchases a product to become more "attractive" to others, s/he may have difficulty (dis)confirming this standard due to the abstract and/or subjective nature of attractiveness.

The previous discussion illustrates the theoretical diversity of past attempts to explain CS/D. Made clear is the fact that CS/D is a complex phenomenon, perhaps involving multiple variables and processes. While some insight was gained into the theoretical realm of CS/D research, many of these variables and processes were left unspecified. The following section is intended to compliment the previous discussion by shedding light on the components most commonly found within CS/D approaches.

Major Theoretical Components of CS/D

Though each of the approaches discussed above are based upon different theoretical traditions, significant parallels do exist between them. First, each approach involves either an explicit or implicit comparison of some sort. Second, such comparisons involve *product-use experiences* and a set of *standards*. And finally, each approach assumes that a *satisfaction or dissatisfaction reaction* results from the comparison. Each of these major theoretical components to CS/D will be discussed in more detail below with respect to the conceptual and methodological issues surrounding each.

The CS/D Response

Perhaps the most inhibiting obstacle to the further development of CS/D theory is researchers' uncertainty as to what the resulting (dis)satisfaction response is. This dilemma is similar to those which have been, and continue to be, experienced by researchers in other areas of study such as emotions, involvement, attitude, and personality. In a statement adapted from Fehr and Russell (1984), Oliver (1989) starkly illustrates the dilemma stating:

> Everyone knows what satisfaction is, until asked to give a definition. Then, it seems, no one knows. (p.7)

Three issues have been identified regarding the conceptualization of CS/D: 1) the cognitive versus affective character of the CS/D construct, 2) the dimensionality of CS/D, and 3) the ability to discriminate CS/D from other postpurchase consumer behavior concepts such as attitude.

CS/D: Cognition or Emotion? A major conceptual issue is whether CS/D is better characterized as an affective or cognitive construct. Perhaps the most widely quoted definition of CS/D is that provided by Hunt (1977c). He describes CS/D as:

> . . . a kind of stepping away from an experience and evaluating it. You may have a pleasurable experience and then be satisfied as you evaluate that experience. *Satisfaction is not the pleasurableness of the experience, it is the evaluation rendered that the experience was at least as good as it was supposed to be*. One could have a pleasurable experience that caused dissatisfaction because, even though pleasurable, it wasn't as pleasurable as it was supposed to be. So satisfaction/dissatisfaction isn't an emotion, it's the evaluation of an experience, and as such it becomes a quasi-cognitive construct, and we would expect the laws of judgement to affect satisfaction. (p.459, italics added)

As such, CS/D is seen as a cognitive-based concept in that it is the *evaluation* of the experiences derived from product or service consumption. However, Hunt further states that:

> Too often in current work on CS/D we see satisfaction or dissatisfaction thought of as inherent in the product, when instead we should be focusing on *individuals' perceptions of that product's qualities as they relate to that individual.* This is one of the problems with the normative deficit approach to CS/D conceptualized by Earl Morris in his papers. *Using that approach one has to be very careful to consider the deficit only as a potential source of dissatisfaction and not as a surrogate indicator of dissatisfaction.* (p.459, italics added)

Perhaps contrary to his previous statement, Hunt seems to imply here that "dissatisfaction" is something other than the evaluation of product outcomes and experiences. Assuming that normative deficit (surplus) represents one form of disconfirmation, then Hunt's notion is that a "deficit" or "surplus" (i.e., disconfirmation) may represent a source of CS/D, but not CS/D itself. Hence, a major shortcoming of his conceptualization is that it fails to clearly distinguish between what he sees as the CS/D evaluation and the CS/D response to the deficit.

Other researchers have since adopted conceptualizations similar to Hunt's. For example, Engel, Blackwell, and Miniard (1990, p.501) define satisfaction as "a postconsumption evaluation that a chosen alternative meets or exceeds expectations." Likewise, Howard (1989) states:

> . . . the buyer has at the moment a favorable expectation of how good the brand is. This judgement causes him to buy it. He finds, however, that it is not as good when he tries it as he had expected. Consequently, his satisfaction is low. (p.296)

However, he further states that if "the *satisfaction* from consuming the product *is less than what he expected it to be*" then a change in his behavior will result (p.295, italics

added). While the first statement implies CS/D to be a consequence of disconfirmation, the latter implies that satisfaction itself is somehow confirmed or disconfirmed (i.e., "satisfaction . . . is less than what he expected it to be"). Hence, while clearly acknowledging that CS/D involves a cognitive appraisal, Howard fails to clearly differentiate between the CS/D outcome and its antecedent determinants. The issue is raised as to the distinction between the "comparative difference" (between considerations and standards), the "evaluation" of the comparative difference, and the consumer's subsequent reaction. The cognitive definitions speak to the comparative antecedents of CS/D while saying little about any subsequent CS/D responses to the comparisons. However, "Since the term 'satisfaction' is often mentioned as being determined by disconfirmation, some must have something other than a cognitive belief in mind" (Woodruff, Cadotte, & Jenkins 1983, p.120). As such, this matter has important implications for the manner in which CS/D and its determinants are measured. More will be said on this in a later section.

Other definitions in the literature offer substantially different conceptualizations of CS/D. Increasingly, researchers agree that CS/D involves emotion or feeling. Swan, Trawick, and Carroll (1980) define CS/D as a two dimensional construct:

> Satisfaction is a conscious evaluation or cognitive judgement that the product performed relatively well or poorly or that the product was suitable or unsuitable for its use/purpose. Another dimension of satisfaction involves affect of feelings toward the product such as like/dislike, pleased/displeased, happy or frustrated, angry with the item. (p.17)

Woodruff, Cadotte and Jenkins (1983; Cadotte, et al. 1987) contend that CS/D is the emotional reaction to disconfirmation. A positive (negative) emotional state of

satisfaction (dissatisfaction) is said to result if perceived performance exceeds (falls short of) evaluative standards. A neutral feeling results if confirmation occurs. Similarly, Westbrook and Reilly (1984) state:

> Consumer satisfaction, then, is an emotional response to the experiences provided by, or associated with, particular products or services purchased, retail outlets, or even molar patterns of behavior such as shopping and buyer behavior, as well as the overall market place. (p.256)

Within this view, CS/D is viewed as an affect-based state resulting from a cognitive evaluation. As such, the affective conceptualizations seem to more clearly differentiate between disconfirmation (i.e., the "comparative difference") and the subsequent CS/D response (i.e., positive and/or negative affect).

Interestingly, though the cognitive and affective definitions which have been offered in the literature to date differ greatly regarding the definition of the CS/D construct itself, they are very similar with respect to the concepts included within the CS/D phenomenon (Oliver 1989). The cognitive conceptualization includes affect related to the consumption experience, and an ensuing judgement of the consumption experience (CS/D). Similarly, the affective conceptualization includes a judgement of the consumption experience and an ensuing affective response to this judgement. While both views include aspects of cognition and affect, uncertainty exists regarding which concept *is being* referred to when the term(s) "(dis)satisfaction" are used by researchers and consumers alike (Woodruff, Schumann, & Clemons 1990; Oliver 1989; Hunt 1977c). For example, a categorization offered by Oliver (1989) suggests that the use of the term satisfaction by consumers could mean contentment, pleasure, relief, novelty, or surprise depending upon the nature of consumer-product interaction. On the other hand, Hunt

(1977c) suggests that satisfaction is the "evaluation" of the pleasure provided by a product experience. The "meaning" of a concept can be defined in terms of its relations to other concepts within a theoretical network. Therefore, the real debate surrounding the conceptualization of CS/D appears to be over which *concept* within the CS/D process *should be* referred to as (dis)satisfaction by researchers, and which meaning *is being* referred to when these terms are used by consumers.

CS/D as Emotion. Still, distinguishing between the cognitive and affective facets of CS/D is extremely important insofar as the explanation of postpurchase motivation is an important research end. Building upon past emotion research (Izard 1977; Arnold 1960a), postpurchase emotion may have residual or continuing effects on subsequent consumer behavior. Izard (1977, p.32) states:

> The action tendencies which follow an emotion organize and bias later perception and appraisal; the emotion "fascinates us and takes us captive" (Arnold 1960a, p.182). Further, the intuitive appraisal and emotion response tend to have constancy, so that the object or situation so appraised and responded to tends to evoke this appraisal and response "for all times to come" (Arnold 1960a, p.184). In addition, appraisal and emotion response to a given object tend to be generalized to the whole class of objects.

In a consumer context, postpurchase emotion is likely to result in attitude change and provide motivation to act either positively or negatively toward the product in the future. In that it may generalize to a larger class of objects, emotion may result in the transformation of one's belief structure or schema. That is, the disturbance of emotion may be reduced by consumers using various dissonant reduction strategies including belief modification (see Festinger 1957).

A link between emotions and beliefs represents a "motivated action tendency." By definition, emotion is a necessary element of motivation (Arnold 1960a; Izard 1977). While emotion is not necessary for beliefs, beliefs are necessary, but not sufficient, for emotion.[13] Emotion requires appraisal as to the implications beliefs have for one's personal well-being (Lazarus 1991). Not only do beliefs result in emotions indirectly through appraisal, but they are also a necessary element of emotion. Without beliefs, emotion is meaningless and without significance for the individual. Of this, Lazarus (1991, p.353) states:

> Without cognitive activity to guide us, we could not grasp the significance of what is happening in our adaptational encounters with the environment, nor could we choose among alternative values and courses of action. Emotion without thought would be mere activation without the directional distinctive impulses of attacking in anger or fleeing in fear. Motivation without cognition too would be merely a diffuse, undifferentiated state of activation, a tissue tension that does not specify the consummatory goal or means to attain it. Finally, integration of behavior would be impossible without cognitive direction (Miller, Galanter, & Pribram 1960); there would be no possibility, for example, of feedback control of behavior if we did not have the ability to take cognizance of what is happening.

In addition to the points raised above, Lazarus (1991) also reports on the feedback effects of emotion on cognitive belief components. Emotion is thought to activate a coping mechanism which, in addition to overt behavioral reactions, might entail covert cognitive and affective restructuring. Therefore, postpurchase emotions seemingly play a decisive role in determining the future behavior of consumers.

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[13]Again, Zajonc (1968, 1980) contends that "mere exposure" to an object might trigger emotion. However, this is generally thought to be limited to (1) impulsive behavior, and/or (2) a strong arousing stimulus before assessment of the affect or cognitions (Bagozzi 1982). It is believed that CS/D involves an evaluative process. It is this process and the resulting affect which is being referred to here.

Many theories of emotion provide explanations strikingly similar to those in the area of CS/D. Holt (1976) provides a theory of motivation that builds upon the Freudian notion of *wish*. He interprets wish as "a cognitive-affective concept framed in terms of meanings and potentially pleasant or unpleasant outcomes of possible courses of action" (p.179). In his approach, Holt maintains that emotion is a consequence of a "perceptual-evaluative mismatch", perhaps much like disconfirmation. This mismatch is explained as a conscious, preconscious, or unconscious comparison of a perceptual input and a centrally generated pattern of beliefs and a comparison of the *value judgements* attached to the two patterns. Izard (1977, p.25) states:

> Phenomenologically, this amounts to a comparison between an existing and a potential state of affairs, a process similar to the appraisal, monitoring, and evaluative processes discussed in the cognitively oriented theories of emotion. Thus a wish -- the key motivational phenomenon -- is initiated by a mismatch, "a cognitive-affective state something like dissatisfaction" (Holt 1976, p.182).

An interesting note is Izard's use of the term "dissatisfaction" to represent the "cognitive-affective" state resulting from a mismatch. Much the same, Dahl (1977) proposes that pleasure be redefined as "satisfaction" of a wish and unpleasure as "unsatisfaction" of a wish.

Self-Theory of emotion centers around one's self-concept and related perceptions (e.g., see Snygg & Combs 1949; Combs & Snygg 1959). Simply stated, this approach holds that the more a perception or cognition relates to the center or core of the self, the more likely it is to involve emotion or feeling. Phenomenologically, positive emotions tend to enhance one's sense of well being and to instigate approach toward the object of focus, while negative emotions tend to be difficult to tolerate and to instigate avoidance

of the object (Izard 1977). This position is similar to that suggested by Woodruff et. al. (1990) in that CS/D may be related to the degree of which product use outcomes match or reinforce one's self concept.

Cognitive theories of emotion appear most similar to the CS/D-as-emotion model. According to Izard (1977), the most comprehensive cognitive theory of emotion is that of Arnold (1960a, 1960b). Arnold states that emotion is the end result of a sequence of events described by perception and appraisal. Perception refers to the simple apprehension of an object. Summing Arnold's work, Izard (1977, p.31) states:

> To apprehend something is to know what it is like as an object, independent of any effect on the perceiver. Before emotion can enter into the picture, the object must be perceived and appraised as having an effect on the perceiver. Emotion is distinct from appraisal, though it may include it as an integral or necessary part. To be precise, emotion proper is the nonrational attraction or repulsion which follows upon the appraisal of something as good or bad for the perceiver.

Disconfirmation of prepurchase expectations might entail one form of appraisal in that a consumer compares product-use perceptions to his/her prepurchase standards, and attaches value to the outcome. However, the notion of appraisal cannot be limited to "disconfirmation-of-expectations." Certainly, one can evaluate a product-use experience without referring to prepurchase standards. For example, other considerations such as unexpected outcomes might also come into play. This issue will be discussed further in a later section.

There also exists a parallel between the emotion model of Lazarus (Lazarus & Averill 1972) and the more recent CS/D model of Oliver (1989). Lazarus proposes that an emotional response system (ERS) allows one to make primary and secondary appraisals within a given situation. Like Oliver (1989), Lazarus' primary appraisal serves

to reduce the array of incoming information into an overall or unitary evaluation (e.g., good or bad, happy or sad, threat or opportunity). The secondary appraisal is to evaluate alternative modes of behavior or reactions to the stimuli. This appraisal can perhaps be likened to the CS/D attribution judgement proposed by Oliver and others (e.g., see Oliver 1989; Folkes 1984).

Finally, the words "satisfied" (e.g., see Russell 1980; Watson & Tellegen 1985) and "dissatisfied" (e.g., see Plutchik 1980) have appeared in a number of emotion categorizations. In each case, the terms "satisfied" and "dissatisfied" are but two of numerous emotions which might occur. Consequently, the terms "satisfaction" and "dissatisfaction" might be incomplete as measures of consumers' emotional responses to consumption experiences (Oliver 1989). Past findings indicate that product evaluations could result in multiple positive and negative emotions. Hence, CS/D should not be treated as a single emotion, but as several discrete emotions falling along both positive and negative dimensions.

The above discussion argues convincingly that treating CS/D as an emotional construct provides a more complete and functionally representative conceptualization of postpurchase experience. An emotion conceptualization allows for both the cognitive and affective components of postpurchase experience to be observed independently. Moreover, an emotion conceptualization may provide a better characterization of the effects of experiential aspects of product use on future consumption behavior.

CS/D: Uni- or Multidimensional? A second conceptual issue concerns the dimensionality of the CS/D construct. Many have contended CS/D is an overall

evaluation of a product's performance. As such, CS/D is viewed as the consumer's global assessment of a product, a product experience, or some other event or behavior. For example, CS/D is predominantly measured using overall satisfied-dissatisfied scales, or similar variants thereof (see Figure 2-1). This approach assumes that consumers somehow formulate an overall reaction to the product experience. However, no empirical evidence has been provided to directly support this notion. In fact, recent assertions could be interpreted as being contradictory (Oliver 1989; Westbrook 1983; Woodruff et al. 1990).

CS/D could be viewed as a multidimensional construct consisting of various emotional reactions to disconfirmation (Oliver 1989; Westbrook 1983). Based primarily on the work of Weiner (see Weiner 1980; 1986), Oliver proposes a typology consisting of five emotional states of satisfaction having as many as 36 discrete emotions. Oliver maintains that a primary affective state (i.e., happiness-sadness) results from the evaluation of product use outcomes (e.g., "good for me" -- "bad for me", "fulfilling my needs" -- "not fulfilling my needs", etc.). Additionally, disconfirmation triggers causal attribution resulting in the formation of discrete emotions (e.g., delight, excitement, outrage, agitation, etc.). The outcome-dependent affect and the attribution-dependent emotions are said to combine to potentially produce one or more discrete states of (dis)satisfaction: contentment, pleasure/displeasure, relief/regret, novelty, or surprise.

Oliver (1989, p.2) maintains that:

> . . . assuming that emotions underlie a satisfaction response, the same satisfaction "score" could have different implications for different consumers and different purchase contexts by virtue of the emotions generated by the product experience . . . [therefore] satisfaction scores which result may not distinguish between two

> consumers holding the two different emotions. . . . "satisfaction" may be an incomplete dependent variable in that it may mask the underlying degree of arousal inherent in the satisfaction response. (pp. 2 & 5)

Westbrook (1983) provides support for this assertion. Using a scale adapted from Izard's (1977) Differential Emotions Scale, Westbrook has identified four (1983) to six (1987) discrete factors of CS/D emotion. Subsequent analysis revealed that summary type measures of satisfaction were unable to "appreciably" capture all facets of postpurchase emotion (1983, p. 6).

Despite the latter perspective, Oliver (1989) goes on to describe CS/D as a "summary evaluation" (pp. 4 & 5). Westbrook (1987, p. 260) similarly describes CS/D as "a global evaluative judgement." However, neither author provides adequate empirical reasoning for treating CS/D as a summary evaluation. Westbrook's (1983) earlier findings indeed seem to preclude viewing CS/D as an "overall evaluative judgement." Past findings indicate that differential emotions have differential effects on human experience and behavior (e.g., see Izard 1977; DeRivera 1977). Such findings lend support to identifying the emotional facets of CS/D, and assessing their differential effects on subsequent postpurchase behavior. Still, the question remains as to whether consumers might formulate overall judgements of product use experience.

CS/D: Equal to Attitude? A third issue surrounding the conceptualization of CS/D relates to the extent to which it differs from the more predominantly studied construct of attitude. Some researchers consider CS/D to be a surrogate indicator of attitude (Howard & Sheth 1969; Andreasen 1977; Fishbein & Ajzen 1975). LaTour & Peat (1979) reinforce this notion stating:

> Given that attitude and satisfaction are both evaluative responses to products, it is not clear whether there are substantive differences between the two. In fact, it may be more parsimonious to consider satisfaction measures as post-consumption attitude measures . . . we should be careful about attaching any special significance to satisfaction as a construct when it may simply be one measure of attitude. (p.434)

Others, however, contend that satisfaction and attitude are different constructs (e.g., Cadotte et al. 1987; Oliver 1980a; Holbrook & Corfman 1985; Olshavsky 1985).

Day (1983; 1984) explicitly makes the distinction:

> Satisfaction/dissatisfaction is an emotional response manifested in feelings and is conceptually distinct from cognitive responses, brand affect and behavioral responses. In particular, it is not "a kind of attitude" as suggested by some authors. (1983, p.113)

and,

> Satisfaction doesn't fit the definition of an attitude with respect to the usual assumption of persistence and some degree of stability over time. Satisfaction with a particular consumption event cannot exist before that event occurs and . . . tends to fade quickly from memory as new consumption events occur or merely from the passage of time (1984, p.496).

Responding to LaTour & Peat, Westbrook and Reilly (1983, p.256) state:

> While it is true that satisfaction and attitude are both evaluative responses, satisfaction is best conceived as an evaluation of the consumer's own purchase and consumption experiences, while attitude is construed as an evaluation of the product per se.

Empirical support has been provided for this notion. For example, Wilton and Tse (1983) have demonstrated that CS/D tends to vary with specific product experiences, while attitude is much less variant. Additionally, Oliver (1980) has shown that the CS/D emotion precedes and influences postpurchase attitude in a path-analytic causal model. Oliver's (1980) conceptualization differentiates satisfaction from disconfirmation in that

CS/D was shown to arise after disconfirmation and to decay over time into overall attitude. Oliver and Westbrook (1982) state:

> Satisfaction . . . is, in effect, a response to disconfirmation about product, outlet, interpersonal factors, etc., and is expressed in affective terms. . . In a sense, satisfaction may be seen as a *disturbance* acting on an attitude system. (p.13, italics added).

This "disturbance" represents affective arousal identified with motivation. Oliver (1989, p.7) describes the effect of emotion on attitude as "decaying first into generally pleasant and unpleasant states, and then into complacency."

However, the distinction between CS/D and attitude becomes less apparent when reference is made to *CS/D with the product* as opposed to *CS/D with the product experience*. CS/D with the product may be equated to what others have called attitude toward the product (e.g., Fishbein & Ajzen 1975). CS/D with the product experience may be viewed as one's attitude toward a particular usage experience or occasion. Given Oliver's (1977, 1980) notion of expectancy-disconfirmation, it follows that CS/D with the product may be assimilated more toward the prepurchase attitude toward the product if confirmation occurs. However, should improbable ("surprise") disconfirmation occur, CS/D with the product may be assimilated more toward CS/D with the product experience due to its overwhelming emotional nature. That is, an emotional state ensuing from the product experience (i.e., CS/D with the experience) dominates immediate behavior toward the product. This state decays into overall attitude, and the newly transformed attitude once again becomes the dominant factor affecting future behavior toward the product (e.g., Oliver 1980; Bolton & Drew 1991; Mazursky & Geva 1989).

The evidence seems to be in favor of viewing CS/D as a transient state of affect influencing, but different from, a more enduring attitude construct. This relationship is likely to have implications upon the temporal issues regarding the measurement of satisfaction, motivation and behavior. However, future research is needed to better understand the nature of the relationship between CS/D and attitude.

For research in the area of CS/D to continue to progress, researchers must take into consideration each of the issues raised above. It cannot be assumed that agreement exists among researchers, practitioners, or consumers regarding the meaning of CS/D. To provide better understanding of the CS/D phenomenon, explicit statements as to the meanings of the terms and uses of the constructs must be made. Therefore, for the purposes of the present study, the following definitions are used:

> *Consumer satisfaction is the positive emotional reactions experienced by consumers as a result of their personal evaluations of the considerations of a product and/or product related consumption behavior.*

and,

> *Consumer dissatisfaction is the negative emotional reactions experienced by consumers as a result of their personal evaluations of the considerations of a product and/or product related consumption behavior.*

More simply stated, consumer satisfaction and dissatisfaction are the emotional outcomes of a "perceptual-evaluative mismatch" (Holt 1976). In being consistent with the emotion literature, CS/D emotions are believed to be discrete from one another, fall along independent positive and negative dimensions, and vary in degree of arousal. That is, CS/D might range from a "good--bad" affective response (i.e., lower level of arousal response to primary evaluation) to responses such as anger, fear, frustration, excitement,

gratitude, etc. (i.e., higher level of arousal response to extended evaluation).[14] In that emotion is purported to overwhelm other psychological tendencies (Izard 1977; Arnold 1960a; Oliver & DeSarbo 1988), CS/D is believed to dominate one's motivated tendencies toward the product, at least temporarily. However, this motivated state is expected to diminish over time as one's attitudinal belief structure accommodates the contradictory information. Finally, though any number of consideration evaluations might trigger CS/D, CS/D is believed to be directed toward the entire product or consumption behavior.[15] For instance, anger resulting from poor gas mileage (i.e., consideration) might be directed toward the car (i.e., product). Likewise, regret from having mistakenly assembled a Christmas toy (i.e., consideration) may be directed toward the act of having tried to assemble the product, or toward the act of purchasing a product requiring assembly (i.e., consumption behaviors).

Measures of CS/D

A related hindrance to the conceptual development of the CS/D area has been the lack of universally agreed-upon measures for the key constructs representing the CS/D phenomenon. Without question, much of the measurement problems stem directly from the conceptual and theoretical issues discussed above. The fundamental factors regarding

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[14]Similar to Oliver's (1989) notion of primary and secondary affective CS/D responses.

[15]Consumption behavior refers to any overt behavior directly involving the product, i.e., the purchase, use, or disposition of the product.

the measurement of CS/D are clear: *What* is being measured, and *how* is it being measured?

Borrowing from a comprehensive taxonomy of CS/D measures developed by Hausknecht (1990), this section will present the various attempts to measure CS/D, and discuss the issues surrounding each and how they relate to the present CS/D theory. The taxonomy used here consists of two dimensions; 1) cognitive versus affective measures, and 2) verbal versus graphic scale structure (see Figure 2-1).

Evaluative verbal (EV) measures (Figure 2-1A) are the type most commonly used to assess consumer satisfaction and dissatisfaction. EV measures are intended to provide an overall assessment of the CS/D construct. Typical examples of this type of scale include the simple seven point "satisfied"--"dissatisfied" (#1) scale (Oliver & Bearden 1983; Oliver & Linda 1981), and likert type scales (#2) (Oliver & Westbrook 1982; Westbrook & Oliver 1981; Oliver & Bearden 1983).

A number of issues arise from the use of such scales. One obvious yet critical measurement issue relates to the cognitive--affective conceptualization issue raised earlier. EV scales require "an interpretation by the respondent and the questioner of the word "satisfaction" or some variant thereof" (Hausknecht 1990, p.2). Oliver (1989, p.7) states:

> The possibility that the term "satisfied" is imprecise in both content and meaning is evident from the litany of contexts in which the word is used.

According to him (p.7), the terms have different meanings across uses because:

> First, different consumers are known to react to the same situation differently due either to temperament or mood (Gardner 1985; Westbrook 1980). Secondly, the same consumer's reaction to a product may change over time as the product experience changes from the newness of the product to the routine of using it on a daily basis. Finally, products themselves have different meanings to consumers

Figure 2-1A: Evaluative Verbal

1. How satisfied were you with _____?

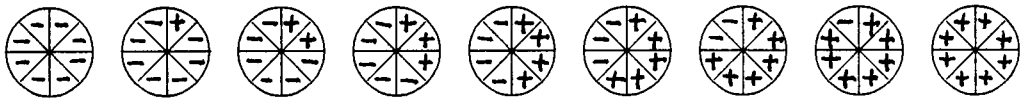
Very Dissatisfied	Somewhat Dissatisfied	Slightly Dissatisfied	Neither	Slightly Satisfied	Somewhat Satisfied	Very Satisfied
1	2	3	4	5	6	7

2. I am satisfied with _____?

Agree ___: ___: ___: ___: ___: ___: ___: ___ Disagree

Figure 2-1B: Evaluative Graphic

3. Imagine that the following circles represent the satisfaction of different people with___. Circle 0 has all minuses in it to represent a person who is completely dissatisfied with ___. Circle 8 has all pluses in it to represent a person who is completely satisfied with ____ . Other circles are in between.



Which circle do you think comes closest to matching your satisfaction with ___ .

4. Here is a picture of a ladder. At the bottom of the ladder is the worst ____ you might reasonably expect to have. At the top is the best ____ you might expect to have. On which rung would you put ____ ?

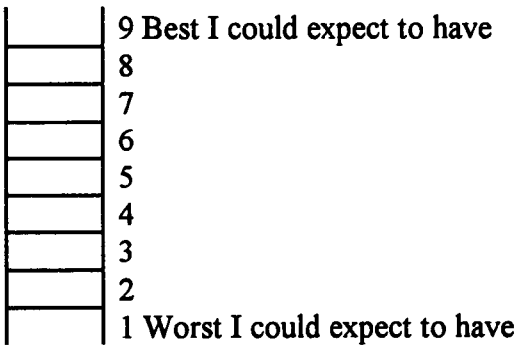


Figure 2-1: Past Measures of CS/D
(Adapted from Hausknecht 1990)

Figure 2-1C: Emotional Verbal

5. To what extent do you agree or disagree with the following statements?

a. I am satisfied with ____ .
b. If I had it to do over again, I would ____ .
c. My choice to ____ was a good one.
d. I feel bad about my decision concerning ____ .
e. I think that I did the right thing when I decided ____ .
f. I am not happy that I did what I did about ____ .

Agree 1 2 3 4 5 6 7 Disagree

6. Mark on one of the seven blanks below the position which most closely reflects your satisfaction with ____ .

____	____	____	____	____	____	____
Delighted	Pleased	Mostly Satisfied	Mixed	Mostly Dissatisfied	Unhappy	Terrible

7. Content analysis of subject provided protocols with scoring for satisfaction or emotional statements.

8. Please indicate the extent to which each word describes the way you feel with respect to ____ .

1	2	3	4	5
Very Slightly or Not at All	Slightly	Moderately	Considerably	Very Strongly

Adjectives "loading" on each of the ten emotional dimensions offered by Izard 1977.

Figure 2-1: Past Measures of CS/D (Cont.)
(Adapted from Hausknecht 1990)

Figure 2-1D: Emotion/Affect Graphic

9. Here are some faces expressing various feelings. Below each is a letter.



A B C D E F G

Which face comes closest to expressing how you feel about ____ ?

10. Where would you put ____ on the feeling thermometer?

Warm	100° -- Very warm or favorable feeling
|	85° -- Good warm or favorable feeling
|	70° -- Fairly warm or favorable feeling
|	60° -- A bit more warm or favorable than cold feeling
|	50° -- No feeling at all
|	40° -- A bit more cold or unfavorable feeling
|	30° -- Fairly cold or unfavorable feeling
|	15° -- Quite cold or unfavorable feeling
Cold	0° -- Very cold or unfavorable feeling

Figure 2-1: Past Measures of CS/D (Cont.)
(Adapted from Hausknecht 1990)

ranging from the nature of involvement (Traylor and Joseph 1984; Zaichkowsky 1986) to the meaning of the product in a person's life (Csikszentmihalyi and Rochberg-Halton 1981).

As such, the same satisfaction "score" could have different implications for different consumers and different purchase contexts by virtue of the emotions generated by the product experience" (Oliver 1989, p.2). For instance, consider a S-D scale with endpoints ranging from "1" (very dissatisfied) to "7" (very satisfied). For a consumer who realizes exactly what was *expected* during product use, the product experience might be rated a "7" in that the consumer determines that the product perfectly matched the "norm." Moreover, a consumer who is pleasantly "surprised" by the experience, and therefore more affectively aroused (Oliver 1989), might also rate the experience as a "7". Conceivably, the different occurrences might be related to the "importance" of product aspects. For instance, a consumer might rate both an unimportant aspect and an important aspect as "7" relative to expectations. However, unlike the first aspect, the latter, more important aspect might exhibit more emotion not discernable with an evaluative verbal scale. In short, one cannot reasonably ascertain the meaning conveyed by consumers when they use, or respond to scales which use, the terms satisfaction and dissatisfaction. Consequently, this approach is highly problematic in that it fails to clearly discriminate between the CS/D emotions and more cognitive product evaluations.

Evaluative graphic (EG) measures (Figure 2-1B) are designed to probe for essentially the same information as the evaluative verbal measures. According to Hausknecht (1990, p.3):

> The graphic format, however, is better able to communicate the concept of quantities of satisfaction (dissatisfaction), thus removing some of the ambiguity of the verbal measures. This technique also makes the distinction between mixed evaluations and the absence of evaluation more evident.

However, no evidence was offered to support these conclusions. There is no reason to believe that either of the evaluative graphic measures in Figure 2-1B are better able to communicate "quantities" than the evaluative verbal measures. Furthermore, while #3 does allow for a mixed evaluation, neither evaluative graphic measure allows for a neutral or "absence of evaluation" response as Hausknecht suggests.

Emotion/Affect verbal (AV) measures are presented in Figure 2-1C. Despite some resemblance to the evaluative measures, the AV measures are intended to more accurately reflect the emotional definitions of satisfaction discussed previously in the chapter. However, the Likert scale (#5) reported to be emotional in content (Oliver 1980; Hunt 1977) seems to share many of the same problems as the evaluative verbal measures. These items appear more "evaluative" in content despite the appearance of more affect laden words in some items (e.g., "happy", "good" and "bad"). Furthermore, the use of the term "satisfied" in the first item is problematic for reasons discussed previously. Despite efforts which demonstrate it's reliability, the "Delighted-Terrible" (D-T) scale (#6) (Westbrook 1980b; Westbrook & Oliver 1981) is also potentially problematic. The end points of the scale represent affective responses (i.e., "delighted" and "terrible"), while those the middle (i.e., "satisfied" and "dissatisfied") are potentially cognitive. Therefore, depending on which anchor is judged by the respondent to be the "key anchor", the D-T scale might solicit either a cognitive or an affective response. Consequently, the construct validity of this scale is brought into question. As with other scales, it is not

certain as to whether a "7" would represent an emotional response or merely a more positive judgement. Moreover, while previous scales are assumed to be interval, it is doubtful that the D-T scale possesses more than ordinal qualities (Hausknecht 1990). Thus, despite its merit of entreating emotions, whereas previous measures have not, the D-T scale should also be viewed with caution.

More promising are those AV measures which assess the CS/D emotions independent of their cognitive antecedents (#7, #8). One such measurement approach is the content analysis of subject-provided protocols (Gardial et al. 1994; Locker & Dunt 1978; Westbrook 1980b). In short, this approach content analyzes responses made to open-ended questions regarding product use experiences. The protocols are judged as to the affective nature of the responses. This approach holds promise as a more direct, and less obtrusive measure of CS/D. As such, this measure lessens the concern that attempts to measure a process-type phenomenon may actually impact on the process being studied (see Miller 1977; Sawyer 1975; Hausknecht 1990).

Other measures of CS/D emotion are able to assess discrete emotions associated with a particular product use experience. One example of this approach is a measurement scheme adapted from Izard's DES-II (1977)[16] and used by Westbrook (1983, 1987). The DES-II is intended to describe a person's emotional profile across ten (presumably) discrete emotions (#8). When associated with the study of CS/D, factor analyses

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[16]The DES-II (Differential Emotions Scale-II) is a variation of the DES (1972). DES was originally developed as a "emotion state" measure assessing the *"extent" to which a word describes the way one feels at the present time*. Using the same emotion typology, DES-II was developed as an "emotion trait" measure assessing the *"frequency" with which one experiences the emotion during a relative time period.*

revealed the existence of four (Westbrook 1983) to six (Westbrook 1987) distinct primary emotions.

Emotion verbal scales are advantageous in that they measure CS/D as discrete positive and negative emotions, and thus avoid the problems associated with global measures alluded to previously. Though further investigation is required, findings in the area of CS/D (Westbrook 1987), as well as other areas of study (Izard 1977; Abelson et al. 1982), provide evidence favoring the multidimensional view of CS/D. In sum, emotion verbal measures of CS/D are believed to provide more direct, and conceptually comprehensive measures of CS/D than those presented previously.

Emotion/Affect Graphic (AG) measures are used to represent the "gestalt" CS/D reaction (Figure 2-1D). Measurement of emotion is difficult due to the difficulty respondents' have verbalizing emotional states (Weiner 1986), and the difficulty in representing the degree of emotion felt (Izard 1977). Graphic measures of emotion like the "faces" scale (#9) and the "feeling thermometer" scale (#10) are intended to alleviate the difficulties respondents have in responding to multidimensional emotion rating scales. Some researchers have provided evidence in favor of such overall summary measures of a unidimensional CS/D construct (Day 1977, 1984; Czepiel and Rosenberg 1976; Andreasen and Best 1977). However, some explanatory power is lost in that discrete emotions cannot be ascertained using such scales. It is believed that an overall measure cannot capture a consumer's true feelings as well as multi-item measures of the CS/D construct (Oliver 1989; Handy and Pfaff 1975). Different types of emotions are believed to have differing effects on motivation and behavior (Izard 1977; Weiner 1986;

Oliver 1989). Therefore, if explanation of postpurchase consumer motivation is an important feature of study, then overall measures, such as graphic scales, are likely to be inappropriate indicators of CS/D.

In keeping with the definitions of CS/D offered earlier, and in light of the above discussion, the CS/D construct should be measured using multidimensional affect scales capable of assessing the degree of arousal associated with CS/D emotions. Furthermore, an attempt should be made to measure each independent from their cognitive antecedents.

The CS/D Comparison

Widely accepted is the notion that the process leading to the CS/D response involves a comparison. For instance, expectancy-disconfirmation explicitly suggests a comparison between perceived performance and probability expectations regarding product performance. Likewise, equity theory explicitly suggests a comparison between a consumer's exchange outcome-to-input ratio and that of the merchant. Attribution theory suggests the occurrence of an implicit comparison insofar as determinations of product-use "successes" or "failures" antedate causal attributions. And finally, the performance approach to CS/D also encompasses an implicit comparison to the extent that the favorableness of product performance is determinable. Though the nature of the considerations and standards used in the comparisons are different, each can be incorporated within the concept of disconfirmation.[17]

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[17]Disconfirmation is meant here to refer to any comparison which serves as evidential information to be further used in product evaluations.

Expectations has proven to be the primary evaluative standard used by researchers to study the CS/D comparison. In their review of the CS/D literature, LaTour and Peat (1979, p.433) found that researchers ". . . construe [expectations] to be pre-decisional or pre-consumption beliefs about the overall performance of the product created by manufacturers' claims or test-report information." However, evidence has been found in the literature to suggest that standards are not limited to only prepurchase beliefs (see e.g., Cadotte et al. 1987). It may be better to view standards as being more consistent with the "beliefs" used in most attitude models. That is, standards should be treated as any consumers' prescriptive or proscriptive beliefs regarding the various aspects of a product or its use (e.g., see Ahtola 1975; Fishbein & Ajzen 1975). Clearly, consumers can become (dis)satisfied with products based on standards other than prepurchase expectations. It is conceivable consumers might also experience satisfaction and dissatisfaction based upon beliefs developed after the purchase and use of a product, independent of prior expectations (Westbrook & Reilly 1983; Cadotte et al. 1987; Olshavsky & Spreng 1989). For example, consumers may learn of attributes possessed by a product which were previously unknown. Furthermore, consumers might evaluate product aspects in light of particular use situations. Even if a product possesses all expected attributes, it might be evaluated negatively in that it fails to suffice within a particular situation or for a specific purpose. As such, the notion of standards proposed here is more inclusive.

Moreover, viewing standards in this way has implications for the conceptualization of disconfirmation. The broadened conceptualization of standards

offered here not only includes beliefs about the focal product, but may also include beliefs about one's self (Woodruff et al. 1990), situations (Holbrook 1984), other products (Woodruff et al. 1987), and other people (Huppertz 1979). As such, the notion of disconfirmation must be extended beyond that of a comparison between product consideration and product standards, to include comparisons such as product-to-self standards, product-to-situational standards, and perhaps others.

However, the specific nature of the disconfirmation comparison represents a major issue with respect to measurement. Most research has assumed the disconfirmation process to be "additive" (Cooper et al. 1989). That is, consumers are believed to determine a perceived difference between product performance and some reference standard (e.g., see Olson & Dover 1979; Miller 1977; Anderson 1973; LaTour & Peat 1979). If performance exceeds (falls short of) the standard, a positive (negative) number purportedly represents positive (negative) disconfirmation. If no difference exists between performance and the standard(s), a "zero" presumably indicates confirmation. However, it is interesting to note that most researchers do not operationally represent disconfirmation in such a fashion (Engel, Blackwell, & Miniard 1990). Instead, many have avoided the matter of subtraction by utilizing subjective rating scales having "better than" - "worse than" verbal anchors, or some similar derivation (e.g., see Churchill & Surprenant 1982; Oliver 1980a; Cadotte, et al. 1987; Westbrook 1987). Oliver (1980a, p.460) suggests subjective disconfirmation represents an intervening "distinct cognitive state resulting from the comparison process and preceding a satisfaction judgement." Therefore, disconfirmation is intended to represent

the perceived comparative difference, or cognitive distance, between perceptions and standard beliefs.

However, "better than -- worse than" scales appear to confound the notion of *comparative difference* with the *evaluation* of the comparative difference. That is, the *extent* to which product performance fails to equal expectations and the consumer's *sentiments* toward the disparity are clearly conceptually different. However, past measures of disconfirmation often fail to make this distinction. It is important that this problem be resolved if progress is to be made toward reaching general agreement regarding the conceptualization of the constructs embodied within the phenomenon of CS/D. Therefore, the following definition is put forth:

> *Disconfirmation is a consumer's subjective belief about the perceived comparative difference between a product-use consideration and a comparative standard on a particular product-use dimension.*

Phenomenologically, the disconfirmation is believed to occur independent from, and prior to, the subsequent evaluation of the belief. The influence of the disconfirmation belief on subsequent evaluation is directly related to the magnitude of the perceived difference. Ideally, measures of disconfirmation should reflect this notion in that the perceived difference between product performance and beliefs should be assessed independent of the affective reaction. However, whether this is possible is debatable (see Izard 1977).

CS/D Considerations and Standards

The notion that consumers compare product and/or product use considerations (i.e., perceptions) to some held standard is grounded in the literature. Past research has identified many different types of comparative standards believed to be used by consumers in postpurchase evaluations. Included in the CS/D literature are standards such as *predictive* (Olson and Dover 1979; Leichty & Churchill 1979), *desired* (Miller 1977; Swan and Trawick 1980), *ideal* (Miller 1977; Sirgy 1984; Holbrook 1984), *minimum tolerable* (Miller 1977), and *experienced-based norms* (Woodruff, et al. 1983; Cadotte et al. 1982, 1987). It should not surprising to find that each standard type has to some degree demonstrated effects on CS/D formation. Presumably, each provides a relative baseline around which consumers can make judgements of product performance. Likewise, disconfirmation measures of each standard would be expected to provide a measure of the *perceived cognitive distance* between product-use experience and the standard.

Most often researchers have included in their studies only one type of standard at a time. Interestingly, some have tried to identify the standard which "best" represents CS/D evaluation (e.g. see Miller 1977; Woodruff et al. 1983; Cadotte et al. 1987), yet no one standard type has been conclusively identified as best. Several reasons might account for this. First, it is conceivable that various product types might elicit specific standards. For example, Cadotte et al. (1987) found that "product norms" were better predictors of CS/D for fast food and family restaurants while "best brand norms" were better predictors for atmosphere restaurants. Second, the level of experience a consumer

has with a product might limit a consumer's choice of certain standards. For example, consumers having low product experience may be forced to rely solely upon "expectations" provided by the seller. High experience consumers may refer to "norms" associated with similar products. Third, individual differences might influence the choice of standards. For example, personality may influence a consumer's choice of standards. Others may rely upon the use of simple heuristics when evaluating products. Fourth, consumers may simultaneously invoke multiple types of standards when evaluating product-use experiences. For example, when evaluating a dining experience, consumers might compare the experience to his/her favorite restaurant and his/her ideal restaurant. Finally, the use context may potentially dictate consumers' choice of standards. For example, as a consumer's purpose for using a product changes across use situations, so might the evaluative standard. Furthermore, the standards used by consumers have been shown to differ over time, such as between purchase and use (Gardial et al. 1994).

Reliance upon only one standard type raises concern, particularly as it relates to measurement. For example, the way in which measures are worded can undeniably influence a subject's response. A consumer's response to what s/he "desires" would almost certainly be different than a response to what s/he "expected to occur." Thus, limiting one's measurement approach to any one standard type is likely to produce measurement error in two ways. First, the measure may fail to capture the effects of other standards on CS/D. Second, there exists a potential for demand effects. That is, a measure of "expectations" is likely to elicit a response regardless of whether

"expectations" were salient to the consumer. Therefore, the following definition is offered:

> *Standards refer to any prescriptive and/or proscriptive consumer beliefs about products and/or product related consumption experiences. Considerations refer to any consumer beliefs about products and/or product related consumption experiences associated with a particular use occasion or interaction between consumer and product.*

However, identifying the standard type used by consumers can be a valuable piece of information for managers. For example, in most cases, discovering a relationship between "perceived price" and dissatisfaction would not provide managers with sufficient information. To make an informed decision, a manager must also know the standard against which price is evaluated poorly. If the evaluation is based upon a "best brand norm", the manager may choose to reposition the product against the competing brand. However, if an "ideal" standard is used, the manager may decide to use promotion to either change the consumer's ideal level, or change his/her price perceptions of the focal product. A consumer's use of different standards may also impact the magnitude of subsequent disconfirmation beliefs. For instance, a product's performance may be more agreeable to the performance of other brands than to an ideal level of performance. Depending on which standard is used by the consumer, the magnitude of the disconfirmation, and potentially (dis)satisfaction, will vary. Finally, different standards imply different origins of the beliefs. Self generated beliefs about an optimal product and its use might be the source of "ideals", while communicated beliefs from others might be the source of "expectations." Again, knowing the types of standards used

may be beneficial for managers in that strategies can be altered to modify or influence standard beliefs.

The resulting dilemma is whether to 1) reduce measurement error at the cost of lost information, or 2) obtain more complete information and the risk of measurement error. There exists no easy solution. However, it may be useful to view the problem in terms of a measurement system. That is, managers may first use survey approaches to identify the product-use dimensions which contribute to CS/D. Subsequent alternative approaches, such as personal interviews, may then be used to discover the relevant standard types. Similar recommendations to combine approaches within a measurement system have been made elsewhere, and could prove to be advantageous for management (e.g., see Gardial et al. 1994).

Evaluative standards represent the beliefs used by consumers against which to evaluate the aspects of product-use. These aspects might represent a "characteristic, quality, object, concept, value, or goal associated with the object or behavior" (Fishbein & Ajzen 1975, p.223). (Dis)Satisfaction evaluations might involve comparisons between any one, or combination, of these aspects and evaluative standards. As stated before, these comparisons have typically been conceptualized as taking place at the product/attribute level in that product/attribute "expectations" serve as the standard to which product/attribute performance is compared (Oliver 1989; Wilton & Nicosia 1986; Swan & Combs 1976). Expectations denote one's beliefs about what will occur in the future, however what is expected may or may not correspond to what is wanted. Past research has suggested that postpurchase standards may not be adequately represented by

expectations alone (Woodruff, et al. 1987; Westbrook & Reilly 1984; Olshavsky & Spreng 1989; LaTour & Peat 1979). That is, what one expects is not necessarily what one desires or values (Locke 1967, 1969). LaTour and Peat (1979) state:

> Even though the consumer's predecisional expectations (beliefs) about the attributes of the brand may be confirmed by post-purchase experience with the product, the consumer will still be dissatisfied with the product because of his/her unfavorable evaluation of its attributes . . . We would speculate, however, that the consumer's evaluation of the product's attributes may account for more of the variability in post-purchase satisfaction than would the confirmation or disconfirmation of expectations about those attributes. (p.432)

Likewise, Westbrook & Reilly (1984) state:

> Product breakdowns, improper function, or unattractive appearance produce dissatisfaction regardless of whether they are expected . . . . In other words, success in relation to *aspirations* -- not to *expectations* -- seems primarily responsible for the positive affective response of satisfaction. (p.257, italics added)

However, what is the nature of these wants or aspirations? Are wants and aspirations represented by desired attributes, desired product performance, desired product use consequences, desired end-states such as goals and values, or perhaps some combination of these? And moreover, might different types of aspirations effect CS/D differently?

Recent exploratory findings indicate that consumers may evaluate dimensions other than product/attribute performance (Woodruff, Schumann, & Clemons 1990; Gardial et al. 1994). For example, it was shown that "CS/D seemed to be more intense when the use consequences reflected on a respondent's self-concept" (Woodruff, et al. 1990, p.28). Though "self-concept" is not adequately explained in the findings, the relationship between self-concept and CS/D may perhaps be representative of a sense of

achievement. Consider the following consumers' statements about their experiences with their automobile:

> "Makes you feel good, you know, like you've done something right. It makes you feel important."
>
> "Oh, it's a real good feeling. It's a confirmation of the fact that I made a wise choice. I bought a good product and that decision is repaying me by good things going on. You know, for me."
>
> "Well, uh, you know, anytime you get a new car there is a joy there. You have something new. You're the new one on the block. You know, it's nice." (Woodruff et al. 1990, p.28, underlines added)

In the above examples, it appears that considerations other than product/attribute performance are embodied in the consumers' affinity for their products. Their "liking" seems to be explained by how the product has made them feel better about themselves. For example, the last consumer seems to be reacting to achieving a higher end-state of being "the new one on the block."

The same data also indicate that consumers make evaluations beyond the product/attribute level by evaluating at perhaps two additional levels (see Woodruff et al. 1993; Gardial et al. 1993, 1994). Ensuing from a qualitative analysis of depth interviews, these findings suggest that consumers not only evaluate products based on product/attribute performance, but that they also assess the perceived consequences of using the product and the personal benefits obtained such as goal and/or values achievement. To illustrate, consider the following consumer statements regarding their shoe experiences (Woodruff et al. 1993, p.20, underlines added):

> "Uh, how, I can wear those shoes, I'm so used to wearing those shoes, if I put on regular tennis shoes, it just feels as though I have no support at all. Because they're, they're higher. Seems like they are higher in the back and they're stiffer.

I, I don't know what it is about them but they just, they're just so much better to walk in than a regular tennis shoe to me."

"They are very comfortable. They are extremely light weight, and they just don't make my feet hurt. There's a premium in that when you get older."

"Well, there's no play in the steering wheel, when you turn you turn. You can hold it steady on the road with one finger. Uh, as far as safe. In the rain, I guess, is what get's me. I don't drive that, that often in the snow. But in the rain, course I know a lot of it has to do with your tires. But it's a heavy, you know a good heavy car. To where, you know, I have two kids in the car, I don't feel you're going to slide all over the road. You know fishtail."

"We had a church bazaar and we loaded the Trooper down with stuff to take to the church bazaar. And I had a distinct feeling of satisfaction being able, being able to put everything that we wanted to take in the Trooper because it's large and the seat folds down. Um, uh, the year before, uh, we had to make two or three trips in a vehicle to take everything we wanted to the bazaar. And so that was definitely a feeling of satisfaction and, okay, yea, this one's going to be it. Uh, convenience."

Clearly, these consumers are evaluating more than the car's attribute performance. For example, the last consumer is reacting positively to the consequences of 1) "being able to put everything . . ." in the Trooper, and 2) "avoiding two or three trips in a vehicle." "Convenience" may be considered a consumption value (Vinson et al. 1977). Moreover, the consumer perceives the car's 1) "large" size and 2) folding seats as instrumental in achieving the consequences and the value. It appears that reaching product-related end-states or goals plays a large part in one's evaluation of the product use experience. A product and/or its attributes provide a means by which to achieve these end-states.

Interestingly, past research on job satisfaction has shown that the realization of *wants*[18], rather than expectations, results in satisfaction (Rosenberg 1957; Locke 1967).

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[18]The term "wants" is used here to broadly encompass what others have referred to as (continued...)

Yet, little effort has been made to study the role of values within the area of consumer satisfaction, and how their role differs from that of product-based standards.[19] Locke (1967) found that success in achieving one's goals produced satisfaction regardless of whether it was expected. Likewise, failure to achieve one's goals produced dissatisfaction. Hence, it was shown that the relationship of outcomes to aspirations (i.e., goals, wants, or values) rather than the relationship of outcomes to expectations which determines the CS/D response. Therefore, the following proposed here:

> Proposition 1: *Consumers' beliefs about products and/or product related consumption behaviors exist within a hierarchial belief system. Those beliefs existing higher in the belief system, and therefore closer to self (i.e., consequences, goals, values), exhibit a greater influence on consumer evaluations than those which are lower, and further from self (i.e., product characteristics).*

More research effort is needed to better understand the nature of comparisons made by consumers and types of standards they use. Two critical concerns must be addressed. First is the temporal nature of standards. That is, are the standards used by consumers limited to those formulated before purchase and use, or do they perhaps arise after purchase and/or during use (Cadotte et al. 1987)? No rationale exists for surmising that CS/D judgements involve only prepurchase standards. Therefore, attempts to explain the formation of CS/D reactions must include the potentiality of evaluative processes other than disconfirmation-of-expectations. A second concern relates to the evaluative comparison itself. Most research has assumed that CS/D comparisons are

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(...continued)
desires (Rosenberg 1957) and values (Locke 1967).

[19]For notable exceptions see Westbrook and Reilly 1984, Olshavsky and Spreng 1989, Clemons and Woodruff 1992, and Gardial et al. 1994.

made between product attribute beliefs (i.e., attribute performance and attribute expectations), however it is argued here that comparisons might also involve beliefs related to self, others, and/or situations. Third, researchers not only should consider the possible set of standards used by consumers as being more than product/attribute performance standards (Westbrook & Reilly 1984), but also the possibility that alternative types of considerations have functionally different effects on CS/D. For example, beliefs at different levels in the hierarchial belief system might influence CS/D differently. Also, it may be that the differential effects on CS/D demonstrated by alternative theoretical approaches (i.e., equity, attribution, and performance) may be represented in different levels within the hierarchy. Research is needed to test these notions and others in order to gain insight into the CS/D evaluation and subsequent psychological and behavioral reactions.

Summary of Review

A common belief found throughout the literature is that CS/D involves a comparison between product-use *considerations* and personally held standard for comparison. Moreover, the perceived difference, if any, from this comparison is believed to be evaluated either positive or negative. However, disagreement exists as to the "nature" of this comparison. Various types of *considerations* which have been studied include product/attribute performance, use consequences, buying experiences, interpersonal experiences, and/or use experiences. In essence, any interaction between a person and product can potentially be used as an evaluative consideration. Likewise,

multiple *types* of standards have been studied including predictive beliefs (i.e., probability expectations), experience-based norms, social norms, minimum tolerable performance, ideal performance, desired outcomes, values, and perhaps others. One can only speculate as to why a myriad of labels has been used to represent these consumer beliefs. A promising explanation might be that the various standard types differ along two or more dimensions. Woodruff et al. (1991) suggest three dimensions on which standard types may differ (see Figure 2-2). First, the dimension *nature* refers to whether the standard pertains to 1) the product and its attributes, or 2) the consequences of product use. Second, standard types might differ with respect to the *level* of performance associated with each. For example, "ideals" or "desires" might be associated with higher levels of performance than "expectations" or "minimum tolerable." And finally, standard types might also differ with respect to their *perceptual distinctiveness* or the size of their "zone of indifference" (see Woodruff, Cadotte, and Jenkins 1983). Certainly, other dimensions might exist as well. For example, standard types might be based on either external or internal sources of information. Though considerations and standard types have been studied in isolation or limited combinations, to date no comprehensive framework to explain their differential effects has been tested. The intention of the present effort is to provide insight into the *nature* of standards and their differential effects on CS/D.

