

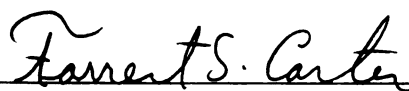
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SOURCES AND INTERACTIONS

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**EXPECTATIONS AND CONSUMER SATISFACTION:
SOURCES AND INTERACTIONS**

By

Sharon Vondra Thach

A DISSERTATION

Submitted to

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ABSTRACT

EXPECTATIONS AND CONSUMER SATISFACTION: SOURCES AND INTERACTIONS

By

Sharon Vondra Thach

This study explored facets in the dominant expectancy model of consumer satisfaction. Two specific issues were addressed: the effect of previous experience on both expectations and satisfaction with a new product offering, and, the relative importance of benefits and attributes of products on satisfaction.

One hundred ninety-six consumers were surveyed prior to and following use of a service offering. Analysis of the aggregate patterns was effected through testing of alternative models as well as null hypotheses related to the model specifications.

Results indicate that experiential norms are stronger determinates of satisfaction and future intentions than expectations specific to the new offering. Benefits and attributes are not separate in total effect, although results indicate that information for each is processed differently, suggesting that pre-usage and post-usage evaluations may differ in criteria and weighting of individual factors.

This study strongly supports continuation of research into the context of decision-making, both before and after purchase. Understanding consumer behavior as a dynamic process should affect both managerial action and academic research.

FOR MY MOTHER AND FATHER

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There are many who deserve thanks and recognition, but space will allow only the mention of a few. To all those not named, my gratitude is nonetheless heartfelt.

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CHAPTER ONE

INTRODUCTION

Consumer satisfaction is the foundation of the marketing concept, which is generally presented as the pursuit of organizational goals through the satisfaction of consumer needs and wants. Academic inquiry into consumer satisfaction/dissatisfaction, designed to elucidate the relationships of marketing activities and consumer evaluations of them, covers a diverse set of interests and theories. Sources of this diversity include the differing aims of theoretical and practical motivation for such research. Academics have embarked on these investigations in attempts to unify a number of behavioral observations in a systematic framework with a strong theoretical base. Practitioners desire improved guidelines for new product development, promotional activities, and beneficial after-sale investment.

This research has both theoretical and managerial implications. Within marketing, investigation of consumer satisfaction has grown as the paradigm developed showed promise as a way of integrating a number of consumer behavior concepts into a predictive model. It has also served to focus research attention on consumption, use and other post-purchase behaviors and attitude issues. These post-purchase phenomena are important since consumers act through time, with existing attitudes about a product class affecting future choice and consumption activities. This dissertation studies questions which provide a framework for explaining how existing attitudes and norms affect new consumption evaluations and the implications for future consumption behavior of that single consumption experience.

Issues

This dissertation will explore the existence of, and, the effects of, product class on consumer satisfaction with a single consumption experience. Alternative models for ways in which product class may affect satisfaction will be tested. These models rest on the following argument. Two processes, purchase choice and post-usage evaluation, are similar in that certain conditions must be met for choice and for satisfaction to occur: the belief that the given product is at least as good or better than other choices, and the belief that the benefits sought can be achieved by the use of the product. The two processes will differ in that the information available at the two time periods will differ, particularly with respect to actual comparison of the chosen product with others in its class and with respect to the achievement of the desired benefits. This formulation is appealing because it integrates the two evaluation processes within a framework with parallel evaluative processes. It enables us to understand the idea of satisfaction as a summary affective evaluation, the outcome of several separate evaluative conditions. The theoretical arguments and experimental results pertaining to these issues are presented in Chapter II.

The second area of investigation concerns the differential impact of characteristics (attributes) and goals (benefits) in models of consumer satisfaction. Generally, most expectations have been treated as applications from the multi-attribute tradition. There is, however, no reason to assume that this is satisfactory if post-purchase judgments are included in models as they are for consumer satisfaction/dissatisfaction. There are two arguments against the use of simple multi-attribute approaches to expectations and satisfaction. First, as Levitt (1980) eloquently argued, all products have tangible and intangible features. Further, the appreciation of those attributes will differ before and after experiencing the product. The use value will be apparent only after consumption. This might be even more true of the intangible aspects. For even the most tangible of products are

before they're bought, largely promises...Satisfaction later in consumption or use can seldom be quite the same as earlier in trial or promise. (96)

To the extent that this is true of a product, therefore, one would expect that the tangible and intangible aspects would differently affect pre-purchase and post-purchase judgments.

One would, through time, learn to connect certain observable properties with function and use. Thus, in purchasing, say, a new coffee maker, one would look at size of pot, color, number of dials, automatic timer, and brand name as characteristics (attributes) observable and valuable at the time of purchase. It is only after use, however, that one can judge goals (benefits) such as the quality of the coffee, or the accuracy of the timer. In addition, there may be outcomes not considered at the time of purchase which will have a bearing on satisfaction: ease of cleaning, or amount of counter space occupied.

Each of the above issues has been raised although experimental investigation is sparse (e.g. Swan & Travich 1982). This dissertation will examine the issues in a limited way by looking at the possibility that characteristics (the more easily perceived aspects at pre-consumption times) and goals/benefits are different in evaluation and impact at various stages in the purchase and use process. Only two limited areas will be investigated: the existence of a separability in benefits and attributes, and then any differing impact on the constructs of expectation, post-purchase judgement, and satisfaction.

The expectation paradigm contends that the confirmation or disconfirmation of expectations prior to a purchase is a major determinant of satisfaction. In its most recent form, this paradigm rests on the argument that expectations form a judgmental base and that satisfaction is a consequence of the extent to which a product performs with respect to those pre-purchase beliefs (Oliver 1980, Day 1976, Engel and Blackwell 1982). Although this approach has been well-received, and popular with researchers, a number of the basic theoretical and empirical issues are the subject of much debate.

One of these issues is the entire notion of context: from where do expectations arise, on what basis are they calculated, what are the types of expectations which consumers use. Although each of these alone could constitute a stream of research, one important area of context is the source of expectations.

One published study (Codotte, Woodruff, & Jenkins 1982) has explicitly examined the effect of prior experience of a product type (herein referred to as a product class) on the pre-purchase and post-purchase evaluations of specific product choices, integrated into a theoretical model. Day (1982) and Woodruff, Codotte, and Jenkins (1982) both refer to these prior experiences and have integrated them into conceptual models of consumer satisfaction/dissatisfaction as norms. Day sees these norms as

related to actual performance and contribute [ing] to the direction and magnitude of the confirmation/disconfirmation effect which in turn influences the nature and degree of feelings of satisfaction/dissatisfaction. (Day 1982, p. 113)

Woodruff, Codotte, & Jenkins, on the other hand, indicate that these norms show better predictive validity than expectations for satisfaction/dissatisfaction, but both correlate with satisfaction "probably because predictions will be correlated with normative standards" (Woodruff, Codotte, and Jenkins, p. 119). Wright and Rip (1980), in a study unrelated to satisfaction/dissatisfaction, report that criterion features, norms, and attribute ratings for products are established at the product class, not brand, nor single item, level.

Characteristics and goals are also related to context and product class. Three types of expectations appear in the empirical satisfaction literature: predictive, normative, and comparative. Predictive expectations are consumer beliefs about how a particular product is likely to perform (see Olson and Dover 1976, Swan and Trawich 1979). Sources of these beliefs have been ascribed to past experience, advertising, and word-of-mouth from others. Normative expectations are beliefs about what

ought to be, or a standard (see Granbois and Summers 1977). These may derive from all of life experience as well as more immediately relevant product exposure. Comparative expectations are beliefs about a particular product as compared to other, similar products (Latour and Peat 1980). Clearly, all three types rest on some attitude about or experience with the product class prior to the current purchase. Little research comparing the three types has been conducted, but the Woodruff et. al. study cited previously and research by Swan and Trawich (1979), both finding that product specific norms were better correlates of satisfaction than predictive expectations suggest that prior attitudes and experiences are determinates which need further investigation. Prakash and Lounsbury (1984) directly comparing all three types found that normative and comparative expectations were both better than predictive as determinates.

The idea of normative standards, however, raises the issue of what norms (or product class beliefs) are composed. One might logically expect that in most cases (where any degree of choice exists) product class norms would affect the set of possible product alternatives considered, the attributes evaluated, and the relative acceptability of the product chosen. It is reasonable to assume that consumers buy a product hoping to be no worse off than they would have been if they had chosen another item or not bought any item in the product class. This will be true no matter what the specific buying motive--novelty, curiosity, dissatisfaction with other offerings, a search for improvement, etc. This assumption is consistent with economics and marketing.

Norms may, as Woodruff et al, suggest be very important to the post-purchase evaluation where the consumer looks at benefits obtained, and presumably matches that benefit to previously obtained benefits as part of this judgement process. It is also to be expected, therefore, that product class norms would affect satisfaction which is a summary feeling about the product and the purchase. If a consumer looks at benefits obtained and uses those benefits as the basis for norms, then characteristics of the product which are observable at purchase time really serve as cues to effective satisfaction of

needs. Predictive expectations may be predictions about the utility of characteristics as guides to desired goals as well as predictions about the actual characteristics themselves. The post-purchase judgement is based more on the experience than the promise. Thus, the judgments are different in both time and information.