It has long been argued that consumers evaluate products more on the basis of *benefits* than on the basis of attributes (Myers & Shocker 1981; Bozinoff & Roth 1984; Lancaster 1966; Baumol 1967). Despite this, most CS/D research has addressed

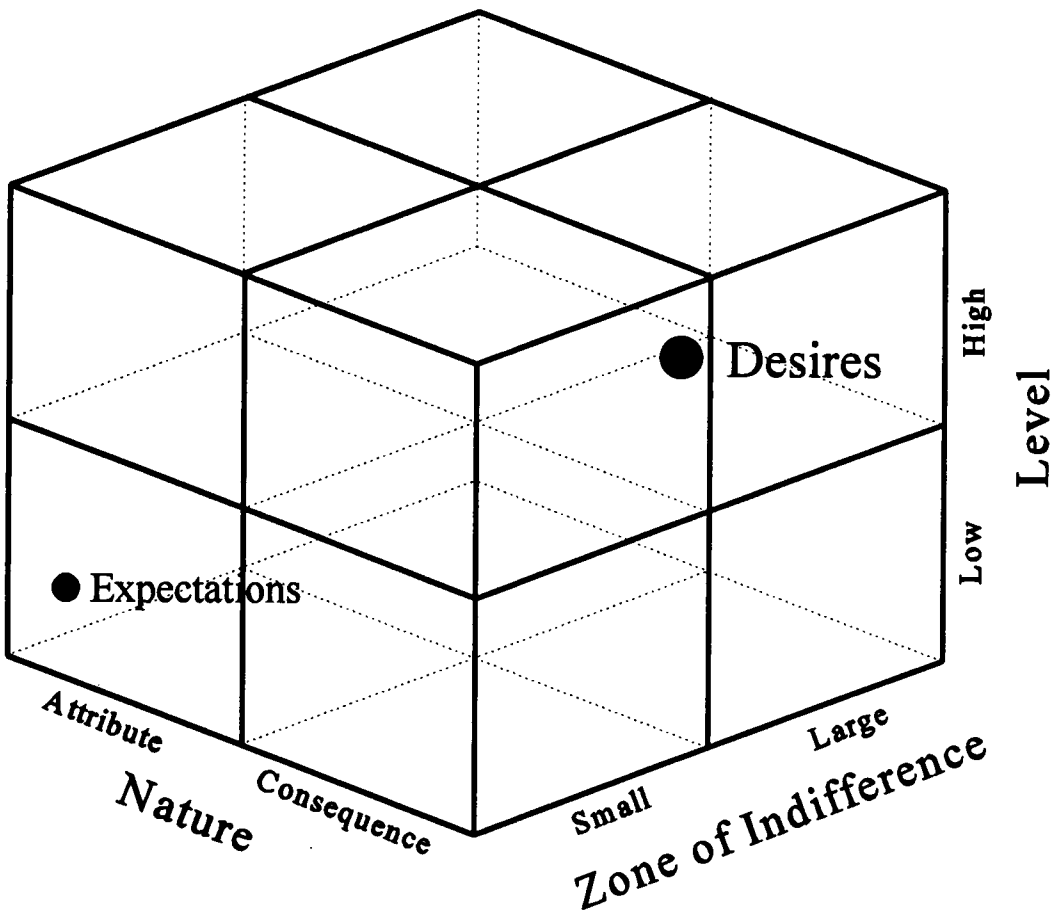


Figure 2-2: Three Potential Dimensions of Standards

product/attribute performance aspects while paying little attention to the consequential aspects of the product-use experience. And, as with attitude research, when consequences have been included as evaluative considerations in CS/D research, they are generally not differentiated from the physical attributes of a product (e.g., see Fishbein & Ajzen 1975, p.12). Certainly, one reason for this might be the difficulties associated with interpreting "benefit-type" and/or "consequence-type" information. Managers need "actionable" information which can be used in making product, promotion, distribution, and pricing decisions (Shocker & Srinivasan 1974). For many, knowing a consumer's higher level needs or desires is useful only if these needs can be translated by managers into controllable concrete terms such as desired product attributes. In that CS/D is believed here to involve comparisons between product-use considerations and a hierarchial belief structure (i.e., standards), a means is provided to not only identify those aspects of product experience potentially having the greatest affect on CS/D, but also their related aspects which are within the control of managers. Despite acknowledging that standards may be related to each other in certain instances, previous efforts have used approaches that assume independence between standards. However, recent findings suggest a high probability that standards are related in a means-end fashion (Gardial et al. 1994, Woodruff et al. 1993). The present effort investigates the utility of using a method of study which acknowledges the hierarchial relationship of standards, and allows for the identification of their potentially differing effects on CS/D. The following chapter will serve to illustrate the notion of evaluation within a hierarchial belief system, and demonstrate how this knowledge might better our understanding of CS/D.

It can be argued that the primary purpose for studying CS/D is to gain a better understanding of postpurchase motivation and its impact on the future behavior of consumers. As was mentioned previously, the primary element of motivation is emotion (Arnold 1960a, 1960b; Izard 1977). Consequently, in order to understand a consumer's motivation, it must be possible to identify those aspects of product-use experience that are more determinant of his/her CS/D emotion. Before emotion can enter into the picture, the object must be perceived and appraised as having an effect on the perceiver (Arnold 1960a, 1960b). Thus, an evaluative process by which consumers determine the affects objects have on them personally is believed to antedate the CS/D emotion. To fully understand the CS/D phenomenon, this evaluative process must be identified and measured independent of its emotional outcomes. The present effort attempts to measure disconfirmation, its primary evaluation, and the subsequent emotional response independently.

The following chapter will review the literature relevant for understanding the CS/D evaluation and its hierarchial nature. The relationships discussed above will be more fully explicated and an alternative model of CS/D presented.

III. REVIEW OF THE EVALUATION AND MEANS-END LITERATURE

Introduction

The review of the Consumer Satisfaction and Dissatisfaction literature in Chapter 2 demonstrates that the CS/D phenomenon is largely comprised of an evaluative component. In an attempt to better understand this aspect of CS/D, Chapter 3 will review the literature providing insight into the meaning of evaluation and the nature of evaluative processes. Though a comprehensive review of this literature is beyond the present scope, an attempt is made to include that which is relevant to the study of consumer (dis)satisfaction.

The chapter begins with a discussion of the meaning of evaluation within two multi-attribute research traditions. In particular, two questions are addressed with respect to each approach: (1) *what is evaluated,* and (2) *how is evaluation accomplished*? Next, the concept of "means-end" is introduced, and its implications on evaluation discussed. Both the similarities and differences of the "means-end" approach relative to those previously mentioned are assessed. Finally, the potential contribution of a "means-end" approach to the study of CS/D is demonstrated, and an alternative model of CS/D proposed.

The Nature of Evaluation

Put simply, evaluation refers to the act of favorably or unfavorably appraising an object, person, issue, or event. Though various explanations of "evaluation" have been

offered in the literature, there is a common theme. The process of evaluating something can be viewed as fixing or determining its "value" or "worth", or that of its qualities. Evaluation, as a state, is seen as a learned covert response to an object or act that occurs prior to, or in the absence of, any overt response (Osgood, Suci, & Tannenbaum 1957; Staats & Staats 1958; Fishbein & Ajzen 1975). Interestingly, this response has also been referred to as an "evaluative" or "goal" response (Lott & Lott 1968, p.68; Fishbein & Ajzen 1975, p.25).

In marketing, the concept of evaluation is associated with multi-attribute attitude models (e.g., see Fishbein & Ajzen 1975). The multi-attribute approach to evaluation is most widely represented by two theories; Learning Theory and Expectancy-Value Theory. The following section explores the meaning of "evaluation" within each approach. An examination of the similarities and differences between the viewpoints is made in hopes of providing insight into the CS/D evaluative process.

Learning Theory

Learning theory maintains that the value of an object or act is determined by its relationships to other things (e.g., attributes). Purportedly, these relationships are established through classical (see e.g., Staats 1968; Staats & Staats 1958) and/or instrumental (see e.g., Lott & Lott 1968) conditioning or "learning." The most recognized portrayal of this approach is the Fishbein (1963) attitude model. In their approach, Fishbein & Ajzen (1975, p.29) contend that:

(1) An individual holds many beliefs about a given object; i.e., the object may be seen as related to various attributes, such as other objects, characteristics, goals, etc. (2) Associated with each of the attributes is an implicit evaluative response, i.e., an attitude. (3) Through conditioning, the evaluative responses are associated with the attitude object. (4) The conditioned evaluative responses summate, and thus (5) on future occasions the attitude object will elicit this summated response, i.e., the overall attitude.

According to learning theory, the value attached to an object is a function of the consumer's beliefs about the object and the implicit evaluative responses associated with those beliefs. A general equation has been used to represent the learning theory of evaluation (Fishbein & Ajzen 1975, p.29):

$$A_O = \sum_{i=1}^{n} b_i e_i \qquad \textbf{(3.1)}$$

where A_O is the evaluative state (i.e., attitude) toward object O, b_i is the belief that an aspect i is an attribute of O (i.e., the subjective probability that O is related to attribute i), e_i is the evaluation of attribute i, and n is the number of beliefs.

Though originally a model representing evaluation of objects, Fishbein & Ajzen (1975) have expanded their conceptualization to include evaluations of associated behavior (i.e., A_B). To illustrate, consider a consumer's attitude toward an automobile (A_O). A_O would be determined by the attributes one has "learned" (b_i) to associate with the object O, and the evaluations of those attributes (e_i). Assume that a consumer holds four beliefs about O: (1) car costs $20,000, (2) spouse likes car, (3) would save money in long run, and (4) would have to postpone home purchase. According to the model, the consumer's evaluation of O or B is a function of the strength of each belief (i.e.,

subjective probability of occurrence) and the corresponding evaluations of each (see Table 3-1). Hence, analysis of the example shows that the consumer negatively evaluates the automobile (i.e., $A_O = -4.0$). Fishbein (1975) suggests that this negative evaluation should *predict* that the person would behave adversely to the automobile.

From the perspective of learning theory, beliefs are obtained through a conditioning process much like the early stimulus-response conceptualizations. The process of evaluation involves the summation of the values attached to beliefs which are conditioned to, or associated with, the attitude object. The output of this process is an evaluative state (i.e., "attitude" or "value") which serves as a mediator between evaluation and behavior (Fishbein & Ajzen 1975, p.28).

Expectancy-Value Theory

Another approach to evaluation ensues from a theoretical position conceptually distinct from that of learning theory. Expectancy-value models of evaluation originate from within behavioral decision theory. According to expectancy-value theory, when faced with a choice of behaviors, a consumer will select the alternative which is likely to lead to the most favorable *outcomes* or *consequences*. There are several variations on expectancy-value theory. One is the "subjective expected utility" (*SEU*) model from microeconomic theory (Edwards 1954). An equation representing the *SEU* of an alternative can be expressed as follows:

Table 3-1: Illustration of Multi-Attribute Model

i		b_i	e_i	be_i
1	Car cost $20,000	3	-2	-6
2	Spouse likes car	1	2	2
3	Save money in long run	2	3	6
4	Must postpone purchase of home	2	-3	-6
			$A_o = \sum_{i=1}^{4} be_i$ =	-4.0

$$SEU = \sum_{i=1}^{n} SP_i U_i \qquad \textbf{(3.2)}$$

where *SEU* is the subjective expected utility associated with a given alternative; SP_i is the subjective probability that the choice of this alternative will lead to some outcome *i*; U_i is the subjective value or utility of outcome *i*; and *n* is the number of relevant consequences. In short, the *SEU* model deals with one's beliefs regarding the consequences of a behavior (SP_i) by summing the values of each consequence (U_i). The behavior which maximizes *SEU* is favored.

Perhaps the most popular expectancy-value model in marketing is the *instrumentality-value* model (Rosenberg 1956). While the *SEU* model is intended to represent choice behavior, Rosenberg's instrumentality-value model was perhaps the first expectancy-value model of attitude toward an object. Rosenberg (1956, p.367) defined attitude as a "relatively stable affective response to an object . . . [which] accompanied a cognitive structure made up of beliefs about the potentialities of that object for attaining or blocking the realization of valued states." The more a given object, person, issue, or event is *instrumental* to obtaining (preventing) positively (negatively) valued goals, consequences, or states, the more favorable a person's attitude toward it will be. The instrumental-value model is expressed by the following equation:

$$A_o = \sum_{i=1}^{n} I_i V_i \qquad \textbf{(3.3)}$$

where I_i is the instrumentality, i.e., the likelihood that O would lead to or prevent the attainment of a goal or value i; V_i is value importance measured as the degree of satisfaction or dissatisfaction the person would experience if s/he obtained value i; and n is the number of valued consequence or goal states.

Comparisons of the Models

In general, learning-theory and expectancy-value theory models of evaluation are based upon alternative theoretical explanations. Still, the structure of the evaluation models appear to be strikingly similar.

Beliefs. First, each model entails a component of beliefs. The Fishbein model assesses belief as the probability that an attribute is conditionally associated with the attitude object (i.e., b_i). The *SEU* model treats beliefs as the probability of some event or consequence occurring as a result of a particular choice behavior (i.e., SP_i). Similarly, the instrumentality-value model assesses the ability of an attitude object to facilitate (prevent) the attainment of a goal or valued state.

Fishbein and others put forth a very broad conceptualization in that evaluative beliefs are said to represent all the *attribute information* a person has learned about an attitude object (Fishbein & Ajzen 1975). The actual belief refers to the link between the object and attribute (see Figure 3-1A). Attributes include concepts such as physical characteristics (e.g., Chevrolet -- number of seats), other objects (e.g., Chevrolet -- Pontiac), goals (e.g., Chevrolet -- save money), consequences (e.g., Chevrolet -- slides in

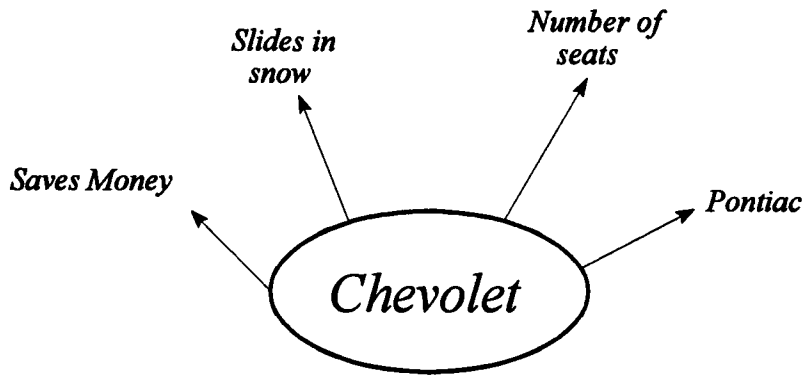


Figure 3-1A

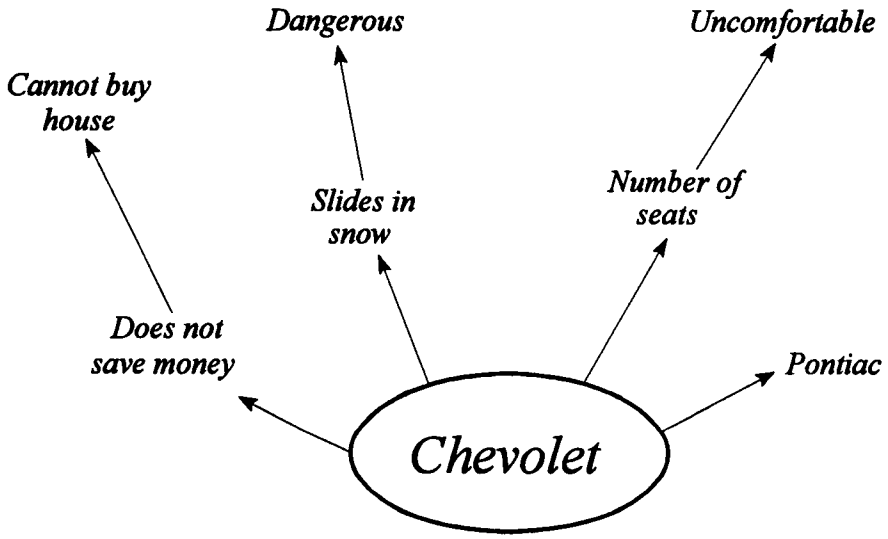


Figure 3-1B

Figure 3-1: Illustration of Belief Types

the snow), etc. In essence, attributes include anything which over time becomes conditionally associated with the attitude object.

Others have a more limited view of evaluative beliefs. Like learning theory models, expectancy-value models also represent belief as the link between the attitude object and another concept. However, expectancy-value models use belief to refer to the link between the attitude object or act and a consequential outcome (see Figure 3-1B). That is, the belief that an act or object leads to particular consequences in a means to an end fashion (e.g., "Chevrolet" leads to "does not save money" leads to "cannot buy a house").

Though learning theory and expectancy-value models differ somewhat regarding the conceptual nature of beliefs, the functional role of beliefs appears equal for each model. Whereas Fishbein's "probability beliefs" and Rosenberg's "instrumentality beliefs" suggest different conceptualizations, it is not clear that the measures used in each model discriminate between the two meanings. The belief measures of both models merely serve to gauge the probability or likelihood that the aspect is related to the attitude object.

Evaluation. Each model also includes an evaluation associated with the relevant beliefs. The *learning theory* model commonly assesses the "goodness or badness" of each belief about an object or act (Fishbein 1975, p.60). The *instrumental-value* model assesses the degree of "(dis)satisfaction" associated with the outcomes of the attitude object or act.

Again, there are conceptual differences between the two approaches. Learning theory models assume each attribute has an implicit affective response. Therefore, the impact of any individual attribute is dependent upon the *probability* that the object has that attribute. However, expectancy-value models are somewhat different. For example, according to the instrumental-value model, the impact of any individual consequence is dependent upon the *instrumentality* of the attitude object.[20] That is, the likelihood that the object will lead to or cause the particular outcome.

Evaluation of an object or act within the Fishbein model is merely a determination of an attributes presence or absence (i.e., belief) and a "good-bad" assessment of the attribute (i.e., evaluation). On the other hand, Rosenberg's model involves a determination of whether a need can be met or goal can be reached (i.e., belief), and the degree of "(dis)satisfaction" associated with being able to do so (i.e., evaluation).

Whereas learning theory models, such as Fishbein's, are based on operant and classical learning, expectancy-value models are based on behavioral decision theory and/or cognitive-affective consistency. Following this, learning theory models imply passive belief formation, evaluation and behavior, while the expectancy-value models imply active or "functional" belief formation perhaps through goal directed inferential processing (see e.g., Smith, Bruner, and White 1956; Katz 1960). As such, the latter

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[20]Before the instrumentality of an attribute can affect overall attitude toward an object, it must also be probabilistically related to the object. That is, only attributes which are probabilistically associated to the product can affect evaluation, however those probabilistic attributes which are also instrumental to higher end-states or goals are thought to have an additional affect.

models assume consumers to be more purposive than the Fishbein model. In light of this, the following is proposed:

> Proposition 2: *Evaluations of the instrumental aspects of a product embody a greater degree of consumer emotion, and therefore motivation, than the evaluation of product aspects which are merely probabilistically related to the product.*[21]

However, these differences have been made moot in marketing practice. Though conceptually and semantically different, it is not at all clear that Fishbein's "good-bad" evaluation and Rosenberg's "satisfaction" evaluation lead to different functional outcomes in practice. Both measures appear only to attach affect to the relevant beliefs, irrespective of the nature of the belief. Furthermore, both types of models sum the products of evaluations and beliefs to arrive at a single overall unidimensional judgement or evaluation. Not surprisingly, operationalization of the two model types have often led to the same findings (e.g., see Wilkie & Pessemier 1973). Much of the blame for this can been placed on marketing researchers' misinterpretation of the models, as well as their inconsistent use of measures (e.g., see Cohen, Fishbein, & Ahtola 1975; Sheth & Talarzyk 1972; Bass & Talarzyk 1972). If the same beliefs (i.e., attributes, consequences, qualities, etc.) are used as inputs into the models, then one would expect commensurate results. Therefore, it is difficult to assess one model's conceptual superiority over the other based on past uses in marketing. Differences between the

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[21]Probabilistic attributes are those attributes which are associated to the product, but are not instrumental in leading to consequences or outcomes. Instrumental attributes are probabilistic attributes which are instrumental in leading to consequences or outcomes.

approaches might only be expected if each is fully operationalized according to its original conceptualization.

Predicting behavior v. Identifying cognitive structure

The choice as to which model is more appropriate for the study of consumer behavior depends upon one's research objectives. Evaluation research typically has one or both of two major objectives; (1) to predict overall preference, intentions, choice, and perhaps other behaviors, and/or (2) to understand or diagnose evaluation by identifying a consumer's cognitive structure (e.g., see Cohen 1979; Ahtola 1975). Depending on the objective, different courses of action may be taken when conducting evaluation research.

Of obvious importance to the study of evaluation are the evaluative beliefs used by consumers. However, of the total, and perhaps infinite, number of beliefs one may hold, difficulty lies in identifying which beliefs should be included in the model. To resolve this problem, researchers must first ask "why am I interested in evaluation?"

Cohen (1979, p.243) states that "Probably the least precise and most troublesome aspect of using expectancy-value attitude models revolves about the selection and operationalization of salient attributes." It is assumed that salient beliefs are those which are actually used by consumers to form evaluations of objects and acts. However, salient beliefs are not always necessary inputs into evaluation models. For instance, if predicting attitude is the overall research objective, then perhaps the only requirement is that an evaluative belief statement correlate well with the construct in question. With respect to attitude, predictive beliefs are those to which consumers with positive

(negative) attitudes will consistently respond favorably (unfavorably). However, changes in the belief may not change attitude, though changes in the attitude are likely to change the belief or its evaluation.

This dilemma perhaps arises from consumers' need for evaluative consistency. That is, consumers' responses to scales may reflect an evaluative inference stemming from attitude. For instance, a consumer having a positive attitude toward an automobile may respond favorably to a scale item appraising the resale price of the car. Though the consumer has no evidential information regarding the car's resale value, s/he may infer its valence from her/his overall attitude.

This example illuminates the distinction between what has been termed *determinant beliefs* and *indicant beliefs* (e.g., see Thomas & Tuck 1975; Cohen 1979). Determinant beliefs are those which "cause", or at least precede, attitude. Attitude formation is the result of holding determinant beliefs. Indicant beliefs are so called because they merely serve as indicators of the attitude, but do not cause it. Attitude causes the formation of indicant beliefs.

The formation of indicant beliefs is one explanation for what has been termed in the marketing literature as "halo effect" (e.g., Holbrook 1983). Cohen (1979, p.244) states:

> In the former case [determinant beliefs], the inference has produced a derived belief which may well endure unless circumstances show it to be incorrect or inappropriate. In the latter case [indicant beliefs], we have merely tapped a problem-solving strategy, and we may not be identifying a belief actually held by the person.

While indicant beliefs provide little insight into the "true" beliefs underlying one's attitude, they can be valuable to marketers wanting to perhaps forecast sales or assess the general impressions of their customers (e.g., see Thomas & Tuck 1975). However, some may desire diagnostic information providing greater understanding of the motivation underlying consumers' behaviors. Such information might enable managers to make more actionable decisions. This latter objective requires accurate information on consumers' cognitive structures. A cognitive structure might include knowledge of the relevant judgmental dimensions (i.e., expectancy and value), the specific content or aspects considered (i.e., attributes and/or consequences), and the combinatorial rule used by consumers to form evaluations (Cohen 1979). Indicant beliefs fail to provide such information.

Extending from this, CS/D information based solely on indicant beliefs may have descriptive or predictive value for managers, but fail to possess diagnostic value. Without diagnostic information, managers can only conjecture about the impact of future decisions on consumer (dis)satisfaction. Or worse, they may expend resources on changing aspects having no causal relation to satisfaction with the object. In short, to provide better understanding, researchers and managers must be able to answer the questions; What is evaluated? and, How is evaluation accomplished?

What is evaluated? Determinant beliefs are aspects of the product and/or its use which are salient to consumers when forming overall evaluations of a product. Though the concept itself is simple, it is often difficult to identify the precise beliefs being evaluated by consumers. The number of possible product and use aspects which might

be evaluated by consumers is undeniably large, if not infinite. Consumers might consider aspects related to product attributes, uses, performance, salespersons, comments from others, etc.. More troublesome is the fact that salient beliefs may differ across individual consumers, situations, and/or specific use occasions.

However, researchers often limit the study of evaluative considerations to a set of *determinant attributes*. Not to be equated with determinant beliefs, determinant attributes are generally considered as "actionable" product attributes which are relevant to choice and common across choice alternatives (Alpert 1971; Shocker & Srinivasan 1974, 1977). At least two problems exist with respect to equating determinant beliefs with determinant attributes, particularly as it relates to CS/D evaluation. First, "actionable" attributes represent those objective product characteristics under the firm's control. However, there is no reason to believe that consumers consider only the objective product attributes when evaluating products. Indeed, research has indicated that consumers might also consider such aspects as use consequences and image (e.g., see Woodruff et al. 1990; Woodruff et al. 1991; Cohen 1979; Myers & Shocker 1981). Second, those aspects which are relevant to choice are not necessarily relevant in postpurchase contexts. Evaluative considerations used by consumers have been shown to change between pre- and postpurchase contexts (e.g., see Gardial et al. 1994). Product choice requires that consumers choose the most optimal alternative. The choice task itself is likely to influence the selection of considerations as the consumer attempts to compare or contrast alternatives. Therefore, choice and use considerations may not

overlap since a person's needs, goals, or desires are likely to motivate the selection of postpurchase considerations.

This presents an issue to managers and researchers alike. As was discussed in the previous chapter, researchers often rely on prepurchase expectations when assessing postpurchase CS/D. However, in circumstances where the consumer's postpurchase determinant beliefs are not commensurate with those formulated before the purchase, expectations may at best serve as indicators of CS/D. Therefore, managers may react to CS/D information by changing aspects of the product having no determining effect on CS/D.

How is evaluation accomplished? The notion that considerations change across contexts and people raises an interesting question: How do consumers select aspects for consideration?, or Why are some aspects more salient than others across evaluations? Regardless of the rules used by consumers to combine consideration evaluations into overall evaluations, the fact remains they must first select relevant considerations. Therefore, researchers must identify the process by which consumers select and evaluate product aspects.

Speaking to this issue, Cohen (1979) states:

> . . . the logical place to begin in identifying relevant attributes for an expectancy-value-driven study is with personal consequences associated with the behavior under investigation. This, I believe, is the surest road to understanding the individual's attitude toward that behavior (e.g., buying a product) and why the individual feels as he does about it. (p. 249)

and;

> Even expectancy-value models based on principles of mediated generalization must, at some point, refer back to want-satisfying outcomes in order to invest attributes with positive affect. Regardless of the origin of the value per se, it is important to conceptualize judgements as value flowing from want-satisfying (and goal attaining) consequences of product purchase and use. Value, thus defined, is not a property of a product or any particular product characteristic. While this is clearly understood by anyone who has been around the marketing field for even a little while, it is possible to lose sight of this in working with multiattribute models, especially if one starts with objective product attributes (p. 247).

It follows then that relevant product aspects are those which represent the attainment (blocking) of desirable (undesirable) end-states or goals. In the choice context, objective attributes may serve as predictors of desired consequences, goals, or other end-states. However, in the use context, consequences themselves become salient through experience. Therefore, consumers may no longer need attributes as predictors of the product's value. Instead, the product's value is conveyed in the consequences of having and/or using the product.

Therefore, it is not enough to treat considerations as aspects which are probabilistically related to the attitude object or act. Their instrumental role must also be accounted for. An attribute may be probabilistically related to the object. However, this alone does not explain the value of the object. That is, a positive evaluation of the attribute does not explain <u>why</u> it was positively evaluated. For a full understanding of the cognitive structure underlying evaluation, one must also assess the higher end-states against which value judgements are made. The contribution to be made by instrumental-value models to the study of CS/D can be reduced to a single statement (Dewey 1963, p.135):

> To grasp the meaning of a thing, event or a situation is to see it in its relations to other things; to note how it operates or functions, what consequences follow it; what causes it; what uses it can be put to.

Therefore, the following proposition is made:

> Proposition 3: *In order to provide a full understanding of consumers' CS/D evaluations, research must not only address the attributes of the product itself, but also their relationship to those higher end-states which the consumer may desire.*

It is not the attributes and consequences alone which are important, rather it is the relationships between attributes and consequences and those linking them to values that are significant. While the evaluation models discussed earlier elude to this means-end principle, the relationships between means and ends are not explicitly modeled. For example, the Fishbein model might include all the attributes and consequences of the attitude object, but it fails to model the relationships between them. As such, the model has received criticism for overlooking the collinearity between evaluative considerations (e.g. see Ahtola 1975). Rosenberg's model recognizes that products lead to consequences and goals, but fails to explicitly model potentially mediating attributes, thereby making the model less "actionable." Furthermore, uses of the model often fail to differentiate outcomes and attributes, making the model no better than (or different from) Fishbein's.

This problem with the attitude models is perhaps due to the difficulties in conceptualizing and measuring the various components of a means-end cognitive structure. One researcher states, ". . . measuring the extent of a means-end relationship is a formidable undertaking when the "ends" range from defining attributes through instrumental attributes to highly valued states" (Cohen 1979, p.252). The remainder of

the chapter will discuss the means-end paradigm, its elemental parts, and its potential for providing a greater understanding of CS/D.

Introduction to Means-End

The Means-End (M-E) Chain model asserts that linkages exist between product attributes, use consequences, and personal values which underlie consumer evaluations and preference. A M-E chain "is a model that seeks to explain how a product or service selection facilitates the achievement of desired end states" (Gutman 1982, p.60). The products or services represent the *means* of obtaining valued states of being, or *ends*.

The M-E model is intended to provide a theoretical and conceptual structure which connects consumers' values to their consumption behavior (Gutman 1982; Gutman & Alden 1985; Howard 1977; Vinson, Scott, & Lamont 1977). The M-E Chain model is generally used to represent a consumer's determination of whether a product can facilitate reaching a desired end state (i.e., choice evaluations). Here, the following proposition is also made:

> Proposition 4: *The M-E model may be used not only to represent a consumer's determination of whether a product can facilitate reaching a desired end state but also whether a product did facilitate reaching a desired end state (i.e., (dis)satisfaction evaluations).*

By linking product attributes to personal consequences and values, the M-E model presumably provides a method by which to assess the degree of CS/D associated with achieving one's basic aims (e.g., benefits, goals, desires, values), while not loosing sight of the specific facilitating attributes. This characteristic of the M-E model is promising in that by providing linkages between the consumer's "basic aims" and product attributes,

the M-E model becomes more "actionable" than models examining consequences and values alone, and more diagnostically useful than those examining only product attributes. This point has significant ramifications for testing Proposition 1 stated in the previous chapter.

The following discussion first addresses the basic tenets of the M-E model, and its constituting elements. Past conceptualizations of attributes, consequences, and values are reviewed. Included is a discussion of some past uses of values in marketing research. Second, the M-E notion of evaluation is presented in contrast to the previously discussed models. Finally, the relationship between the M-E model and consumer satisfaction and dissatisfaction is presented, and a new conceptual model of CS/D introduced.

Fundamental Elements of the Means-End Chain Model

The M-E model operates under a set of fundamental assumptions about consumer behavior (Gutman 1982):

> 1) . . . that values, defined here as desirable end-states of existence, play a dominant role in guiding choice patterns, and 2) people cope with the tremendous diversity of products (and hence product attributes) that are potential satisfiers of their values by grouping them into sets or classes so as to reduce the complexity of choice (p.60, parentheses added).

and,

> 3) . . . all consumer actions have consequences . . . , and 4) that consumers learn to associate particular consequences with particular actions (or objects) (p. 61, parentheses added).

Following this, it also seems reasonable to assume that consumers choose alternatives so as to produce desired consequences and minimize undesired consequences, and that they subsequently evaluate the alternatives with respect to their actual instrumentality.

A basic tenet which may be drawn from the M-E model is that consumers choose *attributes* based upon the likelihood that they will provide certain *consequences*. Furthermore, judgements as to the desirability of consequences are made relative to one's *values*. Figure 3-2 illustrates the basic M-E relationships between *attributes, consequences, and values*. Briefly, in the context of consumption, specific *consequences* are given positive or negative valences by one's *values*. Products are chosen based upon their ability to provide desirable consequences. Thus, *consequences* are seen as the primary evaluative element within the M-E model.[22] "Values provide the overall direction, consequences determine the selection of specific behaviors in specific situations, and attributes are what is in the actual products or services that produce the consequences" (Gutman & Alden 1985). The following discussion provides a more detailed description of attributes, consequences, and values.

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[22]This is illustrated in Figure 3-2 by the arrows leading to *consequences* from both *values* and *attributes*. Within the use situation, consequences accrue from the use of a product and its attributes. Valence is attached to the consequences as based on set of values salient to the consumer in the particular use situation. This principle is believed to be true regardless of whether desired consequences were formed *deductively* (i.e., originated from salient values), or whether they were formed *inductively* (i.e., originated from probability beliefs regarding the attribute's likelihood of providing the consequence).

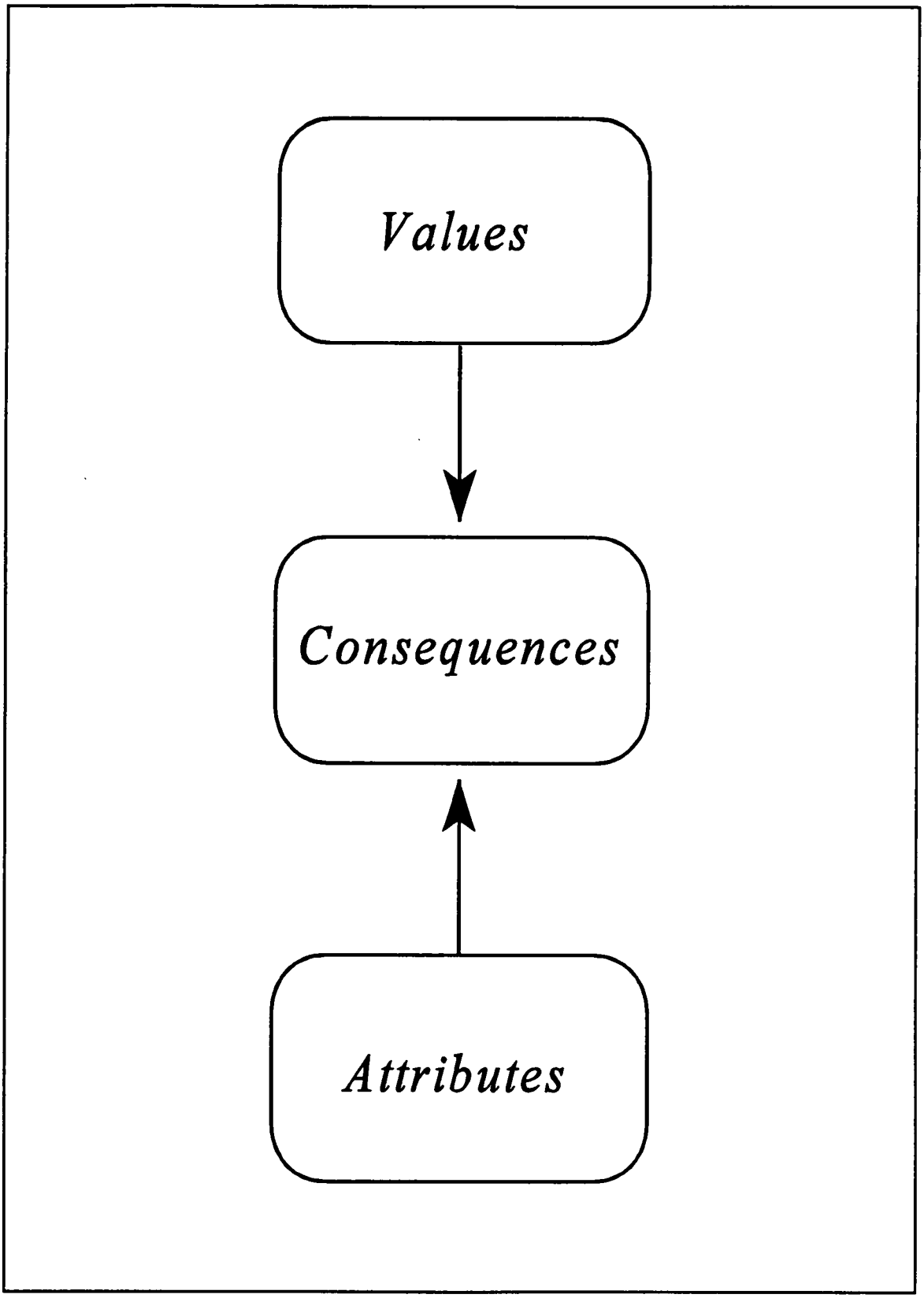


Figure 3-2: The Basic Means-End Structure

Attributes. Attributes are often defined very broadly in the literature. For instance, C. Merle Crawford (1988, p.154) defines product attributes as:

> the characteristics by which products are identified and differentiated. Usually comprised of features, functions, benefits, and uses.

As such, attributes are viewed literally as anything the consumer perceives as being associated with the product (e.g., see Geistfeld, Sproles, & Bardenhop 1977). Indeed, conceptual and methodological uses of attributes in multi-attribute models of attitude range from concrete aspects such as price (in dollars), temperature, brand name, etc., to more abstract aspects such as convenience, durability, and sex appeal (Geistfeld et al. 1977; Myers & Shocker 1981). However, because of the potentially distinctive effects that "features, functions, benefits, and uses" may have on consumer behavior, calls have been made for more specific descriptions of the various types of product aspects, and of their potentially differing effects on evaluation (Myers & Shocker 1981; Lancaster 1966; Ladd & Zober 1977).

Myers and Shocker (1981) have offered a typology which categorizes attributes as either product referent, task or outcome referent, or user referent. *Product referent* attributes are the physical and pseudo-physical "characteristics" of a product. The physical characteristics are descriptive properties of the product which are measurable on some sort of physical scale (e.g., color, sugar content, weight in lbs., price in dollars, etc.). Pseudo-physical characteristics are not as measurable on a physical scale, but instead *reflect* the physical properties of the product (e.g., brightness, sweetness, heaviness, expensiveness, etc.). According to the authors, these product referent attributes "are more in the cognitive realm and are used to *describe* a product or service"

(p.213). As such, the *Product referent* category of attributes perhaps best represents what Crawford (1988) refers to as "features."

Similarly, Lancaster (1971) has explicitly defined "product characteristics" as those properties of a product which are relevant to consumer choice, quantitative, objectively measured, and universal. Geistfeld et al. (1977, p.302) illustrate Lancaster's position stating:

> To exemplify this perspective we might identify several product characteristics which would be possessed by an orange: diameter, weight, skin thickness, ratio of juice weight to weight of solid matter, sugar content, and vitamin C content. Each of these is objectively measurable (quantitative), universal to oranges, and relevant to consumer choices; therefore, each would qualify as a product characteristic. However, the taste of the resulting juice would not be a product characteristic by Lancaster's definition, since it would not be objectively measurable.

Geistfeld et al. (1977, p.303) refer to attributes as "level C" characteristics, said to exist as one of three levels of abstraction within a "hierarchy of product characteristics." They define "level C" characteristics as unidimensional, measurable characteristics generally including features related to the composition and construction of the product (p.303). Others have referred to this type of characteristic as "defining attributes" (Cohen 1979), or simply "product attributes" (Howard 1977). These definitions speak to the physical properties of a product, however attributes may not relate to only physical aspects. For example, many services do not have physical properties, yet few would argue that services are void of attributes. Both products and services share some characteristics which are not physical, but are still defining aspects. For instance, the warranty of an automobile is not a physical property of the product, yet is undeniably a defining characteristic of the automobile. Based on this viewpoint, the following definition of

attributes is adopted for the present study:

> *Attributes are any defining characteristics of the product which consumers objectively perceive as inherent in the product independent of use and/or use situation (as such, attributes provide the means by which consumers might achieve higher end-states).*

However, Geistfeld et al. note that limiting the view of product characteristics to its defining attributes falls well short of what is needed to fully understand choice, preference, and evaluation. Consider again the orange example discussed previously. If "taste" acts as a consideration during a consumer's evaluation of the orange, which is very likely to be the case, then Lancaster's "product characteristics" or Geistfeld et al.'s "level C characteristics" would not fully represent the consumer's evaluation. Attribute-only views of evaluation do not allow for functional relationships between the "objective" characteristics (e.g., weight, diameter) of a product and those which are "subjective" (e.g., taste). Therefore, while attribute-only models can be used to *predict* brand preferences, they perhaps fail to *explain* brand preferences. Furthermore, attribute-only models cannot handle the problem which arises when consumers have imperfect information about product attributes (Ratchford 1975). Therefore, an issue yet to be resolved is whether "attribute-only" approaches exclude from consideration aspects potentially having more importance (e.g., see Ratchford 1975).

Consequences. Geistfeld et al. (1977) overcome the limitations of the attribute-only approach by proposing a functional relationship between "objective" characteristics (i.e., "level C" characteristics) and more "subjective" characteristics (i.e., "level B" characteristics). As such, they distinguish between the characteristics of the product (i.e., attributes) and what a consumer *demands* (Cowling & Cubbin 1971). Within this

framework, an automobile might possess levels of the attributes brakes, horsepower, seats, miles per gallon, and an transmission. These attributes might then relate to aspects the consumer *demands* such as safety, speed, comfort, economy, and convenience. Therefore, a consumer might *choose* the attribute levels s/he believes will come closest to providing the benefits s/he *wants*.

Though lacking the quality of functionally related aspects, the Myers and Shocker (1981) typology comprises aspects comparable to Geistfeld et al.'s "level B" characteristics. They use the label *task or outcome referent* to refer to the perceived results or outcomes of using a product. According to them, these aspects:

> . . . involve primarily *instrumental* types of outcomes, but also include ambient conditions surrounding use. They are primarily in the affective realm, involving subjective evaluations. (Myers and Shocker 1981, p.213)

Also referred to as *consequences* (Cohen 1979; Vinson, Scott, & Lamont 1977; Gutman & Alden 1985; Gutman 1982) and *benefits* (Myers & Shocker 1981; Haley 1968; Myers 1976), these aspects include any advantages (or disadvantages) related to using the product. Gutman (1982, p.61) states:

> Benefits (consequences) differ from attributes in that people receive benefits whereas products have attributes. "White teeth" is a benefit that can be obtained from brushing your teeth with any one of a number of toothpastes or powders with "teeth whiteners".

For the present study therefore, the following definition is adopted:

> *Consequences are any aspects of the consumption experience which result from possessing or using the product (e.g., does not irritate my skin, is nutritious, convenient, reliable, etc.), but are not properties of the product itself (e.g., grams of fat, location, warranty).*

As such, consequences may be salient to consumers in terms of those which are desired or consequence goals, as well as those which are actually perceived by the consumer. Either desired or perceived consequences might accrue directly from the use of the product, or occur indirectly at a later point in time (e.g., others reactions to one's consumption behavior) (Gutman & Alden 1985).

Consequences are believed to serve as the primary evaluative factors in consumers' value determinations.[23] Economists often use the term "service" to refer to a product's ability to provide positive consequences (Ratchford 1979). A product's "service" is believed to be the basic factor giving rise to "utility" or "satisfaction" (Cowling & Cubbin 1971; Maynes 1976; Ratchford 1975).

It is important to note that consequence aspects of the product can only be discerned from using the product, or anticipating the use of the product. While attributes represent the "objective", defining aspects of the product, consequences represent the "subjective", abstract aspects resulting from their use. Therefore, the value consumers place on the consequences of a product is termed here as "value-in-use" (Burns & Woodruff 1991).

Values. In marketing, the study of "value" is most closely associated with the attitude models discussed above (Rosenberg 1956; Fishbein 1963). To date, most of this research has concentrated on the study of product attributes and the *affect* (value) attached to them by consumers. These approaches have been useful in predicting

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[23]Geistfeld et al. (1977) and Cohen (1979) have provided limited support in favor of this notion. Cohen has referred to the primary evaluative factors as "determinant beliefs" which include, but are not entirely made up of, beliefs about product consequences.

constructs such as brand preference and choice, however they do not explain why consumers differentially evaluate product attributes by attaching more value to one product than another. Instead, attributes have merely served as "value indicants", while ignoring those aspects which provide consumers with true "value" (Cohen 1979).

The term "values" as it is used here should not be equated with the term "value" as it is used within attitude theory (Rosenberg 1956; Fishbein 1963). The latter use refers to the belief a consumer holds with respect to the *worth* of a product, its attributes or related features. However, personal values are generally thought to be the ends or goals that people strive towards (i.e., terminal values) and the methods and manner in which such striving takes place (i.e., instrumental values) (Rokeach 1968; Vinson, Scott, and Lamont 1977). As such, a value(s) is not attached to a particular product, as is the case with attitude models, rather it is a belief concerning what is right-wrong, appropriate-inappropriate, good-bad about all objects, actions, and/or ideas. In short, personal *values* are the benchmarks used by consumers to determine what has *value*.

The conceptualization of values has received interest from a number of disciplines. One conceptualization of values comes from anthropology, the study of the lifestyles, customs, and culture of mankind. Thomas and Zaraniecki (1927, p.1131) defined values as ". . . objective, social elements which impose themselves upon the individual as a given and provoke his reaction." Values are then seen as elements external to the individual in that they are "imposed" upon that individual. Therefore, within the anthropological perspective, values seem to closely correspond to what might also be called customs or social beliefs.

Sociologists hold a similar view of values. For example, Bronowski (1959, p.68) suggests that ". . . a value is a concept which groups together some mode of behavior in our society." The notion of value being a "concept" resulting in a common form of behavior suggests a "cause and effect" relationship between some common belief and common behavior. However, this view of values seems ambiguous in that it appears to speak more to what values cause than to what values are.

Psychology examines values within a milieu of beliefs, perceptions, attitudes, and personal motives. Rokeach (1984, p.27) represents the psychology approach to value(s), stating that:

> *Beliefs* refer to any expectancy concerning existence, evaluation, prescription-proscription, or cause. An *attitude* is a relatively enduring organization of existential, evaluative, prescriptive-proscriptive, and causal beliefs organized around an object or situation . . . . All such preferential, discriminatory, or differential responses are instrumental to the realization of societally-originating *values* -- Shared prescriptive or proscriptive beliefs about ideal modes of behavior and end-states of existence that are activated by, yet transcend object and situation.

Values are centrally held beliefs which guide actions and judgments across specific situations and beyond immediate goals to more ultimate end-states of existence (Rokeach 1968, 1973). "They are the penultimate consequences of behavior for people, be they feelings of self-esteem, belonging, security, or other value orientations" (Gutman & Alden 1985, p.101). Therefore, values are beliefs which constitute one's self perception, and include beliefs regarding the ultimate goals toward which one is striving. They can be viewed as the ultimate evaluative standards used by individuals to attach valences to ideas, actions, objects, etc.

Personal values have been shown to exist at two mutually dependent and at least partially consistent levels. These two levels are referred to as *global* (or generalized personal values) and *domain specific* (in this case consumption) values (Allport, Vernon, and Lindzey 1960; Murray 1938). The combination of global and domain specific values represents what is termed here as one's personal values system.

The concept of global values is consistent with that of personal values proposed by Rokeach (1968, 1973) in that they are seen as centrally held and enduring beliefs which guide actions and judgments across situations. Rokeach (1968, pp.175-177) has constructed a values scale that illustrates the kind of values in this category (e.g., honesty, a world of beauty, an exciting life, and ambition).

However, consumption-related values refer to an intermediate value construct which bridges the gap between the closely held, and very general, global values and the less closely held descriptive and evaluative beliefs about product attributes (such as those depicted in expectancy-value models) (Vinson et al. 1977). That is, consumption-related values are those values held by a consumer in the specific domain of consumption, but not tied to any particular object (i.e., product or service). While global values apply across specific situations, consumption-related values apply within the specific domain of consumption. Previous investigation of consumption-related values has shown this value construct to be cognitively separate but functionally related to an individual's system of global values and descriptive and evaluative beliefs (Scott and Lamont 1973). Considering both Rokeach's notion of personal values, and the more specific values of Vinson et. al., the following definition is adopted for the present study:

Values are the prescriptive and proscriptive beliefs held by consumers regarding what are ideal end-states of existence and/or methods by which to achieve these end-states. Certain values might be specific to a particular type of situation (i.e., consumption values), however values transcend specific products and use occasions.

Though "values" are beliefs, they differ from the "value beliefs" used in the expectancy-value approach in at least four ways:

1) Values are relatively few in number; the number of value beliefs potentially equals the number of total beliefs about the product.

2) Values serve as a guide for personal and socially appropriate behavior; value beliefs do not guide behavior, rather they serve as indicants of evaluative states.

3) Values are not tied to specific objects or situations; value beliefs refer to specific objects, aspects of objects or situations.

4) Values are enduring and difficult to change; value beliefs may change as readily as the object, its aspects, or the situation changes.

Values in Marketing

The importance of attitude and attitude change has long been acknowledged in the study of marketing and consumer behavior, but the role of values has only recently received much attention (e.g., see Vinson, Scott, & Lamont 1977; Scott & Lamont 1973; Howard & Woodside 1984; Munson 1984). This is surprising given the importance placed on the role of values in consumption behavior by a variety of sources (e.g., Bremer 1971; Mitchell 1971; Yovovich 1981). In particular, values have been shown to be related to important consumer behavior concepts such as; 1) brand choice and segmentation, 2) consumer involvement, and 3) product expectations.

Personal values have long been useful in differentiating or segmenting groups of people. Rokeach (1969, p.555) found that:

> various combinations of values significantly differentiate men from women, hippies from non-hippies, hawks from doves, policemen from unemployed Negroes, good students from poor students, retail merchants from salesclerks, Jews from Catholics, Democrats from Republicans, and so forth.

Global and consumption values have also proven to be a valuable basis by which to segment consumer markets (e.g. Vinson and Munson 1976; Munson and McIntyre 1979; Pitts and Woodside 1984; Henry 1976). Values are thought to be the benchmark by which consumers answer questions such as "Is this product for me?", "Is this brand for me?", or "Am I the type of person that wants to buy and use this product?" (Howard and Woodside 1984). For example, Pitts (1977) and Pitts and Woodside (1983) have shown a relationship between the personal value "clean" and the use consequence "prevents odor" in choice of deodorants. Furthermore, consumers having different values structures are likely to prefer different attributes. The above consumer might prefer a deodorant with the attribute "perfume" to "prevent odor."

Values have also been linked to the study of involvement. Sherif and Cantril (1947) characterize ego-involved attitudes as those that have been learned, primarily as social values with which the individual identifies. Ostrom and Brock (1968) propose involvement to be energized by (1) the degree to which the concerned values are central to the individual, and/or (2) the number of values affected. In addition to the individual's prior experience in the situation, Houston and Rothschild (1978) see involvement as being dependent on the strength of the values which are relevant to the particular situation. Furthermore, Sherrell, Hair, and Bush (1984) state that:

> The activation of the involvement mechanism is accomplished by the connection(s) of the particular situation to the individual's value hierarchy. For those situations where the values affected are either not central to the person or there are not many values affected, the individual will not exhibit symptoms of high involvement. (p.173)

Involvement is generally indicative of an increased state of arousal, interest, or drive induced by a particular stimulus or situation. That is, a stimulus that leads to higher involvement is said to lead to a greater amount of emotion and thereby be more motivating. With respect to satisfaction, Swan and Trawick (1980) found that low involvement products resulted in fewer product evaluations than high involvement products. Bloch (1982) suggests that consumer beliefs about important or highly involving products have a greater affect on product attitudes than less important low involvement product beliefs. Furthermore, Kasmer (1989) suggests that more highly involving product evaluations result in a greater degree of satisfaction and/or dissatisfaction motivating a greater degree of attitude change. Also, the effects of product evaluations on CS/D and attitude were shown to last longer within highly involving circumstances.

Personal values have also been linked to desires for product attributes. In a study of white and black consumers, Prakash (1984) showed that values unique to each group motivated their desire for different ideal attributes. That is, expectations were shown to correlate with values (p.153). It was further shown that the motivating value factors, as well as the desired ideal attributes differed between products in the white consumer group.

These three areas of findings have clear implications for CS/D research. First, personal values have the potential to indirectly impact product evaluations as a result of their significant association with desired attributes and consequences (Prakash 1984; Howard 1977; Howard & Woodside 1984). Second, given that (1) consumers' evaluations of products which are linked more closely, or more frequently, to personal values are by definition more involving, and that (2) more highly involving products appear to have a greater affect on CS/D and attitude, it follows that postpurchase CS/D evaluations of product aspects that are linked more closely, or more frequently, to personal values may have a greater affect on CS/D and attitude. Finally, given that the influence of values on brand choice has been thoroughly demonstrated through its influence on desired attributes, it seems appropriate that values would also have a given affect on CS/D. For example, if after purchasing deodorant a consumer learns that the attribute "perfume" does not prevent odor, then the consumer will become dissatisfied with the product.

Though the study of values is becoming an important area of study within marketing and consumer behavior, more investigation is needed to determine how they relate to the behavior of consumers, the role of values in consumer evaluation, and the nature of the relationship between values and attributes. Despite the fact that values are purported to be instrumental in behaviorally segmenting consumers (Vinson & Munson 1976; Munson & McIntyre 1979; Pitts & Woodside 1984; Henry 1976), identifying emerging trends in consumer needs (Vinson, Scott, & Lamont 1977), explaining variations in involvement (Sherif & Cantril 1947; Ostrom & Brock 1968; Sherrell, Hair,

& Bush 1984) and improving the positioning of promotion (see Pitts & Woodside book), without more concrete knowledge of the relationship between values and attributes (or other "actionable" aspects of marketing), businesses "can only speculate about the marketing implications of variations in personal values. . ." (Scott & Lamont 1970, p.283).

The Attribute-Consequence-Values Hierarchy

According to the M-E model, the relationship between values and attributes emerges indirectly. Presumably, attributes "predict" or "lead to" consequences which are given a positive or negative valence by values. Likewise, values may lead to the desire for certain consequences which in turn leads to a preference for attributes seen as being more instrumental in leading to the desired consequences. For example, the attribute "driver-side air bag" may be perceived as being instrumental in preventing the negative consequence "head injury." The consequence "head injury" is given a negative valence relative to the value "personal safety." Value is placed on the attribute due to its instrumentality in preventing a negative consequence. Note that the attribute "driver-side air bag" is not (directly) valued. Rather, the attribute is attached worth insofar as it is instrumental in providing (preventing) a positive (negative) consequence.[24] Consequences are thought to act as a bridge between attributes and values. For instance, if the above consumer receives a head injury despite the deployment of the driver-side air

[24]Herein it is believed that the instrumentality to prevent a negative consequence is equivalent to instrumentality to attain a positive one.

bag, then a negative evaluation is likely to occur. That is, the value "personal safety" is blocked by the consequence "head injury." The consumer's belief that the attribute "driver-side air bag" was instrumental in preventing such injury is disconfirmed. Note that the probability belief that the car possesses an inflatable air bag is confirmed (i.e., the air bag did deploy). However, the attribute which was indirectly valued before is now "devalued", or perhaps even "disvalued", due to a lack of instrumentality.[25]

Qualitative research studies utilizing the Means-End Chain Model (Gutman 1982), and its underlying interview methodology, have revealed hierarchial linkages between product attributes, product-use consequences, and personal values (Reynolds and Gutman 1983, 1984). By mapping consumer responses to "why" questions to form an illustration of the consumers' cognitive belief structures (for detail of procedure see Olson and Reynolds 1983), Reynolds and Gutman (1984) provide support for the hierarchial personal values system proposed by Vinson, et al. (1977). It was shown that statements of descriptive beliefs about products (attributes), lead directly to those of product-use consequences, which in turn lead to global and domain specific values statements.

Their results give promise to the ability of the Means-End Chain modeling procedure to empirically bridge the gap between product attributes and personal values.

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[25]The terms "devalued" and "disvalued" do not have the same meaning. The air bag might be "devalued" if perceived as <u>failing to prevent</u> the personal injury. That is, the positive association between the air bag and desired consequence would no longer exist. However, the air bag might be "disvalued" if its failure to perform as expected was perceived as the <u>cause</u> of the personal injury. That is, a negative evaluation would ensue from the "dissociative" (e.g. see Heider 1958; Osgood & Tannenbaum 1955) relationship between the air bag and the desired consequence.

Hence, the potential contribution that this approach has for the study of CS/D is immense. That is, the Means-End (M-E) Chain model of consumer behavior is thought to provide a framework for understanding and testing the elements of consumer (dis)satisfaction.

The Means-End Disconfirmation Model of Consumer (Dis)Satisfaction

The proposed Means-End Disconfirmation (MED) Model of Consumer (Dis)Satisfaction is presented in Figure 3-3 (Clemons & Woodruff 1992). Consistent with M-E theory, the model contends that consumers maintain thoughts about product aspects at three discrete hierarchial levels. At the most elementary level are consumers' thoughts about product attributes. According to the model, consumers hold thoughts about what product attributes are (in)appropriate for a given product use situation (i.e., "attribute standards" in Figure 3-3). They are also believed to have thoughts regarding those product attributes *perceived* to actually be present in a specific use occasion (i.e., "attribute perceptions" in Figure 3-3). These attribute concepts are more in the cognitive realm (Myers and Shocker 1981), are used to describe a product or service, and are likely to be specifically defined by the consumer.

At a more subjective level are consumers' thoughts about product consequences. As with attributes, consumers hold thoughts about what consequences are (in)appropriate in light of a product use situation (i.e., "consequence standards" in Figure 3-3). The model further suggests that consumers also have thoughts about the consequences *perceived* to have actually occurred in a specific use occasion (the variable "consequence

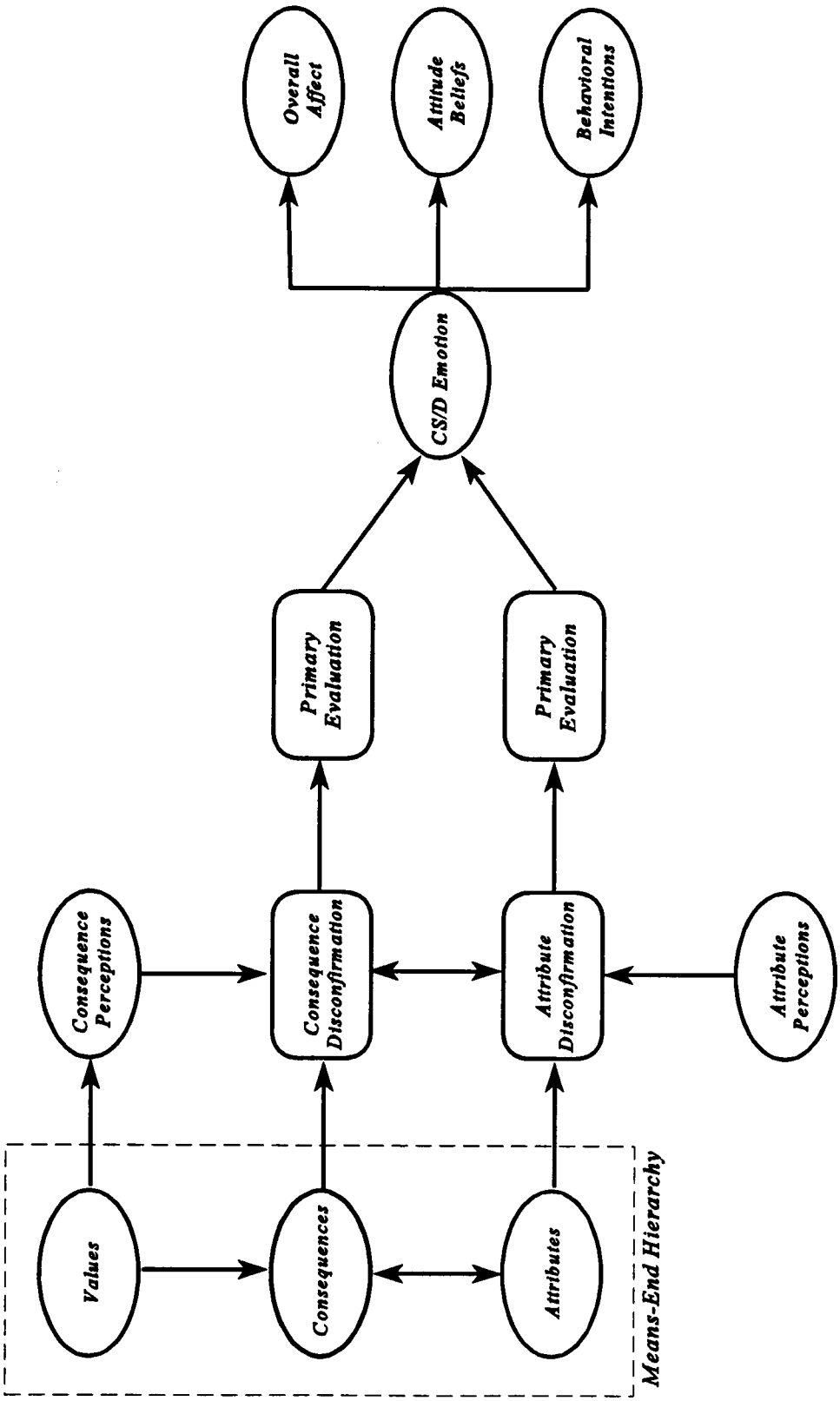


Figure 3-3: The Means-End Disconfirmation Model of CS/D

perceptions" in Figure 3-3). Based on viewpoints discussed previously, consequences are thought to have a more affective component, and are fewer in number relative to attributes (e.g., see Gardial et al. 1994; Woodruff et al. 1993).

Finally, consumers hold thoughts representing desirable end-states of being and appropriate manners by which to achieve these end states (the variable "values" in Figure 3-3). Believed to be fewest in number, values are enduring in nature, and are proposed to guide consumers' evaluations across all use occasions.

Based upon acquired information, past experience, or inferential processing, consumers form important relationships between thoughts about attributes, consequences, and values in the form of *beliefs*.[26] Attributes and consequences are associated by instrumental beliefs concerning the likelihood that the attributes lead to or block certain consequences. Beliefs about the appropriate attributes which will lead to the appropriate consequences in a particular use situation are represented in by the line between "attribute standards" and "consequence standards" in Figure 3-3. Beliefs about what attributes were perceived to actually lead to certain consequences in a particular use occasion are represented by the line between "attribute perceptions" and "consequence perceptions."

Finally, consequences and values are associated by beliefs concerning what consequences are appropriate relative to the values salient in a given product use

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[26]Here, a belief is defined as the relationship between two thoughts or "meaning concepts." A belief statement about an object links a concept or thought to that object. For example, "I believe that lanolin (object) will keep my skin soft (concept)." This definition of belief is consistent with the notion of *propositions* offered by Peter & Olson 1990.

situation. These beliefs are illustrated by the line between "values" and "consequence standards."

In a consumption situation, salient consumer values guide the formation of thoughts pertaining to what are appropriate ("benefits") or inappropriate ("detriments") product use consequences. Consumers then develop beliefs pertaining to the attributes which they view as instrumental in providing these consequences. In the choice context, consumer preference is given to the set of attributes believed to be most (least) instrumental in providing benefits (detriments). However, the central premise of the MED Model of CS/D is that in the postpurchase context, consumer evaluation of a product is based upon a comparison between the product's "true" and "believed" instrumentality. Thus, "consequence disconfirmation" is the comparison between the consequences experienced in a particular use occasion (i.e., "consequence perceptions" in Figure 3-3) and those consequences believed to be desirable in such a situation[27] (i.e., "consequence standards" in Figure 3-3).

Only in circumstances where consumers find it difficult to make consequence comparisons is "attribute disconfirmation" (see Figure 3-3) thought to have a determining influence on CS/D. The depiction of a diabetic consumer offered by Clemons & Woodruff (1992, p. 416) illustrates this point. A diabetic might consume a product (e.g., diabetes management program) and its attributes (e.g., insulin delivery

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[27]Here, occasion refers to a single event or product-use experience, while situation refers to the context of the consumption experience. Many separate occasions may be subsumed under one type of situation. Therefore, standards in the form of attributes and consequences which apply to a particular situation also apply to any occasions which occur within that situation type.

device, insulin type, etc.) thought to be instrumental in controlling blood glucose levels, thereby leading to a longer and healthier life. However, it was once very difficult for a diabetic consumer to determine actual blood glucose levels, and subsequently whether a "longer and healthier life" was actually being achieved. The diabetic had to *assume* the relationship between the product and the consequence, and thereby base CS/D evaluations on disconfirmation beliefs at the more concrete product/attribute level (e.g., is the delivery device operating as expected?). Until presented with evidence to the contrary, the diabetic will assume that a longer and healthier life is being achieved as long as the attributes are available and perform as expected. However, recent technological advancements in pharmaceutical products (e.g., blood glucose diagnostic monitors) now enable diabetic consumers to assess actual blood glucose levels. Therefore, a diabetic is no longer required to assume the relationship between attributes (e.g., insulin delivery device, insulin type, etc.) and consequences (e.g., controlled blood glucose levels). S/he may now base CS/D evaluations of the product on a direct comparison between actual blood glucose levels and the desired blood glucose level. Whereas previously the diabetic consumer may have been satisfied with the performance of the product attributes, s/he may now become dissatisfied as a result of the newly perceived consequences produced by the attributes. That is, even if the product attributes perform as expected, the consumer's belief that these attributes are instrumental in controlling blood glucose levels might be disconfirmed resulting in a dissatisfaction response. Furthermore, because the instrumental belief (i.e., the diabetes management program will lead to controlled blood glucose levels) is more closely related to the

diabetic consumer's values in the belief hierarchy, the MED Model of CS/D holds that its disconfirmation would result in a greater motivating response than the (dis)confirmation of product attributes (see Proposition 2).

As illustrated in the example above, the consequences experienced by consumers as a result of purchasing and using products are of central importance to understanding their product evaluations. Certain consequences are valued by consumers to the extent that they are consistent with or represent one's values. Products and/or attributes are valued to the extent that they are instrumental in providing valued consequences. As such, consequences enable consumers to translate very general values into more specific needs in a given consumption situation. Consequences also enable consumers to translate numerous specific product attributes experiences into a smaller, and therefore more manageable, set of more general meanings (benefits and/or detriments). Therefore, consequences represent the critical bridge between products and consumers, and hence are seen as the primary evaluative component in the MED Model of CS/D.

A comparison between the proposed MED Model of CS/D and the traditional expectancy-disconfirmation model will further serve to illustrate the distinctions between the two (see Figure 1-2). First, whereas the expectancy-disconfirmation model does not discriminate between attributes and consequences, the proposed model contends that the meaning of a product to a consumer is embodied in the relationships between his/her thoughts about its attributes and consequences, and their impact relative to the consumer's values. Second, the expectancy-disconfirmation model generally treats standards as being associative or probabilistic "expectation" type beliefs. Following this,

disconfirmation has commonly been operationalized as the evaluative difference (i.e., "better (worse) than") between probability expectations and perceived performance. In contrast, the MED Model of CS/D conceptually positions relationships in the consumer's hierarchial belief structure as the standards used in disconfirmation comparisons. That is, standards are the instrumental and/or probabilistic type beliefs regarding the products ability to provide certain consequences, and the extent to which these consequences are considered (un)desirable relative to the consumer's salient values. As such, the model proposes two types of disconfirmation which are defined below (see Figure 3-3):

> *Attribute or probabilistic disconfirmation occurs when an attribute which is probabilistically associated with the product is not realized by the consumer, that is the product did not possess the standard attribute and/or the level of attribute.*

and,

> *Consequence or instrumental disconfirmation occurs when an instrumental belief about the product or its attributes is not realized by the consumer, that is the standard and perceived consequences do not match.*

Consistent with the definition offered in Chapter 2, the proposed model conceptualizes both types of disconfirmation (i.e., probabilistic and instrumental) as the perceived difference between the consumer's held belief and his/her perception about the actual product use experience, independent of evaluation. Consumers then make general "good for me-bad for me" evaluations of their (dis)confirmation beliefs, similar to the "primary evaluation" proposed by Oliver (1989) (also see Lazarus & Averill 1972). "Primary evaluation" (see Figure 3-3) represents the consumer's initial appraisal of, and affective reaction to, his/her experience with various product and/or use considerations. The affect reaction to this appraisal is a general "good" ("bad") response based upon the perceived

"success" ("failure") of the consumption experience (e.g., see Oliver 1989; Weiner 1985). If disconfirmation beliefs are viewed as having a personal impact on the consumer (i.e., good or bad for me), then further evaluative processing is thought to result in (dis)satisfaction emotions (Weiner 1985). Therefore, as has been suggested previously, consumers' primary evaluations of consequence disconfirmation (i.e., instrumental disconfirmation) is theorized to be more motivating, and primarily responsible for consumers' emotional CS/D reactions (see Proposition 2).

Because a purpose of the present study is to understand consumers' postpurchase experiences and the impact of their related motivation on subsequent behaviors, the construct of (dis)satisfaction is conceptualized as discrete positive and negative emotions (see definitions of CS/D offered in Chapter 2) experienced by consumers as a result of their further processing of personally relevant primary evaluations ("positive emotion" and "negative emotion" in Figure 3-3). That is, CS/D emotion results from consumers' appraisals as to the implications product experiences have for their personal well-being (e.g., see Lazarus 1991). When the CS/D emotion is linked to its causal beliefs (i.e., beliefs, perceptions, disconfirmation), a "motivated action tendency" is created having residual or continuing effects on subsequent consumer behavior (Izard 1977; Arnold 1960a).

In order to reconcile the disruptive feeling of emotion in their experience, consumers employ coping mechanisms which, in addition to overt behavioral reactions, might entail covert cognitive and affective restructuring. With respect to affect, consumers might adjust their overall attitudinal affect toward the product in response to

emotional occasions or episodes. With respect to cognition, consumers are likely motivated to alter their belief structures to be more consistent with their experience as a response to emotional experiences. Therefore, the following proposition is put forth:

> Proposition 5: *(Dis)Satisfaction when modeled as emotion has a greater ability to explain subsequent postpurchase constructs such as overall affect, preference, and intentions than models incorporating beliefs, disconfirmations, or primary evaluations alone.*

This conceptualization of CS/D should result in a better understanding of the dynamic meaning of the concept (i.e., multidimensional affect), and its affect on subsequent consumer behavior concepts.

Insofar as M-E theory is thought to provide insight into the relevance of products to consumers, the MED Model of CS/D should provide a better explanation of consumers' postpurchase evaluations of their product use experiences. By differentiating the effects of instrumental and probabilistic product use aspects, the proposed model potentially provides a means by which to identify more relevant aspects having a greater impact on consumers' postpurchase evaluations (i.e., consequences), while also identifying those aspects instrumental in providing them (i.e., attributes).

This study will test the validity of the proposed Means-End Model of Consumer (Dis)Satisfaction, and assess its implications for marketing management. The next chapter presents the methodology by which the proposed model and its related propositions will be tested.

IV. RESEARCH METHODOLOGY

Introduction

The previous chapters have presented the conceptual foundation for the Means-End Disconfirmation Model of Consumer (Dis)Satisfaction (MED Model of CS/D). Five propositions have been advanced to describe the nature of the proposed model and the conceptual relationships embodied within it. The current chapter presents the research methodology used to test the MED Model of CS/D. First, the research questions addressed by this study and hypotheses pertaining to each are stated. Second, the selection and qualitative investigation of the research context is discussed. Included are discussions of 1) the criteria used to guide the selection of a research context and 2) the process by which relevant evaluative considerations were identified for use in the principal study. Third, the process by which the measures used to operationalize the proposed model were developed, pretested, and implemented is presented. Finally, the method of analysis and hypotheses used to test the proposed model are discussed.

Research Questions and Hypotheses

The Operational MED Model of CS/D

The conceptual MED model was presented in the previous chapter (See Figure 3-3). This section presents the hypotheses used to test the model. However, before the specific hypotheses can be stated, the conceptual MED Model of CS/D must be presented in an operational or testable form. Because this research is interested in testing specific

relationships between multiple variables simultaneously, the MED Model of CS/D was operationalized as a covariance structural equations model with latent variables. The operational MED Model of CS/D is presented in Figure 4-1, and described in detail below.

The operational form of the MED Model is a Linear Structural Relations model with latent variables, or LISREL model (Joreskog & Sorbom 1989). The model consists of seven latent variables (i.e., 2 exogenous and 5 endogenous variables). The operational and conceptual models coincide but for three noteworthy exceptions.

First, the operational model does not explicitly include the concepts representing consumer standards (i.e., "attribute standards", "consequence standards", or "values"), or their related perceptions (i.e., "attribute perceptions", or "consequence perceptions"). Rather, these concepts are assumed to be manifest in the two exogenous variables contained in the model (i.e., ξ_1 & ξ_2). The variable attribute disconfirmation (ξ_1), represents the comparison between attribute perceptions and attribute standards. Likewise, the variable consequence disconfirmation (ξ_2) represents the comparison between consequence perceptions and consequence standards.

The second digression of the operational model from the conceptual model is the variable "behavioral outcomes" (η_5 in Figure 4-1). This lone variable is used to model the three behavioral outcome concepts depicted in Figure 4-1 (i.e., overall affect, attitude beliefs, and intentions).

The proposed associations between consequences and attributes are modeled in the following ways. Consequence disconfirmation (ξ_2) and attribute disconfirmation (ξ_1)

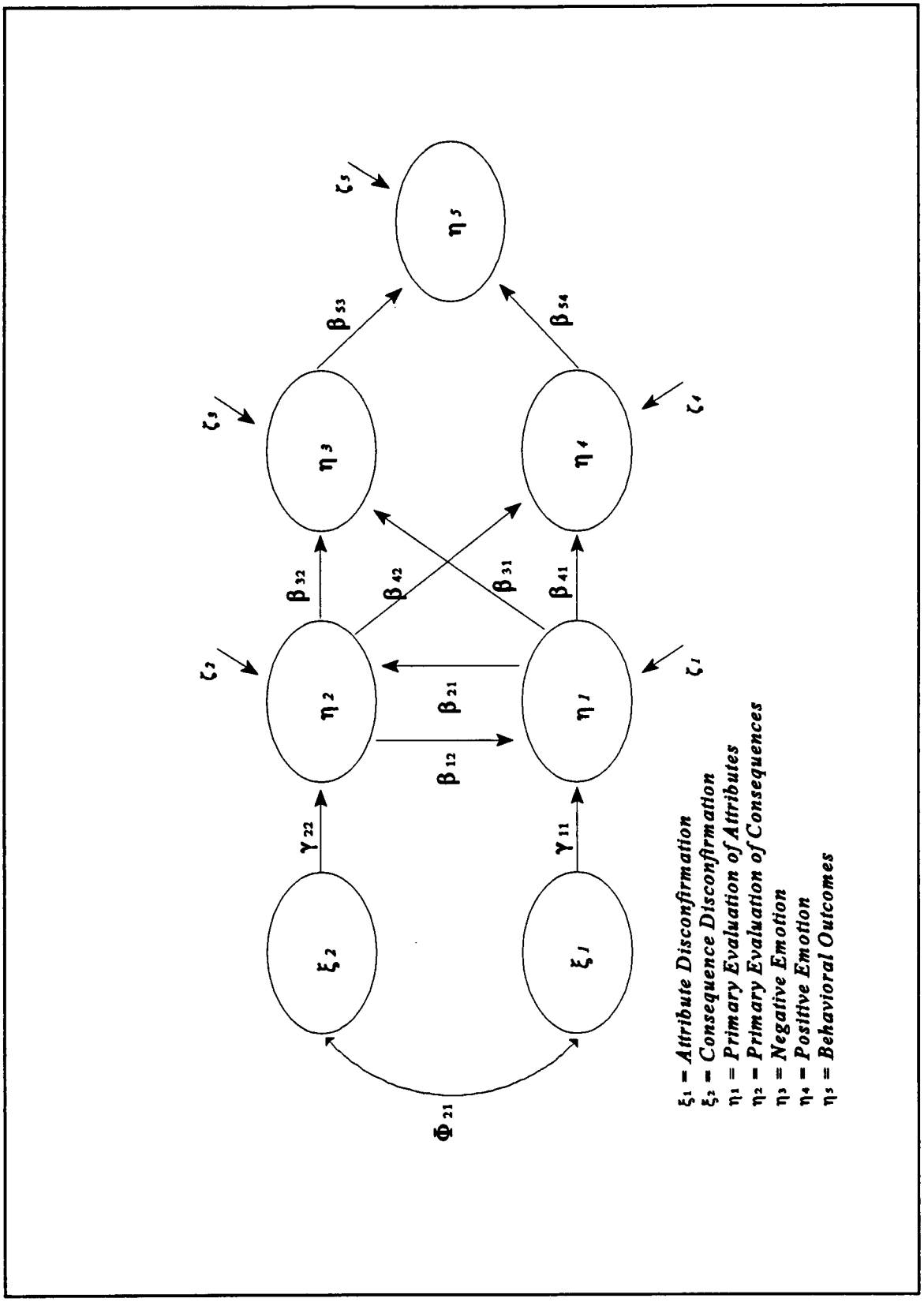


Figure 4-1: The Operational MED Model of CS/D

are related through Φ_{21}. The primary evaluation of attributes resulting from their disconfirmation is represented by γ_{11}. Likewise, the primary evaluation of consequences as a result of their disconfirmation is represented by γ_{22}. The primary evaluations of attributes η_1 and consequences η_2 are linked via β_{12} and β_{21}. The effects of both attribute and consequence primary evaluations (η_1 & η_2 respectively) on CS/D emotion (η_3 and η_4) are illustrated by the causal paths (β_{31}, β_{32}, β_{41}, β_{42}). And finally, the motivating negative (η_3) and positive (η_4) CS/D emotions are believed to cause the behavioral outcomes (η_5) through β_{53} and β_{54} respectively.

Study Questions and Hypotheses

Answers to all of the research questions posed in Chapter 1 is beyond the scope of a single study. Instead, this study attempts to address the three questions felt to have the greatest contribution to the understanding of CS/D. Specifically, an attempt is made to answer questions four, five, and six from Chapter 1. Each is restated below, along with the specific hypotheses designed to help provide their answers.

The first research question addressed by this study is question 6 from Chapter 1. Question 6 asks:

> Does a values-based model of CS/D account for more total variation than the disconfirmation of attribute expectations CS/D model?

Propositions 3 & 4 speak to the ability of a means-end model to explain postpurchase evaluations, and to the expected superiority of such a model over one including only attribute level considerations. To determine if this is the case, comparisons of fit between alternative models were performed (Bollen 1989; Joreskog & Sorbom 1989). For

example, the difference between the χ^2 based statistics of the models including consequences and those without consequences were tested for significance. If the conceptual model is correct, then these tests should be significantly in favor of the models which include consequences. Therefore following hypotheses are stated:

> **H1: The full MED Model of CS/D will have a better fit with the data than the attribute only model of CS/D (e.g., $\chi^2_{FULL}/df < \chi^2_{ATT}/df$ and $CFI_{FULL} > CFI_{ATT}$).**[28]

and,

> **H2: The consequence only model has a significantly better fit with the data than the attribute only model of CS/D (e.g.,$\chi^2_{CON} < \chi^2_{ATT}$ and $CFI_{CON} > CFI_{ATT}$).**

The second question for research is question 5 from Chapter 1. This questions asks:

> Does the disconfirmation and evaluation of values-based standards have a greater affect on other postpurchase constructs (e.g. attitudinal affect, attitude beliefs, behavioral intentions, etc.) than the disconfirmation of a general set of standards?

Several hypotheses specific to the operational model are formulated to provide insight into this question.

First, according to Proposition 1, those aspects existing higher in the means-end chain (i.e., consequences) should have a greater influence on evaluation than those lower in the chain (i.e., attributes). In the context of CS/D, consequence disconfirmations (ξ_2) should have a greater influence on the primary evaluation of consequences (η_2) than

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[28] χ^2_{FUL} is the chi-square for the full model, χ^2_{ATT} is the chi-square for the attribute only model (i.e., consequence effects removed), χ^2_{CON} is the chi-square for the consequence only model.

attribute disconfirmation (ξ_1) has on the primary evaluation of attributes (η_1). Therefore, hypothesis three states;

> **H3: The effect of consequence disconfirmation on consumers' primary evaluations of consequences will be greater than the effect of attribute disconfirmation on the primary evaluation of attributes (i.e., $\gamma_{22} > \gamma_{11}$).**

Consistent with Proposition 2, the relative effects of the primary evaluation of consequences and the primary evaluation of attributes on CS/D emotion should be similarly ordered. Therefore:

> **H4: The primary evaluation consequences will have a greater effect on negative emotion than the primary evaluation of attributes (i.e., $\beta_{32} > \beta_{31}$).**

> **H5: The primary evaluation consequences will have a greater effect on positive emotion than the primary evaluation of attributes (i.e., $\beta_{42} > \beta_{41}$).**

Finally, based upon the emotion literature and definitions offered in Chapter 2, the effects of postpurchase disconfirmation and evaluation on variation in overall affect, preference, and intentions is believed to be mediated by the degree of CS/D emotion associated with product experiences (see Proposition 5). That is, without CS/D emotion, consumers' lack the motivation to adjust their beliefs, feelings, or behaviors. However, when emotion is high, consumers are motivated by the disturbed state to change their beliefs, feelings, or behaviors to be more consistent with the cognitions which trigger the emotion. Therefore, consistent with Proposition 5 the following hypotheses are stated:

> **H6: The effect of consequence level evaluations on behavioral outcomes is mediated by the degree of CS/D emotion experienced (i.e., the indirect effects of consequence evaluation will be significant and greater than the direct effect).**

H7: The effect of attribute level evaluations on behavioral outcomes is mediated by the degree of CS/D emotion experienced (i.e., , the indirect effects of attribute evaluation will be significant and greater than the direct effect).

The final question to be addressed by this dissertation is question 4 from Chapter 1. This question pertains to the overall added value of the proposed model by asking:

> Does including values-based standards in the CS/D model improve upon our ability to understand and explain variation in consumers' *satisfaction* and/or *dissatisfaction* processes over a model employing only product attribute-based standards?

This question is at the fiber of the present study though no specific hypotheses are developed to answer it. Instead, its answer is determined at the conclusion of the study in light of everything that is learned. Chapter 6 is largely devoted to providing this answer.

The remainder of this chapter discusses the choice of a study context, development of measures, and the method of analysis used to test the above hypotheses. Figure 4-2 summarizes the entire methodology.

Research Context

Before situation specific measures of attributes and consequences could be developed, the context of research had to be chosen. Though the MED model is thought to be applicable to all purchase and use situations, a context was sought to maximize the opportunity to study both attribute and consequence aspects of the model. Three context criteria were established for meeting this purpose.

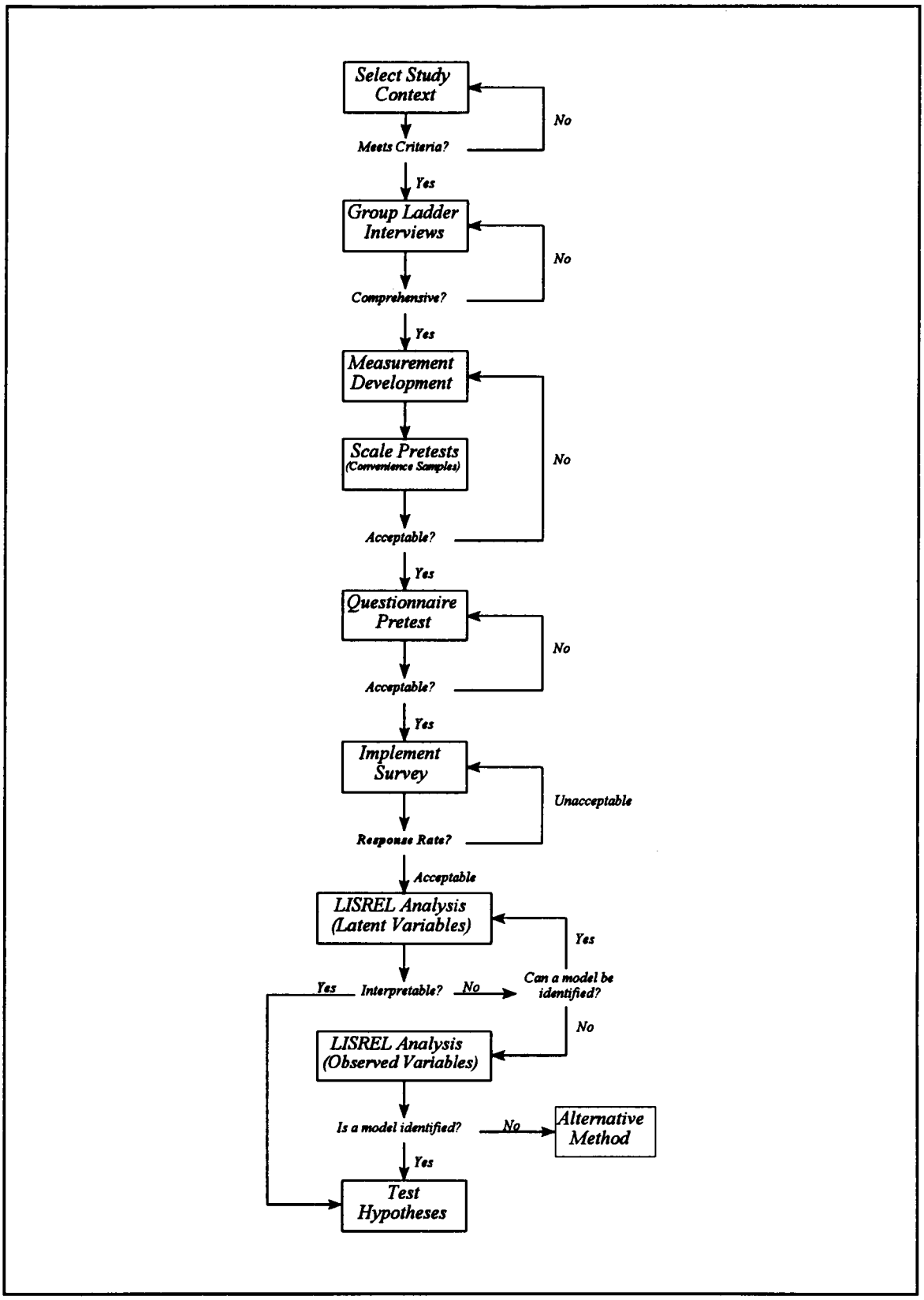


Figure 4-2: Summary of Methodology

First, the context for study should involve a moderately to highly complex durable product. A more complex durable product is thought to increase the likelihood of identifying numerous attribute and consequence beliefs about the product. Also, it is believed that the more "concrete" nature of durable products will make the identification and differentiation of attributes and consequences more achievable.

Second, the context should be at least moderately involving for consumers. The intent is to increase the likelihood of identifying consequence beliefs about the product. As discussed in Chapter 3, more highly involving products are believed to entail more "values-based" or consequence level beliefs. As such, a more highly involving context should increase the potential of identifying consequence beliefs.

And third, the context should include subjects with at least moderate levels of experience with the product. The intent is to increase the likelihood that consumers have had the opportunity to (dis)confirm both attribute and consequence level beliefs through their experiences. It is also believed that more highly experienced consumers will be better able to articulate their attribute and consequence level experiences. This will have particular importance in the qualitative portion of the study.

Several product situations were examined for their ability to meet the above criteria. Included were such products as automobiles, televisions, pharmaceutical products, entertainment and lodging establishments, and various retail organizations. Although, obtaining cooperation from businesses to study their customers proved to be difficult, an automobile dealership did agree to offer its services by providing access to their complete customer list. However, due to the dealership's interests, the context of

study focuses on consumers' satisfaction with the dealership itself (not the automobiles). Though a dealership does not meet the first criteria (i.e., durable product), it was believed to provide sufficient opportunity to identify and model the differences between attributes and consequences. As will be made apparent below, subsequent qualitative study of the context proved this assumption to be correct.

Qualitative Study of Context

Cohen (1979) points out that researchers interested in the study of evaluative concepts must address two imprecise and troublesome questions: (1) *How can salient considerations be selected*?, and (2) *How should they be operationalized by evaluative measures*? This section presents the method used to identify the dealership consumers' salient considerations, and how these considerations were later operationalized in the proposed model.

A qualitative study of the research context was conducted to identify the salient considerations, and to characterize the nature of these considerations (i.e., attributes or consequences). This task was crucial in that being able to test the differential effects of attributes and consequences on the dependent concepts in the MED model is the central focus of this study.

The elicitation of both attribute and consequence level considerations was a primary focus of the qualitative study. As such, a measurement tool specifically designed to identify attribute and consequence level considerations was necessary. One such tool is a depth interview procedure called "Laddering." Laddering entails giving a respondent

directed probes based upon their responses to target questions in an attempt to identify attribute, consequence, and values level thoughts (Gutman 1982; Gutman & Alden 1985). For instance, respondents might be asked target questions such as; "What is important to you when choosing a vacation destination?", or "What comes to mind when you think about a high (low) quality automobile?" Each descriptive response is then probed to uncover other related aspects (i.e., attributes, consequences, or values).[29] Probes are in the form of followup questions like; "What is it about the beach that makes it relaxing to you?", or "What about the automobile made it uncomfortable?" However, because the laddering procedure is a depth interview of individual respondents, it does possess drawbacks. For example, the time and personnel resources required by depth interviews are typically much greater than other forms of data collection. And while the data does well to represent a single respondent's experience, one's ability to generalize these findings to a larger population is limited. Still, the high cost and limitations associated with depth interviews is perhaps compensated by the comprehensive and thorough nature of the resulting data.

Focus groups are a popular way by which to overcome some of these problems.[30] In that several subjects may be interviewed in the same period of time, focus group

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[29]Note that with the laddering procedure all descriptors are probed. This removes much of the potential interviewer bias present in other forms of qualitative depth interviews were the interviewer is allowed to choose when to probe.

[30]For discussions of the advantages of focus groups see William D. Wells, "Group Interviewing," in Ferber, ed., Handbook of Marketing Research (New York: McGraw-Hill, 1974), and *Focus Groups: Issues and Approaches*, prepared by the Qualitative Research Council of the Advertising Research Foundation, 1985.

interviewing is a better technique by which to sample a larger population. As such, the costs mentioned above are relatively lower on a per respondent basis, and the data is perhaps more generalizable. Therefore, a new procedure attempting to apply the laddering technique in a group setting was developed. By combining the benefits of the laddering and focus group procedures, "group laddering" was expected to 1) provide a more representative sample of the targeted population, 2) reduce the per subject cost, while at the same time 3) providing a method by which to identify both attribute and consequence level considerations.

Focus group participants were randomly selected from the complete customer list provided by the automobile dealership. First, a letter was sent to the potential participants which, in addition to introducing the researcher and sponsoring university, requested their participation in a study of automobile owners. They were told a representative of the research team would contact them a few days later. The persons were then contacted by phone and offered $40.^{00}$ in exchange for their participation. This method proved to be very effective, achieving a participation rate of over 80%.

Three group laddering sessions were conducted, having 9, 6, and 8 participants respectively. These group sizes are consistent with those suggested by Churchill (1987). The interviews varied in length of time from 1 hour 45 minutes to 2 hrs 10 minutes. A break was included approximately one hour into the interview to allow participants time for refreshment.

The interviews were initiated by a general conversation between and among the participants in which an effort was made to insure each participant the opportunity to

offer his/her opinion. The intent was to increase the participants' familiarity and comfort with the focus group process. During this time, the moderator guided the discussion toward identifying those aspects of the automobile dealership which were important, defining, and/or interesting to the participants. During the break for refreshment, the moderator produced a list of dealership aspects which had been mentioned to that point.

The second half of the interviews implemented the "group laddering" technique. In short, the interview procedure encouraged participants to expand upon those aspects mentioned previously. Consistent with the laddering technique, such questions as "why is the location of the dealership important to you?" (laddering up) or "what about the dealership led you to believe it was inconvenient?" (laddering down). The outcome of the procedure allowed for identification of evaluative considerations at both attribute and consequence levels.

With the participants permission, video and audio recordings were made of each focus group. These tapes were examined to identify specific evaluative considerations discussed by the participants. Preliminary comparisons were made between the first two focus groups to assess the similarity between the content of each. Specifically, the extent to which the same evaluative considerations appeared in both interviews was determined. A high degree of similarity in content would suggest no need for further qualitative data collection. In this case, the two focus groups shared approximately fifty percent of their content. As such, the dissimilarity was determined to be great enough to warrant a third group laddering session. Upon examination, the third focus group was found to be substantially congruous with the previous two (i.e., approximately 80 percent overlap).

The number of new considerations expected to be identified by a fourth focus group was not considered substantive relative to the cost. Therefore, the qualitative data collection phase of the dissertation was concluded after three focus groups.

A list of evaluative aspects was constructed by reviewing the video tapes of the group laddering interviews. First, evaluative statements about the dealership were identified. Evaluative statements were those which involved any affective or evaluative terms.

Next, each evaluative statement was then analyzed to identify any attribute or consequence level considerations. To do this, each aspect of a statement was judged relative to the conceptualizations of attributes and consequences proposed previously.[31] In short, aspects judged to be defining characteristics of the dealership and independent of the use situation were considered attributes. Those aspects judged not to be characteristics of the dealership itself, but rather outcomes arising from its use, were considered consequences. To illustrate, consider the statement "My sales guy was really good. I didn't feel pressured, I could really trust him." The terms "really good" qualified the statement as evaluative in nature. The consideration "sales guy" was deemed to be an attribute of the dealership, while "didn't feel pressure" and "could really trust him" were each judged to be consequences.

Expectedly, this approach resulted in far too many aspects to be used in a single questionnaire. To reduce the number, evaluative aspects which were redundant or

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[31]See the definitions of attributes and consequences offered in the *Fundamental Elements of the Means-End Chain Model* section of chapter 3.

lengthy were either eliminated or modified through qualitative assessment. For example, aspects like "the lady who sold me my car" and "the sales guy" were combined into the single aspect "My salesperson's performance." Using convenience samples of students, friends, and colleagues, the resulting list was pretested several times for clarity and readability. A total of 47 evaluative aspects (attributes and consequences) were identified using this process.

Interestingly, none of the aspects pertained to the dealership in general. Rather, each was related to either the sales department, the service department, or both independently.[32] Perhaps more important, the accompanying affect was most often directed toward either the sales or service departments. Therefore, the aspects were subsequently grouped by sales or service, each group to be analyzed separately. The final set of aspects contained 12 sales attributes, 11 sales consequences, 13 service attributes, and 11 service consequences (see Table 4-1).

Though reliability of the attribute/consequence categorization was not assessed prior to implementing the survey, two persons unfamiliar with the research questions were subsequently used to independently assess the accuracy of the original categorization. Each was given a random ordered list of all 47 aspects and asked to code each as either an attribute or consequence relative to the original conceptualizations. The rate of agreement between the categorization used and the two coders was 90.4%.

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[32]For example, the extent to which subjects "felt respected" was associated with both the sales and service departments.

Table 4-1: Final List of Attributes and Consequences by Sales and Service

Sales Attributes

My salesperson's performance
The sales manager's performance
The sales department's hours of operation
The number of cars they had available at the dealership
The location of the sales facility
The appearance of the sales facility
The sales brochures and / or literature
The dealership's receptionist / phone operator
The test drive they provided
The dealership's "one price, no negotiation" policy
The dealership's "on the spot" financing
The "30 days or 1000 miles money back guarantee"

Sales Consequences

The extent to which I feel respected by them
The extent to which I feel appreciated by them
My level of comfort during the buying experience
The degree to which I felt harassed
The extent to which I was fully informed before buying my car
The amount of pressure I felt during the buying experience
The extent to which they tried to take advantage of me
My confidence that I paid a fair price for my ____
The extent to which I was able to trust them
The extent to which the value me as a customer
The degree to which they have my best interest in mind

Service Attributes

The service manager
The service mechanics
The size of the service department
The speed of service
The availability of loaner cars
Their explanation of the service being performed
The service department's hours of operation
The location of the service department
The cleanliness of the service department
The 1-800 ____ customer service number
The customer waiting area
The price of scheduled routine maintenance
The price of repairs other than routine maintenance

Service Consequences

The convenience of having my car serviced
The extent to which I feel respected by them
The extent to which I can trust them
The extent to which my car is repaired right the first time
The extent to which having my car serviced interferes with my day
The extent to which they listen to what I tell them
The degree to which they will do what is necessary to repair my car
The extent to which they value me as a customer
The extent to which I am informed about the service being performed
The extent to which they make me feel as if I am imposing on them
The extent to which they treat me like a number

Measurement Development

This section discusses the development of measures used to operationalize the MED Model of CS/D. With the exception of disconfirmation, the measures used were adapted from those previously used in CS/D and other consumer behavior research. Appendix 1 contains the entire questionnaire with the measures used. The selection of measures and the development of the questionnaire are discussed below.

Consumer (Dis)Satisfaction Emotion

The definitions offered in Chapter 2 state that satisfaction and dissatisfaction are consumer's emotional reactions to the primary evaluation of product and/or product use considerations. However, the majority of past measures of CS/D fail to clearly assess CS/D as emotion (see Hausknecht 1990). This has been true even when the CS/D construct has been explicitly defined as an emotion (e.g., see Woodruff et al. 1990).

This dissertation uses discrete unipolar emotion scales adapted from Izard's (1977) DES-II to assess CS/D emotion. DES-II consists of thirty scale items which measure ten discrete dimensions of emotion. For the current study, the original scale was reduced to ten scale items, each measuring one of the ten dimensions identified by Izard.[33] Respondents were given instructions to rate on a five point scale how often (from "never" to "very often") they felt each emotion during their experiences with the automobile dealership. Using a convenience sample, pretests of the DES-II were

[33]Each of the emotion items was chosen based the strength of its factor score (see Izard 1977). The item having the highest score on the intended dimension was chosen.

conducted to assess 1) its sensitivity and appropriateness within the context chosen, 2) subjects' opinions concerning the comprehensiveness and clarity of the items, 3) ease of responding to all the items, and 4) the distributional characteristics of the items.

Disconfirmation

Most often, "better than - worse than" scales have been used to measure disconfirmation. However, for reasons discussed in Chapter 2 this scale is considered problematic. First, "better than - worse than" scales may confound consumers' perceptions of the product with their evaluation of the product. For example, assume that a subject responds with a +3 (i.e., "much better than") on a disconfirmation scale. The consumer may have responded so because s/he felt the experience with respect to the aspect was simply "more than the standard" in an cognitive sense (i.e., standard was 23 m.p.g. and experience was 40 m.p.g.). Or, s/he may have felt that the experience was "better than" the standard in an affective sense (i.e., "I was much happier with 40 m.p.g. than with 23 m.p.g."). Because the scale does not distinguish between affective/evaluative and perceptual/cognitive responses, one cannot determine which way the subject is responding.

A second complication with this scale concerns the difficulty of choosing the type or source of the standard (Woodruff et al. 1991, 1994). That is, the aspect being evaluated must be better or worse than something, but what? Should performance be judged relative to expectations, desires, promises, ideals, norms, or some other type of standard? One option is to develop scales so that subjects might rate performance against

each of these standards. However, the rating of multiple aspects relative to as many as six standards would be arduous for subjects if not impossible.[34] A second alternative, and one most often chosen in past research, is to ask subjects to rate the performance aspects against just one type of standard. However, this too can be problematic. For example, consider a scale having "expectations" as the standard. In this circumstance, the respondent might appropriately rate performance (dis)confirming relative to his/her expectations. On the other hand, the subject may be more likely to think of his/her desires during disconfirmation, and thereby respond accordingly. In the latter case, the researcher is likely to yield an incorrect interpretation of the respondent's perceptions. That is, the interpretation may be that performance fell short of expectations when in fact it surpassed expectations but fell short of desires.

Given this, the ideal measure of disconfirmation would be different from past measures in two ways. First, consistent with the definition offered in Chapter 2, the measure of disconfirmation should assess the perceived difference between aspect performance and the comparative standard, and should be limited to this gap. Rather than being a bipolar (i.e., positively and negatively valenced) scale, the ideal measure would be a unipolar scale assessing the difference between performance and the performance standard. Second, the ideal measure would not be restricted to any one type of standard. Rather, the measure should allow subjects to choose the most appropriate standard(s), or include the standard(s) known to be used.

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[34]For example, in the present context, 47 relevant aspects were identified for use in the study. Asking subjects to rate the performance of the dealership relative to 6 standards would result in 282 disconfirmation items alone.

Unfortunately, attempts to develop such a scale were problematic. A measure was developed which allowed respondents to use any standard (i.e., the measure did not identify any standard). The measure merely asked "How different was (the aspect)?" Respondents were asked to respond on a scale from "0 - not at all different" to "4 - completely different." Qualitative pretests using a convenience sample revealed that respondents had difficulty in determining the degree to which a product was "different" without a comparative standard. For example, when asked "How different was the salesperson's performance?", many responded "Different from what?" Measures providing more detailed instruction were tried, but were found problematic due to their length and complexity. The issue of what standards are used by consumers is not central to the present investigation. What is central is assessing the ability of an affect-free measure of disconfirmation to explain subsequent evaluation. Therefore, the measure of disconfirmation used here asked respondents to rate the dealerships performance on each aspect relative to what they "expected" (see Appendix 1). As mentioned previously and elsewhere (Woodruff et al. 1991), the standard "expected" is believed to potentially convey several meanings to respondents. This was seen here as a favorable attribute in that the original purpose for this measure was to allow subjects to make comparisons in the least restrictive manner.

The data coding of disconfirmation will be dependent upon the valence of the primary evaluation measure. That is, if the subsequent evaluation of disconfirmation is negative, then disconfirmation will be coded as having a negative valence.

Primary Evaluation

This measure was chosen to assess the primary evaluation or affect resulting from (dis)confirmation. This measure was intended to represent subjects' initial affective reactions to the disconfirmation belief. As such, the only criterium placed on this measure is that it be able to assess the valence (i.e., "success - failure", "good for me - bad for me", "delightful - terrible") and degree of the affective response. The widely used "delightful - terrible" (D-T) scale was chosen to perform this task. The D-T scale is not only suited for assessing the valence of the affective response, but also is thought to be better at assessing its degree (Westbrook 1980b).[35]

The use of the D-T scale here differs from past uses. While the scale has previously been used to assess overall CS/D with products or services, here the scale is used to indicate consumers' reactions to individual aspects of the automobile dealership. This scale also differs from the CS/D emotion measures described earlier. While the CS/D measures are emotional in nature, the D-T scale may or may not involve emotion. Perhaps only the extreme ends of the scale might be considered emotional.

Behavior

To assess behavioral outcomes, seven point likert scales were used to gauge respondents' agreement with nine behavioral statements (see Appendix 1). The measurement stems were partially based on behavioral statements identified in the group

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[35]It is believed that the scale's end points, "delightful" and "terrible", reduce the occurrence of end-loading. As such, it offers a more accurate betrayal of the relative affect felt by respondents.

interviews. The following statements serve as examples:

> "I wish I could have my car serviced by someone else, but there's not another (brand) dealer in (town). Of course, after the warranty, I'll take it where I want."
>
> "Oh, they're great. I've told all of my friends about (dealership)."
>
> "If I knew then what I know now, I wouldn't have bought it."
>
> "Oh, I'll always take it back to them. In fact, I wish I could have my wife's (other brand) serviced there."

As such the resulting behavioral measures assess a variety of outcome-based behaviors including regret, WOM propensity, overall affect, and behavioral intentions.

Other Measures

A variety of descriptive measures were also included in the questionnaire. These measures included behavioral descriptors such as involvement (Mittal 1989), prepurchase behavior (i.e., total number of dealerships visited), level of experience with the target dealership (i.e., number of sales visits, number of service visits, length of patronage), and overall experience (number of previous new automobile purchases). In addition, a number of demographic measures were used to describe the sample (i.e., sex, marital status, age, household size, education occupation, and household income).

Pretest of Questionnaire

In addition to the previously mentioned convenience sample pretests of the individual items, a pretest of the full questionnaire was also conducted. Of particular

interest was the sample response rate and the statistical integrity of the individual questionnaire items. The results of the pretest are discussed below.

The original survey was administered to 100 people randomly selected from the target population. Of the total, 14 were undeliverable and 24 were returned completed for an effective response rate of 28%. Though considered low, the response rate resulted in only moderate concern in that followup mailings were not used. A considerably higher response was expected to be achieved in the main study by following the procedure recommended by Dillman (1978). To be more certain, the opinions of four respondents were solicited by phone.[36] Not surprisingly, when asked each stated the questionnaire was too long. However, none expressed concern regarding the clarity and comprehensiveness of the items. Accordingly, an attempt was made to reduce the length of the questionnaire without compromising the objectives of the study. Unfortunately, the result was the elimination of only two items leaving a total of 142. However, because many of the items were of similar type (see Appendix 1), the length was felt to be acceptable relative to the standards set by Dillman (1978).

The statistical integrity of the pretest data was determined by examining the frequencies, means, and distribution qualities of the items. The data was considered acceptable with one exception. Some primary evaluation and CS/D emotion items

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[36]While concerns over response rate would be better addressed by contacting nonrespondents, the intent here was to serve the dual purpose of addressing potential response rate concerns as well as the assessing the clarity and comprehensiveness of the items.

showed signs of end-loading (i.e., skewness). Though somewhat of a concern, the items were not considered problematic for several reasons:

1. The sample size was unusually small. A larger number of respondents was expected to provide data with improved distributional qualities.

2. If necessary, the skewed items could be eliminated from the analysis.

3. LISREL's maximum likelihood method estimator is considered robust against all but extreme departures from normality. If not, another estimator can be used (Joreskog and Sorbom, 1989).

Below is a summary list of all 142 items contained in the questionnaire in Appendix 1 by their general order of appearance:

5 descriptive behavior items
5 auto involvement items
12 disconfirmation of sales attribute items
12 primary evaluation of sales attribute items
11 disconfirmation of sales consequence items
11 primary evaluation of sales consequence items
13 disconfirmation of service attribute items
13 primary evaluation of service attribute items
11 disconfirmation of service consequence items
11 primary evaluation of service consequence items
10 sales CS/D emotion items
10 service CS/D emotion items
1 sales (dis)satisfied item
1 service (dis)satisfied item
4 sales behavior outcome items
4 service behavior outcome items
1 general dealership affect item
7 demographic items

Research Design

Sampling Design

The automobile dealership sponsoring the study provided a list of their customers containing over 1200 names and addresses. Most of the customers were residents of Knoxville, TN (where the dealership was located), though some were located as far away as California and Japan.

Survey Administration

The response rate of the pretest was of direct concern when planning the administration of the main survey. Because little could be done in terms of shortening the survey's length, other means were taken to improve the rate of response. One step addressed the quality of the survey itself. Dillman (1978) suggests formatting the questionnaire so, when folded, it can be printed on light weight 8.5" by 11" paper. However, in an attempt to make the survey appear more conspicuous, 11" by 17" paper was used, essentially doubling the size of the questionnaire. A second tactic followed an approach suggested by Kanuk and Berenson (1975). A letter was sent to each sample member notifying them that they would soon be receiving an important questionnaire from The University of Tennessee. The questionnaire, cover letter, and return envelop were mailed two to three days after the notification letter. These were enclosed in an oversized envelop so as to not to be easily set aside. In addition, The University of Tennessee logo was printed in color (orange and white) on the outside of the envelop.

Approximately seven to ten days later, a second letter and questionnaire were sent to nonrespondents.

This procedure resulted in a total response rate of 50.2%. The response rate will be discussed further in the next chapter.

Data Assimilation and Descriptive Statistics

The data collected from the returned questionnaires were entered and compiled in a data base using SPSS for Windows version 6.1. Summary statistics were generated to describe both the sample and study variables. These statistics were examined for irregularities and appropriateness for the later analysis. Appendices 2 & 3 contain the statistics describing the sales department variables and the service department variables.

Tests of the Models and Hypotheses

As mentioned previously, the qualitative study of context revealed that the sales and service aspects appeared to have independent effects on outcome variables. Therefore, the decision was made to test the MED Model of CS/D within each context. Hence, the model presented in Figure 4-1 will be tested independently within the sales and service contexts. Accordingly, a total of 14 hypotheses will be tested (i.e., $H1_{sales}$ to $H7_{sales}$ apply to the sales context while $H1_{service}$ to $H7_{service}$ apply to service).

LISREL Analysis

The operational LISREL model and its variables are described at the beginning of the chapter. This section describes the process by which this model and its related hypotheses were tested.

The procedure for developing and testing the proposed model follows the suggestions of Bollen (1989) and Long (1983). In short, the procedure proscribes the identification of the "measurement model" followed by the development and examination of the covariance structural equations model with latent variables.

The measurement model examines the ability of the observed variables to represent the proposed latent constructs. To do this, a confirmatory factor analysis of the data is performed. By constraining certain measures to "load" together, the extent to which the observed variables represent the latent constructs can be assessed. In this way, the measurement model "estimates latent variables from observed variables without regard for the structural relations among the latent variables" (Long 1983, p. 55). The "factor loadings" (Bollen 1989, p. 3) which relate the observed variables to the latent variable are then examined to assess the degree to which each observed variable represents its proposed latent variable.

Following the identification of the measurement models, the specific relationships among the latent variables are then examined. Similar to the measurement model, constraints are placed on the relationships between latent variables. At this point, the appropriateness of the proposed model can be assessed. If the model is shown to adequately represent the data, then comparisons may be made between specific

relationships among the latent variables. Through these comparisons, the 14 stated hypotheses can be tested.

Summary of Methodology

This chapter has served to describe the process by which tests of the MED Model of CS/D were approached. The operational model of the MED model of CS/D was described. The process by which a questionnaire was developed to identify the variables within the model was discussed. Fourteen hypotheses (7 for sales and 7 for service) pertaining to the overall models and the specific relationships within them were stated. Finally, the method by which the hypotheses were to be tested was described. However, as the next chapter will discuss, the intended analysis required some modification. Chapter 5 discusses in detail the analysis performed and the results of this effort.

V. DATA ANALYSIS AND RESULTS

Introduction

This chapter describes the process by which the data was analyzed and presents the results of the study. First, the preparation of the data for analysis is discussed. Next, statistics describing the sample and study variables are presented. Third, the development of the LISREL models for both sales and service is discussed. And finally, the tests and results of the 14 hypotheses are summarized.

Data Preparation

Recall that the pretest of the questionnaire raised some concern over response rate. Steps taken to address this issue resulted in an acceptable rate of response. However, many of the questionnaires were missing data. This section presents the response rate, and addresses the issue of missing data.

Response Rate

Questionnaires were sent to 800 subjects. Of these, 81 questionnaires were undeliverable. A total of 361 questionnaires were returned by respondents in some form resulting in a 50.2% response rate. However, 126 of these were missing data on at least one of the studied variables. The disposition of incomplete questionnaires is addressed in the following section.

Missing Data

Three alternatives were considered in the disposition of questionnaires with missing data: 1) missing items could be replace with the series mean, 2) questionnaires with missing data could be eliminated from the analysis, or 3) the data could be analyzed "as is" (i.e., no action taken due to missing data).

Replacing missing values with the series mean was rejected for the following reasons. First, some of the variables in the study are negatively skewed and/or excessively kurtotic (see Appendices 2 & 3). Substituting series means has a tendency to accentuate one of both of these problems. Though, replacing missing values with series means did not result in statistically significant differences in the distributional characteristics of the data, in most cases the distributions did become worse. Second, substituting means could be considered an alteration of the intended response. There were several indications that respondents intentionally disregarded an item for various reasons (e.g., one subject wrote that she "had never met the mechanics"). As such, substituting the sample mean would change the intended response, and thereby could be considered a threat to validity.

The second alternative also was rejected. Eliminating the entire questionnaire due to one or more missing values might result in the loss of relevant information. That is, regardless of whether the respondent intentionally or unintentionally neglected an item, the missing value does not necessarily invalidate the other responses. The exception would be a respondent who did not respond to a "large" number of items. The disposition of these cases is addressed below.

For the above reasons and those to follow, the choice was to analyze the data "as is." First, doing so accounts for all relevant information at "face value." Second, the fit tests provided by LISREL are calculated using the lowest number of valid observations across all variables. As a result, tests of the models' overall fit are based on the most conservative number of valid observations, thereby preventing "happenstance" improvements in fit. Third, based on probability theory, using more relevant pieces of information to formulate the individual parameters of the models will serve to improve the accuracy of the estimates generated by LISREL. And finally, subsequent examination showed no significant difference between the distributional qualities of the "as is" data set and the other alternatives.

One qualifier to this approach was the removal of questionnaires missing a "large" number of studied variables. Because the determination of large is somewhat arbitrary, a more conservative rule was used. Those questionnaires missing three or more items on any scale were eliminated from the analysis. A total of 38 subjects were eliminated from the sales analysis and 55 from the service analysis. This resulted in effective response rates of 44.9% for sales and 42.5% for service.