Since benefits resulting from use or acquisition of a product are the usual purchase motivation, one can conclude that benefits promised and then delivered enter into purchase choices as a major decision factor, whereas tangible features of products serve as cues about the quality and quantity of benefits prior to actual use. For many types of products, the attributes may also be desired in themselves as well and so the quality of those features along with benefits obtained will be evaluated after purchase with some level of satisfaction or dissatisfaction with the purchase resulting. If this research shows some indication that this is so, then some of the problems raised by types of expectations may be resolved by further explorations of context.

The proliferation of terms and concepts with relatively little consistent definition and operation contribute to the unsettled state of inquiry. This research is based on what appear to be the commonalities of the proposed schemes supported by previous experimental treatments. A product, composed of tangible and intangible properties, is purchased primarily for the benefits it is supposed to confer. The evaluation of the properties and benefits issue in expectations which arise from several sources: experience and information of various sorts, and some degree of unique assessment. Experience and information with the generic product form a judgement base or norm. This norm may issue in beliefs about specific features, benefits to be obtained, and the context. This product norm is predicted to affect the specific product expectations, evaluation, and satisfaction. (Experience with a specific brand or product probably generated a brand norm as well, but that is not a consideration in this research). Similarly, the expectation "types" proposals are, it is argued, a reflection of the

structure proposed here. Further discussion of the theoretical concerns and impact are contained in Chapter II.

Research into consumer complaint behavior discovered that as much as 20% of purchases are unsatisfying (Andreason and Reck 1977). Westbrook and Newman (1978) found that those satisfied with previous durable purchases were more likely to have positive expectations about new purchases, more likely to evaluate new purchases favorable and more likely to resolve complaints satisfactorily. Latour and Peat (1979) report similar findings. Given the widely reported research that word-of-mouth is the most influential source of consumer information, dissatisfaction, is significant for managers of consumer goods and service marketing. High levels of discontent can be expected to affect long term success though effects on repeat purchase and brand choice. Conversely, satisfied consumers are likely to have positive affects in the long-term and likely to generalize positive feelings across a range of consumption experiences.

Consumer groups and governmental responses to organized dissatisfaction continue to affect business practice. Thus, better understanding of what determines satisfaction, how consumer evaluations occur, and likely responses to both satisfaction and dissatisfaction are important practically and academically.

The dynamic process of marketing and consumption means that managers, with control over marketing activities for their products, would potentially benefit from a model which is oriented toward process and the links between managerial activities and consumer preferences. Consumers are exposed to a variety of stimuli which serve as preference cues. These cues are interpreted in light of previous attitudes and may be re-evaluated as a result of new experiences. Improved understanding of how consumers conduct their evaluations of marketing stimuli and products should enable managers to

improve or design products more efficiently, determine message content more effectively and conceive of delivery systems in a more integrated manner.

The two areas of investigation, to recapitulate, are the influence of product class norms on pre- and post-purchase evaluations of specific products and the possible import of a distinction between product characteristics and product goals on consumer satisfaction and future purchase intentions. As research questions in this report, they are formally stated as:

Q1 Does an attitude about a product class partly determine consumer satisfaction by affecting expectations and evaluations of specific product choices?

Q2 Are product characteristics (attributes) and goals (benefits) separate conceptions and, if so, do they have differing effects on other elements of the consumer satisfaction process?

Chapter II will review theoretical and experimental literature. Chapter III presents the models and hypotheses. Chapter IV contains information on the research design. Chapter V reports results of the investigation, while Chapter VI discusses the results and implications.

Chapter II

LITERATURE REVIEW

This chapter contains three sections: (1) a review of the theoretical foundations for the expectancy approach to consumer satisfaction; (2) a summary of major research related to expectations and consumer satisfaction; and, (3) a discussion of issues in the methodology and modeling of consumer satisfaction. Each section summarizes the arguments and discusses the relevance to this research.

THEORETICAL FOUNDATIONS

All the discussion and research into consumer satisfaction from an expectancy view rests heavily on theories in social psychology. As this area has developed in marketing, the theories used as the foundation have changed, but all are variants of the basic expectancy model of cognitive behavior where

the distinctive characteristic of this class of models is their attempt to relate action to the perceived attractiveness or aversiveness of expected consequences. That a person does is seen to bear some relation to the expectations that the person holds and the subjective value of the consequences that might occur following the action. (Feather 1982, p. 1).