Descriptive Statistics

The vital descriptive statistics of the sales and service data were calculated and are presented in Appendices 2 & 3 respectively. Appendices 4 & 5 contain the distributions of the studied variables. Both the statistics and distributions indicate upper end loading of responses on most of the items. Still, with few exceptions, the

distributional qualities of the variables fall within an acceptable range (see Bollen 1989). As discussed in the next section, removal of "borderline" items had no effect on the outcome of the analysis.

Table 5-1 presents demographic and behavioral descriptors of the respondents. As shown, the respondent set consisted fairly evenly of men (46%) and women (54%), was about 40 years of age, and had a household income generally between $50,000 and $65,000. Furthermore, the behavioral descriptors indicate that respondents were both experienced with and involved with the dealership.

Development of the LISREL Model

The Latent Variable Model

The first step in developing the covariance structural equations models for the sales and service data was to identify their respective measurement models. A confirmatory factor analysis using maximum likelihood rotation was performed on the covariance data matrix of each. Appendices 6 & 7 contain the LISREL output with the standardized parameter estimates (item loadings and factor correlations), t-values, and modification indices for the sales and service measurement models respectively.

To assess the models' fit with the data 1) the overall indicators of fit and 2) the individual parameter estimates were inspected. First, the overall indicators of fit are shown in Table 5-2. Each indicates that both the sales and service measurement models'

Table 5-1: Description of Respondents

	Sales Respondents	Service Respondents
Demographic Descriptors		
Age	40.22	39.61
Male (%)	149 (46.1)	141 (46.1)
Female (%)	174 (53.9)	165 (53.9)
Married (%)	218 (67.5)	204 (66.7)
Single (%)	105 (32.5)	102 (33.3)
Income	3.56	3.48
Size of Household	2.61	2.64
Behavioral Descriptors		
Number of Sales Visits	2.14	2.15
Number of Service Visits	7.10	7.59
Length of Ownership	2.40	2.42
Involvement	28.67	28.80
Number of New Cars Owned	4.07	3.97

Table 5-2: Overall Fit Indices for Latent Variable Measurement Models

	χ^2	df	χ^2 / df	CFI
Sales Model with all variables	7464.19	1689	4.42	0.6259
Baseline for Sales	17207.69	1770		
Service Model with all variables	7750.05	1808	4.29	0.6993
Baseline for Service	21649.82	1891		

fit the data very poorly. Both chi-squares are highly significant, though this is not unusual with such complex models. Believed more useful in judging the fit of a model is the comparative fit index (CFI). The CFI compares the measurement model to an appropriate "baseline" model. A commonly used baseline for measurement models assumes no underlying factors in the data (Bollen 1989). Using the "no factor" baseline, CFI was calculated as:

$$CFI = 1 - \frac{(\chi^2 - df)_{measurement}}{(\chi^2 - df)_{baseline}} \qquad \textbf{(5.1)}$$

A CFI approaching 1.0 is better, while .90 is considered acceptable (Bentler & Bonnett 1980). However, the CFI's in Table 5-2 clearly indicate that both the sales (CFI $\approx$ .63) and service (CFI $\approx$ .70) models fall well short of this standard.

Inspection of the standardized parameters provides further evidence of the models' poor fit (see Appendices 6 & 7). Within both the sales and service contexts, the measures of CS/D emotion (NEG, POS) and behavior (BEH) represent their related factors fairly well. These results are consistent with past research (e.g., Izard 1977). However, the proposed disconfirmation (DA, DC) and primary evaluation (PEA, PEC) factors in both the sales and service models contain a large number of weak to moderate loadings on the observed variables. Furthermore, the modification indices indicate a number of items load on multiple factors.

Attempts were made to improve the factor structures for disconfirmation and primary evaluation but to no avail. Elimination of items based on questionable distributions (i.e., highly kurtotic or skewed) and poor loadings did little to increase the interpretability of the parameters or the fit of the models. In short, poor fit, weak parameters, and "cross loading" of items (as indicated by the modification indices) each served to invalidate the proposed measurement models.[37]

However, these results should not be surprising for at least two important reasons. Recall that in the qualitative stage of investigation and the subsequent generation of questionnaire items, attempts were made to identify independent aspects of the automobile dealership. As such, these items should not be expected to "behave" the same. Indeed, the opposite would be expected.

The second, and perhaps most prominent, reason for these results lies in the assumptions which accompany latent variable modeling. A measurement model serves to demonstrate the degree to which proposed latent variables are represented by manifest or observed variables. The assumption is that the effects of a single latent variable can be seen through the behavior of the manifest variables. In essence, the latent variable "causes" the manifest variables. Such is not the case here. No underlying construct has been proposed to cause attribute or consequence disconfirmation or evaluation. The similarity between attributes or consequences is grounded in a typology, not a common cause. As such, the intent here was not to identify items which are caused by, for

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[37]One further note is neither the sales nor service measurement models could be identified in their entirety. This was indicated by non-positive definite estimations of the PHI matrices in each model.

example, the latent construct "attribute disconfirmation", rather it was to identify items which are consistent with the "attribute" typology. Therefore, an approach more consistent with the purpose would be to assess the collective effects of different types of disconfirmations and evaluations on subsequent behavior. A structural equations model with observed variables was determined to be well suited for this purpose. This model is described below.

The Observed Variables Models

In order to account for the collective effects of attribute level and consequence level disconfirmations and evaluations, all the items representing these constructs were summed. Accordingly, the CS/D emotion and behavior items were also summed. The vital statistics and distributions of the summed variables are shown in Appendices 8 & 9 respectively. Clearly, the distributional qualities of these variables are a dramatic improvement over the individual items used in the latent variable model.

The structure of the observed variables model is the same as that with latent variables with one exception. Unlike the latent variable model, the variables in the observed model are presumed to be measured without error. As such, the model is a more conservative estimation of the relationships between the seven variables in that measurement error is not accounted for when estimating the model parameters. This serves to increase the variance of the estimates thereby lowering the chance of finding significant differences between the parameters.

Figures 5-1 and 5-2 depict the modeled relationships and standardized parameter estimates for the sales and service models respectively. Table 5-3 contains the overall fit measures associated with each. Appendices 10 & 11 contain the LISREL output for both models.

The chi-squares for each model remain significant. However, the CFI for each is well within the acceptable range.[38] Examination of the sales model revealed that the valence of all parameter estimates are consistent with theory. However, the service model produced one inconsistent estimate (see Figure 5-2). The estimate of the relationship between primary evaluation of attributes (PEA or Y_1) and negative CS/D emotion (NEG or Y_3) is positive when it should be negative (i.e., $cov_{(PEA,NEG)} = -31.52$). This outcome is attributed to the unusually high collinearity between the modeled variables. Since correcting the situation would mean the elimination of one or more variables necessary to test the hypotheses, the model was tested as is. The implications of this are discussed in the results section and Chapter 6.

Test of Hypotheses

The purpose of the first hypothesis is to determine whether including consequence level measures of disconfirmation and evaluation improves our ability to explain CS/D and postpurchase behavior. Hypotheses $H1_{sales}$ and $H1_{service}$ state:

> **H1: The full MED Model of CS/D will have a significantly better fit with the data than the attribute only model of CS/D.**

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[38]Here, the null model assumes no underlying relationships between the observed variables.

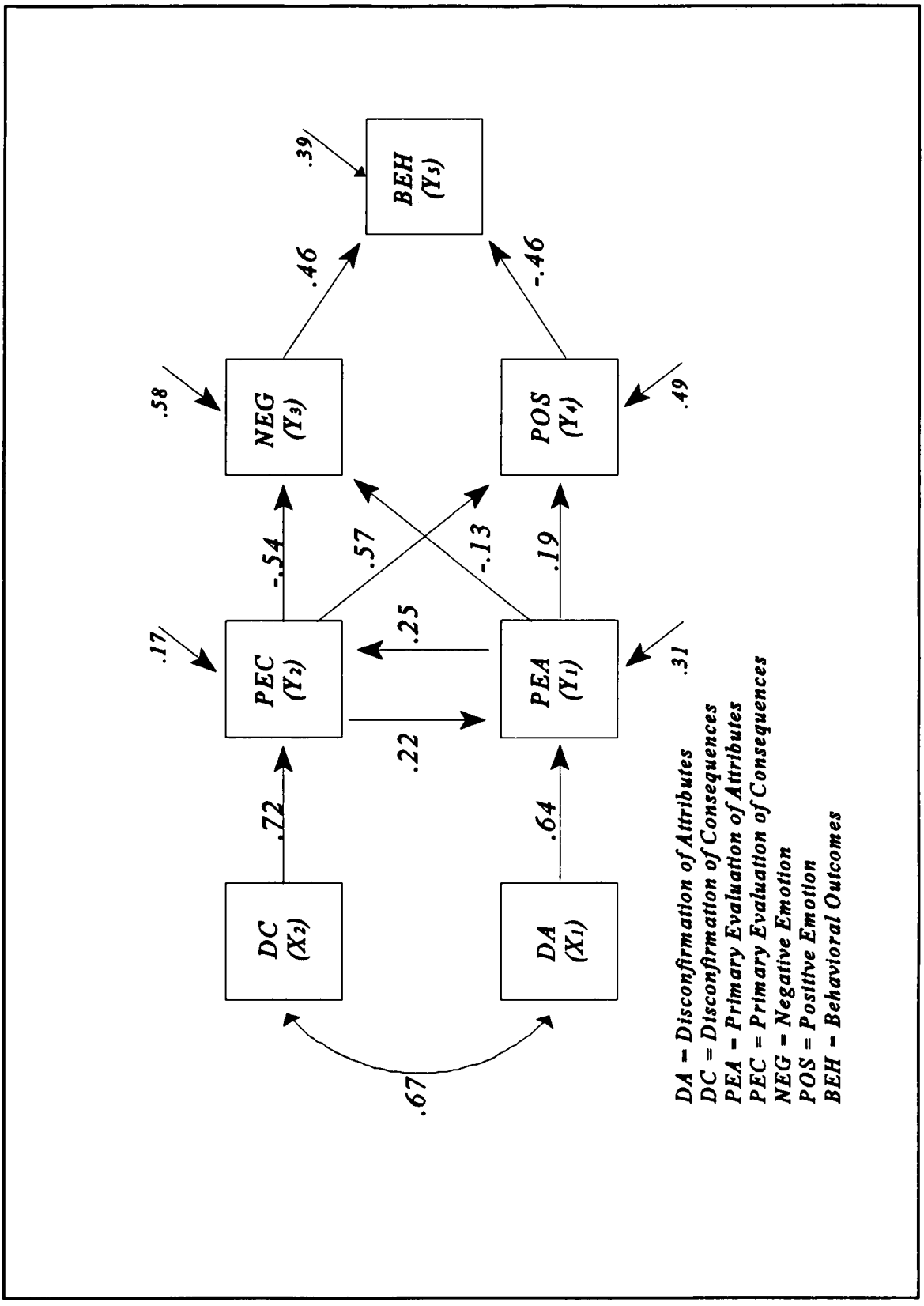


Figure 5-1: Observed Variables Model for Sales Data

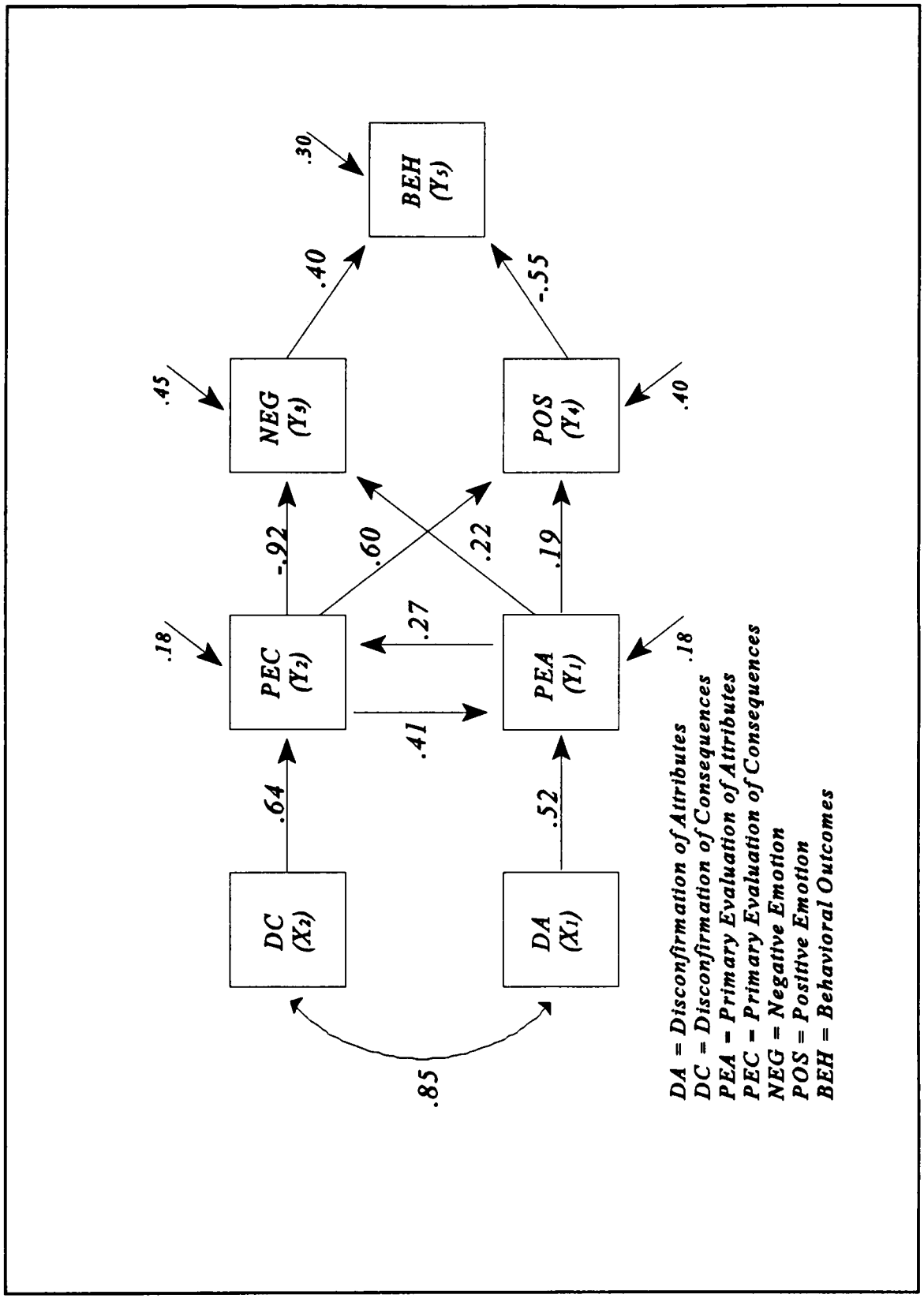


Figure 5-2: Observed Variables Model for Service Data

Table 5-3: Overall Fit Indices for Observed Variables Models

	χ^2	df	χ^2 / df	CFI
Sales Model of Observed Variables	84.09	10	8.41	0.96
Baseline Model for Sales	1874.13	21		
Service Model of Observed Variables	138.35	10	13.84	0.95
Baseline Model for Service	2355.74	21		

To test the first hypothesis, comparisons were made between two "non-nested" (Figure 5-3A and Figure 5-3B) and two "nested" models (Figure 5-4A and Figure 5-4B). To make comparisons between the non-nested models, four fit indices were used to qualitatively assess the difference between the full model and the attribute only model in Figure 5-3. First, the ratio χ^2/df for each model was compared. A ratio approaching 1.0 is considered superior. Second, the *CFI* of each model was compared. Again, a *CFI* approaching 1.0 is considered better. A third index (p) accounts for degrees of freedom in another way (Bollen 1989), and is calculated as:

$$p = \frac{(\chi^2_b / df_b) - (\chi^2_m / df_m)}{\chi^2_b / df_b} \qquad \textbf{(5.2)}$$

And finally, the adjusted goodness of fit indices (AGFI) provided by LISREL were compared.

A final test involved the comparison of "nested" models. Unlike the comparison of non-nested models described above, the comparison of nested models provides a method by which to determine the statistical significance of the difference between two models (see Bollen 1989). The χ^2 test statistic and degrees of freedom are computed as:

$$\chi^2_{difference} = \chi^2_{Restricted} - \chi^2_{Full} \qquad \textbf{(5.3)}$$

with,

$$d.f._{difference} = d.f._{Restricted} - d.f._{Full} \qquad \textbf{(5.4)}$$

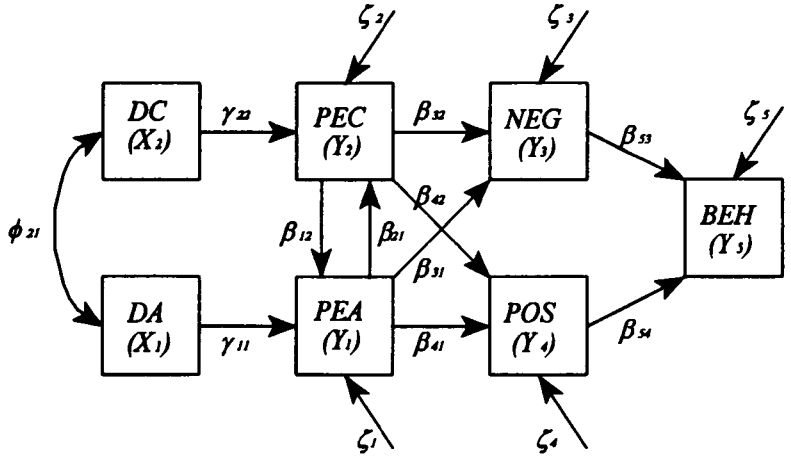


Figure 5-3A: The Full Model

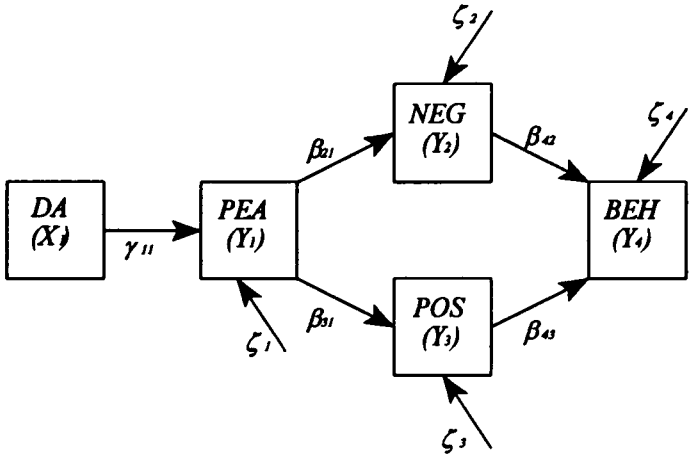


Figure 5-3B: The Attribute Only Model

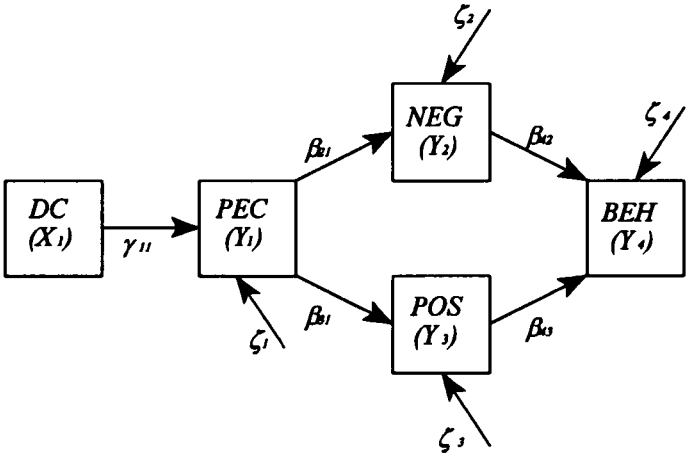


Figure 5-3C: The Consequence Only Model

Figure 5-3: Test of $H1_{sales}$ and $H1_{service}$, Comparison of Non-nested Models

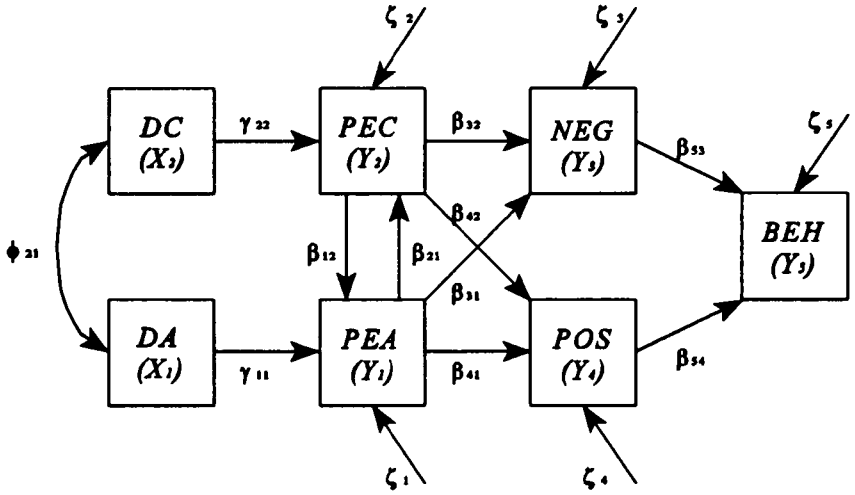


Figure 5-4A: The Full Model

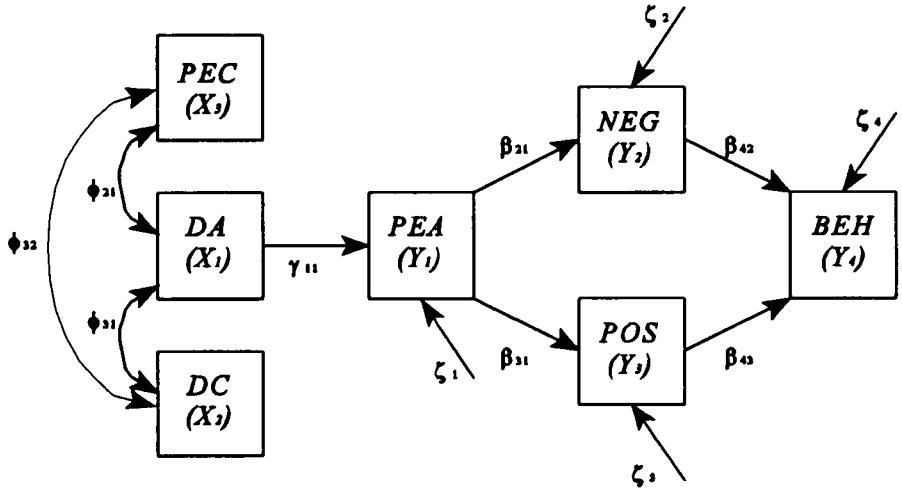


Figure 5-4B: Nested Attribute Only Model

Figure 5-4: Test of $H1_{sales}$ and $H1_{service}$, Comparison of Nested Models

To test $H1_{sales}$ and $H1_{service}$, a comparison is made between the full model (i.e., Figure 5-4A) and one which restricts the direct effects of consequence level variables on other variables within the model (i.e., Figure 5-4B: Nested Attribute Only Model). If H1 is correct, removing the direct effects of consequences from the model will result in a significantly poorer fitting model.

The results of the non-nested comparisons for both the sales and service data are presented in Table 5-4. As shown in the top part of the table, each of the four comparisons indicate support for $H1_{sales}$. That is, a model which includes consequence level variables (Figure 5-3A: The Full Model) has a better fit with the data than one which does not (Figure 5-3B: The Attribute Only Model). Likewise, a comparison of the nested models (see Figure 5-4 and Table 5-5) resulted in a test statistic of $\chi^2_{difference} = 285.43$ with 3 degrees of freedom ($p_{\chi 2>285.43} < .001$). As such, the improved fit of the full model over the attribute only model is highly significant.

However, analysis of the service data produced mixed results. Each of the non-nested comparisons failed to support $H1_{service}$ (see Table 5-4). However, a comparison of the nested models (see Figure 5-4 and Table 5-5) resulted in a test statistic of $\chi^2_{difference} = 396.55$ with 3 degrees of freedom ($p_{\chi 2>396.55} < .001$), indicating strong support of $H1_{service}$. The inconsistency between the nested and non-nested results might be attributed to the extremely high collinearity between parameter estimates of the full model mentioned previously. This possibility is discussed more fully in Chapter 6.

Hypothesis 2 compares the fit between an attribute only model and a consequence only model. $H2_{sales}$ and $H2_{sales}$ state:

Table 5-4: Tests of $H1_{sales}$ and $H1_{service}$, Comparison of Non-nested Models

SALES DATA

	Full Model	Attribute Only Model	Consequence Only Model
χ^2 / df	8.4	14.8	8.3
CFI	0.96	0.92	.97
p	0.91	0.84	.93
AGFI	0.813	0.775	.848

SERVICE DATA

	Full Model	Attribute Only Model	Consequence Only Model
χ^2 / df	13.84	8.94	3.51
CFI	0.95	0.96	.99
p	0.88	0.92	.97
AGFI	0.744	0.838	.934

Table 5-5: Test of $H1_{sales}$ and $H1_{service}$, Comparison of Nested Models

SALES DATA

	Nested Models	
	Full Model	Attribute Only Model
χ^2 / df	8.4	28.42
CFI	0.96	.81
p	0.91	.68
AGFI	0.813	.537

SERVICE DATA

	Nested Models	
	Full Model	Attribute Only Model
χ^2 / df	13.84	41.15
CFI	0.95	.78
p	0.88	.63
AGFI	0.744	.476

H2: The consequence only model will have a better fit with the data than the attribute only model of CS/D.

In testing H2, a nested comparison between the two models could not be made due to the models having equivalent degrees of freedom (see Bollen 1989). Therefore, only the non-nested indicators were used to compare the consequence only model to the attribute only model for sales and service (see Table 5-4). As shown, for both the sales and service data, the consequence only model fits the data better than the attribute only model. Therefore, $H2_{sales}$ and $H2_{service}$ are supported.

The remaining hypotheses assess the differences between specific paths within the models. When maximum likelihood estimation is used and the number of observations is large, the parameter estimates and their standard errors may be used to develop a z-statistic to indicate the significance of the difference between two parameters (Bollen 1989; Joreskog and Sorbom 1989). Using an α=.05, a significant difference is indicated if $z \geq 1.65$. The following formula was used to obtain the z-statistic for the difference between parameter estimates:

$$z_{diff} = \frac{est_1 - est_2}{s.e._{pooled}} \qquad (5.5)$$

The purpose of hypothesis 3 is to determine whether the relationship between disconfirmation and primary evaluation is stronger at the consequence level than at the attribute level. $H3_{sales}$ and $H3_{service}$ state:

H3: The effect of consequence disconfirmation on the primary evaluation of consequences will be greater than the effect of attribute disconfirmation on the primary evaluation of attributes (i.e., $\gamma_{2,2} > \gamma_{1,1}$).

For the sales data model, the maximum likelihood estimates (and standard errors) provided by LISREL for $\gamma_{1,1}$ and $\gamma_{2,2}$ were .456947 (.032667) and .496574 (.021216) respectively. The resulting z-statistic ($p_{Z>z}$) was 1.017 ($p_{Z>z} \approx .1539$). Therefore, $H3_{sales}$ is rejected at the α=.05 level.

For the service data model, the estimates (and standard errors) for $\gamma_{1,1}$ and $\gamma_{2,2}$ were .392156 (.036872) and .503262 (.040807) respectively. The resulting z-statistic ($p_{Z>z}$) was 2.020 ($p_{Z>z} \approx .0217$). Therefore, $H3_{service}$ is supported at α=.05.

The purpose of hypotheses 4 and 5 is to assess whether consequences have a greater effect on CS/D emotion than do attributes. $H4_{sales}$ and $H4_{service}$ state:

H4: The primary evaluation of consequences will have a greater effect on negative emotion than the primary evaluation of attributes (i.e., $\beta_{3,2} > \beta_{3,1}$).

For the sales data model, the estimates (and standard errors) for $\beta_{3,1}$ and $\beta_{3,2}$ are -.058029 (.026612) and -.190383 (.022023) respectively. The resulting z-statistic is 3.832 ($p_{Z>z} <$ .001). Therefore, $H4_{sales}$ is strongly supported.

For the service model, the estimates (and standard errors) for $\beta_{3,1}$ and $\beta_{3,2}$ are .076192 (.027452) and -.302329 (.025717) respectively. The resulting z-statistic is 10.063 ($p_{Z>z} < .001$). This suggests that $H4_{service}$ is also strongly supported, however this result is treated with great skepticism. In that the covariance between $DA_{service}$ and $NEG_{service}$ is negative, the estimate for $\beta_{3,1}$ was also expected to be negative. The unexpected result is attributed to the high correlation (e.g., .92) between the parameters estimates (See Appendix 11). As these correlations approach 1.0, the identification of the

model becomes problematic. For this reason, the parameter estimates for the service data model provided by LISREL must be interpreted with caution. Further implications of the high correlations between attribute level concepts and consequence level concepts in the service model will be discussed in the final chapter.

Similar to the previous hypotheses, $H5_{sales}$ and $H5_{service}$ state:

> **H5: The primary evaluation of consequences will have a greater effect on positive emotion than the primary evaluation of attributes (i.e., $\beta_{4,2} > \beta_{4,1}$).**

For the sales data model, the estimates (and standard errors) for $\beta_{4,1}$ and $\beta_{4,2}$ are .086823 (.026945) and .218295 (.022298) respectively. The resulting z-statistic is 3.759 ($p_{Z>z} <$ .001). Therefore, $H5_{sales}$ is strongly supported.

For the service model, the estimates (and standard errors) for $\beta_{4,1}$ and $\beta_{4,2}$ are .079646 (.030556) and .232510 (.028624) respectively. The resulting z-statistic is 3.651 ($p_{Z>z} < .001$). Therefore, $H5_{service}$ strongly supported.

Hypotheses 6 and 7 address the extent to which CS/D emotions mediate the relationship between primary evaluation and subsequent behavior. $H6_{sales}$ and $H6_{service}$ state:

> **H6: The effect of primary evaluation of consequences on behavioral outcomes is mediated by the degree of CS/D emotion experienced.**

and $H7_{sales}$ and $H7_{service}$ state:

> **H7: The effect of primary evaluation of attributes on behavioral outcomes is mediated by the degree of CS/D emotion experienced.**

To test these hypotheses, the direct and indirect effects of primary evaluations on behavior were compared. Since the intent of the hypotheses is to assess only the mediating role that CS/D emotions have between primary evaluation and behavior, other

mediating effects were removed from the computation of indirect effects and their standard errors.[39] That is, the relationships between primary evaluation of attributes and primary evaluation of consequences (i.e., $\beta_{1,2}$ and $\beta_{2,1}$) were eliminated from the model. Doing so does not change the magnitude of the direct effects.

For the sales data model, the estimated direct effect (and standard error) of primary evaluation of consequences on behavior is .099664 (.025089) while the indirect effect is .180979 (.020354). The resulting z-statistic for this comparison is 2.517 ($p_{Z>z}$ < .01). Therefore, $H6_{sales}$ is supported.

For the service data model, the estimated direct effect (and standard error) of primary evaluation of consequences on behavior is .039515 (.030097) while the indirect effect is .288369 (.027083). The resulting z-statistic for this comparison is 6.146 ($p_{Z>z}$ < .001). Therefore, $H6_{service}$ is strongly supported.

For the sales data model, the estimated direct effect (and standard error) of primary evaluation of attributes on behavior is .041466 (.022814) while the indirect effect is .063242 (.014400). The resulting z-statistic for this comparison is 0.807 ($p_{Z>z}$ ≈ .1922). Therefore, $H7_{sales}$ is rejected.

For the service data model, the estimated direct effect (and standard error) of primary evaluation of attributes on behavior is .063797 (.020676) while the indirect effect is -.024353 (.015103). The resulting z-statistic for this comparison is 3.443 ($p_{Z>z}$ < .001). Therefore, $H7_{service}$ is apparently supported. However, as with H4, this result is

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[39]The indirect effect of consequences on behavior were computed as $(\beta_{3,2}*\beta_{5,3}) + (\beta_{4,2}*\beta_{5,4})$ while the indirect effect of attributes on behavior were computed as $(\beta_{3,1}*\beta_{5,3}) + (\beta_{4,1}*\beta_{5,4})$.

also treated with great skepticism. Because $\beta_{3,1}$ of the service data model is positive when it is expected to be negative, the calculation of the indirect effect is greatly affected.[40] For example, all other things being equal, if the estimate for $\beta_{3,1}$ was less than or equal to zero, then the difference between the direct and indirect effects would not be significant.

Summary of Results

Tables 5-6 and 5-7 provide a summary of the hypotheses and results for the sales and service data respectively. Each is discussed separately below.

Sales Hypotheses

As Table 5-6 indicates, five of the seven hypotheses were supported by the sales data. The test results for $H1_{sales}$ and $H2_{sales}$ provide evidence suggesting that the use of consequence level disconfirmation and evaluation measures is an improvement over the use of attribute level measures alone. Furthermore, the results for H4 and H5 support the notion that consequence level evaluations have a greater impact on postpurchase CS/D emotions than do attribute level evaluations.

However, the data do not support the premise that consequence disconfirmation will have a greater influence on primary evaluation than attribute disconfirmation. In addition, support was not found for the idea that CS/D emotions mediate the influence of primary evaluation of attributes on behavior.

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[40]See previous footnote.

Table 5-6: Summary of Hypotheses and Results for Sales Data

	Hypothesis	Test Statistic (probability)	Supported? (yes or no)
H1	χ^2 ratio$_{Full}$ < χ^2 ratio$_{Att}$	8.4 < 14.8 (n/a)	yes
	$CFI_{Full} > CFI_{Att}$	.96 > .92 (n/a)	yes
	$p_{Full} > p_{Att}$	.91 > .84 (n/a)	yes
	$AGFI_{Full} > AGFI_{Att}$	.813 > .775 (n/a)	yes
	$\chi^2_{Full} < \chi^2_{Att. Only}$	$\chi^2_{difference} = 285.43$ ($p < .001$)	yes
H2	χ^2 ratio$_{Cons}$ < χ^2 ratio$_{Att}$	8.31 < 14.8 (n/a)	yes
	$CFI_{Cons} > CFI_{Att}$	.97 > .92 (n/a)	yes
	$p_{Cons} > p_{Att}$	.93 > .84 (n/a)	yes
	$AGFI_{Cons} > AGFI_{Att}$	.848 > .775 (n/a)	yes
H3	$\gamma_{2,2} > \gamma_{1,1}$	$z_{diff} = 1.017$ ($p_{Z>z} \approx .1539$)	no
H4	$\beta_{3,2} > \beta_{3,1}$	$z_{diff} = 3.832$ ($p_{Z>z} < .001$)	yes
H5	$\beta_{4,2} > \beta_{4,1}$	$z_{diff} = 3.759$ ($p_{Z>z} < .001$)	yes
H6	$(\beta_{3,2}*\beta_{5,3}) + (\beta_{4,2}*\beta_{5,4}) > \beta_{5,2}$	$z_{diff} = 2.517$ ($p_{Z>z} < .01$)	yes
H7	$(\beta_{3,1}*\beta_{5,3}) + (\beta_{4,1}*\beta_{5,4}) > \beta_{5,1}$	$z_{diff} = 0.807$ ($p_{Z>z} \approx .1922$)	no

Table 5-7: Summary of Hypotheses and Results for Service Data

	Hypothesis	Test Statistic (probability)	Supported? (yes or no)
H1	χ^2 ratio$_{Full}$ < χ^2 ratio$_{Att}$	13.84 > 8.94 (n/a)	no
	$CFI_{Full} > CFI_{Att}$	.95 < .96 (n/a)	no
	$p_{Full} > p_{Att}$	.88 < .92 (n/a)	no
	$AGFI_{Full} > AGFI_{Att}$	.744 < .838 (n/a)	no
	$\chi^2_{Full} < \chi^2_{Att\ Only}$	$\chi^2_{difference} = 396.55$ ($p < .001$)	yes
H2	χ^2 ratio$_{Cons}$ < χ^2 ratio$_{Att}$	3.51 < 8.94 (n/a)	yes
	$CFI_{Cons} > CFI_{Att}$	.99 > .96 (n/a)	yes
	$p_{Cons} > p_{Att}$	.97 > .92 (n/a)	yes
	$AGFI_{Cons} > AGFI_{Att}$	.934 > .838 (n/a)	yes
H3	$\gamma_{2,2} > \gamma_{1,1}$	2.020 ($p_{Z>z} \approx .0217$)	yes
H4	$\beta_{3,2} > \beta_{3,1}$	10.063 ($p_{Z>z} < .001$)	yes
H5	$\beta_{4,2} > \beta_{4,1}$	3.651 ($p_{Z>z} < .001$)	yes
H6	$(\beta_{3,2}*\beta_{5,3}) + (\beta_{4,2}*\beta_{5,4}) > \beta_{5,2}$	6.146 ($p_{Z>z} < .001$)	yes
H7	$(\beta_{3,1}*\beta_{5,3}) + (\beta_{4,1}*\beta_{5,4}) > \beta_{5,1}$	3.443 ($p_{Z>z} < .001$)	yes

Service Hypotheses

Results from the service data found supported each of the seven hypotheses (see Table 5-7).[41] However, H1 was only partially supported by the significant result obtained from the comparison of nested models. Still, the results obtained from analyzing the service data must be treated with caution. This conclusion stems primarily from the various inconsistencies in parameters noted previously, and discussed in the following chapter.

Summary

In general , the MED Model of CS/D seems to represent well the behavior of consumers within the sales context. Furthermore, considerable evidence was found which supports the propositions put forth concerning the differential effects of attribute and consequence level considerations. Still, important inconsistencies were observed. Most notable is the contradiction between the nested and non-nested tests of $H1_{service}$.

The final chapter will attempt to provide an explanation for the contradiction, and illuminate upon the potential differences between the sales and service models. Furthermore, the chapter will draw overall conclusions from the findings, and discuss their implications for theory and practice.

[41]Support for H3 is assumed at the p = .05 level.

VI. CONCLUSIONS, IMPLICATIONS, AND FUTURE RESEARCH

Introduction

To increase the understanding of consumer (dis)satisfaction, this dissertation started with five objectives:

1. To propose an expanded theoretical model of CS/D to include a values-based process.

2. To empirically evaluate the added contribution of a values-based process in explaining variation in CS/D beyond that offered by the traditional disconfirmation process model.

3. To empirically evaluate the added contribution of a values-based process in explaining variation in other postpurchase consumer variables (e.g. repurchase intention, attitude, complaining behavior, etc.) beyond that offered by the traditional disconfirmation process model.

4. To assess the theoretical and practical implications of the study; and

5. To propose avenues for future CS/D research.

This chapter will assess the degree to which these objectives have been met. In doing so, an interpretation of the study's results will first be offered. Next, the study's limitations will be discussed. Following this, the potential contributions of the study will be presented. And finally, suggestions for future research will be made.

Interpretation of Results

The purpose of this dissertation might be summed as an effort to answer one general question:

Does the addition of values-based considerations (i.e., consequences) in a CS/D model add to the understanding of CS/D?

Based upon the results presented in the previous chapter, a likewise general answer would be:

> It appears that the addition of consequences to the disconfirmation model of CS/D does provide a greater understanding of the concept.

The ensuing discussion will attempt to provide a basis for this conclusion. The research questions and the related tests of hypotheses will be used as evidence. However, this evidence should be accepted as tentative in light of the study's limitations discussed later.

Question 1

First, "Does a values-based model of CS/D account for more total variation than the disconfirmation of expectations CS/D model?" Based solely on the sales data, it appears so. The results from $H1_{sales}$ indicate that a model including both attributes and consequences has a superior fit with the data than one having only attributes. Likewise, tests of $H2_{sales}$ show that when directly compared, a model having only consequence level considerations is superior to one having only attributes with respect to fit. Interpretation of these combined results suggests that attributes alone fail to explain CS/D and subsequent behavior as well as models that include consequences.

However, within the service context, the results of $H1_{service}$ and $H2_{service}$ provide conflicting evidence. While the results of $H2_{service}$ suggest that the consequence only model is better than the attribute only model at explaining CS/D emotion and behavior, the results from $H1_{service}$ are mixed. The comparison of non-nested models suggests that an attribute only model is better than a model including both attributes and consequences. However, the comparison of nested models suggests the opposite. As suggested

previously, this inconsistency is attributed to the difficulty in accurately estimating the latter model due to high collinearity between attribute and consequence level considerations. Further inspection of the results supports this premise. First, the causal relationship between primary evaluation of attributes ($PEA_{service}$ or Y_1) and negative emotion ($NEG_{service}$ or Y_3) was significantly positive (i.e., $\beta_{3,1} = .22$) when it was expected to be negative (i.e., $cov_{(PEA,NEG)} = -31.52$).[42] Furthermore, the correlation between the parameter estimates were as high as .92. These high correlations suggest that the model is nearly "non-identified" and that some parameters cannot be accurately determined from the data (Joreskog and Sorbom 1989 p. 42). As such, the estimates are not reliable indicators of the relationships between the variables. Indeed, restraining $\beta_{3,1}$ to be slightly negative resulted in a model with an equally acceptable fit.[43]

Though when modeled separately the consequence only model outperformed the attribute only model, a determination of whether consequences provide additional explanatory value when modeled with attributes cannot be made. Therefore, the results obtained from the analysis of the service data might best be viewed as inconclusive with respect to $H1_{service}$. Even so, the high collinearity between attributes and consequences in the service context suggests that with respect to their statistical roles within the model attributes and consequences are redundant.

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[42]The standardized parameter estimate equaled .22, while the maximum likelihood estimate was .076.

[43]Constraining $\beta_{3,1} = -.005$ resulted in a fit of $\chi^2 = 148.24$ with 11 degrees of freedom and a AGFI = .774.

In light of this, the question arises as to why this was the case with the service data, but not the sales data. A number of explanations might exist. First, the respondents studied indicated they had more experience with the service department than with the sales department.[44] That is, while the sales experience is characteristically limited to the period required to purchase the automobile, the service experience is ongoing for a potentially unlimited period. As a person's experience with an object increases, one might expect their related knowledge structure to also increase. That is, the schema related to the attitude object becomes more developed. As such, a person may be more capable of attributing the outcomes of use to specific attributes. If so, the affect resulting from use experiences with the service department would be more readily attributable to its attributes, thereby increasing the transfer of affect to the attribute level.

Another explanation might lie in the nature of the services. Stated in Chapter 3, economists often use the term "service" to refer to a product's ability to provide positive consequences (Ratchford 1979). The fact that the term "service" is used to characterize a dealership's service department may possess some hidden meaning. That is, to the consumer, a service department may be defined by its outcomes more than its attributes. Indeed, they may have difficulty differentiating between attributes and consequences in a service context. If so, they would not be expected to respond differently to measures pertaining to each. For example, if one's car is not fixed right the first time, it is perhaps unlikely that this outcome will be attributed to anything other than the attributes of the

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[44]Respondents indicated that they had made approximately two sales visits compared to over seven service visits.

service department. On the other hand, the perception that they paid a fair price for their automobile can conceivably be attributed to a number of things which may or may not include dealership attributes (e.g., self attribution, time of year the car was purchased, etc.). Whatever the reason, the difference observed between the sales and service data begs further investigation.

Question 2

The second study question asks "Does the disconfirmation and evaluation of values-based standards have a greater affect on other postpurchase constructs than the disconfirmation of a general set of standards?" The analysis provides reason to believe that consequence level considerations do have a greater impact on postpurchase constructs than do attribute considerations. H4 and H5 for both sales and service indicate that the relationship between the primary evaluation of consequences and CS/D emotions is significantly greater than that between the primary evaluation of attributes and CS/D emotions. The results from $H3_{service}$ suggests that the disconfirmation of consequences has a greater effect on primary evaluation than the disconfirmation of attributes. And though the difference failed to be statistically significant (i.e., the probability > $z_{diff} \approx$ .1539 for $H3_{sales}$), the disconfirmation of sales consequences did have a greater effect on primary evaluation than did the disconfirmation of sales attributes. Taken in whole, these results appear to indicate that in addition to providing a better representation of the data, consequences also provide additional explanation of the CS/D process. That is, the data suggests that CS/D emotion arises more from consumers' disconfirmation and evaluation

of consequences than from attributes. Previous research has failed to identify this distinction (for a notable exception see Gardial et al., 1994).

A further finding relating to the process of CS/D pertains to the role played by CS/D as emotions. Despite the affective nature of the measure used for primary evaluation (i.e., the Delighted-Terrible scale), the data indicates that CS/D measured purely as an emotional construct (i.e., Izard's DES-II) mediates the effects of disconfirmation and primary evaluation on behavioral outcomes. The indication is that CS/D does in fact exist independently from the disconfirmation and primary evaluation of product/service aspects. However, in that competing measures of CS/D were not used, no conclusions may be drawn regarding the superiority of any measure. Rather, the results are taken to indicate that CS/D as emotion mediates the effect between primary evaluation and behavior.

Question 3

The final and perhaps most advancing question addressed by this study is "Does including values-based standards in the CS/D model improve upon our ability to understand and explain variation in consumers' satisfaction and/or dissatisfaction over a model employing only product attribute-based standards?" Based upon the results of the data analysis and the interpretation offered above, the answer is a resounding yes. This answer is not buttressed solely by the "positive" results observed in the sales context, nor is it necessarily weakened by the "inconsistent" results found in the service context. Rather, this position is taken in light of the findings in whole. Regardless of whether

consequences perform superior or inferior relative to attributes in the model of CS/D, what has been shown is that they play a significant role. Even if consequences were merely equal in value to attributes and all of the hypotheses put forth herein failed to be supported, knowledge into the process of CS/D would have been gained. That is, the study has demonstrated that consumers' (dis)satisfaction is dependent not only upon the performance of attributes, but also upon the benefits (detriments) arising from their use.

This is not to say that consequences have not been incorporated in past studies of (dis)satisfaction, rather the implication made here is that attributes and consequences have been identified as independent constructs having independent effects on postpurchase CS/D and behavior. Therefore, the additional understanding provided by the results comes not from the addition of a new construct (i.e., consequences), rather it comes from a new way of treating consequences within the study of CS/D. The contributions of the framework provided by the MED Model of CS/D are discussed more fully later. But first, the study's limitations are revealed.

Limitations of Study

In that an attempt was made to advance both CS/D theory and the methodologies which characterize CS/D research, this study is quite exploratory in nature. Any conclusions or implications based on the above interpretation must be drawn in light of the study's limitations.

The most limiting element of the study was the severe collinearity among the service data variables. As discussed previously, this problem effectively precluded an

dependable analysis within the service context. Although interpretations and conclusions are drawn from the service data analysis, they should be treated with great skepticism.

Second, the distributional characteristics of the data were less than desirable. As is the case with many postpurchase and satisfaction studies (Peterson and Wilson 1992), a number of the studied variables were negatively skewed (i.e., upper-end loaded). Also, the measures of negative CS/D emotion for both the sales and service contexts were highly kurtotic. Although adverse effects on the analysis were not observed as a result, the true impact of these qualities cannot be determined.

A third limitation deals with the nature of the studied sample. As intended, the sample consisted of highly involved automobile dealership customers. As such, no attempt should be made to generalize the results to other products or product use situations. Indeed, the results in a low involvement situation are likely to be different.

Fourth, because the method of analysis involved the testing of structural equations models with *observed* variables, the results of the analysis should be treated as strictly preliminary. Replications of the study and analysis should be performed before placing a high level of confidence in the results. Also, the observed models were estimated assuming the variables were measured without error. As such, the parameter estimates are likely to be different from "reality."

While these limitations are not believed to diminish the contributions of this research, they do suggest that the conclusions previously discussed and implications discussed below should be considered tentative.

Contributions of the Study

This study has served to expand the current paradigm of consumer satisfaction and dissatisfaction. The knowledge obtained not only from the results of the study, but also from its implementation are believed to provide important contributions to both the study and practice of business. Specifically, the study has served to advance the conceptualization of the CS/D process and construct, the technology of CS/D measurement, and the application of CS/D knowledge among practitioners. Each of these areas is discussed below.

Conceptual Contributions

This study is believed to have provided a further understanding of both the CS/D process and the construct of CS/D. To date, it is not apparent that studies of CS/D have explicitly focussed on considerations beyond the attribute level. By demonstrating the unique effects of each on CS/D, this study has served to expand the focus beyond the attribute level considerations to include use consequences. Results from the analysis suggest that CS/D originates from the experience of use consequences in addition to that of attributes. Furthermore, in that consequences appear to have a greater impact on CS/D, the importance of studying consequence (and perhaps values) level considerations in addition to attributes is made more evident.

The study also suggests that CS/D evaluations are perhaps related in a hierarchial fashion. Again, it is not apparent that past studies have taken into account the relationships between postpurchase evaluations. The means-end framework used in this

study provides a avenue by which to further investigate the notion of evaluative relationships in a postpurchase context. As such, there is the potential of identifying taxonomies of these relationships, and their differential impact on subsequent postpurchase constructs. For example, the mere number of relationships might indicate a higher or lower level of involvement. Or, perhaps as the number of connections to an aspect (i.e., attribute or consequence) increase, so does the importance of the aspect.

In that the study successfully operationalized the means-end model in a postpurchase context, this study also has laid the groundwork from which to address several of the CS/D issues identified in the previous chapters. For example, the notion that CS/D is a response to the disconfirmation of performance standards is well accepted in the literature. Examples of alternative standards include expected, desired, normal, ideal, and minimum tolerable performance. However, long standing questions within the study of CS/D include: Which standards have the greatest impact on CS/D, and how might their differential effects be accounted for or explained? It has been suggested elsewhere that the differential effects of these standard types might the result of some underlying dimensions (see Figure 2-2). This study investigated one dimension referred to as *nature* (Woodruff et al, 1991). Consumers were shown to possess standards at both the attribute and consequence level. Furthermore, the study revealed that consequences demonstrate a greater effect on CS/D emotion than attributes. Future investigation might attempt to determine the nature of standard evoked when various standard types are used in measures. For example, the terms *ideals* and *desires* might evoke standards more of a consequence nature, while the term *expected* might elicit standards of an attribute nature.

Another issue for which this study has implications is that regarding the consistency of standards over time. When making prepurchase evaluations of products, consumers have been shown to rely more upon attribute considerations. While during postpurchase settings, consequence considerations are more predominant (e.g., see Gardial et al. 1994). As such, the means-end framework can be used to further investigate differences between pre- and postpurchase contexts. Furthermore, in that some differences were found between the sales and service contexts, the MED model could perhaps be used to investigate differences between other contextual and or situational dimensions (i.e., involvement, risk, level of experience, etc.).

Finally, the study is believed to have contributed to a better understanding of the CS/D construct itself. In that the measures of CS/D used here were shown to mediate the effects of disconfirmation and primary evaluation on subsequent behavior, support is provided for treating CS/D as an emotional reaction.

Measurement

This study successfully used a combination of techniques to identify means-end type considerations and to measure their impact on consumers' (dis)satisfaction. The personal interview technique known as "laddering" was modified for use in a focus group setting. This "group laddering" method resulted in the elicitation of an abundance of attribute and consequence level considerations which were later used in the questionnaire.

A second measurement achievement was the operationalization of the means-end model in a questionnaire. While most studies have relied solely upon personal interviews to investigate the means-end phenomenon, the current effort was successful at assessing means-end concepts using a mail survey. In that a major drawback of the traditional "laddering" technique was greatly reduced (i.e., the cost of implementation and the inability to generalize results), this accomplishment is seen as a major step forward toward the integration of means-end and more traditional methods of research.

A third measurement contribution was the development of a new measure of disconfirmation. An attempt was made to measure disconfirmation in a manner which was independent of a standard type (i.e., expectations, desires, etc.) and void of affect. Though including a standard type proved to be necessary, an affect free measure of the disparity between perceived performance and expectations was successfully developed. Although, assessment of the measure's validity was beyond the scope of the present effort, the preliminary findings suggest that the measure has promise.

Application

And finally, the current study contains implications for the implementation of satisfaction programs by practitioners. As Chapter 1 points out, attempts by business to implement the marketing concept have often failed for a variety of reasons. Perhaps the most ostensible of these has been the difficulty in translating the philosophy of "satisfaction at a profit" into actionable strategies. This is at least in part attributable to the abstract nature of concepts like "value" and "satisfaction" as well as their antecedents.

Though managers might be aware that product value lies in aspects beyond the attribute or product level, their inability to identify and make actionable these aspects has acted as a barrier. The MED Model of CS/D serves to remove this barrier.

This study demonstrates a methodology by which to identify both attribute and consequence level considerations and the relationships between them. The identification of consequences will enable managers to anticipate what is valued by their customers. With little more than an extension of the current effort, managers will be able to identify the relationships between valued consequences and the product/service attributes directly within their control.

Furthermore, whereas previous approaches have done little more than to identify which attributes were (dis)satisfying to consumers, the means-end approach will better enable managers to discern *why* certain attributes might be (dis)satisfying to consumers. In that the MED Model of CS/D can model the specific relationships between postpurchase evaluations of attributes and consequences, managers may become more empowered. For example, if the desired consequence is identified, the manager might choose to adjust the current attribute in a more directed manner, generate new attributes to deliver the consequence, or attempt to more effectively use promotion to change consumer beliefs about the extent to which current attributes provide the desired consequence.

Finally, the MED model is also seen as having implications for the development and use of "strategic systems" by managers. Management information systems (MIS) provide managers with raw data in a variety of areas including the tracking of customer

satisfaction. In that the MED model will make it possible to track both attribute and consequence satisfaction, managers can be provided more actionable data on which to base their decisions. Decision support systems (DSS) are similar to MIS's except the former assist managers in the decision making process. As such, a DSS might be used to "flag" the manager as important shifts occur in attribute or consequence satisfaction. However, perhaps the most intriguing potential application of the MED Model of CS/D within strategic systems is in the development of artificial intelligence or expert systems (ES). ES's use computer technology to simulate human decision making patterns (e.g., see Laudon and Laudon 1988). These systems are based on the knowledge structures, and behavioral patterns of prototypical subjects. As the computer "learns" the patterns of the modeled subjects, it has the potential to anticipate their behavior. In that means-end archetypes are more comprehensive representations of consumer belief structures, they are likely to provide information more suitable for simulating decisions and anticipating satisfaction than would systems based solely upon attribute preferences.

Directions for Future Research

In addition to pointing out the potential contributions of the present effort, the previous discussion also accounted for its limitations. Before research is undertaken to extend beyond the present findings, a stronger foundation must be laid. The following discussion suggests a program of future research which, it is believed here, has the potential to maximize upon the present effort. First, research which might serve to

reinforce the current findings is discussed. Following this, ways in which to expand on the current findings with additional research are suggested.

Replication & Contextual Extension

The limitations discussed above suggest the need to replicate the current research. Indeed, a good rule is to replicate all studies (Kerlinger 1986). However, several factors serve to augment the importance of replication here.

First, this study was highly exploratory in nature. An attempt was made to expand upon the current paradigm of consumer satisfaction by advancing and testing a set of new propositions. While the study results provide substantial support for the propositions, the findings should be placed under scrutiny before they are accepted as valid. That is, future research is needed to test the MED Model of CS/D using alternative measures and methods (e.g., field experiments). For example, alternative methods of analysis such as the comparison of regression models can be used to assess the differential impact of attributes and consequences on CS/D.

A second limitation pertains to the quality of the data. Both the distributional characteristics of the study variables (i.e., skewness) and the nature of the relationships between them (i.e., high collinearity) raise concern. Particularly problematic was the high degree of collinearity among many of the study variables. Future efforts should address the issue of whether the collinearity among the variables represents the "true" relationships among the constructs, or perhaps can be attributed to sources like measurement error and/or response bias.

Third, the data on which the findings are based was gathered from a limited sample of customers. Though the demographic characteristics suggest a moderate level of diversity within the sample, the commonality of their behavior (i.e., each owned the same make of automobile and were patrons of the same dealership) could represent a sampling bias in the form of "behavioral homogeneity." Similarly, the context itself (i.e., the study of automobile dealerships) might have biasing effects. Therefore, replication across contexts and samples is necessary.

Further Development of Measures

Three recommendations are made here with respect to the development and use of measures. First, future research should address both the length and clarity of measures used. For example, two steps were taken here in order to minimize alternative explanations for the observed effects. One, previously developed scales (e.g., DES-II, delighted-terrible) were adopted to measure the proposed constructs. And two, the measurement stems for disconfirmation (i.e., "Compared to what I expected, this item has been . . .") and primary evaluation (i.e., "And, this made me feel . . .") were held constant across the attribute and consequence level aspects. Though more control was achieved with this procedure, in hindsight the measures may have been less than optimal. For example, formulating the consequence items so as to conform with the measurement stems proved difficult, and added significantly to the length of the items (see Table 4-1

and Appendix 1).[45] The added length and potential confusion almost certainly made the respondents' task more arduous. The use of likert-type scales might be one way to alleviate this problem. Subjects could be asked the extent to which they either agree or disagree with the consequence statement "I felt respected by them." As such, this approach would be more concise, and perhaps more discernable to respondents.

Second, future research should focus on the development of a "standard-free" measure of disconfirmation. Recall that the standard "expectation" was used here to ease the burden faced by respondents when presented with a standard-free scale. As such, this measure is subject to many of the same concerns and issues regarding the use of standards raised in Chapters 2. An option to the development of a standard-free scale might be the development of a standard-inclusive scale (i.e., a scale which includes all standard types). Though it is unclear what either of these scales would look like, their potential contributions warrant investigation.

The final measurement challenge for future research is the common problem of upper-end loading on CS/D scales. This problem is not a new one, and is of sufficient importance to warrant immediate action. Some alternative solutions to the problem might include adaptation of current scales, creation of entirely new scales, or even an annotation of instructions.

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[45]That is, the consequence "I felt respected by them" was lengthened to "The extent to which I feel respected by them."

Research Extensions

One suggested research extension pertains to the notion that the differential effects of attributes and consequences might be mediated by the level of experience a consumer has. The idea that the role of attributes and consequences in CS/D determination might change with experience is intriguing. Longitudinal studies should be conducted to investigate the changing roles (if any) of attributes and consequences over time.

A second extension of this research surrounds the properties of standards discussed in Chapter 2. Woodruff et al. (1991) proposed three dimensions which might characterize standard types (i.e., nature, perceptual distinctiveness, and level). This study served to investigate the role that standard *nature* (i.e., attributes and consequences) plays in determining consumer (dis)satisfaction. Contributions can be made by further investigating the nature of standards in conjunction with the dimensions of perceptual distinctiveness and level. For example, questions to be addressed might include:

1. Are consequence level *standards* more or less perceptually distinct than attribute level standards?

2. Are consequence level *perceptions* more or less perceptually distinct than attribute level perceptions?

3. Are consequences associated with higher or lower levels of performance than attributes?

4. Does a standard's perceptual distinctiveness influence the likelihood that consumers will use the standard when making postpurchase evaluations?

5. Does perceptual distinctiveness influence the degree of disconfirmation perceived by consumers?

6. Does perceptual distinctiveness influence the degree of emotion arising from disconfirmation?

Another research extension might study the nature of the connections between attributes and consequences (i.e., instrumental beliefs). The previous chapters have offered a good deal of discussion regarding the relationship between attributes and consequences, but to date there have been no specific investigations of this relationship. Questions which might be posed include:

1. Are attributes which are connected to consequences perceived as more important than those which are not?

2. Does the number of connections between an attribute and consequences mediate the perceived importance of the attribute?

3. Does the strength of the connection (i.e., belief) between attributes and consequences mediate the importance of the attribute?

The final suggested extension of the current research focuses on the perceptual dimensions of consumers' product use experiences, and the effect of these dimensions on satisfaction and dissatisfaction. Here, perceptual dimensions refer to the various meanings consumers attach to products and their use. To date, product dimensionality has been limited to the attributes which constitute a product. Investigations as to the effects of these dimensions on (dis)satisfaction have often taken the form of what amounts to traditional regression analysis, with (dis)satisfaction as the dependent variable. That is, consumers' experiences of (dis)satisfaction are regressed on their perceptions and/or evaluations of the dimensions (Figure 6-1).[46] In that no distinction is

[46]To simplify the model, the relationships between the independent variables and the error terms of the dependent variables are omitted from Figure 6-1.

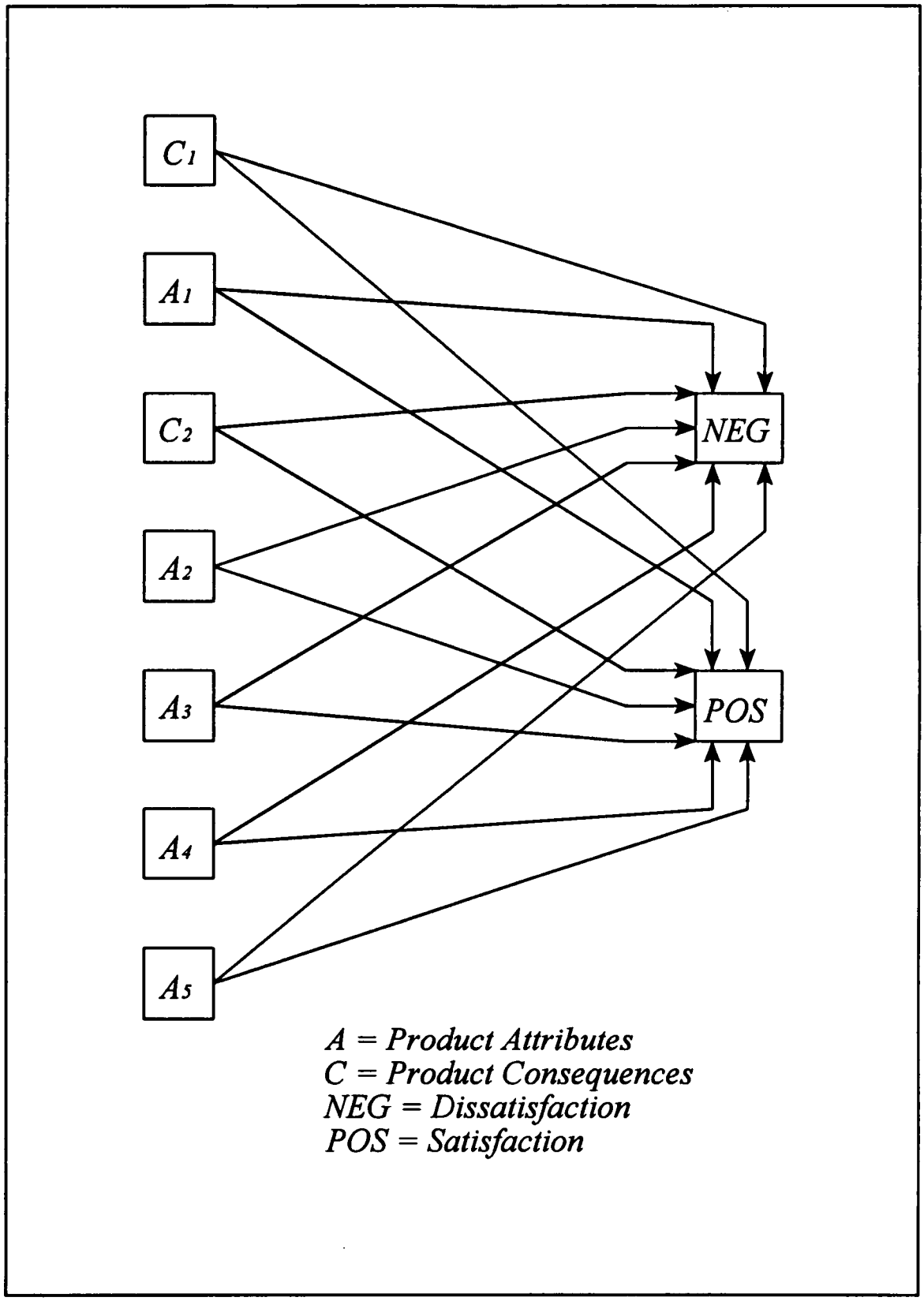


Figure 6-1: Simplified Regression Model

made regarding the nature (e.g., attributes and/or consequences) of the dimensions, attributes and consequences are modeled in the same way.

Integrating means-end theory with this traditional approach provides an opportunity to investigate further the dimensionality of product use experiences. For example, dimensions might be represented by the relationships between product attributes and consequences which together represent a common meaning or "vector" (see Figure 6-2). The effect of these vectors can be assessed using a modified form of regression analysis or path analysis (Joreskog & Sorbom 1989). Unlike traditional regression analysis, the perhaps spurious relationships (correlations) among the independent variables can be removed. Variables are instead modeled according the perceptual dimensions elicited from consumers. In this way, the effects of consequences and attributes on consumer (dis)satisfaction may be more accurately modeled.

Closing

In closing, the results of this research are very promising. Advances in cognitive science have been capitalized upon to improve the understanding of (dis)satisfaction. Though a complete understanding of consumers' postpurchase evaluations of product use experiences remains considerably distant, another step has been taken toward this end. Hopefully, this research will serve as the groundwork for future inquiries into the nature of product use experiences and evaluations. It is further hoped this work will one day culminate in providing managers of business a better means by which to insure the delivery of value to their customers.

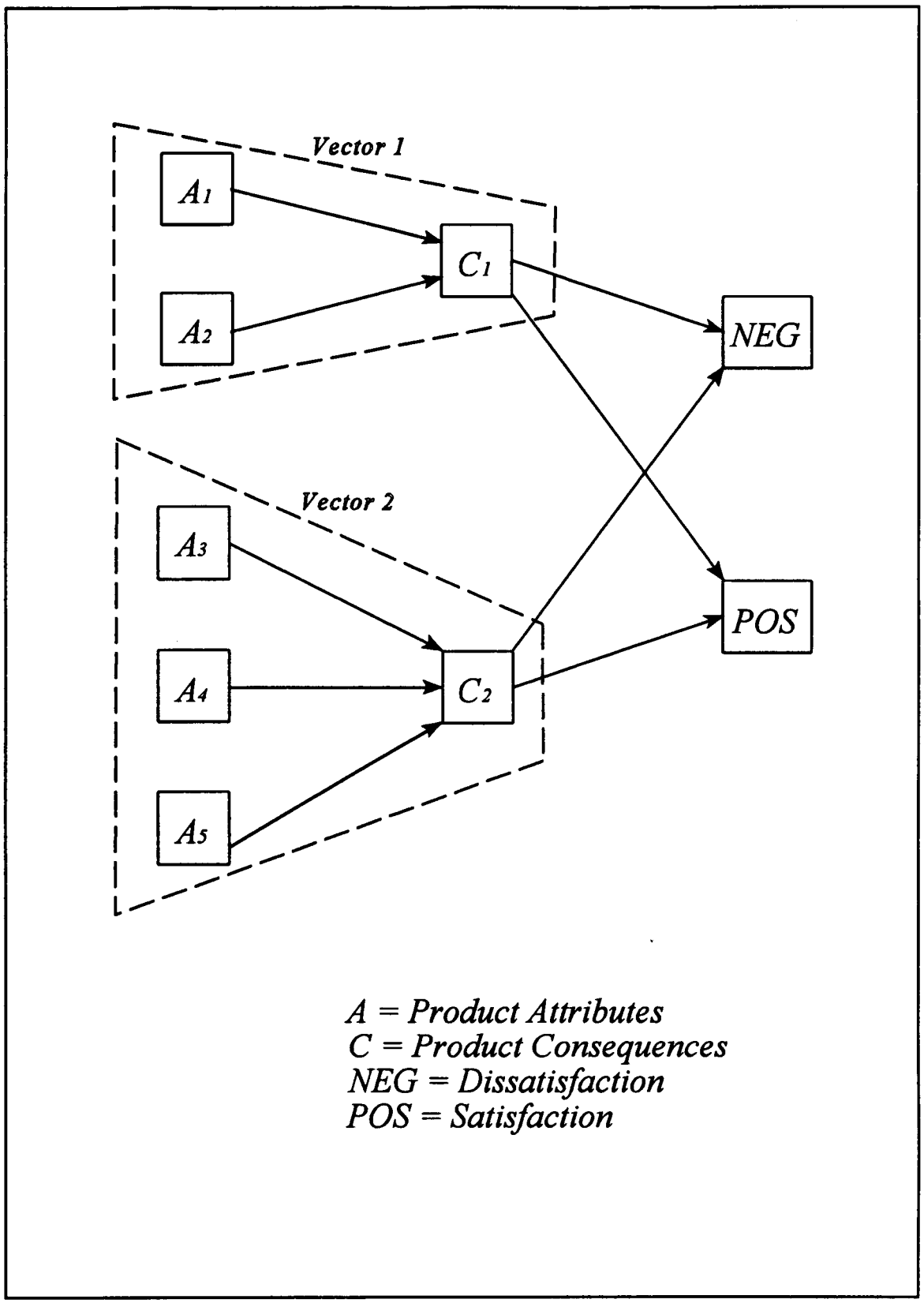


Figure 6-2: "Vector" Regression Model

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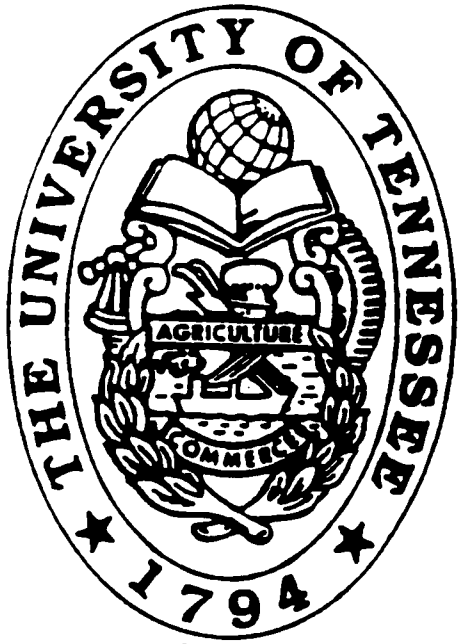
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APPENDICES

APPENDIX 1
STUDY QUESTIONNAIRE

A Study of Dealership Satisfaction



The University of Tennessee

Please return using the provided postage paid envelope,
or send to address on back.

PART I: GENERAL INFORMATION

Please place your answers to the following questions in the space to the right of each.

-- Including Saturn of Knoxville, how many different dealerships did you visit when shopping for your new car? _____ dealerships

-- How many times did you visit Saturn of Knoxville before purchasing your Saturn automobile? _____ times

-- Approximately how many times have you had your Saturn automobile serviced at Saturn of Knoxville, including "routine maintenance"? _____ times

-- Including your Saturn, how many cars have you purchased new from a dealership? _____ cars

-- How long have you been a Saturn of Knoxville Customer? _____years & _____months

Please respond to the following items by circling the number which best represents your opinion.

-- When selecting from the many makes and models of automobiles, would you say that:

I would not care at all as to which dealership I buy from 1 2 3 4 5 6 7 I would care a great deal as to which dealership I buy from

-- In general, would you say that the various automobile dealerships available to you are:

All very alike 1 2 3 4 5 6 7 All very different

-- How important would it be to you to make a right choice of an automobile dealership?

Not at all important 1 2 3 4 5 6 7 Extremely important

-- When selecting an automobile dealership, how concerned are you about the outcome of your choice?

Not at all concerned 1 2 3 4 5 6 7 Very much concerned

-- When selecting an automobile dealership, would you say that:

There is little to lose by choosing poorly 1 2 3 4 5 6 7 There is a lot to lose by choosing poorly

INSTRUCTIONS FOR PARTS II & III

Listed on the left side of the next few pages are several items often associated with automobile dealerships. The items in Part II apply to the sales department, those in Part III apply to the service department. For each item, we would like to know two things.

1. In Column 1, please indicate the extent to which your experience with this item has been different than you expected.

2. In Column 2, please indicate how this made you feel as a result.

For example, consider the item below ("the physical facilities"). If you believe the physical facilities have been **somewhat different** than expected, then you would respond as shown in column 1 below. If this made you feel **unhappy** as a result, then you would respond as shown in column 2.

Please respond in columns 1 & 2 for each item before moving on to the next item!

	Compared to what I expected, this item has been.....	And, this made me feel.....
	↓	↓
	0 = Not at all different 1 = Slightly different 2 = Somewhat different 3 = Very different 4 = Completely different	- 3 = Terrible - 2 = Unhappy - 1 = Mostly Dissatisfied 0 = Mixed +1 = Mostly Satisfied +2 = Pleased +3 = Delighted
The physical facilities	[0] [1] [X] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]

PART II: THE SALES DEPARTMENT

The items in this section concern the Sales Department	Compared to what I expected, this item has been..... 0 = Not at all different 1 = Slightly different 2 = Somewhat different 3 = Very different 4 = Completely different	And, this made me feel..... - 3 = Terrible - 2 = Unhappy - 1 = Mostly Dissatisfied 0 = Mixed +1 = Mostly Satisfied +2 = Pleased +3 = Delighted
My salesperson's performance	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The sales manager's performance	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The sales department's hours of operation	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The number of cars they had available at the dealership	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The location of the sales facility	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The appearance of the sales facility	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The sales brochures and / or literature	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The dealership's receptionist / phone operator	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The test drive they provided	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The dealership's "one price, no negotiation" policy	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The dealership's "on the spot" financing	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The "30 days or 1000 miles money back guarantee"	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]

PART II (CONT): THE SALES DEPARTMENT

The items in this section concern the Sales Department	Compared to what I expected, this item has been..... ↓ 0 = Not at all different 1 = Slightly different 2 = Somewhat different 3 = Very different 4 = Completely different	And, this made me feel..... ↓ - 3 = Terrible - 2 = Unhappy - 1 = Mostly Dissatisfied 0 = Mixed +1 = Mostly Satisfied +2 = Pleased +3 = Delighted
The extent to which I feel respected by them	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which I feel appreciated by them	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
My level of comfort during the buying experience	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The degree to which I felt harassed	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which I was fully informed before buying my car	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The amount of pressure I felt during the buying experience	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which they tried to take advantage of me	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
My confidence that I paid a fair price for my Saturn	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which I was able to trust them	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which they value me as a customer	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The degree to which they have my best interest in mind	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]

PART III: THE SERVICE DEPARTMENT

The items in this section concern the Service Department	Compared to what I expected, this item has been..... ↓ 0 = Not at all different 1 = Slightly different 2 = Somewhat different 3 = Very different 4 = Completely different	And, this made me feel..... ↓ - 3 = Terrible - 2 = Unhappy - 1 = Mostly Dissatisfied 0 = Mixed +1 = Mostly Satisfied +2 = Pleased +3 = Delighted
The service manager	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The service mechanics	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The size of the service department	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The speed of service	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The availability of loaner cars	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
Their explanation of the service being performed	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The service department's hours of operation	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The location of the service department	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The cleanliness of the service department	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The 1-800 Saturn customer service number	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The customer waiting area	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The price of scheduled routine maintenance	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The price of repairs other than routine maintenance	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]

PART III (CONT): THE SERVICE DEPARTMENT

The items in this section concern the Service Department	Compared to what I expected, this item has been..... ↓ 0 = Not at all different 1 = Slightly different 2 = Somewhat different 3 = Very different 4 = Completely different	And, this made me feel..... ↓ - 3 = Terrible - 2 = Unhappy - 1 = Mostly Dissatisfied 0 = Mixed +1 = Mostly Satisfied +2 = Pleased +3 = Delighted
The convenience of having my car serviced	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which I feel respected by them	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which I can trust them	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which my car is repaired right the first time	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which having my car serviced interferes with my day	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which they listen to what I tell them	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The degree to which they will do what is necessary to repair my car	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which they value me as a customer	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which I am informed about the service being performed	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which they make me feel as if I am imposing on them	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]
The extent to which they treat me like a number	[0] [1] [2] [3] [4]	☞ [-3] [-2] [-1] [0] [+1] [+2] [+3]

PART IV: YOUR FEELINGS TOWARD THE SALES & SERVICE DEPARTMENTS

Below are lists of terms which might describe how some people feel toward their experiences with Saturn of Knoxville.

Considering all of your experiences with **only the Sales Department**, how often have you felt the following?

Please Choose from "0 = Never" to "4 = Very Often" for each term listed below.

	Never	Seldom	Occasion-ally	Often	Very Often
Disappointed	[0]	[1]	[2]	[3]	[4]
Delighted	[0]	[1]	[2]	[3]	[4]
Happy	[0]	[1]	[2]	[3]	[4]
Satisfied	[0]	[1]	[2]	[3]	[4]
Angry	[0]	[1]	[2]	[3]	[4]
Offended	[0]	[1]	[2]	[3]	[4]
Proud	[0]	[1]	[2]	[3]	[4]
Pleased	[0]	[1]	[2]	[3]	[4]
Dissatisfied	[0]	[1]	[2]	[3]	[4]
Regretful	[0]	[1]	[2]	[3]	[4]

Considering all of your experiences with **only the Service Department**, how often have you felt the following?

Please Choose from "0 = Never" to "4 = Very Often" for each term listed below.

	Never	Seldom	Occasion-ally	Often	Very Often
Disappointed	[0]	[1]	[2]	[3]	[4]
Delighted	[0]	[1]	[2]	[3]	[4]
Happy	[0]	[1]	[2]	[3]	[4]
Satisfied	[0]	[1]	[2]	[3]	[4]
Angry	[0]	[1]	[2]	[3]	[4]
Offended	[0]	[1]	[2]	[3]	[4]
Proud	[0]	[1]	[2]	[3]	[4]
Pleased	[0]	[1]	[2]	[3]	[4]
Dissatisfied	[0]	[1]	[2]	[3]	[4]
Regretful	[0]	[1]	[2]	[3]	[4]

PART V: GENERAL OPINIONS

Please indicate the extent to which you either disagree or agree with the following statements by marking the appropriate response.

-3 = Strongly Disagree
-2 = Somewhat Disagree
-1 = Slightly Disagree
0 = Neither Agree nor Disagree
+1 = Slightly Agree
+2 = Somewhat Agree
+3 = Strongly Agree

If I had it to do over, I would purchase my Saturn from a different Saturn dealership.	[-3]	[-2]	[-1]	[0]	[+1]	[+2]	[+3]
I would rather have my car serviced at another dealership.	[-3]	[-2]	[-1]	[0]	[+1]	[+2]	[+3]
I would recommend the Saturn of Knoxville Sales Department to a close friend.	[-3]	[-2]	[-1]	[0]	[+1]	[+2]	[+3]
I would recommend the Saturn of Knoxville Service Department to a close friend.	[-3]	[-2]	[-1]	[0]	[+1]	[+2]	[+3]
Overall, I feel positive about the Sales Department at Saturn of Knoxville.	[-3]	[-2]	[-1]	[0]	[+1]	[+2]	[+3]
Overall, I feel positive about the Service Department at Saturn of Knoxville.	[-3]	[-2]	[-1]	[0]	[+1]	[+2]	[+3]
Overall, I feel Saturn of Knoxville is an excellent dealership.	[-3]	[-2]	[-1]	[0]	[+1]	[+2]	[+3]
If possible, I will purchase my next car from Saturn of Knoxville.	[-3]	[-2]	[-1]	[0]	[+1]	[+2]	[+3]
If possible, I will continue having my car serviced at Saturn of Knoxville.	[-3]	[-2]	[-1]	[0]	[+1]	[+2]	[+3]

Please respond to each of the following by marking the most appropriate response.

-- Overall, how Satisfied or Dissatisfied are you with the Saturn of Knoxville Sales Department?

[-3]	[-2]	[-1]	[0]	[+1]	[+2]	[+3]
Very Dissatisfied	Somewhat Dissatisfied	Slightly Dissatisfied	Neither	Slightly Satisfied	Somewhat Satisfied	Very Satisfied

-- Overall, how Satisfied or Dissatisfied are you with the Saturn of Knoxville Service Department?

[-3]	[-2]	[-1]	[0]	[+1]	[+2]	[+3]
Very Dissatisfied	Somewhat Dissatisfied	Slightly Dissatisfied	Neither	Slightly Satisfied	Somewhat Satisfied	Very Satisfied

PART VI: GENERAL INFORMATION ABOUT YOU

Please tell us a little about yourself. Your answers to the following questions will never be identified with you, but will be combined with those of the other participants in the study in summary fashion.

1. Your sex is: _____ Female _____ Male

2. Your Marital status is: _____ Married _____ Single

3. Your age is: _____

4. How many people live in your household, including yourself? _____

5. Which of the following best describes the level of education you have received?

_____ Less than four years of high school
_____ High school graduate or GED
_____ Technical or trade school graduate
_____ Some College
_____ College graduate
_____ Some post-college graduate schooling
_____ Graduate degree

6. Your primary occupation is: _____

7. Your estimated annual household income is:

_____ $1 - 15,000	_____ $15,001 - 30,000	_____ $30,001 - 45,000
_____ $45,001 - 60,000	_____ $60,001 - 75,000	_____ $75,001 - 90,000
_____ $90,001 - 105,000	_____ $105,001 - 120,000	_____ $120,001 - and up

If you could change anything about the Saturn of Knoxville dealership, what would you change, and <u>why</u>? Or, please use the space below to write any comments and/or questions concerning Saturn of Knoxville or this survey. Use the space on the back of the booklet if necessary. Your comments will be read and taken into account.

_____

_____

_____

_____

_____

_____

— *Thank You!* —

Please return to:
Attention: DSC
The University of Tennessee
309 Stokely Management Center
Knoxville, TN 37916-9989

APPENDIX 2
DESCRIPTIVE STATISTICS FOR SALES DEPARTMENT VARIABLES

UNIVARIATE SUMMARY STATISTICS FOR SALES DATA: SAMPLE SIZE = 323

Variable	Mean	Std Dev	Kurtosis	Skewness	Minimum	Maximum	N
DA01	7.04	1.70	1.04	-1.17	1.00	9.00	323
DA02	6.28	1.93	-.28	-.60	1.00	9.00	318
DA03	5.96	1.32	-.21	.51	2.00	9.00	317
DA04	5.33	1.96	-.68	-.28	1.00	9.00	321
DA05	4.96	1.43	2.23	-.12	1.00	9.00	321
DA06	6.58	1.52	-.84	-.16	3.00	9.00	323
DA07	6.52	1.67	-.11	-.42	1.00	9.00	323
DA08	5.90	1.54	-.09	.27	2.00	9.00	320
DA09	6.39	1.58	.02	-.14	1.00	9.00	323
DA10	6.45	2.83	-.94	-.75	1.00	9.00	321
DA11	5.80	1.53	-.08	.46	1.00	9.00	294
DA12	7.29	2.04	.74	-1.19	1.00	9.00	309
PEA01	5.72	1.02	.70	-.78	2.0	7.0	323
PEA02	5.14	1.36	.72	-.88	1.0	7.0	318
PEA03	5.26	.95	.87	-.33	1.0	7.0	317
PEA04	4.70	1.25	.36	-.75	1.0	7.0	321
PEA05	4.45	1.42	-.27	-.33	1.0	7.0	321
PEA06	5.67	.90	-.55	-.25	3.0	7.0	323
PEA07	5.52	1.06	1.94	-.81	1.0	7.0	323
PEA08	5.14	1.16	1.17	-.63	1.0	7.0	320
PEA09	5.64	1.06	2.83	-1.20	1.0	7.0	323
PEA10	5.41	1.50	-.41	-.67	1.0	7.0	321
PEA11	5.04	1.29	.07	-.30	1.0	7.0	294
PEA12	6.00	1.27	3.32	-1.66	1.0	7.0	309
DC01	6.72	1.82	-.57	-.59	2.0	9.0	323
DC02	6.85	1.79	-.63	-.58	2.0	9.0	323
DC03	6.92	1.80	-.04	-.75	1.0	9.0	323
DC04	7.14	1.84	-.24	-.74	1.0	9.0	321
DC05	7.08	1.67	.45	-.92	2.0	9.0	323
DC06	7.19	1.81	-.37	-.73	2.0	9.0	323
DC07	7.06	1.89	-.53	-.71	1.0	9.0	322
DC08	6.98	1.83	-.72	-.58	2.0	9.0	319
DC09	6.91	1.83	-.69	-.60	2.0	9.0	323
DC10	6.94	1.81	-.77	-.55	2.0	9.0	321
DC11	6.73	1.76	-.85	-.38	2.0	9.0	321
PEC01	5.50	1.23	.30	-.73	1.0	7.0	323
PEC02	5.58	1.25	.01	-.68	1.0	7.0	323
PEC03	5.74	1.10	.16	-.70	2.0	7.0	323
PEC04	5.95	1.23	2.57	-1.46	1.0	7.0	321
PEC05	5.74	1.11	1.87	-1.13	1.0	7.0	323
PEC06	5.97	1.14	1.19	-1.13	1.0	7.0	323
PEC07	5.75	1.32	1.34	-1.19	1.0	7.0	322
PEC08	5.84	1.18	.59	-.96	1.0	7.0	319
PEC09	5.69	1.20	.18	-.77	1.0	7.0	323
PEC10	5.60	1.32	.70	-.94	1.0	7.0	321
PEC11	5.36	1.31	.23	-.66	1.0	7.0	321

(continued on next page)

UNIVARIATE SUMMARY STATISTICS FOR SALES DATA: SAMPLE SIZE = 323

Variable	Mean	Std Dev	Kurtosis	Skewness	Minimum	Maximum	N
ES01	.69	.84	.80	1.09	0	4	323
ES02	2.71	1.00	-.18	-.49	0	4	323
ES03	2.86	.89	-.11	-.47	0	4	323
ES04	3.10	.86	.43	-.83	0	4	323
ES05	.58	.97	3.34	1.92	0	4	323
ES06	.39	.82	5.83	2.41	0	4	323
ES07	2.55	1.21	-.40	-.61	0	4	323
ES08	3.01	.88	.10	-.68	0	4	323
ES09	.67	.88	1.76	1.41	0	4	323
ES10	.47	.95	6.11	2.51	0	4	323
B1	5.68	1.96	.41	-1.30	1.0	7.0	323
B3	6.11	1.41	2.91	-1.81	1.0	7.0	323
B5	6.10	1.28	2.52	-1.68	1.0	7.0	323
B8	5.30	1.97	-.20	-.97	1.0	7.0	323

APPENDIX 3
DESCRIPTIVE STATISTICS FOR SERVICE DEPARTMENT VARIABLES

UNIVARIATE SUMMARY STATISTICS FOR SERVICE DATA: SAMPLE SIZE = 306

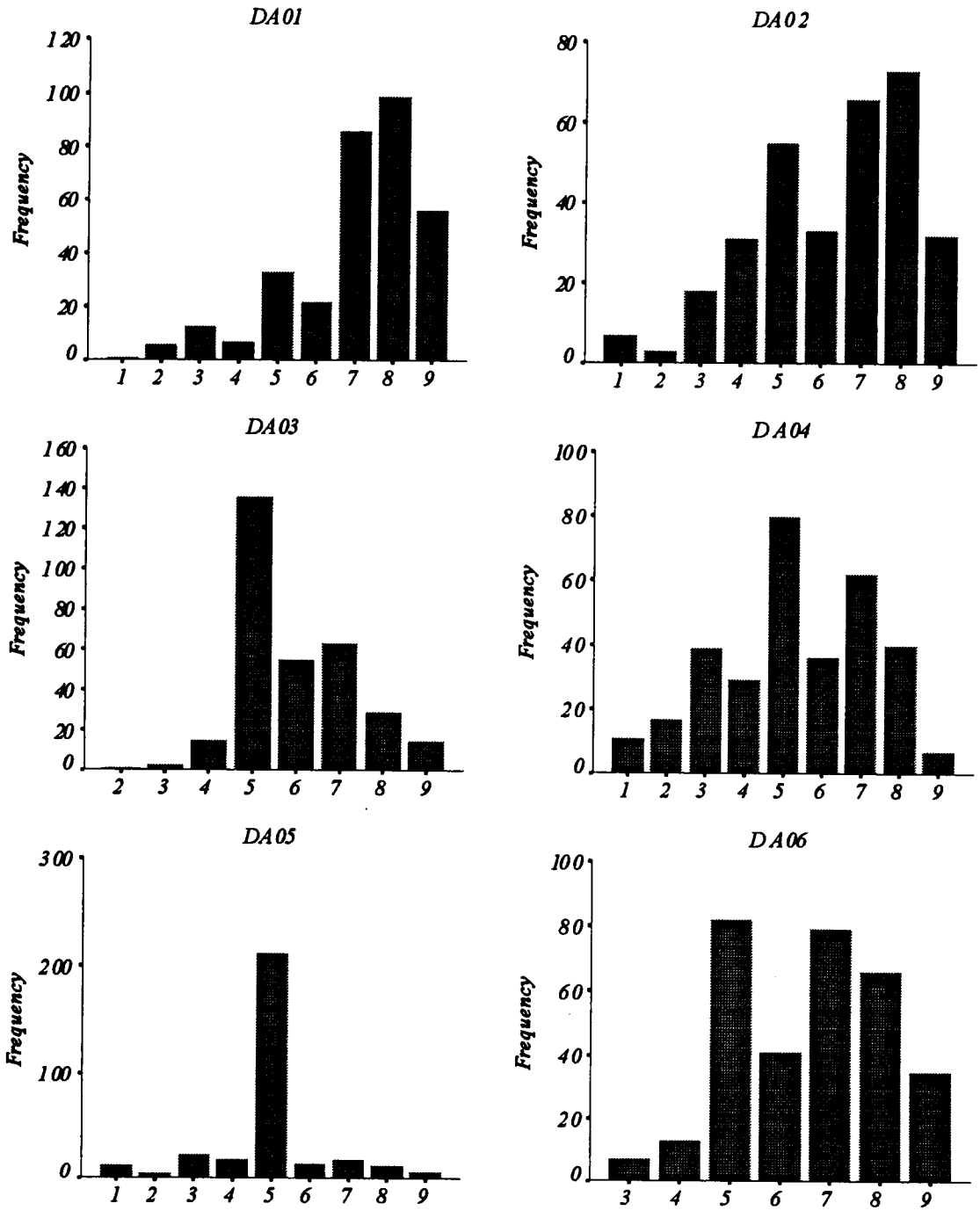
Variable	Mean	Std Dev	Kurtosis	Skewness	Minimum	Maximum	N
DA01	6.94	1.73	-.17	-.68	1.0	9.0	306
DA02	6.73	1.63	-.57	-.38	2.0	9.0	303
DA03	6.35	1.60	-.71	-.05	2.0	9.0	302
DA04	6.86	1.86	-.17	-.74	1.0	9.0	305
DA05	6.43	1.94	-.67	-.32	1.0	9.0	282
DA06	6.67	1.90	-.05	-.66	1.0	9.0	306
DA07	6.30	1.69	-.87	.14	2.0	9.0	302
DA08	5.86	1.72	-.23	.24	1.0	9.0	305
DA09	7.26	1.60	-.32	-.67	2.0	9.0	306
DA10	7.24	1.75	-.05	-.82	1.0	9.0	299
DA11	6.78	1.67	-.76	-.28	2.0	9.0	305
DA12	6.42	1.98	-.40	-.47	1.0	9.0	304
DA13	5.99	1.80	-.30	-.15	1.0	9.0	285
PEA01	5.66	1.32	1.67	-1.19	1.0	7.0	306
PEA02	5.54	1.16	.49	-.77	2.0	7.0	303
PEA03	5.39	1.18	2.05	-1.03	1.0	7.0	302
PEA04	5.57	1.40	.76	-1.05	1.0	7.0	305
PEA05	5.22	1.54	-.30	-.60	1.0	7.0	282
PEA06	5.44	1.51	1.09	-1.19	1.0	7.0	306
PEA07	5.23	1.42	.77	-.87	1.0	7.0	302
PEA08	4.94	1.51	.23	-.73	1.0	7.0	305
PEA09	6.02	.91	.64	-.79	2.0	7.0	306
PEA10	5.89	1.03	-.05	-.70	2.0	7.0	299
PEA11	5.62	1.13	.61	-.75	1.0	7.0	305
PEA12	5.23	1.47	.78	-.94	1.0	7.0	304
PEA13	4.84	1.44	.32	-.68	1.0	7.0	285
DC01	6.21	1.85	-.39	-.28	1.0	9.0	305
DC02	6.72	1.84	-.54	-.46	1.0	9.0	304
DC03	6.72	1.94	-.66	-.54	1.0	9.0	306
DC04	6.35	2.09	-.35	-.52	1.0	9.0	303
DC05	5.60	1.93	-.31	.01	1.0	9.0	304
DC06	6.59	1.91	-.59	-.42	1.0	9.0	304
DC07	6.73	1.87	-.49	-.49	1.0	9.0	300
DC08	6.78	1.94	-.71	-.49	1.0	9.0	306
DC09	6.80	1.78	-.50	-.49	2.0	9.0	306
DC10	6.55	1.92	-1.08	-.21	2.0	9.0	306
DC11	6.78	1.90	-.71	-.50	1.0	9.0	306
PEC01	5.08	1.50	-.02	-.70	1.0	7.0	305
PEC02	5.48	1.33	.65	-.86	1.0	7.0	304
PEC03	5.50	1.37	.48	-.88	1.0	7.0	306
PEC04	5.22	1.71	.31	-1.03	1.0	7.0	303
PEC05	4.53	1.74	-.47	-.50	1.0	7.0	304
PEC06	5.45	1.42	.95	-1.02	1.0	7.0	304
PEC07	5.54	1.45	1.54	-1.25	1.0	7.0	300
PEC08	5.59	1.31	.69	-.87	1.0	7.0	306
PEC09	5.60	1.31	.89	-1.04	1.0	7.0	306
PEC10	5.51	1.38	.69	-.97	1.0	7.0	306
PEC11	5.58	1.44	1.29	-1.17	1.0	7.0	306

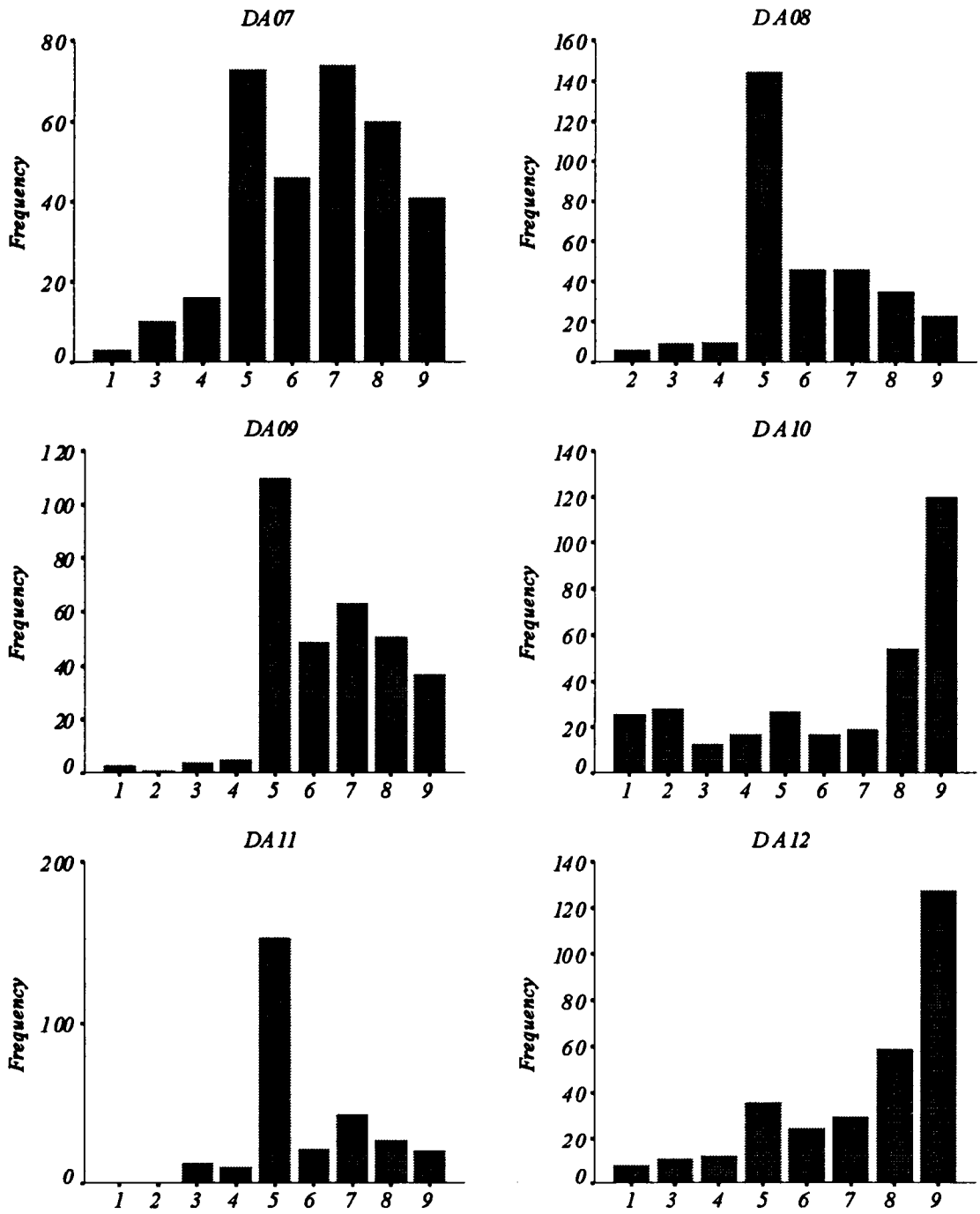
(Continuted on next page)

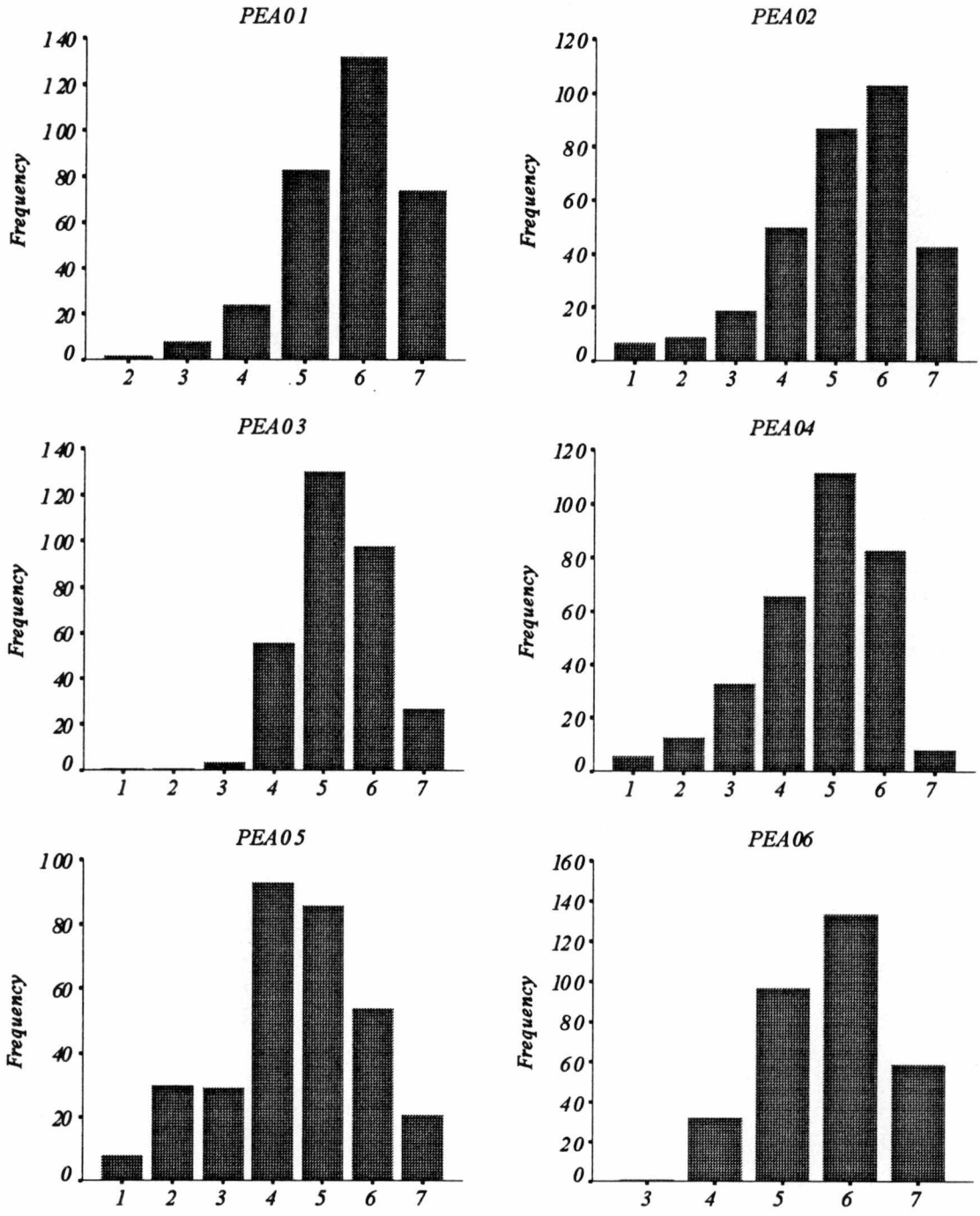
UNIVARIATE SUMMARY STATISTICS FOR SERVICE DATA: SAMPLE SIZE = 306

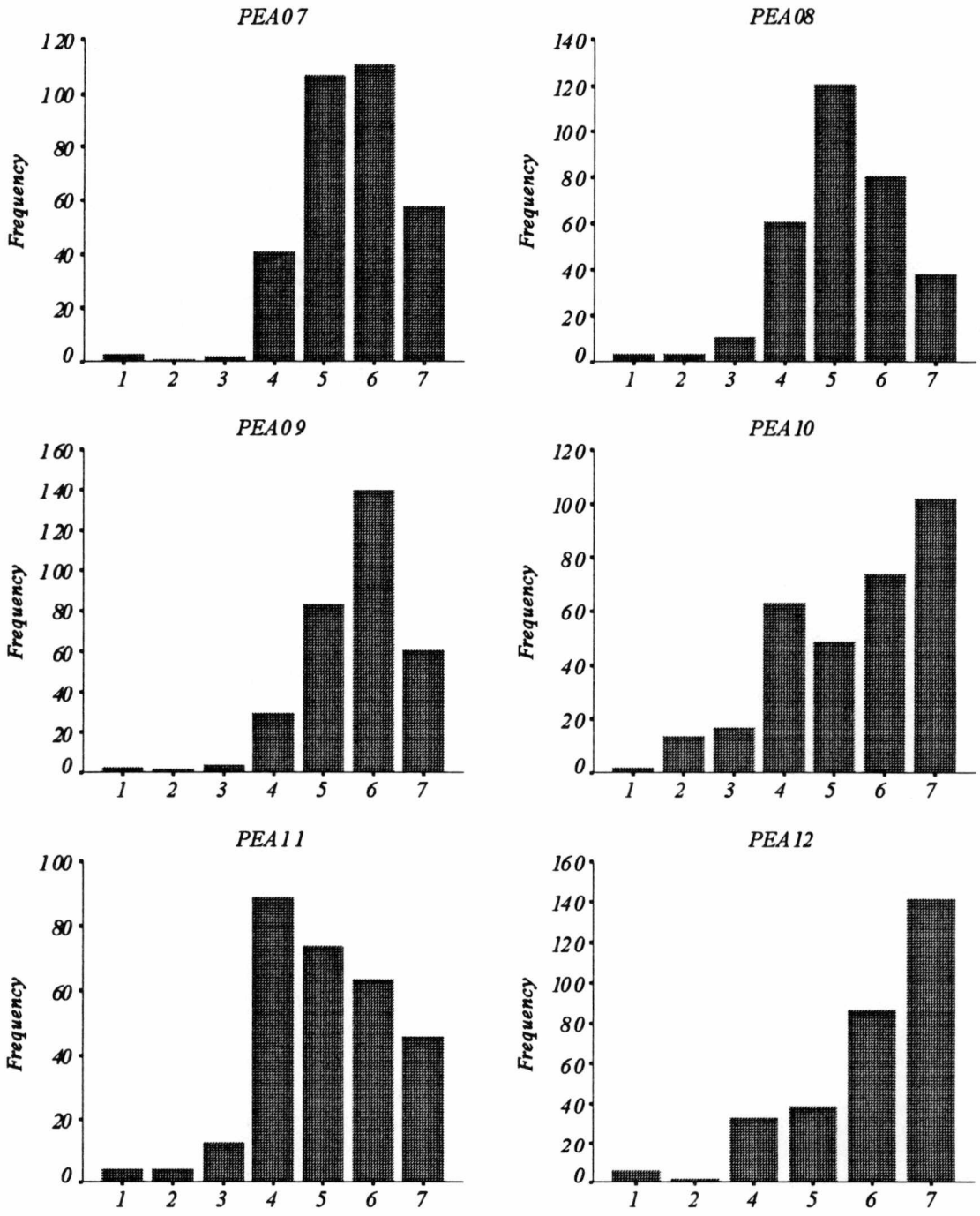
Variable	Mean	Std Dev	Kurtosis	Skewness	Minimum	Maximum	N
ER01	.90	1.06	.45	1.08	0	4	306
ER02	2.68	1.17	-.31	-.66	0	4	306
ER03	2.81	1.06	-.05	-.71	0	4	306
ER04	3.02	1.01	.41	-.95	0	4	306
ER05	.64	1.03	2.24	1.71	0	4	306
ER06	.39	.89	6.06	2.54	0	4	306
ER07	2.35	1.34	-.95	-.41	0	4	306
ER08	2.95	1.02	.37	-.92	0	4	306
ER09	.76	1.02	.92	1.29	0	4	306
ER10	.55	1.03	3.93	2.13	0	4	306
B2	5.64	2.06	.16	-1.27	1.0	7.0	306
B4	5.82	1.74	.96	-1.43	1.0	7.0	306
B6	5.87	1.69	1.31	-1.52	1.0	7.0	306
B9	5.83	1.75	1.03	-1.42	1.0	7.0	306

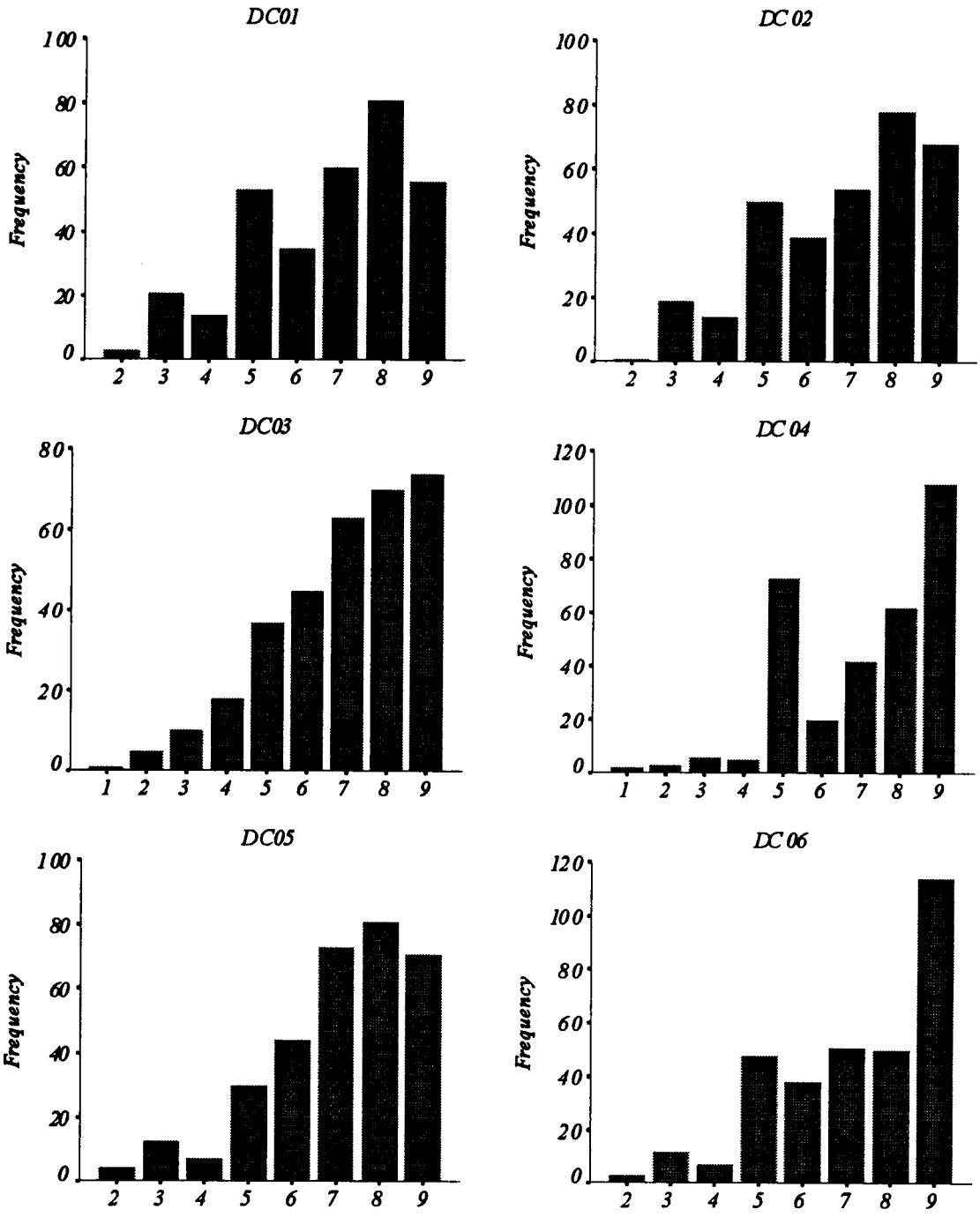
APPENDIX 4
DISTRIBUTIONS FOR SALES VARIABLES

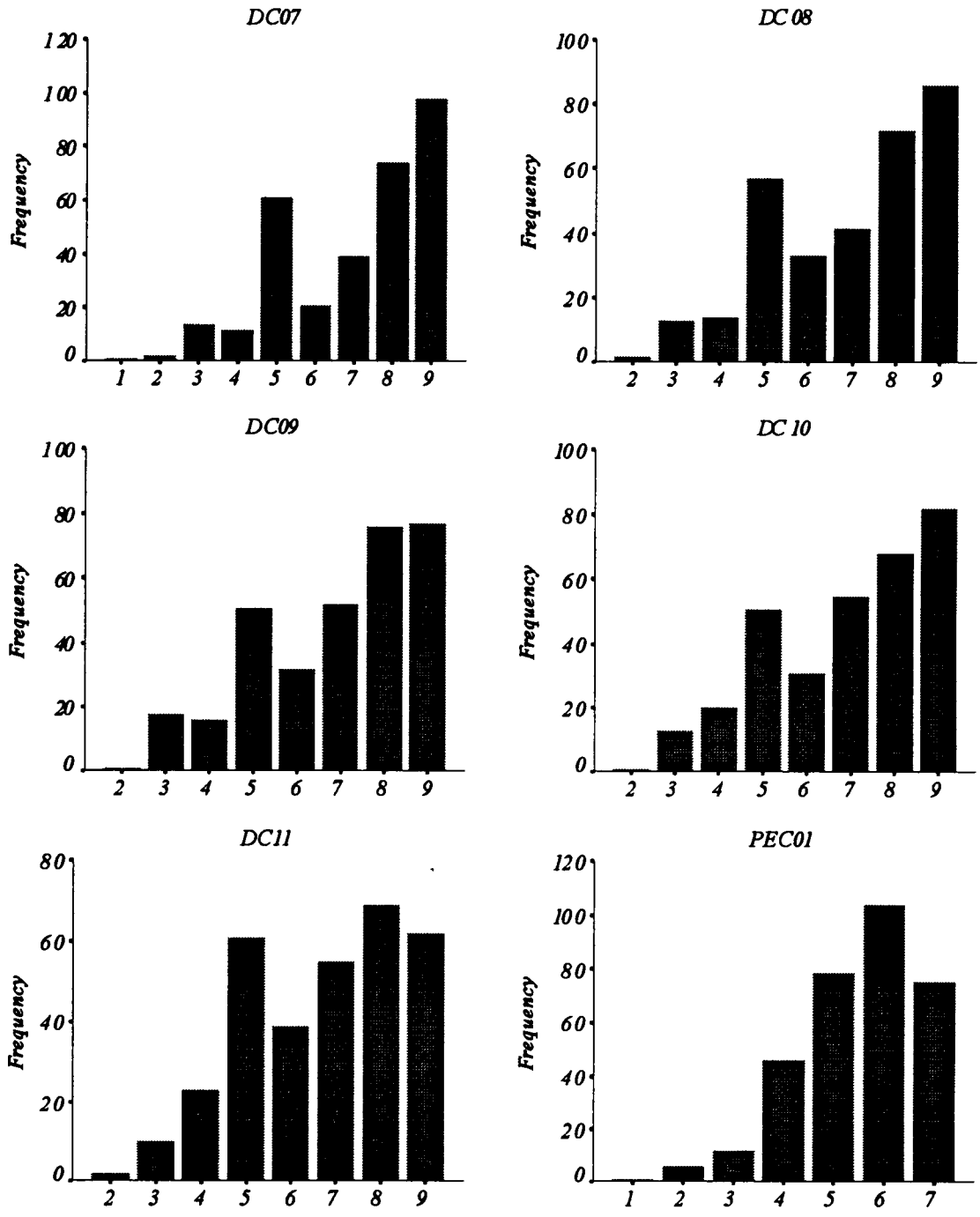

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40
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DA02
Frequency
80
60
40
20
0
1 2 3 4 5 6 7 8 9
DA03
Frequency
160
140
120
100
80
60
40
20
0
2 3 4 5 6 7 8 9
DA04
Frequency
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9
DA05
Frequency
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1 2 3 4 5 6 7 8 9
DA06
Frequency
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0
3 4 5 6 7 8 9

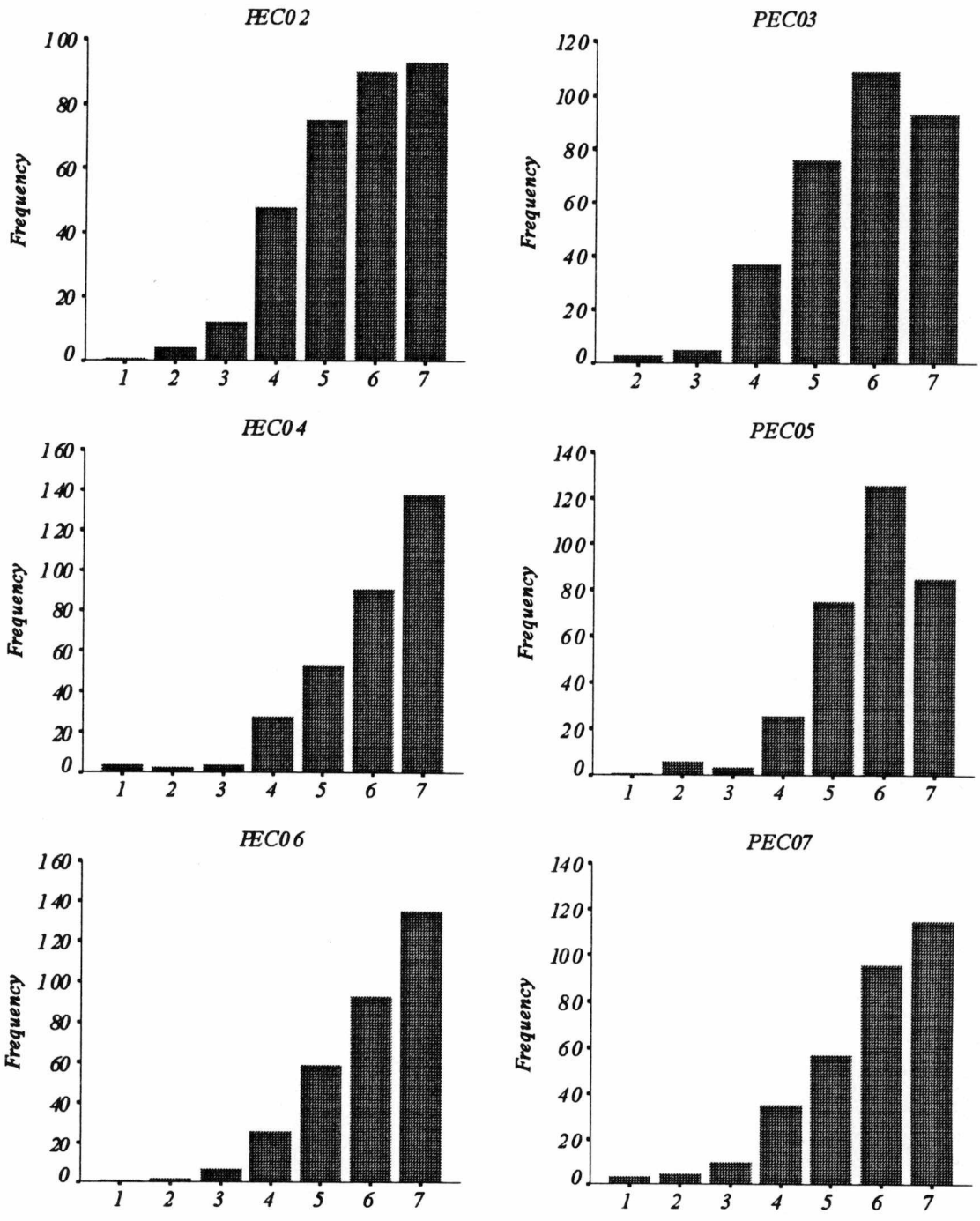

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DA08
Frequency
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120
100
80
60
40
20
0
2 3 4 5 6 7 8 9
DA09
Frequency
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9
DA10
Frequency
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9
DA11
Frequency
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DA12
Frequency
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80
60
40
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0
1 3 4 5 6 7 8 9

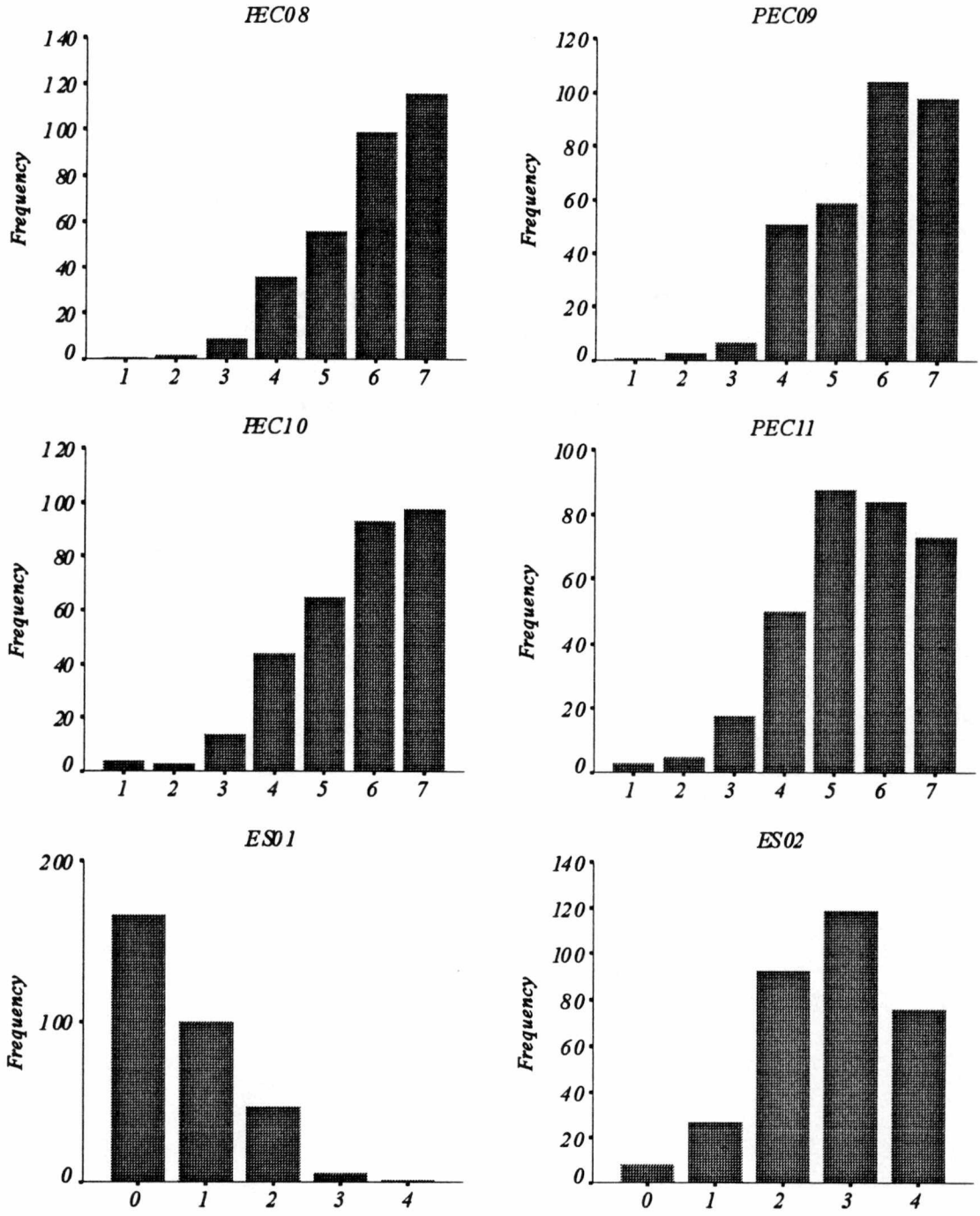

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Frequency
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1 2 3 4 5 6 7
PEA03
Frequency
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60
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1 2 3 4 5 6 7
PEA04
Frequency
120
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80
60
40
20
0
1 2 3 4 5 6 7
PEA05
Frequency
100
80
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PEA06
Frequency
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3 4 5 6 7

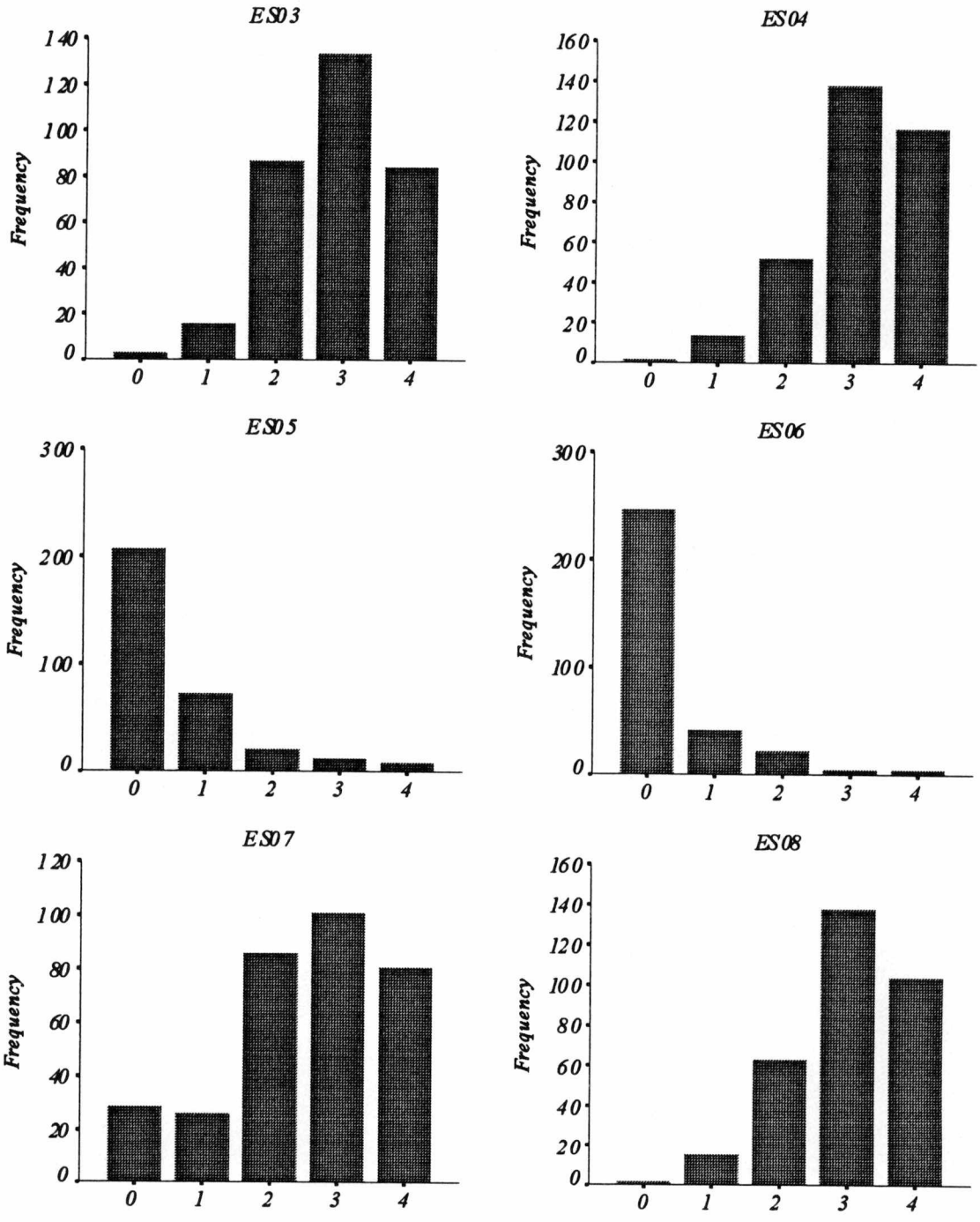

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PEA08
Frequency
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120
100
80
60
40
20
0
1 2 3 4 5 6 7
PEA09
Frequency
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7
PEA10
Frequency
120
100
80
60
40
20
0
1 2 3 4 5 6 7
PEA11
Frequency
100
80
60
40
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1 2 3 4 5 6 7
PEA12
Frequency
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140
120
100
80
60
40
20
0
1 2 4 5 6 7

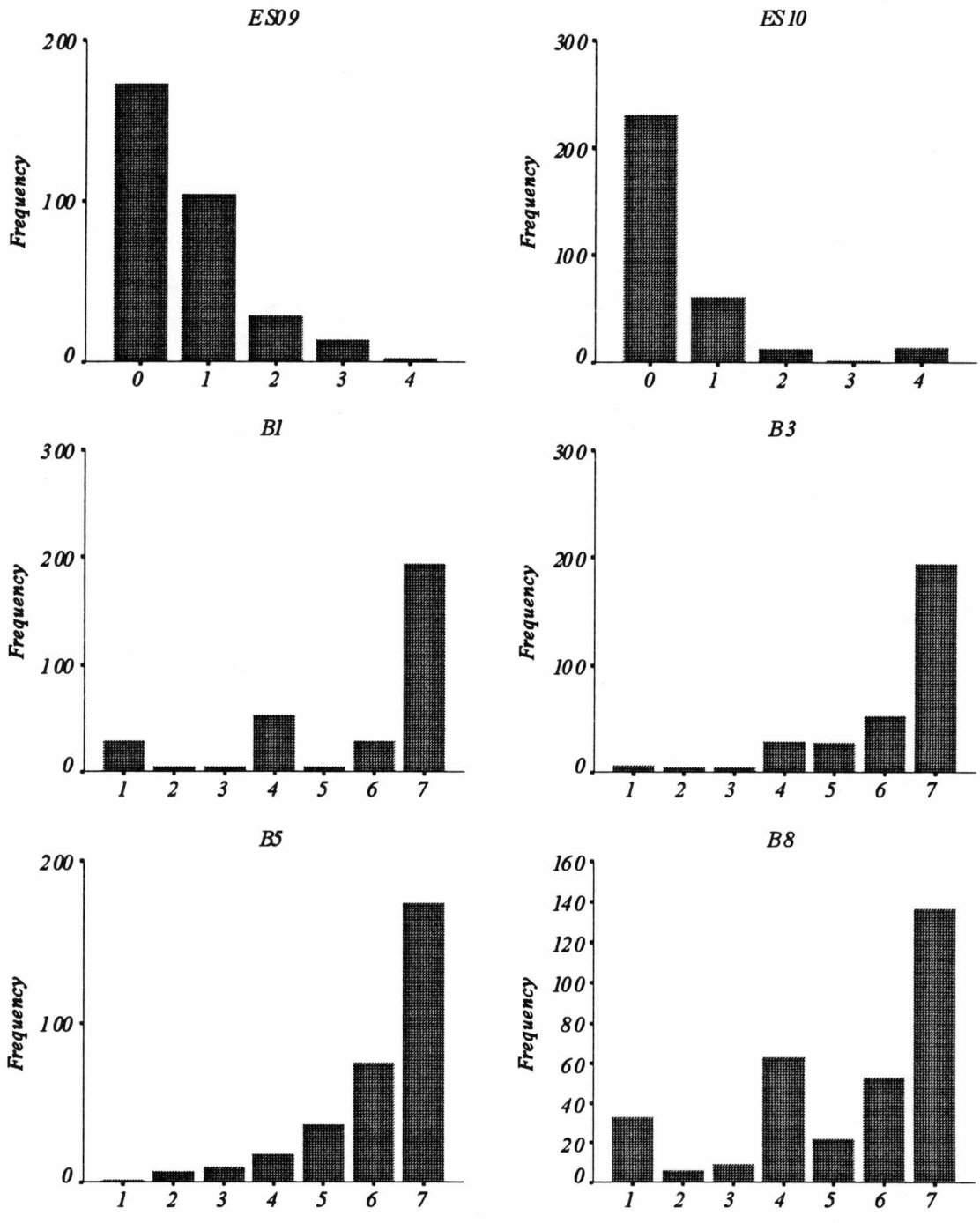

DC01
Frequency
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60
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20
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2 3 4 5 6 7 8 9
DC 02
Frequency
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80
60
40
20
0
2 3 4 5 6 7 8 9
DC03
Frequency
80
60
40
20
0
1 2 3 4 5 6 7 8 9
DC 04
Frequency
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9
DC05
Frequency
100
80
60
40
20
0
2 3 4 5 6 7 8 9
DC 06
Frequency
120
100
80
60
40
20
0
2 3 4 5 6 7 8 9


DC07
Frequency
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9
DC 08
Frequency
100
80
60
40
20
0
2 3 4 5 6 7 8 9
DC09
Frequency
100
80
60
40
20
0
2 3 4 5 6 7 8 9
DC 10
Frequency
100
80
60
40
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2 3 4 5 6 7 8 9
DC11
Frequency
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2 3 4 5 6 7 8 9
PEC01
Frequency
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80
60
40
20
0
1 2 3 4 5 6 7

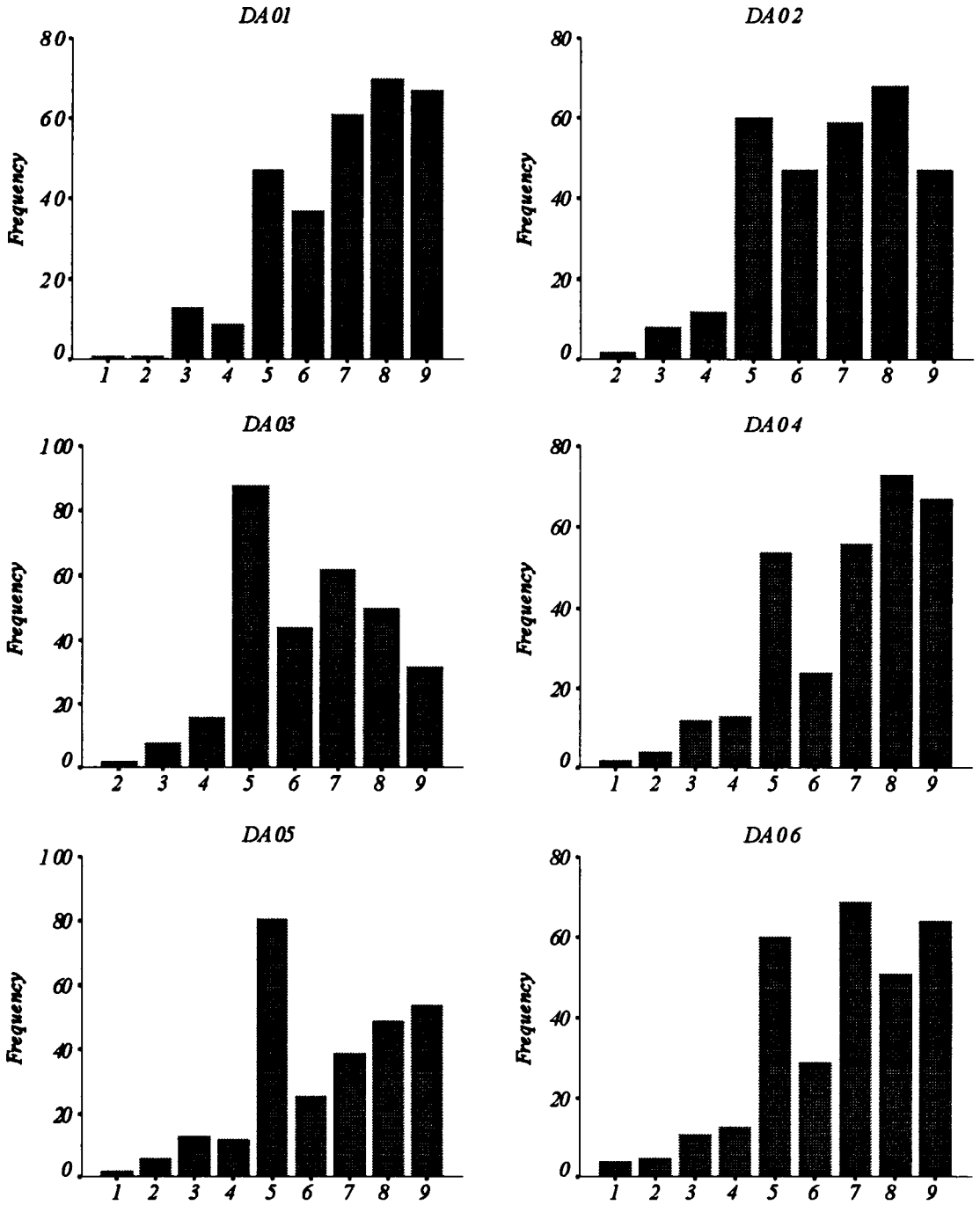

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PEC03
Frequency
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0
2 3 4 5 6 7
PEC04
Frequency
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7
PEC05
Frequency
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7
PEC06
Frequency
160
140
120
100
80
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1 2 3 4 5 6 7
PEC07
Frequency
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1 2 3 4 5 6 7

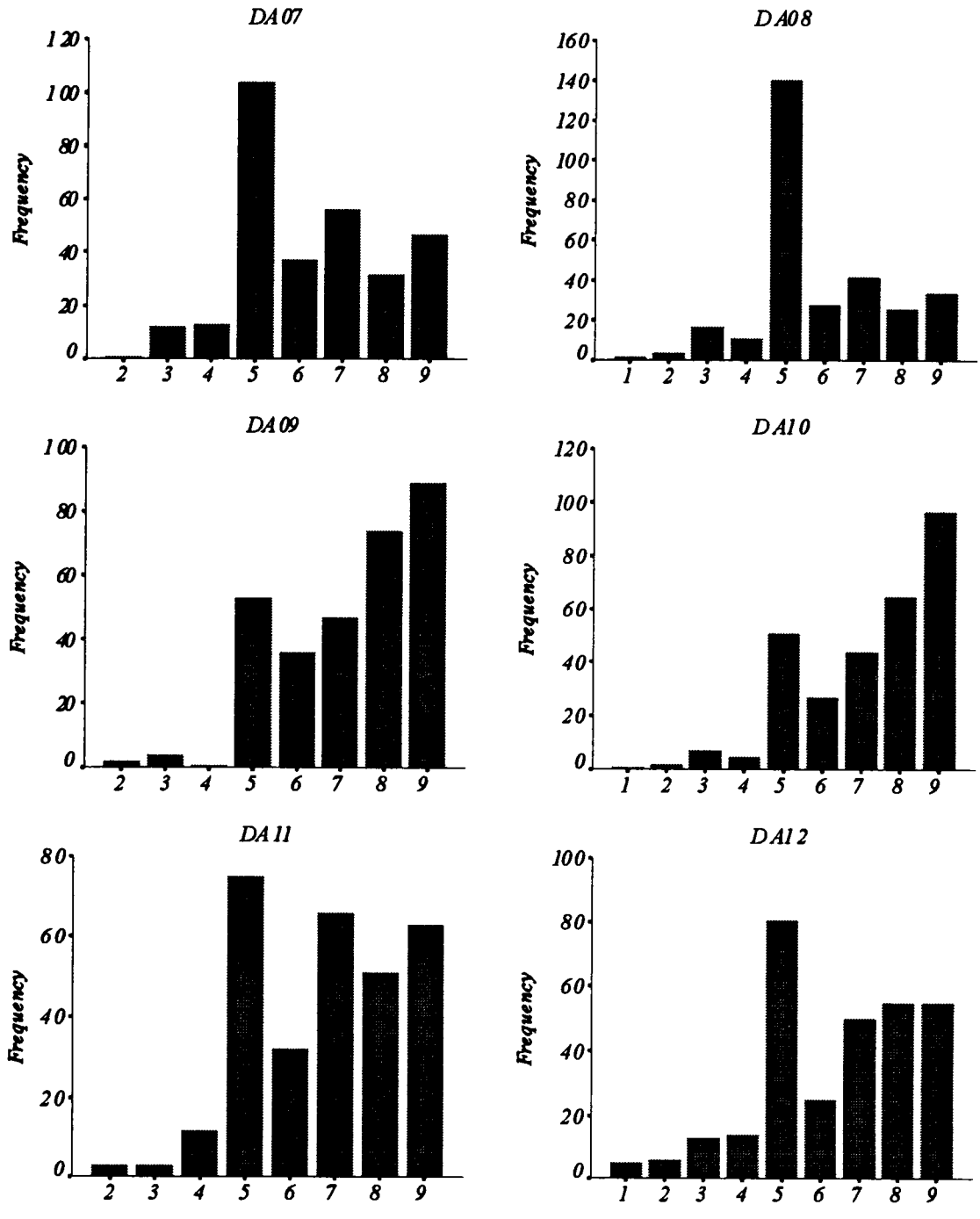

PEC08
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60
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20
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PEC09
Frequency
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100
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60
40
20
0
1 2 3 4 5 6 7
PEC10
Frequency
120
100
80
60
40
20
0
1 2 3 4 5 6 7
PEC11
Frequency
100
80
60
40
20
0
1 2 3 4 5 6 7
ES01
Frequency
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0 1 2 3 4
ES02
Frequency
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0 1 2 3 4

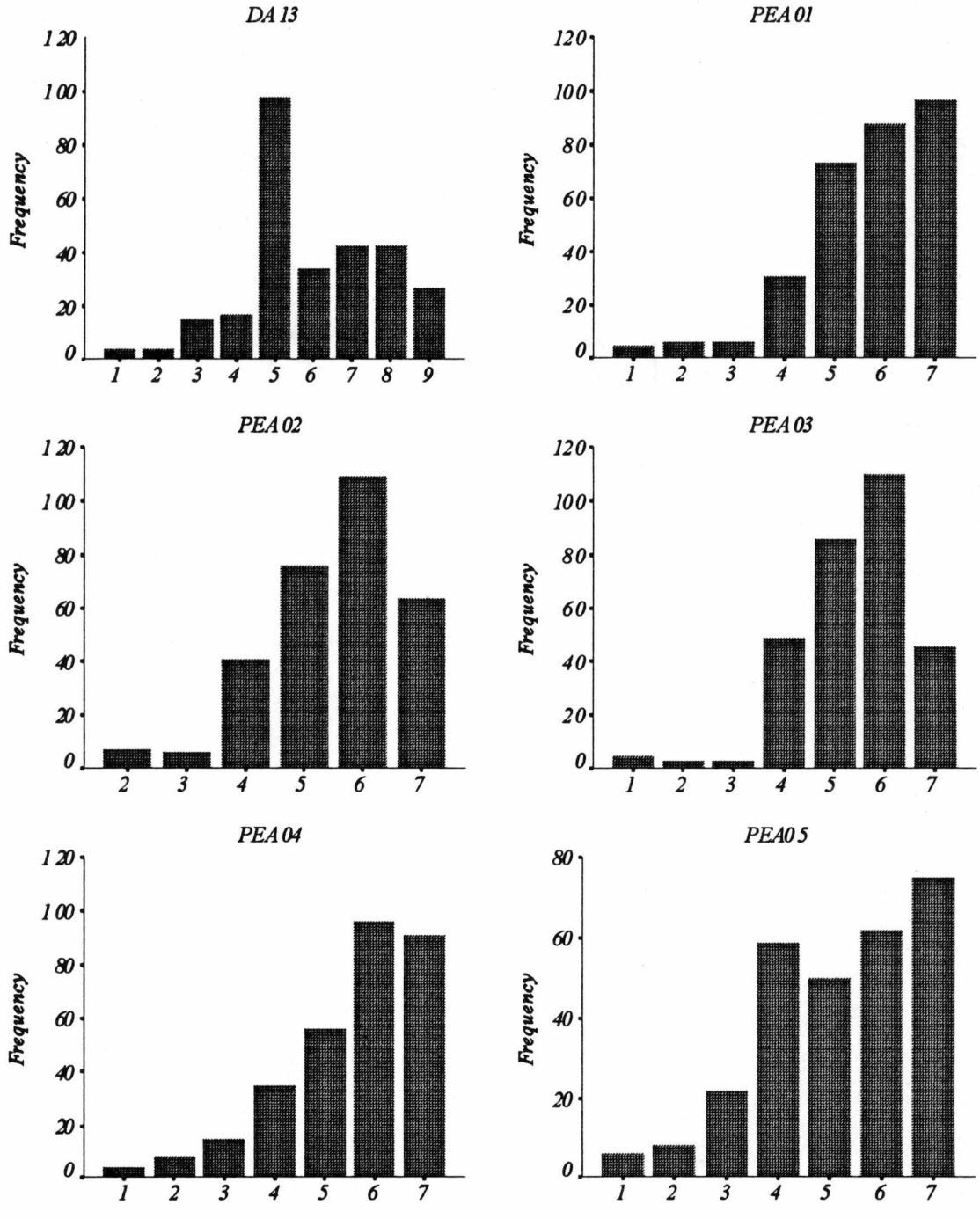

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ES04
Frequency
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140
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80
60
40
20
0
0 1 2 3 4
ES05
Frequency
300
200
100
0
0 1 2 3 4
ES06
Frequency
300
200
100
0
0 1 2 3 4
ES07
Frequency
120
100
80
60
40
20
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0 1 2 3 4
ES08
Frequency
160
140
120
100
80
60
40
20
0
0 1 2 3 4

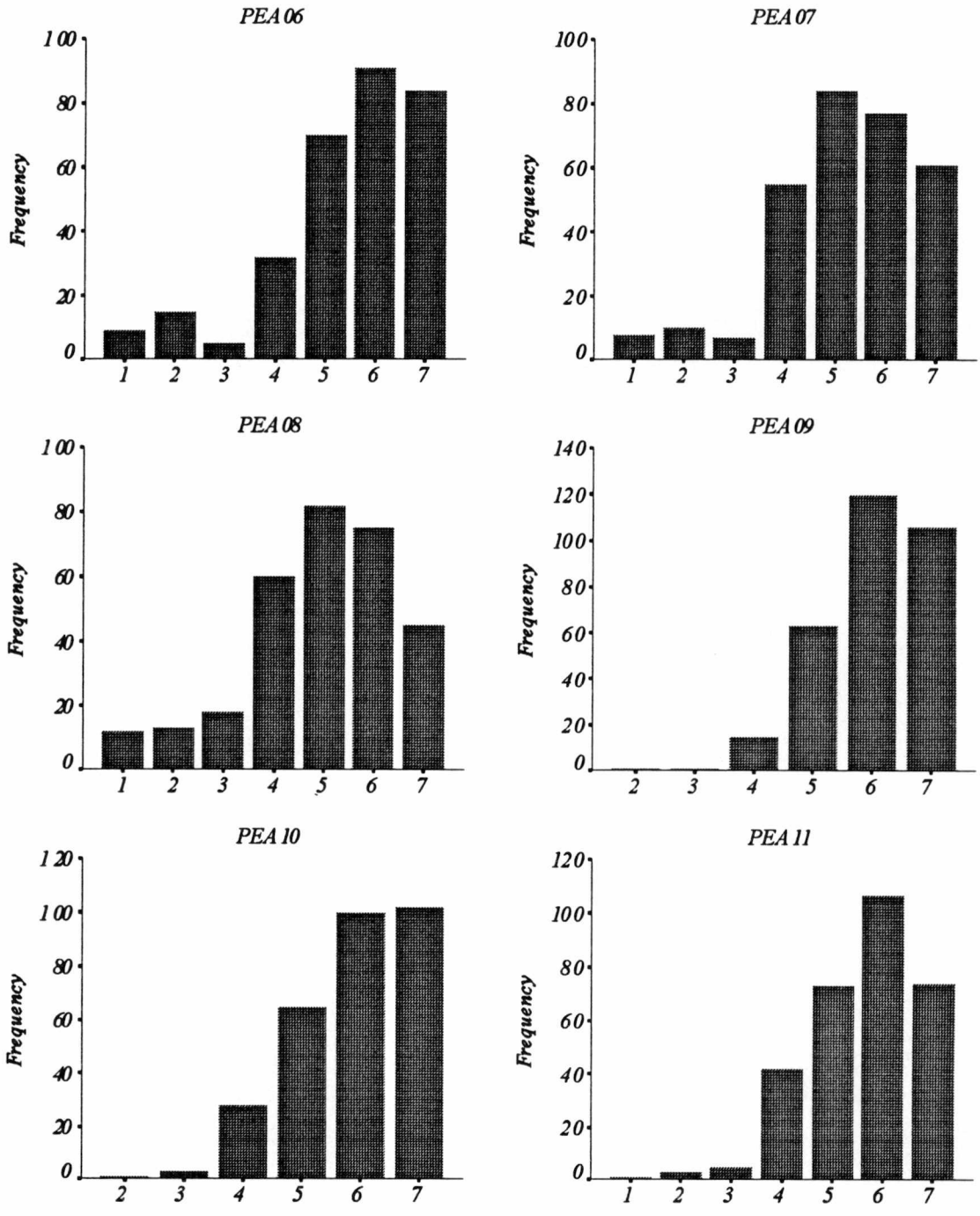

ES09
Frequency
200
100
0
0 1 2 3 4
ES10
Frequency
300
200
100
0
0 1 2 3 4
B1
Frequency
300
200
100
0
1 2 3 4 5 6 7
B3
Frequency
300
200
100
0
1 2 3 4 5 6 7
B5
Frequency
200
100
0
1 2 3 4 5 6 7
B8
Frequency
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80
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40
20
0
1 2 3 4 5 6 7

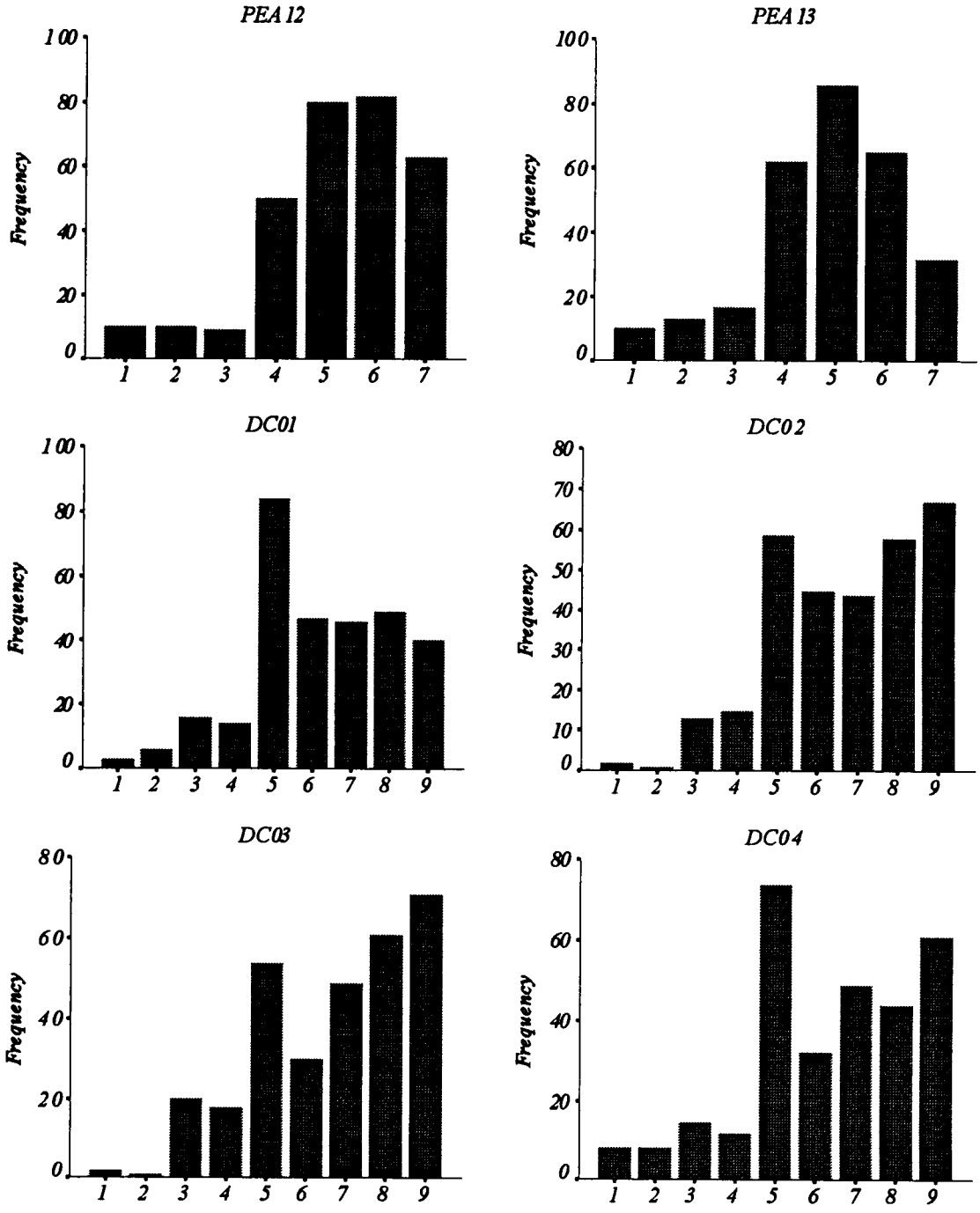
APPENDIX 5
DISTRIBUTIONS FOR SERVICE VARIABLES

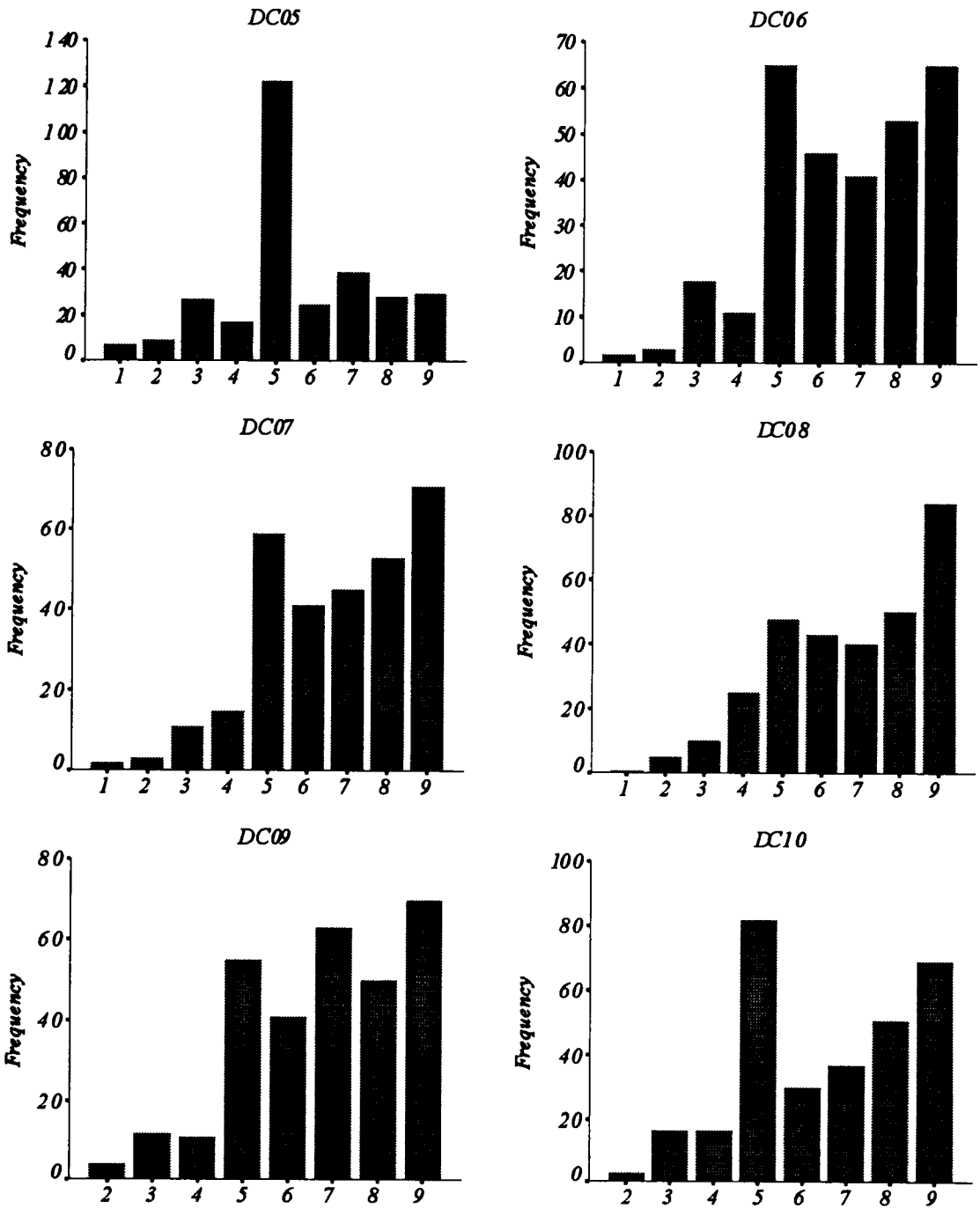

DA01
DA02
DA03
DA04
DA05
DA06
Frequency

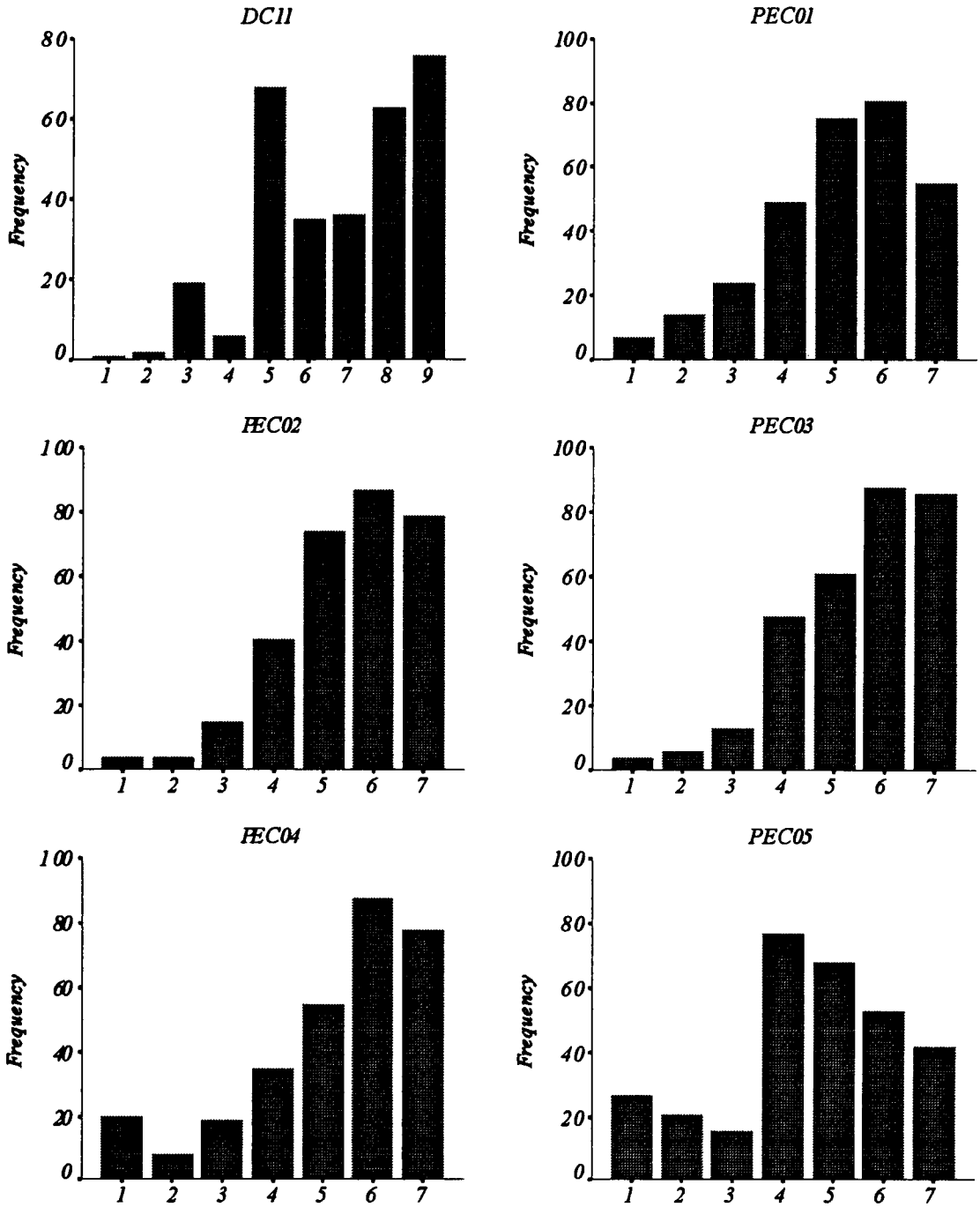

DA07
Frequency
120
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80
60
40
20
0
2 3 4 5 6 7 8 9
DA08
Frequency
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9
DA09
Frequency
100
80
60
40
20
0
2 3 4 5 6 7 8 9
DA10
Frequency
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9
DA11
Frequency
80
60
40
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2 3 4 5 6 7 8 9
DA12
Frequency
100
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60
40
20
0
1 2 3 4 5 6 7 8 9

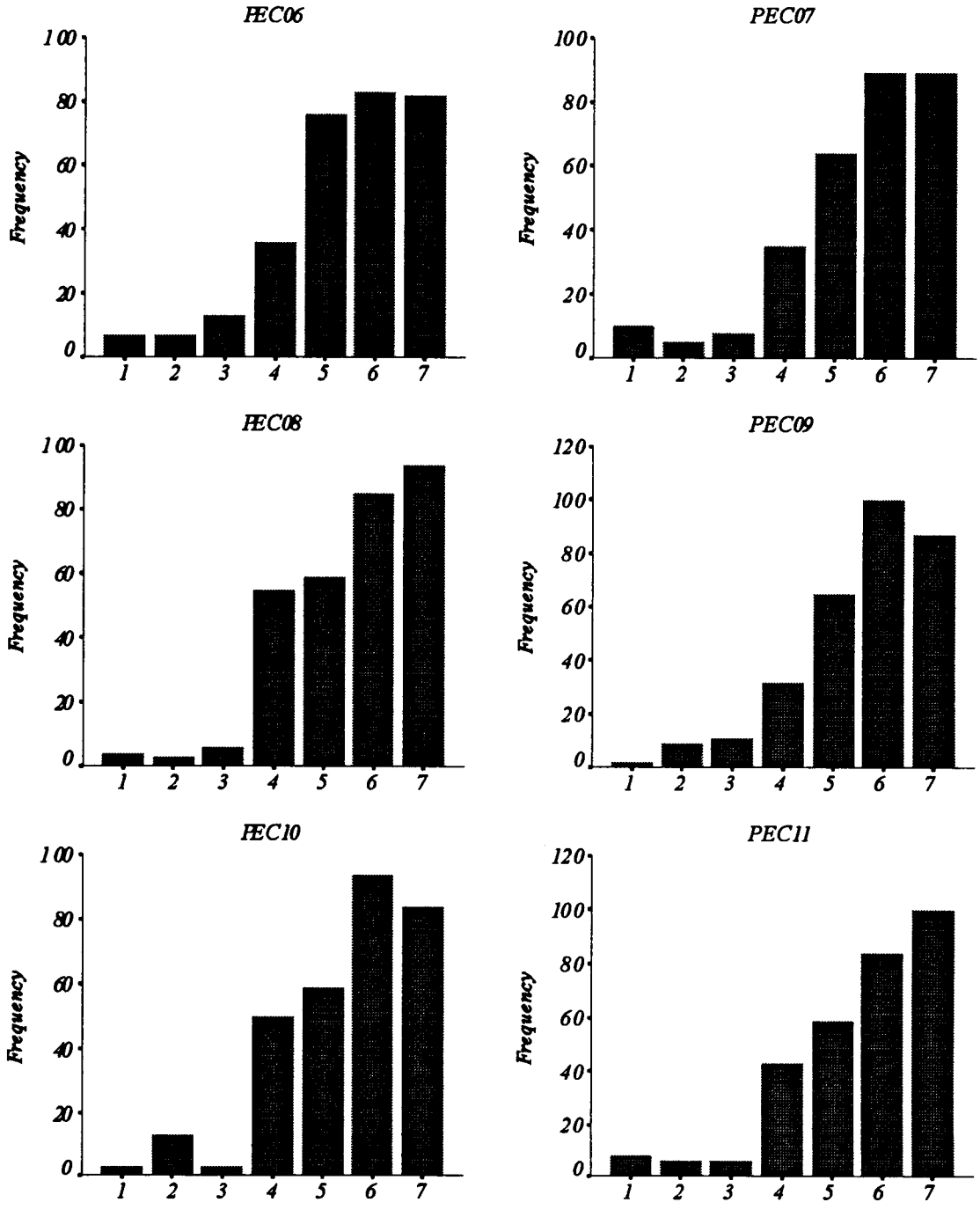

DA 13
Frequency
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80
60
40
20
0
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PEA 01
Frequency
120
100
80
60
40
20
0
1 2 3 4 5 6 7
PEA 02
Frequency
120
100
80
60
40
20
0
2 3 4 5 6 7
PEA 03
Frequency
120
100
80
60
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1 2 3 4 5 6 7
PEA 04
Frequency
120
100
80
60
40
20
0
1 2 3 4 5 6 7
PEA05
Frequency
80
60
40
20
0
1 2 3 4 5 6 7

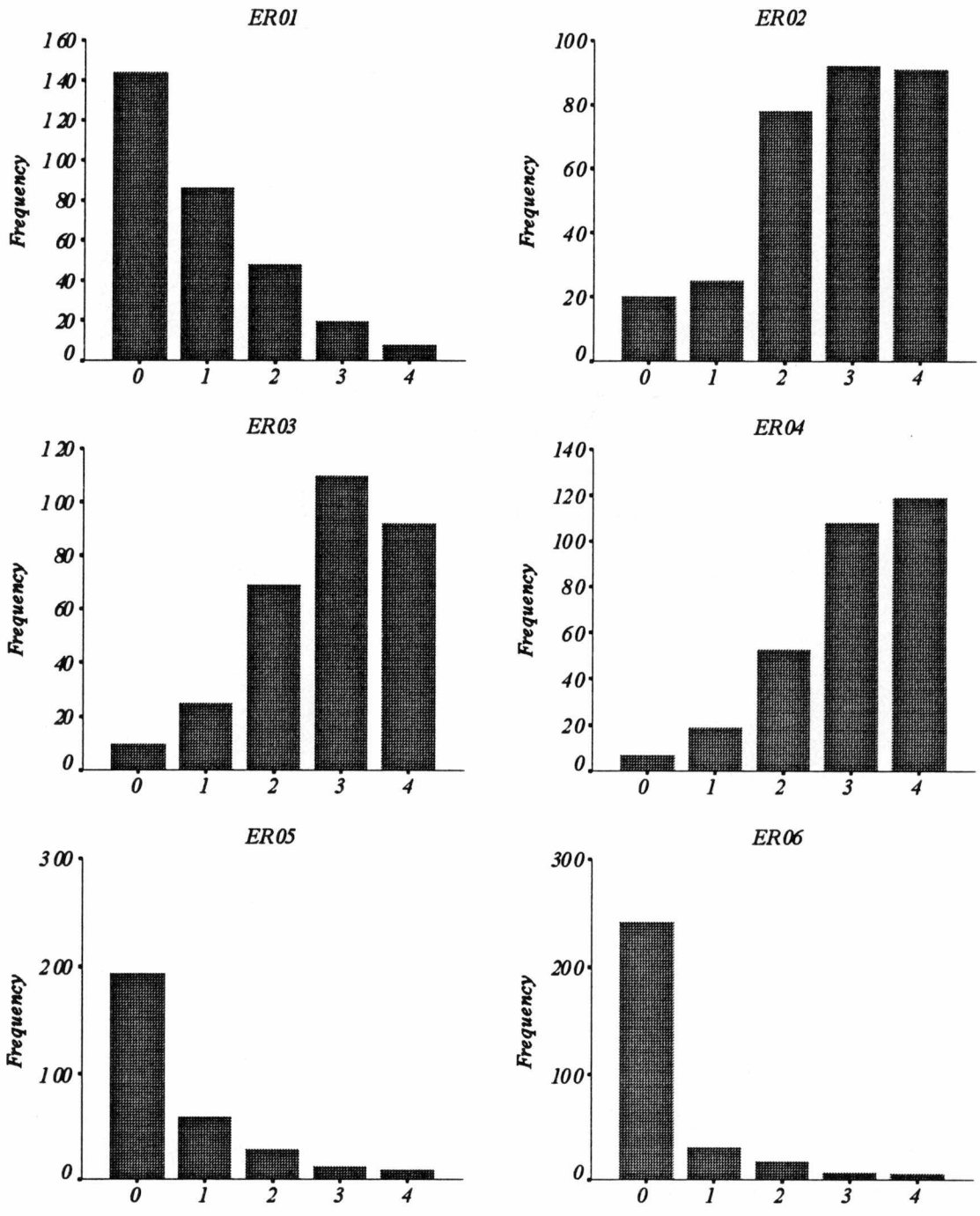

PEA 06
Frequency
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60
40
20
0
1 2 3 4 5 6 7
PEA 07
Frequency
100
80
60
40
20
0
1 2 3 4 5 6 7
PEA 08
Frequency
100
80
60
40
20
0
1 2 3 4 5 6 7
PEA 09
Frequency
140
120
100
80
60
40
20
0
2 3 4 5 6 7
PEA 10
Frequency
120
100
80
60
40
20
0
2 3 4 5 6 7
PEA 11
Frequency
120
100
80
60
40
20
0
1 2 3 4 5 6 7

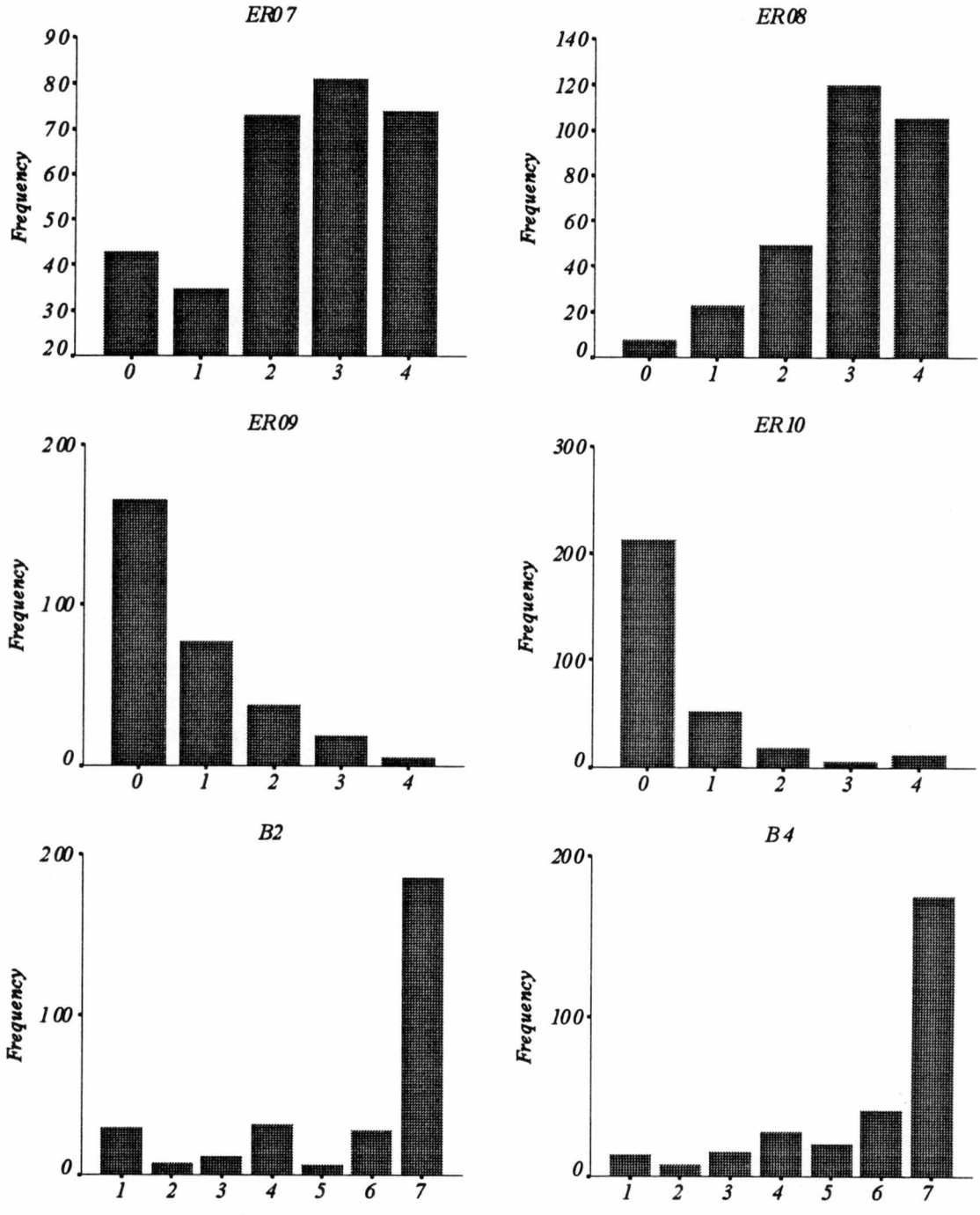

PEA 12
Frequency
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80
60
40
20
0
1 2 3 4 5 6 7
PEA 13
Frequency
100
80
60
40
20
0
1 2 3 4 5 6 7
DC01
Frequency
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9
DC02
Frequency
80
70
60
50
40
30
20
10
0
1 2 3 4 5 6 7 8 9
DC03
Frequency
80
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20
0
1 2 3 4 5 6 7 8 9
DC04
Frequency
80
60
40
20
0
1 2 3 4 5 6 7 8 9

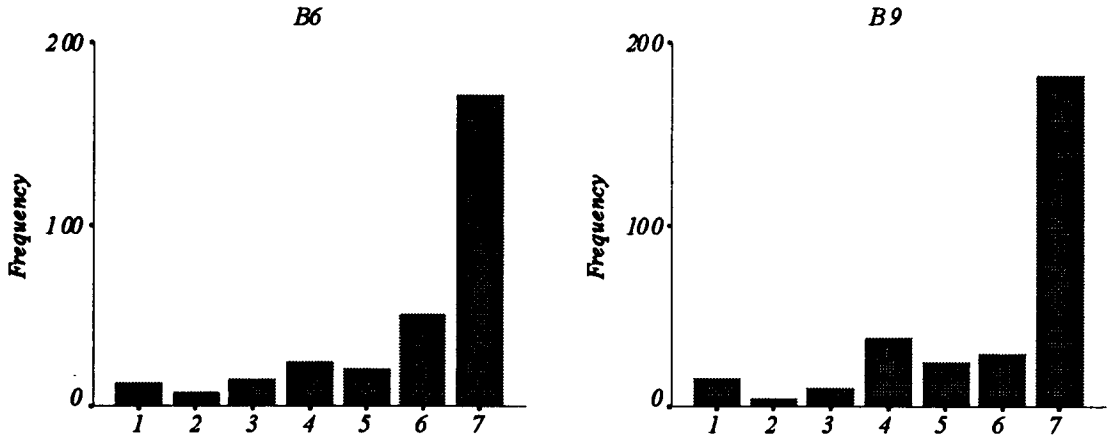

DC05
Frequency
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120
100
80
60
40
20
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DC06
Frequency
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60
50
40
30
20
10
0
1 2 3 4 5 6 7 8 9
DC07
Frequency
80
60
40
20
0
1 2 3 4 5 6 7 8 9
DC08
Frequency
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9
DC09
Frequency
80
60
40
20
0
2 3 4 5 6 7 8 9
DC10
Frequency
100
80
60
40
20
0
2 3 4 5 6 7 8 9


DC11
PEC01
PEC02
PEC03
PEC04
PEC05
Frequency


PEC06
PEC07
PEC08
PEC09
PEC10
PEC11
Frequency
0
20
40
60
80
100
120
1
2
3
4
5
6
7


ER01
Frequency
160
140
120
100
80
60
40
20
0
0 1 2 3 4
ER02
Frequency
100
80
60
40
20
0
0 1 2 3 4
ER03
Frequency
120
100
80
60
40
20
0
0 1 2 3 4
ER04
Frequency
140
120
100
80
60
40
20
0
0 1 2 3 4
ER05
Frequency
300
200
100
0
0 1 2 3 4
ER06
Frequency
300
200
100
0
0 1 2 3 4


ER07
Frequency
90
80
70
60
50
40
30
20
0
1
2
3
4
ER08
Frequency
140
120
100
80
60
40
20
0
0
1
2
3
4
ER09
Frequency
200
100
0
0
1
2
3
4
ER10
Frequency
300
200
100
0
0
1
2
3
4
B2
Frequency
200
100
0
1
2
3
4
5
6
7
B4
Frequency
200
100
0
1
2
3
4
5
6
7


B6
200
100
0
Frequency
1
2
3
4
5
6
7
B9
200
100
0
Frequency
1
2
3
4
5
6
7

APPENDIX 6
LISREL OUTPUT FOR LATENT VARIABLE SALES MODEL

MEASUREMENT MODEL FOR SALES DATA

NUMBER OF INPUT VARIABLES 60

NUMBER OF Y - VARIABLES 0

NUMBER OF X - VARIABLES 60

NUMBER OF ETA - VARIABLES 0

NUMBER OF KSI - VARIABLES 7

NUMBER OF OBSERVATIONS 284

MEASUREMENT MODEL FOR SALES DATA

LISREL ESTIMATES (MAXIMUM LIKELIHOOD)

LAMBDA X

	DA	PEA	DC	NEG	POS	BEH
DA01	1.090	.000	.000	.000	.000	.000
DA02	1.303	.000	.000	.000	.000	.000
DA03	.610	.000	.000	.000	.000	.000
DA04	1.070	.000	.000	.000	.000	.000
DA05	.465	.000	.000	.000	.000	.000
DA06	.800	.000	.000	.000	.000	.000
DA07	1.052	.000	.000	.000	.000	.000
DA08	.677	.000	.000	.000	.000	.000
DA09	1.010	.000	.000	.000	.000	.000
DA10	1.211	.000	.000	.000	.000	.000
DA11	.898	.000	.000	.000	.000	.000
DA12	1.246	.000	.000	.000	.000	.000
PEA01	.000	.623	.000	.000	.000	.000
PEA02	.000	1.001	.000	.000	.000	.000
PEA03	.000	.430	.000	.000	.000	.000
PEA04	.000	.661	.000	.000	.000	.000
PEA05	.000	.456	.000	.000	.000	.000
PEA06	.000	.481	.000	.000	.000	.000
PEA07	.000	.685	.000	.000	.000	.000
PEA08	.000	.536	.000	.000	.000	.000
PEA09	.000	.631	.000	.000	.000	.000
PEA10	.000	.804	.000	.000	.000	.000
PEA11	.000	.836	.000	.000	.000	.000
PEA12	.000	.812	.000	.000	.000	.000
DC01	.000	.000	1.399	.000	.000	.000
DC02	.000	.000	1.405	.000	.000	.000
DC03	.000	.000	1.472	.000	.000	.000
DC04	.000	.000	1.158	.000	.000	.000
DC05	.000	.000	1.223	.000	.000	.000
DC06	.000	.000	1.276	.000	.000	.000
DC07	.000	.000	1.343	.000	.000	.000
DC08	.000	.000	1.391	.000	.000	.000
DC09	.000	.000	1.576	.000	.000	.000
DC10	.000	.000	1.534	.000	.000	.000
DC11	.000	.000	1.482	.000	.000	.000

ES01	.000	.000	.000	.627	.000	.000
ES05	.000	.000	.000	.794	.000	.000
ES06	.000	.000	.000	.591	.000	.000
ES09	.000	.000	.000	.799	.000	.000
ES10	.000	.000	.000	.805	.000	.000
ES02	.000	.000	.000	.000	.838	.000
ES03	.000	.000	.000	.000	.780	.000
ES04	.000	.000	.000	.000	.697	.000
ES07	.000	.000	.000	.000	.914	.000
ES08	.000	.000	.000	.000	.748	.000
B1	.000	.000	.000	.000	.000	.977
B3	.000	.000	.000	.000	.000	1.239
B5	.000	.000	.000	.000	.000	1.075
B8	.000	.000	.000	.000	.000	1.423
PEC01	.000	.000	.000	.000	.000	.000
PEC02	.000	.000	.000	.000	.000	.000
PEC03	.000	.000	.000	.000	.000	.000
PEC04	.000	.000	.000	.000	.000	.000
PEC05	.000	.000	.000	.000	.000	.000
PEC06	.000	.000	.000	.000	.000	.000
PEC07	.000	.000	.000	.000	.000	.000
PEC08	.000	.000	.000	.000	.000	.000
PEC09	.000	.000	.000	.000	.000	.000
PEC10	.000	.000	.000	.000	.000	.000
PEC11	.000	.000	.000	.000	.000	.000

LAMBDA X

	PEC
DA01	.000
DA02	.000
DA03	.000
DA04	.000
DA05	.000
DA06	.000
DA07	.000
DA08	.000
DA09	.000
DA10	.000
DA11	.000
DA12	.000
PEA01	.000
PEA02	.000
PEA03	.000
PEA04	.000
PEA05	.000
PEA06	.000
PEA07	.000
PEA08	.000
PEA09	.000
PEA10	.000
PEA11	.000
PEA12	.000
DC01	.000
DC02	.000
DC03	.000
DC04	.000
DC05	.000

DC06	.000
DC07	.000
DC08	.000
DC09	.000
DC10	.000
DC11	.000
ES01	.000
ES05	.000
ES06	.000
ES09	.000
ES10	.000
ES02	.000
ES03	.000
ES04	.000
ES07	.000
ES08	.000
B1	.000
B3	.000
B5	.000
B8	.000
PEC01	.963
PEC02	.988
PEC03	.896
PEC04	.810
PEC05	.788
PEC06	.767
PEC07	.959
PEC08	.912
PEC09	1.035
PEC10	1.089
PEC11	1.072

PHI

	DA	PEA	DC	NEG	POS	BEH
DA	1.000					
PEA	.926	1.000				
DC	.794	.689	1.000			
NEG	-.542	-.665	-.607	1.000		
POS	.643	.709	.689	-.632	1.000	
BEH	.592	.670	.736	-.813	.751	1.000
PEC	.739	.847	.931	-.704	.776	.805

PHI

	PEC
PEC	1.000

THETA DELTA

DA01	DA02	DA03	DA04	DA05	DA06
1.711	2.039	1.376	2.714	1.838	1.679

THETA DELTA

DA07	DA08	DA09	DA10	DA11	DA12
1.684	1.898	1.491	6.531	1.542	2.623

THETA DELTA

PEA01	PEA02	PEA03	PEA04	PEA05	PEA06
.645	.851	.709	1.117	1.815	.572

THETA DELTA

PEA07	PEA08	PEA09	PEA10	PEA11	PEA12
.657	1.065	.735	1.596	.968	1.103

THETA DELTA

DC01	DC02	DC03	DC04	DC05	DC06
1.347	1.247	1.061	2.134	1.294	1.725

THETA DELTA

DC07	DC08	DC09	DC10	DC11	ES01
1.772	1.400	.852	.906	.908	.307

THETA DELTA

ES05	ES06	ES09	ES10	ES02	ES03
.304	.330	.137	.260	.295	.186

THETA DELTA

ES04	ES07	ES08	B1	B3	B5
.260	.617	.214	2.903	.464	.496

THETA DELTA

B8	PEC01	PEC02	PEC03	PEC04	PEC05
1.868	.584	.578	.403	.897	.620

THETA DELTA

PEC06	PEC07	PEC08	PEC09	PEC10	PEC11
.709	.828	.569	.375	.568	.564

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

DA01	DA02	DA03	DA04	DA05	DA06
.410	.454	.213	.297	.105	.276

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

DA07	DA08	DA09	DA10	DA11	DA12
.397	.195	.406	.183	.343	.372

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

PEA01	PEA02	PEA03	PEA04	PEA05	PEA06
.376	.541	.207	.281	.103	.288

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

PEA07	PEA08	PEA09	PEA10	PEA11	PEA12
.417	.213	.351	.288	.419	.374

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

DC01	DC02	DC03	DC04	DC05	DC06
.592	.613	.671	.386	.536	.486

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

DC07	DC08	DC09	DC10	DC11	ES01
.504	.580	.745	.722	.708	.561

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

ES05	ES06	ES09	ES10	ES02	ES03
.674	.514	.823	.714	.704	.766

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

ES04	ES07	ES08	B1	B3	B5
.652	.576	.723	.248	.768	.699

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

B8	PEC01	PEC02	PEC03	PEC04	PEC05
.520	.614	.628	.666	.423	.501

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

PEC06	PEC07	PEC08	PEC09	PEC10	PEC11
.453	.527	.594	.741	.676	.671

TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS 1.000

W_A_R_N_I_N_G : PHI is not positive definite

CHI-SQUARE WITH1689 DEGREES OF FREEDOM = 7464.19 (P = .000)

GOODNESS OF FIT INDEX = .512
ADJUSTED GOODNESS OF FIT INDEX = .471
ROOT MEAN SQUARE RESIDUAL = .176

MEASUREMENT MODEL FOR SALES DATA

T-VALUES

LAMBDA X

	DA	PEA	DC	NEG	POS	BEH
DA01	11.724	.000	.000	.000	.000	.000
DA02	12.533	.000	.000	.000	.000	.000
DA03	7.957	.000	.000	.000	.000	.000
DA04	9.631	.000	.000	.000	.000	.000
DA05	5.421	.000	.000	.000	.000	.000
DA06	9.224	.000	.000	.000	.000	.000
DA07	11.489	.000	.000	.000	.000	.000
DA08	7.566	.000	.000	.000	.000	.000
DA09	11.662	.000	.000	.000	.000	.000
DA10	7.321	.000	.000	.000	.000	.000
DA11	10.506	.000	.000	.000	.000	.000
DA12	11.031	.000	.000	.000	.000	.000
PEA01	.000	11.205	.000	.000	.000	.000
PEA02	.000	14.203	.000	.000	.000	.000
PEA03	.000	7.897	.000	.000	.000	.000
PEA04	.000	9.421	.000	.000	.000	.000
PEA05	.000	5.412	.000	.000	.000	.000
PEA06	.000	9.549	.000	.000	.000	.000
PEA07	.000	11.953	.000	.000	.000	.000
PEA08	.000	8.026	.000	.000	.000	.000
PEA09	.000	10.750	.000	.000	.000	.000
PEA10	.000	9.557	.000	.000	.000	.000
PEA11	.000	12.004	.000	.000	.000	.000
PEA12	.000	11.178	.000	.000	.000	.000
DC01	.000	.000	15.260	.000	.000	.000
DC02	.000	.000	15.636	.000	.000	.000
DC03	.000	.000	16.742	.000	.000	.000
DC04	.000	.000	11.467	.000	.000	.000
DC05	.000	.000	14.221	.000	.000	.000
DC06	.000	.000	13.298	.000	.000	.000
DC07	.000	.000	13.642	.000	.000	.000
DC08	.000	.000	15.035	.000	.000	.000
DC09	.000	.000	18.159	.000	.000	.000
DC10	.000	.000	17.720	.000	.000	.000
DC11	.000	.000	17.438	.000	.000	.000

ES01	.000	.000	.000	14.472	.000	.000
ES05	.000	.000	.000	16.559	.000	.000
ES06	.000	.000	.000	13.611	.000	.000
ES09	.000	.000	.000	19.439	.000	.000
ES10	.000	.000	.000	17.306	.000	.000
ES02	.000	.000	.000	.000	17.130	.000
ES03	.000	.000	.000	.000	18.324	.000
ES04	.000	.000	.000	.000	16.138	.000
ES07	.000	.000	.000	.000	14.732	.000
ES08	.000	.000	.000	.000	17.500	.000
B1	.000	.000	.000	.000	.000	8.573
B3	.000	.000	.000	.000	.000	18.121
B5	.000	.000	.000	.000	.000	16.854
B8	.000	.000	.000	.000	.000	13.597
PEC01	.000	.000	.000	.000	.000	.000
PEC02	.000	.000	.000	.000	.000	.000
PEC03	.000	.000	.000	.000	.000	.000
PEC04	.000	.000	.000	.000	.000	.000
PEC05	.000	.000	.000	.000	.000	.000
PEC06	.000	.000	.000	.000	.000	.000
PEC07	.000	.000	.000	.000	.000	.000
PEC08	.000	.000	.000	.000	.000	.000
PEC09	.000	.000	.000	.000	.000	.000
PEC10	.000	.000	.000	.000	.000	.000
PEC11	.000	.000	.000	.000	.000	.000

LAMBDA X

	PEC
DA01	.000
DA02	.000
DA03	.000
DA04	.000
DA05	.000
DA06	.000
DA07	.000
DA08	.000
DA09	.000
DA10	.000
DA11	.000
DA12	.000
PEA01	.000
PEA02	.000
PEA03	.000
PEA04	.000
PEA05	.000
PEA06	.000
PEA07	.000
PEA08	.000
PEA09	.000
PEA10	.000
PEA11	.000
PEA12	.000
DC01	.000
DC02	.000
DC03	.000
DC04	.000
DC05	.000

DC06	.000
DC07	.000
DC08	.000
DC09	.000
DC10	.000
DC11	.000
ES01	.000
ES05	.000
ES06	.000
ES09	.000
ES10	.000
ES02	.000
ES03	.000
ES04	.000
ES07	.000
ES08	.000
B1	.000
B3	.000
B5	.000
B8	.000
PEC01	15.694
PEC02	15.956
PEC03	16.673
PEC04	12.180
PEC05	13.610
PEC06	12.739
PEC07	14.081
PEC08	15.322
PEC09	18.115
PEC10	16.861
PEC11	16.767

PHI

	DA	PEA	DC	NEG	POS	BEH
DA	.000					
PEA	44.008	.000				
DC	26.962	18.174	.000			
NEG	-10.856	-16.262	-14.502	.000		
POS	14.938	18.966	19.361	-15.399	.000	
BEH	12.182	15.810	21.939	-29.158	22.566	.000
PEC	21.547	35.303	79.036	-20.408	27.515	29.263

PHI

	PEC
PEC	.000

THETA DELTA

DA01	DA02	DA03	DA04	DA05	DA06
11.275	11.142	11.662	11.526	11.795	11.564

THETA DELTA

DA07	DA08	DA09	DA10	DA11	DA12
11.309	11.687	11.284	11.702	11.435	11.371

THETA DELTA

PEA01	PEA02	PEA03	PEA04	PEA05	PEA06
11.515	11.095	11.738	11.655	11.827	11.646

THETA DELTA

PEA07	PEA08	PEA09	PEA10	PEA11	PEA12
11.438	11.732	11.556	11.646	11.432	11.518

THETA DELTA

DC01	DC02	DC03	DC04	DC05	DC06
11.263	11.207	11.003	11.623	11.394	11.486

THETA DELTA

DC07	DC08	DC09	DC10	DC11	ES01
11.454	11.294	10.616	10.757	10.836	10.726

THETA DELTA

ES05	ES06	ES09	ES10	ES02	ES03
9.981	10.932	7.594	9.575	9.710	8.882

THETA DELTA

ES04	ES07	ES08	B1	B3	B5
10.185	10.661	9.489	11.514	7.836	9.076

THETA DELTA

B8	PEC01	PEC02	PEC03	PEC04	PEC05
10.619	11.330	11.295	11.182	11.638	11.542

THETA DELTA

PEC06	PEC07	PEC08	PEC09	PEC10	PEC11
11.604	11.503	11.376	10.861	11.149	11.166

MEASUREMENT MODEL FOR SALES DATA

COMPLETELY STANDARDIZED SOLUTION

LAMBDA X

	DA	PEA	DC	NEG	POS	BEH
DA01	.640	.000	.000	.000	.000	.000
DA02	.674	.000	.000	.000	.000	.000
DA03	.462	.000	.000	.000	.000	.000
DA04	.545	.000	.000	.000	.000	.000
DA05	.324	.000	.000	.000	.000	.000
DA06	.525	.000	.000	.000	.000	.000
DA07	.630	.000	.000	.000	.000	.000
DA08	.441	.000	.000	.000	.000	.000
DA09	.637	.000	.000	.000	.000	.000
DA10	.428	.000	.000	.000	.000	.000
DA11	.586	.000	.000	.000	.000	.000
DA12	.610	.000	.000	.000	.000	.000
PEA01	.000	.613	.000	.000	.000	.000
PEA02	.000	.735	.000	.000	.000	.000
PEA03	.000	.455	.000	.000	.000	.000
PEA04	.000	.531	.000	.000	.000	.000
PEA05	.000	.321	.000	.000	.000	.000
PEA06	.000	.537	.000	.000	.000	.000
PEA07	.000	.645	.000	.000	.000	.000
PEA08	.000	.461	.000	.000	.000	.000
PEA09	.000	.593	.000	.000	.000	.000
PEA10	.000	.537	.000	.000	.000	.000
PEA11	.000	.648	.000	.000	.000	.000
PEA12	.000	.612	.000	.000	.000	.000
DC01	.000	.000	.770	.000	.000	.000
DC02	.000	.000	.783	.000	.000	.000
DC03	.000	.000	.819	.000	.000	.000
DC04	.000	.000	.621	.000	.000	.000
DC05	.000	.000	.732	.000	.000	.000
DC06	.000	.000	.697	.000	.000	.000
DC07	.000	.000	.710	.000	.000	.000
DC08	.000	.000	.762	.000	.000	.000
DC09	.000	.000	.863	.000	.000	.000
DC10	.000	.000	.850	.000	.000	.000
DC11	.000	.000	.841	.000	.000	.000
ES01	.000	.000	.000	.749	.000	.000
ES05	.000	.000	.000	.821	.000	.000
ES06	.000	.000	.000	.717	.000	.000
ES09	.000	.000	.000	.907	.000	.000
ES10	.000	.000	.000	.845	.000	.000
ES02	.000	.000	.000	.000	.839	.000
ES03	.000	.000	.000	.000	.875	.000
ES04	.000	.000	.000	.000	.807	.000
ES07	.000	.000	.000	.000	.759	.000
ES08	.000	.000	.000	.000	.851	.000
B1	.000	.000	.000	.000	.000	.498
B3	.000	.000	.000	.000	.000	.876
B5	.000	.000	.000	.000	.000	.836
B8	.000	.000	.000	.000	.000	.721
PEC01	.000	.000	.000	.000	.000	.000

PEC02	.000	.000	.000	.000	.000	.000
PEC03	.000	.000	.000	.000	.000	.000
PEC04	.000	.000	.000	.000	.000	.000
PEC05	.000	.000	.000	.000	.000	.000
PEC06	.000	.000	.000	.000	.000	.000
PEC07	.000	.000	.000	.000	.000	.000
PEC08	.000	.000	.000	.000	.000	.000
PEC09	.000	.000	.000	.000	.000	.000
PEC10	.000	.000	.000	.000	.000	.000
PEC11	.000	.000	.000	.000	.000	.000

LAMBDA X

	PEC
DA01	.000
DA02	.000
DA03	.000
DA04	.000
DA05	.000
DA06	.000
DA07	.000
DA08	.000
DA09	.000
DA10	.000
DA11	.000
DA12	.000
PEA01	.000
PEA02	.000
PEA03	.000
PEA04	.000
PEA05	.000
PEA06	.000
PEA07	.000
PEA08	.000
PEA09	.000
PEA10	.000
PEA11	.000
PEA12	.000
DC01	.000
DC02	.000
DC03	.000
DC04	.000
DC05	.000
DC06	.000
DC07	.000
DC08	.000
DC09	.000
DC10	.000
DC11	.000
ES01	.000
ES05	.000
ES06	.000
ES09	.000
ES10	.000
ES02	.000
ES03	.000
ES04	.000
ES07	.000

ES08	.000
B1	.000
B3	.000
B5	.000
B8	.000
PEC01	.784
PEC02	.792
PEC03	.816
PEC04	.650
PEC05	.708
PEC06	.673
PEC07	.726
PEC08	.771
PEC09	.861
PEC10	.822
PEC11	.819

PHI

	DA	PEA	DC	NEG	POS	BEH
DA	1.000					
PEA	.926	1.000				
DC	.794	.689	1.000			
NEG	-.542	-.665	-.607	1.000		
POS	.643	.709	.689	-.632	1.000	
BEH	.592	.670	.736	-.813	.751	1.000
PEC	.739	.847	.931	-.704	.776	.805

PHI

	PEC
PEC	1.000

THETA DELTA

DA01	DA02	DA03	DA04	DA05	DA06
.590	.546	.787	.703	.895	.724

THETA DELTA

DA07	DA08	DA09	DA10	DA11	DA12
.603	.805	.594	.817	.657	.628

THETA DELTA

PEA01	PEA02	PEA03	PEA04	PEA05	PEA06
.624	.459	.793	.719	.897	.712

THETA DELTA

PEA07	PEA08	PEA09	PEA10	PEA11	PEA12
.583	.787	.649	.712	.581	.626

THETA DELTA

DC01	DC02	DC03	DC04	DC05	DC06
.408	.387	.329	.614	.464	.514

THETA DELTA

DC07	DC08	DC09	DC10	DC11	ES01
.496	.420	.255	.278	.292	.439

THETA DELTA

ES05	ES06	ES09	ES10	ES02	ES03
.326	.486	.177	.286	.296	.234

THETA DELTA

ES04	ES07	ES08	B1	B3	B5
.348	.424	.277	.752	.232	.301

THETA DELTA

B8	PEC01	PEC02	PEC03	PEC04	PEC05
.480	.386	.372	.334	.577	.499

THETA DELTA

PEC06	PEC07	PEC08	PEC09	PEC10	PEC11
.547	.473	.406	.259	.324	.329

MEASUREMENT MODEL FOR SALES DATA

MODIFICATION INDICES AND ESTIMATED CHANGE

MODIFICATION INDICES FOR LAMBDA X

	DA	PEA	DC	NEG	POS	BEH
DA01	.000	2.272	33.262	7.369	8.773	17.903
DA02	.000	5.773	.348	4.212	1.075	5.838
DA03	.000	.019	.063	1.173	.638	1.389
DA04	.000	.113	3.866	1.087	1.010	1.923
DA05	.000	1.706	5.273	.330	.025	.117
DA06	.000	4.582	.029	.655	3.633	2.235
DA07	.000	.000	.778	.375	.074	.276
DA08	.000	1.048	3.860	.037	.725	.009
DA09	.000	5.192	3.566	3.830	.837	5.899
DA10	.000	.271	.621	.064	.521	2.380
DA11	.000	2.015	9.739	10.379	1.213	9.848
DA12	.000	1.038	.089	3.090	.031	.001
PEA01	4.587	.000	28.934	1.584	9.148	12.680

PEA02	.758	.000	.160	6.533	.901	4.711
PEA03	.711	.000	2.378	2.115	2.841	3.361
PEA04	1.067	.000	.112	.947	.588	.555
PEA05	3.811	.000	.572	.888	1.132	2.031
PEA06	.115	.000	5.148	1.823	2.351	5.705
PEA07	.720	.000	.567	.022	.036	.134
PEA08	3.085	.000	.034	.357	1.017	.594
PEA09	7.949	.000	.359	2.144	.126	2.476
PEA10	.004	.000	3.364	.413	.886	5.730
PEA11	1.671	.000	7.603	.000	.003	.964
PEA12	1.066	.000	.005	.514	6.188	7.919
DC01	.694	1.244	.000	.020	.385	.015
DC02	1.105	1.309	.000	.941	1.164	.172
DC03	.563	.188	.000	1.057	.057	.559
DC04	6.834	2.834	.000	.015	1.982	1.036
DC05	.089	1.847	.000	3.209	2.829	7.587
DC06	13.133	10.406	.000	1.485	2.928	3.562
DC07	1.545	.826	.000	2.960	.417	1.737
DC08	.038	2.066	.000	.756	.981	.327
DC09	.006	.024	.000	.450	.370	1.322
DC10	.183	.419	.000	.197	.152	.075
DC11	4.938	7.243	.000	1.088	3.054	.055
ES01	2.485	.452	3.158	.000	2.696	2.761
ES05	5.530	5.550	9.122	.000	7.372	5.459
ES06	3.496	.716	.222	.000	.003	.021
ES09	.058	.084	.298	.000	.365	1.679
ES10	4.109	6.902	5.912	.000	3.787	5.158
ES02	.307	.413	.059	9.911	.000	3.090
ES03	.180	.025	1.660	1.668	.000	5.260
ES04	.251	1.478	5.252	26.367	.000	18.456
ES07	.575	.004	.132	1.406	.000	.000
ES08	.002	.056	1.390	.645	.000	.107
B1	.014	2.369	.455	.118	5.802	.000
B3	13.719	11.638	7.838	.716	13.270	.000
B5	.076	2.594	2.184	.039	2.244	.000
B8	22.149	31.911	4.947	.399	27.055	.000
PEC01	.076	.489	.001	.337	.042	.116
PEC02	.013	.163	1.058	1.457	.164	.144
PEC03	.945	.438	4.445	.280	1.250	.144
PEC04	10.312	2.385	.968	.936	2.527	.193
PEC05	10.194	1.401	.208	.008	.308	4.370
PEC06	11.221	4.112	.001	.005	1.061	.172
PEC07	2.990	.102	2.999	4.738	.103	1.790
PEC08	.221	.445	.032	9.101	.049	5.818
PEC09	.414	.906	.104	.758	3.954	2.199
PEC10	.061	.346	.011	5.142	.040	2.812
PEC11	6.337	7.201	1.032	2.064	.294	3.517

MODIFICATION INDICES FOR LAMBDA X

	PEC
DA01	20.857
DA02	2.284
DA03	.066
DA04	2.079
DA05	1.721
DA06	2.988
DA07	.434

DA08	1.055
DA09	6.009
DA10	.925
DA11	4.782
DA12	.808
PEA01	27.229
PEA02	.599
PEA03	.036
PEA04	.354
PEA05	.873
PEA06	1.830
PEA07	.311
PEA08	1.084
PEA09	1.605
PEA10	1.630
PEA11	4.464
PEA12	.667
DC01	.539
DC02	.008
DC03	.604
DC04	.865
DC05	3.890
DC06	3.024
DC07	.630
DC08	3.386
DC09	.177
DC10	4.295
DC11	7.626
ES01	1.747
ES05	9.608
ES06	.043
ES09	.560
ES10	8.414
ES02	.035
ES03	1.571
ES04	9.015
ES07	.069
ES08	1.741
B1	.339
B3	10.201
B5	.005
B8	12.983
PEC01	.000
PEC02	.000
PEC03	.000
PEC04	.000
PEC05	.000
PEC06	.000
PEC07	.000
PEC08	.000
PEC09	.000
PEC10	.000
PEC11	.000

ESTIMATED CHANGE FOR LAMBDA X

	DA	PEA	DC	NEG	POS	BEH
DA01	.000	-.291	.827	-.289	.351	.482

DA02	.000	.514	.094	-.242	.136	.305
DA03	.000	.023	-.031	.099	.081	-.115
DA04	.000	.079	-.346	.136	-.146	-.194
DA05	.000	.247	-.323	.060	.019	-.038
DA06	.000	-.397	-.024	.083	-.217	-.163
DA07	.000	.001	-.125	-.064	-.032	.059
DA08	.000	-.199	.284	.021	-.102	.011
DA09	.000	-.411	-.253	.194	-.101	-.258
DA10	.000	.188	.211	-.050	.160	.328
DA11	.000	.256	-.417	.319	-.122	-.334
DA12	.000	.241	.052	-.229	-.026	.004
PEA01	.254	.000	.413	-.092	.239	.271
PEA02	-.126	.000	.037	-.226	-.091	.200
PEA03	-.101	.000	-.120	.108	.135	-.142
PEA04	.158	.000	.033	.092	-.078	-.073
PEA05	-.371	.000	-.093	.111	.135	.174
PEA06	-.037	.000	-.161	.091	-.112	-.168
PEA07	.103	.000	-.059	.011	-.015	-.028
PEA08	-.259	.000	-.018	-.054	.099	.073
PEA09	.355	.000	-.049	.113	-.030	-.127
PEA10	-.012	.000	.217	-.072	.115	.281
PEA11	-.190	.000	-.263	-.002	.005	-.092
PEA12	-.160	.000	.007	.068	-.257	-.280
DC01	.105	.124	.000	.014	-.068	.015
DC02	.128	.123	.000	.091	.114	.048
DC03	.086	.044	.000	-.091	.023	.082
DC04	-.405	-.229	.000	-.015	-.188	-.151
DC05	-.037	-.146	.000	.169	-.178	-.324
DC06	-.509	-.398	.000	.132	-.208	-.254
DC07	-.177	-.114	.000	-.190	.080	.180
DC08	-.025	-.163	.000	-.086	-.110	.070
DC09	.008	.015	.000	-.055	.055	.116
DC10	.046	.062	.000	-.037	.036	.028
DC11	.237	.255	.000	.086	.162	-.024
ES01	-.071	-.034	-.083	.000	-.082	-.125
ES05	.110	.124	.147	.000	.141	.185
ES06	.086	.044	.023	.000	-.003	-.011
ES09	-.009	.012	.021	.000	.025	.085
ES10	-.090	-.131	-.113	.000	-.096	-.172
ES02	-.029	-.037	.013	.164	.000	-.117
ES03	-.019	-.008	-.060	.057	.000	-.129
ES04	.024	.063	.115	-.243	.000	.258
ES07	.054	-.005	.027	.084	.000	.000
ES08	-.002	-.012	-.056	-.036	.000	.019
B1	-.017	.237	-.115	-.075	.443	.000
B3	-.290	-.298	-.274	.110	-.387	.000
B5	.020	-.128	.132	-.023	-.145	.000
B8	.570	.752	.329	-.121	.831	.000
PEC01	.023	.064	-.003	.043	-.017	.032
PEC02	.009	-.037	.149	.088	.034	.036
PEC03	.068	-.051	.257	.033	-.080	-.030
PEC04	-.320	-.170	-.172	-.086	-.162	.050
PEC05	.267	.109	.067	-.006	.048	-.200
PEC06	-.298	-.199	.005	.006	-.094	-.042
PEC07	-.168	.034	-.294	-.187	-.032	.149
PEC08	.038	-.060	-.025	-.218	-.018	.225
PEC09	-.045	-.073	-.039	-.053	.141	.118
PEC10	-.021	.054	.015	.167	-.017	-.160
PEC11	.209	.244	-.147	.105	.046	-.177

ESTIMATED CHANGE FOR LAMBDA X

	PEC
DA01	.649
DA02	.238
DA03	-.031
DA04	-.250
DA05	-.181
DA06	-.235
DA07	-.092
DA08	.146
DA09	-.325
DA10	.253
DA11	-.289
DA12	.156
PEA01	.497
PEA02	-.089
PEA03	.018
PEA04	-.073
PEA05	.143
PEA06	-.119
PEA07	-.054
PEA08	.124
PEA09	-.128
PEA10	.188
PEA11	-.250
PEA12	-.102
DC01	-.160
DC02	-.019
DC03	-.153
DC04	-.249
DC05	-.418
DC06	-.422
DC07	.196
DC08	-.408
DC09	.077
DC10	.385
DC11	.510
ES01	-.070
ES05	.173
ES06	.011
ES09	.034
ES10	-.154
ES02	.012
ES03	-.069
ES04	.177
ES07	-.023
ES08	-.075
B1	.118
B3	-.389
B5	.008
B8	.638
PEC01	.000
PEC02	.000
PEC03	.000
PEC04	.000
PEC05	.000
PEC06	.000

PEC07	.000
PEC08	.000
PEC09	.000
PEC10	.000
PEC11	.000

APPENDIX 7
LISREL OUTPUT FOR LATENT VARIABLE SERVICE MODEL

FINAL MEASUREMENT MODEL SERVICE

NUMBER OF INPUT VARIABLES 62

NUMBER OF Y - VARIABLES 0

NUMBER OF X - VARIABLES 62

NUMBER OF ETA - VARIABLES 0

NUMBER OF KSI - VARIABLES 7

NUMBER OF OBSERVATIONS 268

FINAL MEASUREMENT MODEL SERVICE

LISREL ESTIMATES (MAXIMUM LIKELIHOOD)

LAMBDA X

	DA	PEA	DC	NEG	POS	BEH
DA01	1.409	.000	.000	.000	.000	.000
DA02	1.331	.000	.000	.000	.000	.000
DA03	1.073	.000	.000	.000	.000	.000
DA04	1.412	.000	.000	.000	.000	.000
DA05	1.162	.000	.000	.000	.000	.000
DA06	1.527	.000	.000	.000	.000	.000
DA07	1.206	.000	.000	.000	.000	.000
DA08	1.029	.000	.000	.000	.000	.000
DA09	1.146	.000	.000	.000	.000	.000
DA10	1.095	.000	.000	.000	.000	.000
DA11	1.111	.000	.000	.000	.000	.000
DA12	1.241	.000	.000	.000	.000	.000
DA13	1.128	.000	.000	.000	.000	.000
PEA01	.000	1.088	.000	.000	.000	.000
PEA02	.000	.907	.000	.000	.000	.000
PEA03	.000	.747	.000	.000	.000	.000
PEA04	.000	1.073	.000	.000	.000	.000
PEA05	.000	.996	.000	.000	.000	.000
PEA06	.000	1.225	.000	.000	.000	.000
PEA07	.000	.992	.000	.000	.000	.000
PEA08	.000	.919	.000	.000	.000	.000
PEA09	.000	.631	.000	.000	.000	.000
PEA10	.000	.632	.000	.000	.000	.000
PEA11	.000	.731	.000	.000	.000	.000
PEA12	.000	.843	.000	.000	.000	.000
PEA13	.000	.856	.000	.000	.000	.000
DC01	.000	.000	1.326	.000	.000	.000
DC02	.000	.000	1.602	.000	.000	.000
DC03	.000	.000	1.711	.000	.000	.000
DC04	.000	.000	1.599	.000	.000	.000
DC05	.000	.000	1.325	.000	.000	.000
DC06	.000	.000	1.681	.000	.000	.000
DC07	.000	.000	1.603	.000	.000	.000
DC08	.000	.000	1.689	.000	.000	.000

DC09	.000	.000	1.483	.000	.000	.000
DC10	.000	.000	1.374	.000	.000	.000
DC11	.000	.000	1.461	.000	.000	.000
ER01	.000	.000	.000	.902	.000	.000
ER05	.000	.000	.000	.901	.000	.000
ER06	.000	.000	.000	.676	.000	.000
ER09	.000	.000	.000	.902	.000	.000
ER10	.000	.000	.000	.866	.000	.000
ER02	.000	.000	.000	.000	1.053	.000
ER03	.000	.000	.000	.000	.989	.000
ER04	.000	.000	.000	.000	.908	.000
ER07	.000	.000	.000	.000	1.130	.000
ER08	.000	.000	.000	.000	.949	.000
B2	.000	.000	.000	.000	.000	1.194
B4	.000	.000	.000	.000	.000	1.700
B6	.000	.000	.000	.000	.000	1.667
B9	.000	.000	.000	.000	.000	1.332
PEC01	.000	.000	.000	.000	.000	.000
PEC02	.000	.000	.000	.000	.000	.000
PEC03	.000	.000	.000	.000	.000	.000
PEC04	.000	.000	.000	.000	.000	.000
PEC05	.000	.000	.000	.000	.000	.000
PEC06	.000	.000	.000	.000	.000	.000
PEC07	.000	.000	.000	.000	.000	.000
PEC08	.000	.000	.000	.000	.000	.000
PEC09	.000	.000	.000	.000	.000	.000
PEC10	.000	.000	.000	.000	.000	.000
PEC11	.000	.000	.000	.000	.000	.000

LAMBDA X

	PEC
DA01	.000
DA02	.000
DA03	.000
DA04	.000
DA05	.000
DA06	.000
DA07	.000
DA08	.000
DA09	.000
DA10	.000
DA11	.000
DA12	.000
DA13	.000
PEA01	.000
PEA02	.000
PEA03	.000
PEA04	.000
PEA05	.000
PEA06	.000
PEA07	.000
PEA08	.000
PEA09	.000
PEA10	.000
PEA11	.000
PEA12	.000
PEA13	.000

DC01	.000
DC02	.000
DC03	.000
DC04	.000
DC05	.000
DC06	.000
DC07	.000
DC08	.000
DC09	.000
DC10	.000
DC11	.000
ER01	.000
ER05	.000
ER06	.000
ER09	.000
ER10	.000
ER02	.000
ER03	.000
ER04	.000
ER07	.000
ER08	.000
B2	.000
B4	.000
B6	.000
B9	.000
PEC01	1.043
PEC02	1.202
PEC03	1.215
PEC04	1.348
PEC05	1.280
PEC06	1.217
PEC07	1.247
PEC08	1.169
PEC09	1.035
PEC10	1.067
PEC11	1.184

PHI

	DA	PEA	DC	NEG	POS	BEH
DA	1.000					
PEA	.875	1.000				
DC	.921	.802	1.000			
NEG	-.503	-.654	-.622	1.000		
POS	.668	.768	.693	-.591	1.000	
BEH	.611	.753	.689	-.868	.749	1.000
PEC	.769	.923	.894	-.773	.790	.824

PHI

	PEC
PEC	1.000

THETA DELTA

DA01	DA02	DA03	DA04	DA05	DA06
1.004	.898	1.402	1.479	2.426	1.289

THETA DELTA

DA07	DA08	DA09	DA10	DA11	DA12
1.401	1.895	1.244	1.854	1.565	2.374

THETA DELTA

DA13	PEA01	PEA02	PEA03	PEA04	PEA05
1.978	.565	.520	.823	.799	1.547

THETA DELTA

PEA06	PEA07	PEA08	PEA09	PEA10	PEA11
.787	1.031	1.441	.434	.669	.748

THETA DELTA

PEA12	PEA13	DC01	DC02	DC03	DC04
1.447	1.490	1.673	.811	.828	1.822

THETA DELTA

DC05	DC06	DC07	DC08	DC09	DC10
1.951	.810	.943	.924	.979	1.864

THETA DELTA

DC11	ER01	ER05	ER06	ER09	ER10
1.560	.303	.257	.333	.226	.312

THETA DELTA

ER02	ER03	ER04	ER07	ER08	B2
.262	.138	.195	.512	.142	2.825

THETA DELTA

B4	B6	B9	PEC01	PEC02	PEC03
.140	.092	1.272	1.156	.317	.407

THETA DELTA

PEC04	PEC05	PEC06	PEC07	PEC08	PEC09
1.124	1.383	.542	.555	.351	.651

THETA DELTA

PEC10	PEC11
.758	.658

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

DA01	DA02	DA03	DA04	DA05	DA06
.664	.664	.451	.574	.358	.644

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

DA07	DA08	DA09	DA10	DA11	DA12
.509	.358	.513	.393	.441	.393

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

DA13	PEA01	PEA02	PEA03	PEA04	PEA05
.391	.677	.612	.404	.590	.391

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

PEA06	PEA07	PEA08	PEA09	PEA10	PEA11
.656	.489	.370	.479	.374	.416

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

PEA12	PEA13	DC01	DC02	DC03	DC04
.329	.330	.512	.760	.780	.584

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

DC05	DC06	DC07	DC08	DC09	DC10
.474	.777	.732	.755	.692	.503

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

DC11	ER01	ER05	ER06	ER09	ER10
.578	.728	.760	.578	.782	.706

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

ER02	ER03	ER04	ER07	ER08	B2
.809	.876	.809	.714	.864	.335

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

B4	B6	B9	PEC01	PEC02	PEC03
.954	.968	.582	.485	.820	.784

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

PEC04	PEC05	PEC06	PEC07	PEC08	PEC09
.618	.542	.732	.737	.796	.622

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

PEC10	PEC11
.600	.680

TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS 1.000

W_A_R_N_I_N_G : PHI is not positive definite

CHI-SQUARE WITH1808 DEGREES OF FREEDOM = 7750.05 (P = .000)

GOODNESS OF FIT INDEX = .516
ADJUSTED GOODNESS OF FIT INDEX = .477
ROOT MEAN SQUARE RESIDUAL = .158

FINAL MEASUREMENT MODEL SERVICE

T-VALUES

LAMBDA X

	DA	PEA	DC	NEG	POS	BEH
DA01	16.148	.000	.000	.000	.000	.000
DA02	16.138	.000	.000	.000	.000	.000
DA03	12.330	.000	.000	.000	.000	.000
DA04	14.518	.000	.000	.000	.000	.000
DA05	10.649	.000	.000	.000	.000	.000
DA06	15.778	.000	.000	.000	.000	.000
DA07	13.365	.000	.000	.000	.000	.000
DA08	10.664	.000	.000	.000	.000	.000
DA09	13.435	.000	.000	.000	.000	.000
DA10	11.289	.000	.000	.000	.000	.000
DA11	12.149	.000	.000	.000	.000	.000
DA12	11.300	.000	.000	.000	.000	.000
DA13	11.259	.000	.000	.000	.000	.000
PEA01	.000	16.387	.000	.000	.000	.000
PEA02	.000	15.210	.000	.000	.000	.000
PEA03	.000	11.493	.000	.000	.000	.000
PEA04	.000	14.811	.000	.000	.000	.000
PEA05	.000	11.255	.000	.000	.000	.000
PEA06	.000	16.004	.000	.000	.000	.000
PEA07	.000	12.998	.000	.000	.000	.000
PEA08	.000	10.871	.000	.000	.000	.000
PEA09	.000	12.820	.000	.000	.000	.000
PEA10	.000	10.950	.000	.000	.000	.000
PEA11	.000	11.714	.000	.000	.000	.000

PEA12	.000	10.136	.000	.000	.000	.000
PEA13	.000	10.141	.000	.000	.000	.000
DC01	.000	.000	13.455	.000	.000	.000
DC02	.000	.000	17.992	.000	.000	.000
DC03	.000	.000	18.378	.000	.000	.000
DC04	.000	.000	14.730	.000	.000	.000
DC05	.000	.000	12.767	.000	.000	.000
DC06	.000	.000	18.332	.000	.000	.000
DC07	.000	.000	17.454	.000	.000	.000
DC08	.000	.000	17.906	.000	.000	.000
DC09	.000	.000	16.706	.000	.000	.000
DC10	.000	.000	13.288	.000	.000	.000
DC11	.000	.000	14.620	.000	.000	.000
ER01	.000	.000	.000	17.197	.000	.000
ER05	.000	.000	.000	17.796	.000	.000
ER06	.000	.000	.000	14.446	.000	.000
ER09	.000	.000	.000	18.233	.000	.000
ER10	.000	.000	.000	16.774	.000	.000
ER02	.000	.000	.000	.000	18.889	.000
ER03	.000	.000	.000	.000	20.262	.000
ER04	.000	.000	.000	.000	18.888	.000
ER07	.000	.000	.000	.000	17.046	.000
ER08	.000	.000	.000	.000	20.007	.000
B2	.000	.000	.000	.000	.000	10.299
B4	.000	.000	.000	.000	.000	21.992
B6	.000	.000	.000	.000	.000	22.304
B9	.000	.000	.000	.000	.000	14.732
PEC01	.000	.000	.000	.000	.000	.000
PEC02	.000	.000	.000	.000	.000	.000
PEC03	.000	.000	.000	.000	.000	.000
PEC04	.000	.000	.000	.000	.000	.000
PEC05	.000	.000	.000	.000	.000	.000
PEC06	.000	.000	.000	.000	.000	.000
PEC07	.000	.000	.000	.000	.000	.000
PEC08	.000	.000	.000	.000	.000	.000
PEC09	.000	.000	.000	.000	.000	.000
PEC10	.000	.000	.000	.000	.000	.000
PEC11	.000	.000	.000	.000	.000	.000

LAMBDA X

	PEC
DA01	.000
DA02	.000
DA03	.000
DA04	.000
DA05	.000
DA06	.000
DA07	.000
DA08	.000
DA09	.000
DA10	.000
DA11	.000
DA12	.000
DA13	.000
PEA01	.000
PEA02	.000
PEA03	.000

PEA04	.000
PEA05	.000
PEA06	.000
PEA07	.000
PEA08	.000
PEA09	.000
PEA10	.000
PEA11	.000
PEA12	.000
PEA13	.000
DC01	.000
DC02	.000
DC03	.000
DC04	.000
DC05	.000
DC06	.000
DC07	.000
DC08	.000
DC09	.000
DC10	.000
DC11	.000
ER01	.000
ER05	.000
ER06	.000
ER09	.000
ER10	.000
ER02	.000
ER03	.000
ER04	.000
ER07	.000
ER08	.000
B2	.000
B4	.000
B6	.000
B9	.000
PEC01	12.988
PEC02	19.193
PEC03	18.485
PEC04	15.363
PEC05	14.009
PEC06	17.482
PEC07	17.571
PEC08	18.715
PEC09	15.438
PEC10	15.045
PEC11	16.513

PHI

	DA	PEA	DC	NEG	POS	BEH
DA	.000					
PEA	45.135	.000				
DC	69.610	31.369	.000			
NEG	-10.014	-16.448	-15.118	.000		
POS	17.864	26.599	20.170	-13.600	.000	
BEH	14.855	25.521	20.265	-47.719	26.088	.000
PEC	26.986	70.958	60.018	-27.334	30.920	38.382

PHI

	PEC
PEC	.000

THETA DELTA

DA01	DA02	DA03	DA04	DA05	DA06
10.813	10.814	11.256	11.058	11.354	10.879

THETA DELTA

DA07	DA08	DA09	DA10	DA11	DA12
11.175	11.353	11.169	11.321	11.269	11.320

THETA DELTA

DA13	PEA01	PEA02	PEA03	PEA04	PEA05
11.322	10.779	10.981	11.317	11.034	11.330

THETA DELTA

PEA06	PEA07	PEA08	PEA09	PEA10	PEA11
10.853	11.216	11.350	11.230	11.346	11.304

THETA DELTA

PEA12	PEA13	DC01	DC02	DC03	DC04
11.383	11.383	11.266	10.674	10.566	11.169

THETA DELTA

DC05	DC06	DC07	DC08	DC09	DC10
11.308	10.580	10.798	10.695	10.933	11.277

THETA DELTA

DC11	ER01	ER05	ER06	ER09	ER10
11.179	9.664	9.319	10.597	9.010	9.866

THETA DELTA

ER02	ER03	ER04	ER07	ER08	B2
9.664	8.368	9.665	10.451	8.696	11.452

THETA DELTA

B4	B6	B9	PEC01	PEC02	PEC03
5.742	4.229	11.268	11.348	10.518	10.735

THETA DELTA

PEC04	PEC05	PEC06	PEC07	PEC08	PEC09
11.197	11.293	10.944	10.928	10.673	11.191

THETA DELTA

PEC10	PEC11
11.223	11.081

FINAL MEASUREMENT MODEL SERVICE

COMPLETELY STANDARDIZED SOLUTION

LAMBDA X

	DA	PEA	DC	NEG	POS	BEH
DA01	.815	.000	.000	.000	.000	.000
DA02	.815	.000	.000	.000	.000	.000
DA03	.672	.000	.000	.000	.000	.000
DA04	.758	.000	.000	.000	.000	.000
DA05	.598	.000	.000	.000	.000	.000
DA06	.802	.000	.000	.000	.000	.000
DA07	.714	.000	.000	.000	.000	.000
DA08	.599	.000	.000	.000	.000	.000
DA09	.717	.000	.000	.000	.000	.000
DA10	.627	.000	.000	.000	.000	.000
DA11	.664	.000	.000	.000	.000	.000
DA12	.627	.000	.000	.000	.000	.000
DA13	.625	.000	.000	.000	.000	.000
PEA01	.000	.823	.000	.000	.000	.000
PEA02	.000	.783	.000	.000	.000	.000
PEA03	.000	.636	.000	.000	.000	.000
PEA04	.000	.768	.000	.000	.000	.000
PEA05	.000	.625	.000	.000	.000	.000
PEA06	.000	.810	.000	.000	.000	.000
PEA07	.000	.699	.000	.000	.000	.000
PEA08	.000	.608	.000	.000	.000	.000
PEA09	.000	.692	.000	.000	.000	.000
PEA10	.000	.611	.000	.000	.000	.000
PEA11	.000	.645	.000	.000	.000	.000
PEA12	.000	.574	.000	.000	.000	.000
PEA13	.000	.574	.000	.000	.000	.000
DC01	.000	.000	.716	.000	.000	.000
DC02	.000	.000	.872	.000	.000	.000
DC03	.000	.000	.883	.000	.000	.000
DC04	.000	.000	.764	.000	.000	.000
DC05	.000	.000	.688	.000	.000	.000
DC06	.000	.000	.882	.000	.000	.000
DC07	.000	.000	.855	.000	.000	.000
DC08	.000	.000	.869	.000	.000	.000
DC09	.000	.000	.832	.000	.000	.000
DC10	.000	.000	.709	.000	.000	.000

DC11	.000	.000	.760	.000	.000	.000
ER01	.000	.000	.000	.853	.000	.000
ER05	.000	.000	.000	.872	.000	.000
ER06	.000	.000	.000	.760	.000	.000
ER09	.000	.000	.000	.885	.000	.000
ER10	.000	.000	.000	.840	.000	.000
ER02	.000	.000	.000	.000	.899	.000
ER03	.000	.000	.000	.000	.936	.000
ER04	.000	.000	.000	.000	.899	.000
ER07	.000	.000	.000	.000	.845	.000
ER08	.000	.000	.000	.000	.929	.000
B2	.000	.000	.000	.000	.000	.579
B4	.000	.000	.000	.000	.000	.977
B6	.000	.000	.000	.000	.000	.984
B9	.000	.000	.000	.000	.000	.763
PEC01	.000	.000	.000	.000	.000	.000
PEC02	.000	.000	.000	.000	.000	.000
PEC03	.000	.000	.000	.000	.000	.000
PEC04	.000	.000	.000	.000	.000	.000
PEC05	.000	.000	.000	.000	.000	.000
PEC06	.000	.000	.000	.000	.000	.000
PEC07	.000	.000	.000	.000	.000	.000
PEC08	.000	.000	.000	.000	.000	.000
PEC09	.000	.000	.000	.000	.000	.000
PEC10	.000	.000	.000	.000	.000	.000
PEC11	.000	.000	.000	.000	.000	.000

LAMBDA X

	PEC
DA01	.000
DA02	.000
DA03	.000
DA04	.000
DA05	.000
DA06	.000
DA07	.000
DA08	.000
DA09	.000
DA10	.000
DA11	.000
DA12	.000
DA13	.000
PEA01	.000
PEA02	.000
PEA03	.000
PEA04	.000
PEA05	.000
PEA06	.000
PEA07	.000
PEA08	.000
PEA09	.000
PEA10	.000
PEA11	.000
PEA12	.000
PEA13	.000
DC01	.000
DC02	.000

DC03	.000
DC04	.000
DC05	.000
DC06	.000
DC07	.000
DC08	.000
DC09	.000
DC10	.000
DC11	.000
ER01	.000
ER05	.000
ER06	.000
ER09	.000
ER10	.000
ER02	.000
ER03	.000
ER04	.000
ER07	.000
ER08	.000
B2	.000
B4	.000
B6	.000
B9	.000
PEC01	.696
PEC02	.905
PEC03	.885
PEC04	.786
PEC05	.736
PEC06	.856
PEC07	.858
PEC08	.892
PEC09	.789
PEC10	.775
PEC11	.825

PHI

	DA	PEA	DC	NEG	POS	BEH
DA	1.000					
PEA	.875	1.000				
DC	.921	.802	1.000			
NEG	-.503	-.654	-.622	1.000		
POS	.668	.768	.693	-.591	1.000	
BEH	.611	.753	.689	-.868	.749	1.000
PEC	.769	.923	.894	-.773	.790	.824

PHI

	PEC
PEC	1.000

THETA DELTA

DA01	DA02	DA03	DA04	DA05	DA06
.336	.336	.549	.426	.642	.356

THETA DELTA

DA07	DA08	DA09	DA10	DA11	DA12
.491	.642	.487	.607	.559	.607

THETA DELTA

DA13	PEA01	PEA02	PEA03	PEA04	PEA05
.609	.323	.388	.596	.410	.609

THETA DELTA

PEA06	PEA07	PEA08	PEA09	PEA10	PEA11
.344	.511	.630	.521	.626	.584

THETA DELTA

PEA12	PEA13	DC01	DC02	DC03	DC04
.671	.670	.488	.240	.220	.416

THETA DELTA

DC05	DC06	DC07	DC08	DC09	DC10
.526	.223	.268	.245	.308	.497

THETA DELTA

DC11	ER01	ER05	ER06	ER09	ER10
.422	.272	.240	.422	.218	.294

THETA DELTA

ER02	ER03	ER04	ER07	ER08	B2
.191	.124	.191	.286	.136	.665

THETA DELTA

B4	B6	B9	PEC01	PEC02	PEC03
.046	.032	.418	.515	.180	.216

THETA DELTA

PEC04	PEC05	PEC06	PEC07	PEC08	PEC09
.382	.458	.268	.263	.204	.378

THETA DELTA

PEC10	PEC11
.400	.320

FINAL MEASUREMENT MODEL SERVICE

MODIFICATION INDICES AND ESTIMATED CHANGE

MODIFICATION INDICES FOR LAMBDA X

	DA	PEA	DC	NEG	POS	BEH
DA01	.000	.289	8.145	1.286	.749	4.203
DA02	.000	.032	.211	.213	.982	.409
DA03	.000	1.595	2.520	.333	.107	.754
DA04	.000	3.868	4.064	21.993	3.026	14.295
DA05	.000	1.442	.197	.489	.037	.111
DA06	.000	1.279	.281	.879	.093	2.545
DA07	.000	.272	5.723	1.345	.074	.815
DA08	.000	.242	3.224	9.992	1.732	8.015
DA09	.000	14.184	.122	12.469	8.033	14.220
DA10	.000	1.930	.546	.814	.183	.501
DA11	.000	.803	1.529	2.837	4.032	6.586
DA12	.000	.216	1.241	.013	1.857	.000
DA13	.000	.829	.391	.056	.891	.169
PEA01	2.650	.000	3.896	5.590	.181	12.667
PEA02	.102	.000	.572	.078	2.837	.019
PEA03	.169	.000	8.341	6.170	1.388	4.839
PEA04	.341	.000	2.638	16.627	2.792	13.328
PEA05	1.218	.000	.725	4.648	2.212	4.282
PEA06	1.307	.000	.300	5.361	.348	7.180
PEA07	1.799	.000	1.241	.010	1.034	.023
PEA08	2.255	.000	4.445	3.205	1.270	5.292
PEA09	5.865	.000	1.582	15.633	.016	11.521
PEA10	2.342	.000	.000	.197	.023	.284
PEA11	.328	.000	1.337	11.204	2.528	16.363
PEA12	.000	.000	.574	.217	2.004	.063
PEA13	.715	.000	.838	.201	.220	.426
DC01	19.552	8.623	.000	1.981	.339	1.039
DC02	.096	.014	.000	5.854	.774	.913
DC03	.068	2.144	.000	1.026	2.587	8.026
DC04	3.018	.837	.000	10.437	.430	3.137
DC05	2.233	2.271	.000	.006	1.140	.114
DC06	.670	6.320	.000	.027	2.063	.850
DC07	10.260	5.397	.000	2.075	.472	.016
DC08	10.337	.840	.000	2.608	.000	.655
DC09	18.611	2.570	.000	3.589	.551	2.554
DC10	.642	.630	.000	3.112	.155	2.456
DC11	.004	.361	.000	.063	.486	.016
ER01	4.076	3.279	4.151	.000	4.004	.185
ER05	.592	1.084	.032	.000	1.027	.949
ER06	4.468	.001	.534	.000	2.868	.016
ER09	.019	1.221	.019	.000	.005	1.302
ER10	1.250	3.041	2.496	.000	.214	.107
ER02	.027	1.030	.009	3.675	.000	5.172
ER03	.485	.187	.788	.879	.000	.562
ER04	.604	.038	.052	.010	.000	1.212
ER07	4.539	5.051	6.461	.179	.000	.079
ER08	2.503	.006	.333	5.067	.000	3.969
B2	.443	.282	.001	.025	.140	.000

B4	.891	3.671	1.240	16.435	1.871	.000
B6	2.978	7.700	2.543	23.405	5.973	.000
B9	3.749	4.549	2.075	3.895	8.122	.000
PEC01	4.802	9.211	1.615	3.285	2.695	.419
PEC02	.271	.029	.748	3.663	.523	.781
PEC03	2.364	3.201	.509	.495	2.012	.051
PEC04	.634	3.393	1.497	37.856	1.668	17.470
PEC05	1.619	.239	8.661	.259	1.698	.123
PEC06	.037	2.921	3.686	.392	1.309	.443
PEC07	3.758	7.261	.002	2.182	.197	.393
PEC08	.076	.870	.911	.626	.289	.244
PEC09	10.089	11.606	2.462	1.306	1.953	.001
PEC10	6.073	3.685	1.102	.563	.067	1.849
PEC11	2.521	.243	3.101	.472	.354	.029

MODIFICATION INDICES FOR LAMBDA X

	PEC
DA01	3.994
DA02	.015
DA03	.915
DA04	9.152
DA05	.289
DA06	.694
DA07	.300
DA08	3.965
DA09	10.617
DA10	.707
DA11	2.530
DA12	.552
DA13	.152
PEA01	12.289
PEA02	.040
PEA03	11.839
PEA04	5.733
PEA05	4.461
PEA06	.136
PEA07	.301
PEA08	3.274
PEA09	.633
PEA10	.525
PEA11	7.012
PEA12	.970
PEA13	.392
DC01	.485
DC02	.286
DC03	2.309
DC04	.656
DC05	.996
DC06	1.592
DC07	.282
DC08	2.527
DC09	6.309
DC10	.024
DC11	.648
ER01	5.505
ER05	.168
ER06	.020

ER09	.956
ER10	3.569
ER02	1.441
ER03	.787
ER04	.298
ER07	3.929
ER08	1.089
B2	.007
B4	3.914
B6	6.149
B9	1.940
PEC01	.000
PEC02	.000
PEC03	.000
PEC04	.000
PEC05	.000
PEC06	.000
PEC07	.000
PEC08	.000
PEC09	.000
PEC10	.000
PEC11	.000

ESTIMATED CHANGE FOR LAMBDA X

	DA	PEA	DC	NEG	POS	BEH
DA01	.000	.073	.495	-.091	.081	.176
DA02	.000	.023	-.075	-.035	.087	.052
DA03	.000	.193	-.311	.052	-.034	-.084
DA04	.000	.315	.414	-.445	.192	.383
DA05	.000	.239	-.113	.082	-.026	-.042
DA06	.000	.173	.103	-.085	.032	.154
DA07	.000	.080	-.472	.106	-.029	-.088
DA08	.000	-.087	-.404	.329	-.159	-.315
DA09	.000	-.547	-.065	.304	-.283	-.347
DA10	.000	-.243	-.165	-.093	-.051	.078
DA11	.000	-.145	-.255	.161	-.223	-.262
DA12	.000	-.092	.282	-.014	.185	.000
DA13	.000	-.164	.144	-.025	.117	-.047
PEA01	-.167	.000	.188	-.168	.036	.283
PEA02	.031	.000	-.067	-.019	.133	-.010
PEA03	-.048	.000	-.309	.201	-.112	-.199
PEA04	.069	.000	.178	-.335	.162	.335
PEA05	.176	.000	-.125	.238	-.194	-.256
PEA06	-.138	.000	.061	-.193	-.058	.249
PEA07	-.177	.000	-.135	-.009	-.110	.015
PEA08	-.231	.000	-.297	.191	-.142	-.274
PEA09	.207	.000	.099	.234	.009	-.225
PEA10	.161	.000	.001	.032	.013	-.043
PEA11	.064	.000	-.118	.258	-.145	-.349
PEA12	-.002	.000	.107	-.050	.178	.030
PEA13	.132	.000	.131	-.048	.060	-.079
DC01	.941	.448	.000	.154	.069	-.117
DC02	.048	-.013	.000	.194	-.076	-.080
DC03	.041	.169	.000	-.083	.142	.243
DC04	-.389	-.147	.000	-.372	.081	.214
DC05	.342	.247	.000	-.009	.136	-.042
DC06	-.128	-.286	.000	.013	-.125	-.078

DC07	-.531	-.279	.000	-.123	.063	.012
DC08	-.533	-.110	.000	-.138	-.001	.073
DC09	.721	.194	.000	.163	-.069	-.144
DC10	.180	.128	.000	.204	-.049	-.190
DC11	-.013	.089	.000	.027	-.080	-.014
ER01	-.092	-.097	-.103	.000	-.099	-.039
ER05	-.033	-.053	-.009	.000	.047	-.085
ER06	.094	.001	.036	.000	.083	-.011
ER09	.006	.054	.006	.000	.003	.096
ER10	.051	.093	.080	.000	-.023	.030
ER02	.008	-.059	-.005	.087	.000	-.125
ER03	-.027	-.020	-.035	.034	.000	-.033
ER04	.033	-.010	-.010	-.004	.000	.052
ER07	.139	.175	.171	-.026	.000	-.021
ER08	-.060	-.004	-.023	-.080	.000	.086
B2	.090	.087	-.005	.038	.062	.000
B4	.038	.099	.050	.335	.070	.000
B6	-.067	-.138	-.069	-.389	-.121	.000
B9	.176	.238	.144	.324	.318	.000
PEC01	.252	.538	-.196	.208	.191	-.080
PEC02	.034	-.017	.076	.124	-.048	-.062
PEC03	.112	.199	.069	.051	.104	.018
PEC04	-.092	-.326	-.189	-.705	.150	.518
PEC05	-.161	.095	-.500	-.064	-.167	-.048
PEC06	.016	-.215	.211	.051	-.095	-.059
PEC07	-.161	-.344	-.005	-.122	-.037	.056
PEC08	.019	.097	.086	.053	-.037	-.036
PEC09	.278	.459	.185	.100	.124	-.003
PEC10	-.232	-.278	-.133	.070	-.025	-.138
PEC11	-.141	-.068	-.210	-.061	-.054	-.016

ESTIMATED CHANGE FOR LAMBDA X

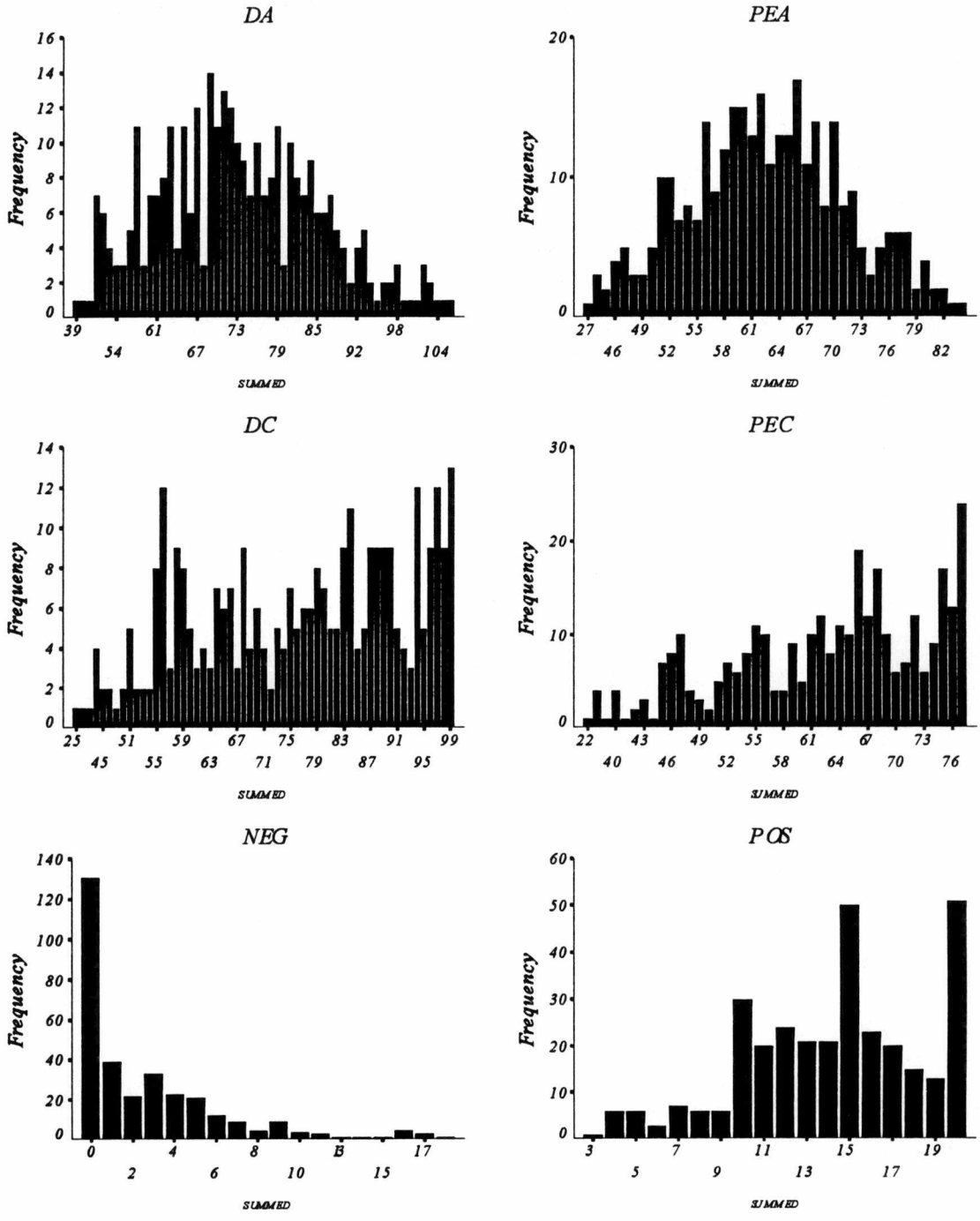
	PEC
DA01	.227
DA02	-.013
DA03	-.122
DA04	.405
DA05	.089
DA06	.106
DA07	-.070
DA08	-.292
DA09	-.395
DA10	-.122
DA11	-.214
DA12	.122
DA13	.059
PEA01	.463
PEA02	-.025
PEA03	-.516
PEA04	.365
PEA05	-.434
PEA06	.057
PEA07	.093
PEA08	-.358
PEA09	-.087
PEA10	-.098
PEA11	-.379

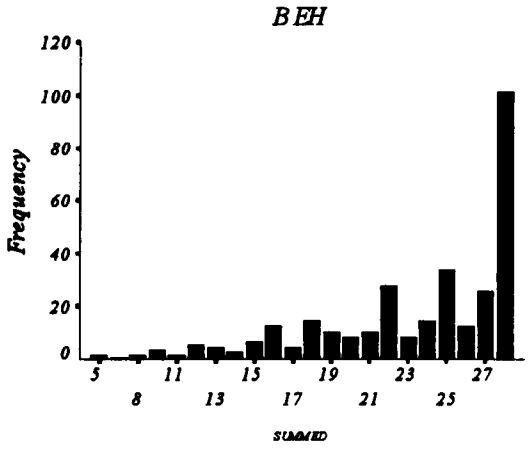
PEA12	.194
PEA13	.125
DC01	-.130
DC02	-.073
DC03	.211
DC04	.159
DC05	.200
DC06	-.173
DC07	-.077
DC08	.231
DC09	-.368
DC10	.030
DC11	.146
ER01	-.152
ER05	-.025
ER06	-.009
ER09	.058
ER10	.122
ER02	-.072
ER03	-.042
ER04	-.028
ER07	.159
ER08	.049
B2	-.016
B4	.127
B6	-.155
B9	.181
PEC01	.000
PEC02	.000
PEC03	.000
PEC04	.000
PEC05	.000
PEC06	.000
PEC07	.000
PEC08	.000
PEC09	.000
PEC10	.000
PEC11	.000

APPENDIX 8
DESCRIPTIVE STATISTICS FOR SUMMED SALES VARIABLES

UNIVARIATE SUMMARY STATISTICS FOR SUMMED SALES DATA

Variable	Mean	Std Dev	Kurtosis	Skewness	Minimum	Maximum	N
DA	73.29	12.65	-.29	.25	39.00	106.0	323
PEA	62.66	8.93	.06	-.09	27.00	84.00	323
DC	76.28	15.87	-.76	-.38	25.00	99.00	323
PEC	62.52	10.78	-.28	-.59	22.00	77.00	323
NEG	2.80	3.80	3.88	1.91	.00	19.00	323
POS	14.23	4.17	-.39	-.42	3.00	20.00	323
BEH	23.19	5.29	.60	-1.12	5.00	28.00	323

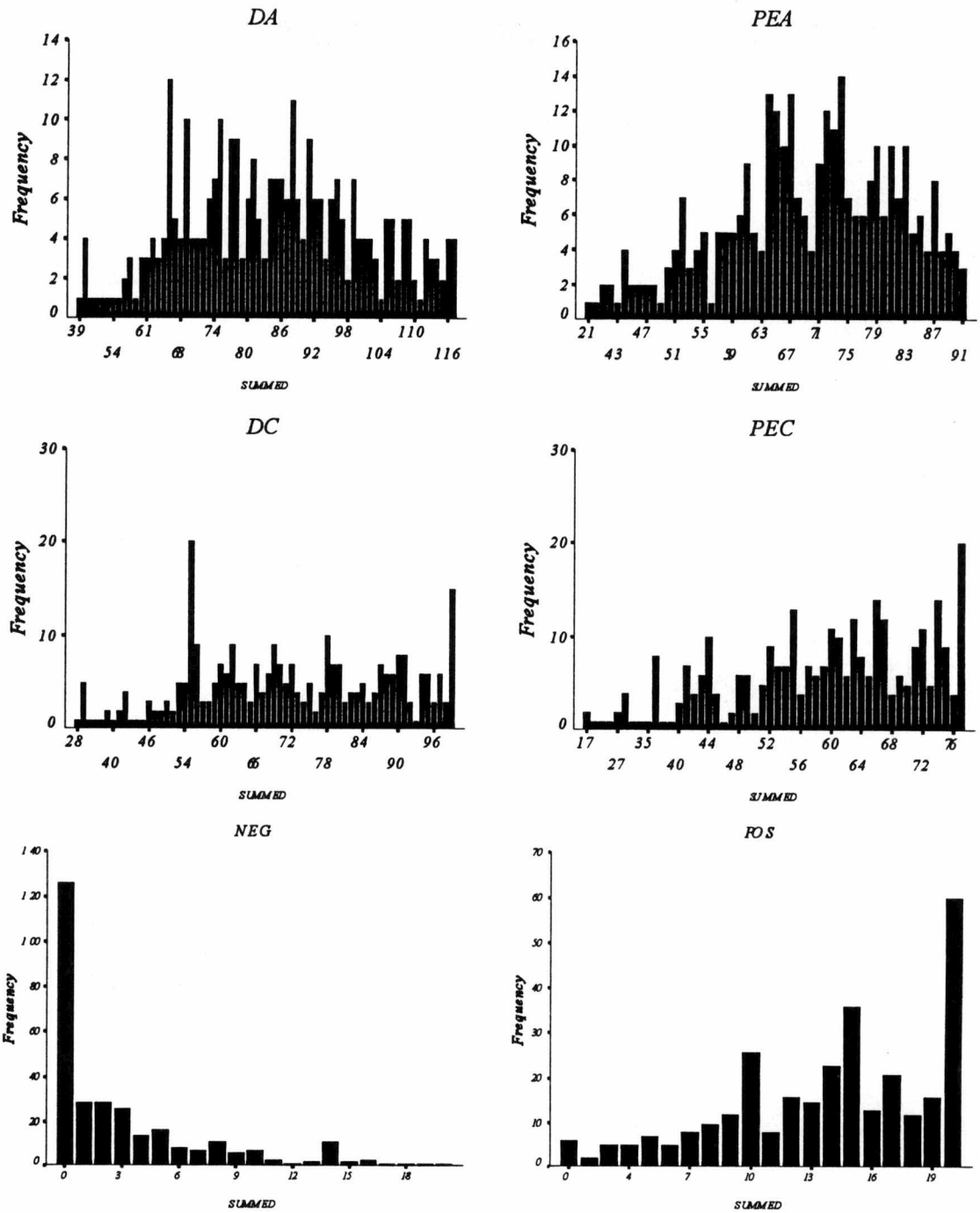

DA
Frequency
SUMMED
PEA
Frequency
SUMMED
DC
Frequency
SUMMED
PEC
Frequency
SUMMED
NEG
Frequency
SUMMED
POS
Frequency
SUMMED

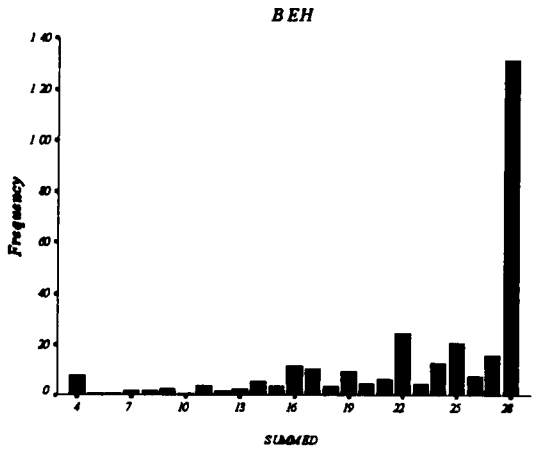

BEH
120
100
80
60
40
20
0
Frequency
5
8
11
13
15
17
19
21
23
25
27
SUMMED

APPENDIX 9
DESCRIPTIVE STATISTICS FOR SUMMED SERVICE VARIABLES

UNIVARIATE SUMMARY STATISTICS FOR SUMMED SERVICE DATA

Variable	Mean	Std Dev	Kurtosis	Skewness	Minimum	Maximum	N
DA	84.40	16.62	-.61	-.01	39.00	117.0	306
PEA	69.40	12.36	.00	-.48	21.00	91.00	306
DC	71.47	17.23	-.71	-.20	28.00	99.00	306
PEC	58.80	13.30	.04	-.69	17.00	77.00	306
NEG	3.24	4.41	2.00	1.62	.00	20.00	306
POS	13.82	5.15	-.27	-.65	.00	20.00	306
BEH	23.16	6.31	1.21	-1.39	4.00	28.00	306


DA
Frequency
SUMMED
PEA
Frequency
SUMMED
DC
Frequency
SUMMED
PEC
Frequency
SUMMED
NEG
Frequency
SUMMED
POS
Frequency
SUMMED


BEH
Frequency
0
20
40
60
80
100
120
140
4
7
10
13
16
19
22
25
28
SUMMED

APPENDIX 10
LISREL OUTPUT FOR MANIFEST VARIABLE SALES MODEL

OBSERVED VARIABLES MODEL FOR SALES DATA

NUMBER OF INPUT VARIABLES 7

NUMBER OF Y - VARIABLES 5

NUMBER OF X - VARIABLES 2

NUMBER OF ETA - VARIABLES 5

NUMBER OF KSI - VARIABLES 2

NUMBER OF OBSERVATIONS 323

OBSERVED VARIABLES MODEL FOR SALES DATA

COVARIANCE MATRIX TO BE ANALYZED

	SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE	SUMDSA
SUMSSA	79.791500					
SUMSSC	67.643100	116.120000				
NEGSALE	-17.508300	-26.032500	14.424000			
POSSALE	21.693900	31.221400	-9.077260	17.363500		
BEHSALE	27.338400	39.671100	-14.060700	15.410000	27.986000	
SUMDSA	88.368500	83.855000	-20.843400	28.190200	34.425600	160.109000
SUMDSC	79.461400	149.237000	-33.080200	41.151000	51.155900	133.894000

COVARIANCE MATRIX TO BE ANALYZED

	SUMDSC
SUMDSC	251.797000

OBSERVED VARIABLES MODEL FOR SALES DATA

LISREL ESTIMATES (MAXIMUM LIKELIHOOD)

BETA

	SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
SUMSSA	.000000	.181351	.000000	.000000	.000000
SUMSSC	.304565	.000000	.000000	.000000	.000000
NEGSALE	-.058029	-.190383	.000000	.000000	.000000
POSSALE	.086823	.218295	.000000	.000000	.000000
BEHSALE	.000000	.000000	-.620408	.563158	.000000

GAMMA

	SUMDSA	SUMDSC
SUMSSA	.456947	.000000
SUMSSC	.000000	.496574
NEGSALE	.000000	.000000
POSSALE	.000000	.000000
BEHSALE	.000000	.000000

COVARIANCE MATRIX OF ETA AND KSI

	SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE	SUMDSA
SUMSSA	81.564243					
SUMSSC	72.800640	119.097183				
NEGSALE	-18.593077	-26.898591	14.651837			
POSSALE	22.973680	32.319100	-7.486137	17.714238		
BEHSALE	24.473109	34.888866	-13.305998	14.620375	27.073093	
SUMDSA	90.201127	93.960398	-23.122718	28.342631	30.306903	160.108999
SUMDSC	88.760362	152.069144	-34.102008	40.902388	44.191672	133.893999

COVARIANCE MATRIX OF ETA AND KSI

	SUMDSC
SUMDSC	251.796997

PSI

SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
25.645354	20.228462	8.451873	8.664492	10.584361

THETA EPS

SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
.000000	.000000	.000000	.000000	.000000

THETA DELTA

SUMDSA	SUMDSC
.000000	.000000

SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
1.000000	1.000000	1.000000	1.000000	1.000000

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

SUMDSA	SUMDSC
1.000000	1.000000

SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
.685581	.830152	.423153	.510874	.609045

TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS IS .882

CHI-SQUARE WITH 10 DEGREES OF FREEDOM = 84.09 (P = .000)

GOODNESS OF FIT INDEX = .933
ADJUSTED GOODNESS OF FIT INDEX = .813
ROOT MEAN SQUARE RESIDUAL = 3.540

OBSERVED VARIABLES MODEL FOR SALES DATA

STANDARD ERRORS

BETA

	SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
SUMSSA	.000000	.040673	.000000	.000000	.000000
SUMSSC	.040183	.000000	.000000	.000000	.000000
NEGSALE	.026612	.022023	.000000	.000000	.000000
POSSALE	.026945	.022298	.000000	.000000	.000000
BEHSALE	.000000	.000000	.053491	.048648	.000000

GAMMA

	SUMDSA	SUMDSC
SUMSSA	.032667	.000000
SUMSSC	.000000	.021216
NEGSALE	.000000	.000000
POSSALE	.000000	.000000
BEHSALE	.000000	.000000

PHI

	SUMDSA	SUMDSC
SUMDSA	12.618357	
SUMDSC	13.449072	19.844383

PSI

SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
2.130084	1.624480	.666101	.682858	.834165

BSERVED VARIABLES MODEL FOR SALES DATA

CORRELATIONS OF ESTIMATES

	BE 1,2	BE 2,1	BE 3,1	BE 3,2	BE 4,1	BE 4,2
BE 1,2	1.000000					
BE 2,1	-.463130	1.000000				
BE 3,1	.000000	.000000	1.000000			
BE 3,2	.000000	.000000	-.738643	1.000000		
BE 4,1	.000000	.000000	.000000	.000000	1.000000	
BE 4,2	.000000	.000000	.000000	.000000	-.738643	1.000000
BE 5,3	.000000	.000000	.000000	.000000	.000000	.000000
BE 5,4	.000000	.000000	.000000	.000000	.000000	.000000
GA 1,1	-.730662	.338392	.000000	.000000	.000000	.000000
GA 2,2	.309202	-.667636	.000000	.000000	.000000	.000000
PH 1,1	.000000	.000000	.000000	.000000	.000000	.000000
PH 2,1	.000000	.000000	.000000	.000000	.000000	.000000
PH 2,2	.000000	.000000	.000000	.000000	.000000	.000000
PS 1,1	-.315718	.146218	.000000	.000000	.000000	.000000
PS 2,2	.088965	-.192095	.000000	.000000	.000000	.000000
PS 3,3	.000000	.000000	.000000	.000000	.000000	.000000
PS 4,4	.000000	.000000	.000000	.000000	.000000	.000000
PS 5,5	.000000	.000000	.000000	.000000	.000000	.000000

CORRELATIONS OF ESTIMATES

	BE 5,3	BE 5,4	GA 1,1	GA 2,2	PH 1,1	PH 2,1
BE 5,3	1.000000					
BE 5,4	.464676	1.000000				
GA 1,1	.000000	.000000	1.000000			
GA 2,2	.000000	.000000	-.225923	1.000000		
PH 1,1	.000000	.000000	.000000	.000000	1.000000	
PH 2,1	.000000	.000000	.000000	.000000	.784614	1.000000
PH 2,2	.000000	.000000	.000000	.000000	.444689	.784614
PS 1,1	.000000	.000000	.230683	-.097621	.000000	.000000
PS 2,2	.000000	.000000	-.065003	.128250	.000000	.000000
PS 3,3	.000000	.000000	.000000	.000000	.000000	.000000
PS 4,4	.000000	.000000	.000000	.000000	.000000	.000000
PS 5,5	.000000	.000000	.000000	.000000	.000000	.000000

CORRELATIONS OF ESTIMATES

	PH 2,2	PS 1,1	PS 2,2	PS 3,3	PS 4,4	PS 5,5
PH 2,2	1.000000					
PS 1,1	.000000	1.000000				
PS 2,2	.000000	-.028088	1.000000			
PS 3,3	.000000	.000000	.000000	1.000000		
PS 4,4	.000000	.000000	.000000	.000000	1.000000	
PS 5,5	.000000	.000000	.000000	.000000	.000000	1.000000

OBSERVED VARIABLES MODEL FOR SALES DATA

T-VALUES

BETA

	SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
SUMSSA	.000000	4.458811	.000000	.000000	.000000
SUMSSC	7.579455	.000000	.000000	.000000	.000000
NEGSALE	-2.180567	-8.644738	.000000	.000000	.000000
POSSALE	3.222287	9.789786	.000000	.000000	.000000
BEHSALE	.000000	.000000	-11.598405	11.576203	.000000

GAMMA

	SUMDSA	SUMDSC
SUMSSA	13.987875	.000000
SUMSSC	.000000	23.405237
NEGSALE	.000000	.000000
POSSALE	.000000	.000000
BEHSALE	.000000	.000000

PHI

	SUMDSA	SUMDSC
SUMDSA	12.688578	
SUMDSC	9.955631	12.688578

PSI

SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
12.039596	12.452269	12.688578	12.688578	12.688578

OBSERVED VARIABLES MODEL FOR SALES DATA

TOTAL AND INDIRECT EFFECTS

TOTAL EFFECTS OF X ON Y

	SUMDSA	SUMDSC
SUMSSA	.483661	.095319
SUMSSC	.147306	.525605
NEGSALE	-.056111	-.105597
POSSALE	.074149	.123013
BEHSALE	.076569	.134789

STANDARD ERRORS FOR TOTAL EFFECTS OF X ON Y

	SUMDSA	SUMDSC
SUMSSA	.031538	.023806
SUMSSC	.024857	.022726
NEGSALE	.012341	.011198
POSSALE	.013229	.011900
BEHSALE	.012596	.012394

INDIRECT EFFECTS OF X ON Y

	SUMDSA	SUMDSC
SUMSSA	.026714	.095319
SUMSSC	.147306	.029031
NEGSALE	-.056111	-.105597
POSSALE	.074149	.123013
BEHSALE	.076569	.134789

STANDARD ERRORS FOR INDIRECT EFFECTS OF X ON Y

	SUMDSA	SUMDSC
SUMSSA	.004795	.023806
SUMSSC	.024857	.006177
NEGSALE	.012341	.011198
POSSALE	.013229	.011900
BEHSALE	.012596	.012394

TOTAL EFFECTS OF Y ON Y

	SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
SUMSSA	.058462	.191953	.000000	.000000	.000000
SUMSSC	.322371	.058462	.000000	.000000	.000000
NEGSALE	-.122795	-.212652	.000000	.000000	.000000
POSSALE	.162271	.247723	.000000	.000000	.000000
BEHSALE	.167568	.271438	-.620408	.563158	.000000

LARGEST EIGENVALUE OF B*B' (STABILITY INDEX) IS .702

STANDARD ERRORS FOR TOTAL EFFECTS OF Y ON Y

	SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
SUMSSA	.012422	.044901	.000000	.000000	.000000
SUMSSC	.043224	.012422	.000000	.000000	.000000
NEGSALE	.024886	.020400	.000000	.000000	.000000
POSSALE	.025631	.021061	.000000	.000000	.000000
BEHSALE	.023691	.021659	.053491	.048648	.000000

INDIRECT EFFECTS OF Y ON Y

	SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
SUMSSA	.058462	.010602	.000000	.000000	.000000
SUMSSC	.017806	.058462	.000000	.000000	.000000
NEGSALE	-.064766	-.022269	.000000	.000000	.000000
POSSALE	.075448	.029428	.000000	.000000	.000000
BEHSALE	.167568	.271438	.000000	.000000	.000000

STANDARD ERRORS FOR INDIRECT EFFECTS OF Y ON Y

	SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
SUMSSA	.012422	.004409	.000000	.000000	.000000
SUMSSC	.004724	.012422	.000000	.000000	.000000
NEGSALE	.010364	.006375	.000000	.000000	.000000
POSSALE	.011498	.007654	.000000	.000000	.000000
BEHSALE	.023691	.021659	.000000	.000000	.000000

OBSERVED VARIABLES MODEL FOR SALES DATA

STANDARDIZED SOLUTION

BETA

	SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
SUMSSA	.000000	.219140	.000000	.000000	.000000
SUMSSC	.252046	.000000	.000000	.000000	.000000
NEGSALE	-.136915	-.542790	.000000	.000000	.000000
POSSALE	.186305	.566022	.000000	.000000	.000000
BEHSALE	.000000	.000000	-.456409	.455536	.000000

GAMMA

	SUMDSA	SUMDSC
SUMSSA	.640212	.000000
SUMSSC	.000000	.722035
NEGSALE	.000000	.000000
POSSALE	.000000	.000000
BEHSALE	.000000	.000000

CORRELATION MATRIX OF ETA AND KSI

	SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE	SUMDSA
SUMSSA	1.000000					
SUMSSC	.738643	1.000000				
NEGSALE	-.537843	-.643921	1.000000			
POSSALE	.604393	.703635	-.464676	1.000000		
BEHSALE	.520799	.614423	-.668086	.667618	1.000000	
SUMDSA	.789322	.680434	-.477403	.532195	.460325	1.000000
SUMDSC	.619361	.878143	-.561447	.612438	.535237	.666850

CORRELATION MATRIX OF ETA AND KSI

	SUMDSC
SUMDSC	1.000000

PSI

SUMSSA	SUMSSC	NEGSALE	POSSALE	BEHSALE
.314419	.169848	.576847	.489126	.390955

APPENDIX 11
LISREL OUTPUT FOR MANIFEST VARIABLE SERVICE MODEL

OBSERVED VARIABLES MODEL FOR SERVICE DATA

NUMBER OF INPUT VARIABLES 7

NUMBER OF Y - VARIABLES 5

NUMBER OF X - VARIABLES 2

NUMBER OF ETA - VARIABLES 5

NUMBER OF KSI - VARIABLES 2

NUMBER OF OBSERVATIONS 306

OBSERVED VARIABLES MODEL FOR SERVICE DATA

COVARIANCE MATRIX TO BE ANALYZED

	SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV	SUMDRA
SUMSRA	152.812000					
SUMSRC	138.779000	176.816000				
NEGSERV	-30.313900	-42.882800	19.429900			
POSSERV	44.438400	52.164700	-12.527700	26.539200		
BEHSERV	51.530900	63.449100	-21.317000	22.754300	39.779600	
SUMDRA	168.126000	154.244000	-31.517200	53.248200	57.167000	276.123000
SUMDRC	157.681000	195.682000	-43.780500	59.798600	68.062400	244.442000

COVARIANCE MATRIX TO BE ANALYZED

	SUMDRC
SUMDRC	296.919000

OBSERVED VARIABLES MODEL FOR SERVICE DATA

LISREL ESTIMATES (MAXIMUM LIKELIHOOD)

BETA

	SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
SUMSRA	.000000	.387974	.000000	.000000	.000000
SUMSRC	.293339	.000000	.000000	.000000	.000000
NEGSERV	.076192	-.302329	.000000	.000000	.000000
POSSERV	.079646	.232510	.000000	.000000	.000000
BEHSERV	.000000	.000000	-.782461	.488028	.000000

GAMMA

	SUMDRA	SUMDRC
SUMSRA	.392156	.000000
SUMSRC	.000000	.503262
NEGSERV	.000000	.000000
POSSERV	.000000	.000000
BEHSERV	.000000	.000000

COVARIANCE MATRIX OF ETA AND KSI

	SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV	SUMDRA	
SUMSRA	159.822171						
SUMSRC	148.841495	182.116227					
NEGSERV	-32.821969	-43.718533	19.491471				
POSSERV	47.336363	54.198495	-12.779139	27.242888			
BEHSERV	48.783363	60.658407	-21.487886	23.294461	40.176923		
SUMDRA	176.046767	174.659706	-39.391385	54.631581	57.483942	276.123000	
SUMDRC	173.589489	200.348575	-47.345106	60.408782	66.526851	244.442000	

COVARIANCE MATRIX OF ETA AND KSI

	SUMDRC
SUMDRC	296.919000

PSI

SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
29.277756	33.345132	8.774851	10.871036	11.995152

THETA EPS

SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
.000000	.000000	.000000	.000000	.000000

THETA DELTA

SUMDRA	SUMDRC
.000000	.000000

SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
1.000000	1.000000	1.000000	1.000000	1.000000

SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES

SUMDRA	SUMDRC
1.000000	1.000000

SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
.816810	.816902	.549811	.600959	.701442

TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS IS .860

CHI-SQUARE WITH 10 DEGREES OF FREEDOM = 138.35 (P = .000)

GOODNESS OF FIT INDEX = .908
ADJUSTED GOODNESS OF FIT INDEX = .744
ROOT MEAN SQUARE RESIDUAL = 6.119

OBSERVED VARIABLES MODEL FOR SERVICE DATA

STANDARD ERRORS

BETA

	SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
SUMSRA	.000000	.050290	.000000	.000000	.000000
SUMSRC	.061600	.000000	.000000	.000000	.000000
NEGSERV	.027452	.025717	.000000	.000000	.000000
POSSERV	.030556	.028624	.000000	.000000	.000000
BEHSERV	.000000	.000000	.053980	.045659	.000000

GAMMA

	SUMDRA	SUMDRC
SUMSRA	.036872	.000000
SUMSRC	.000000	.040807
NEGSERV	.000000	.000000
POSSERV	.000000	.000000
BEHSERV	.000000	.000000

PHI

	SUMDRA	SUMDRC
SUMDRA	22.359787	
SUMDRC	21.557248	24.043798

PSI

SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
2.563403	3.244356	.710567	.880311	.971339

OBSERVED VARIABLES MODEL FOR SERVICE DATA

CORRELATIONS OF ESTIMATES

	BE 1,2	BE 2,1	BE 3,1	BE 3,2	BE 4,1	BE 4,2
BE 1,2	1.000000					
BE 2,1	-.667331	1.000000				
BE 3,1	.000000	.000000	1.000000			
BE 3,2	.000000	.000000	-.872431	1.000000		
BE 4,1	.000000	.000000	.000000	.000000	1.000000	
BE 4,2	.000000	.000000	.000000	.000000	-.872431	1.000000
BE 5,3	.000000	.000000	.000000	.000000	.000000	.000000
BE 5,4	.000000	.000000	.000000	.000000	.000000	.000000
GA 1,1	-.862727	.575725	.000000	.000000	.000000	.000000
GA 2,2	.588947	-.882541	.000000	.000000	.000000	.000000
PH 1,1	.000000	.000000	.000000	.000000	.000000	.000000
PH 2,1	.000000	.000000	.000000	.000000	.000000	.000000
PH 2,2	.000000	.000000	.000000	.000000	.000000	.000000
PS 1,1	-.380256	.253757	.000000	.000000	.000000	.000000
PS 2,2	.369940	-.554357	.000000	.000000	.000000	.000000
PS 3,3	.000000	.000000	.000000	.000000	.000000	.000000
PS 4,4	.000000	.000000	.000000	.000000	.000000	.000000
PS 5,5	.000000	.000000	.000000	.000000	.000000	.000000

CORRELATIONS OF ESTIMATES

	BE 5,3	BE 5,4	GA 1,1	GA 2,2	PH 1,1	PH 2,1
BE 5,3	1.000000					
BE 5,4	.554565	1.000000				
GA 1,1	.000000	.000000	1.000000			
GA 2,2	.000000	.000000	-.508100	1.000000		
PH 1,1	.000000	.000000	.000000	.000000	1.000000	
PH 2,1	.000000	.000000	.000000	.000000	.918222	1.000000
PH 2,2	.000000	.000000	.000000	.000000	.728805	.918222
PS 1,1	.000000	.000000	.328057	-.223951	.000000	.000000
PS 2,2	.000000	.000000	-.319157	.489242	.000000	.000000
PS 3,3	.000000	.000000	.000000	.000000	.000000	.000000
PS 4,4	.000000	.000000	.000000	.000000	.000000	.000000
PS 5,5	.000000	.000000	.000000	.000000	.000000	.000000

CORRELATIONS OF ESTIMATES

	PH 2,2	PS 1,1	PS 2,2	PS 3,3	PS 4,4	PS 5,5
PH 2,2	1.000000					
PS 1,1	.000000	1.000000				
PS 2,2	.000000	-.140672	1.000000			
PS 3,3	.000000	.000000	.000000	1.000000		
PS 4,4	.000000	.000000	.000000	.000000	1.000000	
PS 5,5	.000000	.000000	.000000	.000000	.000000	1.000000

OBSERVED VARIABLES MODEL FOR SERVICE DATA

T-VALUES

BETA

	SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
SUMSRA	.000000	7.714705	.000000	.000000	.000000
SUMSRC	4.761995	.000000	.000000	.000000	.000000
NEGSERV	2.775448	-11.756003	.000000	.000000	.000000
POSSERV	2.606598	8.122791	.000000	.000000	.000000
BEHSERV	.000000	.000000	-14.495340	10.688449	.000000

GAMMA

	SUMDRA	SUMDRC
SUMSRA	10.635517	.000000
SUMSRC	.000000	12.332839
NEGSERV	.000000	.000000
POSSERV	.000000	.000000
BEHSERV	.000000	.000000

PHI

	SUMDRA	SUMDRC
SUMDRA	12.349089	
SUMDRC	11.339203	12.349089

PSI

SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
11.421442	10.277890	12.349089	12.349089	12.349089

OBSERVED VARIABLES MODEL FOR SERVICE DATA

TOTAL AND INDIRECT EFFECTS

TOTAL EFFECTS OF X ON Y

	SUMDRA	SUMDRC
SUMSRA	.442518	.220328
SUMSRC	.129808	.567893
NEGSERV	-.005528	-.154903
POSSERV	.065427	.149589
BEHSERV	.036256	.194209

STANDARD ERRORS FOR TOTAL EFFECTS OF X ON Y

	SUMDRA	SUMDRC
SUMSRA	.043052	.040352
SUMSRC	.037388	.038974
NEGSERV	.012749	.013499
POSSERV	.015739	.016148
BEHSERV	.015484	.017533

INDIRECT EFFECTS OF X ON Y

	SUMDRA	SUMDRC
SUMSRA	.050362	.220328
SUMSRC	.129808	.064631
NEGSERV	-.005528	-.154903
POSSERV	.065427	.149589
BEHSERV	.036256	.194209

STANDARD ERRORS FOR INDIRECT EFFECTS OF X ON Y

	SUMDRA	SUMDRC
SUMSRA	.010328	.040352
SUMSRC	.037388	.008651
NEGSERV	.012749	.013499
POSSERV	.015739	.016148
BEHSERV	.015484	.017533

TOTAL EFFECTS OF Y ON Y

	SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
SUMSRA	.128423	.437799	.000000	.000000	.000000
SUMSRC	.331010	.128423	.000000	.000000	.000000
NEGSERV	-.014097	-.307799	.000000	.000000	.000000
POSSERV	.166838	.297239	.000000	.000000	.000000
BEHSERV	.092452	.385901	-.782461	.488028	.000000

LARGEST EIGENVALUE OF B*B' (STABILITY INDEX) IS .850

STANDARD ERRORS FOR TOTAL EFFECTS OF Y ON Y

	SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
SUMSRA	.022716	.056842	.000000	.000000	.000000
SUMSRC	.074873	.022716	.000000	.000000	.000000
NEGSERV	.031986	.020945	.000000	.000000	.000000
POSSERV	.032659	.022824	.000000	.000000	.000000
BEHSERV	.035184	.024821	.053980	.045659	.000000

INDIRECT EFFECTS OF Y ON Y

	SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
SUMSRA	.128423	.049825	.000000	.000000	.000000
SUMSRC	.037672	.128423	.000000	.000000	.000000
NEGSERV	-.090289	-.005469	.000000	.000000	.000000
POSSERV	.087192	.064729	.000000	.000000	.000000
BEHSERV	.092452	.385901	.000000	.000000	.000000

STANDARD ERRORS FOR INDIRECT EFFECTS OF Y ON Y

	SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
SUMSRA	.022716	.010571	.000000	.000000	.000000
SUMSRC	.013786	.022716	.000000	.000000	.000000
NEGSERV	.021992	.012115	.000000	.000000	.000000
POSSERV	.019958	.012620	.000000	.000000	.000000
BEHSERV	.035184	.024821	.000000	.000000	.000000

OBSERVED VARIABLES MODEL FOR SERVICE DATA

STANDARDIZED SOLUTION

BETA

	SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
SUMSRA	.000000	.414151	.000000	.000000	.000000
SUMSRC	.274798	.000000	.000000	.000000	.000000
NEGSERV	.218175	-.924128	.000000	.000000	.000000
POSSERV	.192911	.601159	.000000	.000000	.000000
BEHSERV	.000000	.000000	-.545000	.401867	.000000

GAMMA

	SUMDRA	SUMDRC
SUMSRA	.515456	.000000
SUMSRC	.000000	.642597
NEGSERV	.000000	.000000
POSSERV	.000000	.000000
BEHSERV	.000000	.000000

CORRELATION MATRIX OF ETA AND KSI

	SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV	SUMDRA
SUMSRA	1.000000					
SUMSRC	.872431	1.000000				
NEGSERV	-.588063	-.733785	1.000000			
POSSERV	.717381	.769461	-.554565	1.000000		
BEHSERV	.608786	.709134	-.767862	.704106	1.000000	
SUMDRA	.838027	.778874	-.536942	.629892	.545767	1.000000
SUMDRC	.796867	.861575	-.622349	.671668	.609101	.853701

CORRELATION MATRIX OF ETA AND KSI

	SUMDRC
SUMDRC	1.000000

PSI

SUMSRA	SUMSRC	NEGSERV	POSSERV	BEHSERV
.183190	.183098	.450189	.399041	.298558

VITA

D. Scott Clemons

In the Beginning: Wade and Marion Clemons gave birth to Douglas Scott, the last of four children, on October 11, 1965 in Morristown Tennessee. Scott's education began there at Hillcrest Elementary School, proceeded to East Ridge Middle School, and then to Morristown Hamblen High School West. Scott graduated early from "West High" in 1982. Only age sixteen, Scott remained at home after high school to initiate his experience with higher learning at Walters State Community College. Two years later, he received an Associate of Science Degree in Pre-medicine.

Then: Scott's education continued at The University of Tennessee. He retained his aspirations of becoming a Medical Doctor specializing in endocrinology and internal medicine (you see, Scott became diabetic at age 15). People often asked him of the motivation behind his career choice. His usual reply focused on the humanitarian benefits he wanted to provide society, perhaps to find a cure for diabetes. However, Scott began to doubt his career choice. He sought advice from his first mentor (and coincidentally his sister) Cheryl Bartley. She asked the same questions others had, "Why do you want to be a doctor?" Feeling more challenged this time, Scott responded perhaps more openly. He did, of course, pronounce for a number of minutes his humanitarian motives. However, his explanation blossomed and would continue for hours as he discussed the financial rewards he desired, and how these rewards would be used to create more reward. Fittingly, his astute sister suggested he study business. And so, two years later (Summer 1986), Scott received the Bachelor of Science in Business Administration degree with high honors from The University of Tennessee.

Now What?: Like most aspiring business entrepreneurs, Scott began searching for employment as graduation approached. Fortunately, attractive opportunities were presented to him, but he found it difficult to choose the "right" job. Again seeking advice, he asked his former professor Andrew Forman what he should do. Andy, as if he had taken a cue from Cheryl, asked Scott what he thought "would be the right environment for him, what type of job did he want?" Searching, Scott replied that he wanted a job were he could make a real contribution to the organization and at the same time get something back (something more than money). Andy responded, "Sounds to me like you want to be a professor." Once he quit laughing, Scott pondered the idea. Weeks later, he was accepted into the Ph.D. program at The University of Tennessee.

Under the teaching, guidance and leadership of an outstanding faculty, what exists on the following pages represents Scott's achievements to date. In short, the rest is history.

Education

1995 - Ph.D. Business Administration

The University of Tennessee
Major: Marketing
Minor: Psychology
Dissertation: "Expanding the Model of Consumer Satisfaction and Dissatisfaction: The Means-End Disconfirmation Model of CS/D"

1986 - B.S. Business Administration

The University of Tennessee
Major: Marketing

1984 - A.S. Pre-Medicine

Walters State Community College

Teaching Experience

1992-1995 Assistant Professor of Marketing
Indiana University Southeast

1986-1992 Graduate Teaching Associate
The University of Tennessee

Undergraduate Courses Taught:

Introductory Marketing Management, Marketing Strategy, and Consumer Behavior

Graduate Course Taught:

Consumer Behavior, Marketing Management, Marketing Strategy

Research Interests

Primary interests include consumer (dis)satisfaction (CS/D) theory and management, implications of CS/D assessment for business strategy development, processes of strategy development and implementation, consumer pre- and postpurchase assessments of value and its determinants, conceptualization and delivery of "service", the impact of pre- and postpurchase emotion on preference and attitude change, advertising and communication effects on postpurchase evaluation.

Professional Activities

Professional Organizations:

American Marketing Association

Association for Consumer Research

American Psychological Association: Division 23

Ad hoc reviewer for:

Proceedings of the Society for Consumer Psychology

Journal of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior

Proceedings of the American Marketing Association

Special session discussant for 1993 American Marketing Association Summer Educators' Conference.

Papers and Presentations

Refereed Publications:

"Comparing Consumers' Recall of Prepurchase and Postpurchase Evaluation Experiences," Journal of Consumer Research, vol. 20 (March) 1994, pp. 548-560.

"Comparison Standards: Exploring the Variety and Circumstances Around Their Use," Journal of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior, vol. 6 (1993), pp. 63-73.

(continued on next page . . . .)

Refereed Publications (cont.):

"Broadening the View of Consumer (Dis)Satisfaction: A Proposed Means-End Disconfirmation Model of CS/D," in Marketing Theory and Application, proceedings of the 1992 AMA Winter Educators' Conference, pp. 413-421.

"The Standards Issue in CS/D Research: A Historical Perspective," Journal of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior, vol. 4 (1991), pp. 103-109.

"Predicting the Effectiveness of Different Strategies of Advertising Variation: A Test of the Repetition-Variation Hypotheses," Journal of Consumer Research, vol. 17 (September 1990), pp. 192-202.

"Consumers' Reactions to Product Use Experiences: A Study of the Meaning of Consumer Satisfaction and Dissatisfaction," in Proceedings of the Society for Consumer Psychology, Washington: Division 23 of the American Psychological Association, Meryl P. Gardner, ed., 1990, pp. 26-30.

"The Repetition/Variation Hypotheses Conceptual and Methodological Issues," in Advances in Consumer Research, Thomas K. Scrull, ed., 1989, vol. 16, pp. 529-534.

Meetings and Presentations:

"The Standards Issue in CS/D Research: A Historical Perspective," 1991 Consumer Satisfaction, Dissatisfaction, and Complaining Behavior Conference, Snowbird, Utah.

"Consumers' Reactions to Product Use Experiences: A Study of the Meaning of Consumer Satisfaction and Dissatisfaction," 1989 Annual Convention of the American Psychological Association, Division 23, New Orleans, LA.

"Non-verbal Indications of Repetition Wearout Effects," 1989 Annual Meeting of the American Academy of Advertising."