There are many subclasses and variants contained within the above framework. The ones reported herein are only those which are relevant to the substantive issues in this area of marketing. All derive ultimately from the work of Gestalt psychologists (e.g. Kohler 1927), but developed in fullness from Levin (1951) and Tolman (1955).

Consistency Theories

The earliest marketing research into consumer satisfaction rested on theories hypothesizing that people behave (make choices) in ways that maximize the consistency of their cognitive systems. All depend on Heider's (1946, 1958) theory of balance: an imbalanced set of cognitions is associated with tension and the person will be subject to attempts to attain or regain balance. The emphasis was placed on a person's perception of the relationships among himself, another, and an event or object. Balance exists whenever all relationships are positive or if two are negative and one is positive. While Heider's approach has not been directly incorporated into the applied areas of marketing, several important aspects of his perspective reflected in others' variants are significant: valence (positive or negative) of beliefs, the ideas of association between an object and some related object, and the role of both belief and feeling in attitude.

Belief valences reflect the notion that external objects (or behaviors) have multiple properties (or consequences), some of which are desirable to the perceptor and some of which are not. The source of the desirability valence is the set of values or beliefs of the person which are used associatively to evaluate the object. The multiple factors, in turn, mean that the relative strengths of the beliefs to each other are important in determining the overall evaluation of the object as good or bad. Association also extends beyond the person and the object to some set of goods via objects and behaviors, producing affective responses.

One of the earliest developments from Heider was used extensively in all areas of social science including marketing.

Cognitive Dissonance. Most often associated with Festinger (1957), dissonance looks at elements and their relationships. The essential claim is that dissonance is a state occurring whenever a person holds two cognitions (ideas, beliefs) which are inconsistent or incompatible. The theory assumes that dissonance is unpleasant, so people strive to reduce dissonance. Aronson (1968) argues that essentially dissonance arises from violations of self-concept: predictions and consequent behavior violate an idea of the self. The first explicit research into consumer satisfaction followed directly on these ideas (Cordozo 1965). Calder (1973) suggests that, while dissonance as a theory lacks sufficient specificity and breadth to be completely satisfactory, it does explain observed consumer behaviors and ratings well. Supporting this contention are studies reporting that commitment to a product (purchase or choice) results in a strong tendency to regard the product either much more highly or significantly worse than consumers who had not made such prior commitments (Cohen and Goldberg 1970; Doobs et. al. 1969). The prediction in dissonance is, of course, that perceptions will be re-evaluated until balance occurs, and that the greater the commitment (self-involvement), the greater the strength of the effect. Objections to dissonance as an explanatory and predictive approach include the lack of specificity in predicting either the magnitude or direction of adjustments, lack of situational context, and the absence of falsification conditions. Thus, the observation that high, confirmed expectations resulted in satisfaction fit the paradigm, but results were otherwise difficult to explain within the context of dissonance: very high expectations produced satisfaction, but at lower than predicted levels (a non-linear result). Second, there was no prediction about the direction of the resolution with conflicting belief confirmations. Finally, disconfirmed expectations did not invariably lead to satisfaction or dissatisfaction, but often rather neutral responses. Comparable results in other fields led to the expansion or adjustment of this approach. One of these, assimilation/contrast, formed the basis for a second set of investigations into consumer satisfaction. Dissimilation (Howland, Harvey and Sherif 1952; Sherif, Sherif, and Nebergall 1965) phenomena have been noted and explained as adaptation. All these theories (Helson 1964, Thibaut and Kelley 1959) differ from the simpler Festinger model in that

the dissonance model is based on the notion that people seek to eliminate the noxious stimulation resulting from inconsistency. This notion [contract- assimilation] implies processes which are recurring....[and] presumably gratifying. (Upshaw 1968, p. 213)

The basic claim is that persons have a reference scale Which contains a point of indifference. All stimuli are evaluated with respect to this pre-existing scale. In the case of discrepant information, either the scale or the information must be adjusted. Contrast claims that information within the indifference range will assimilate while, outside that latitude, the disparity between elements will be magnified. The mixed research results, unhappiness with the level of explanation, and the emergence of more appealing variants have led to a general abandonment of both dissonance and assimilation-contrast as bases for the observed effects on expectations on satisfaction. (See, in particular, discussions in Anderson 1973, Olshevsky and Miller 1972, and Oliver 1980.)

Attitude

The period marked by dissonance type interpretations of cognitive behavior also saw the development of alternative approaches to motivations which were more grounded in supplying explanations and which were more specified. All the major variants attempted to connect pre-existing beliefs, attitudes, and experiences to the judgement and evaluation of new situations in ways which allowed for the introduction of situation-specific and individual factors.

Helson. Helson's adaptation level, strongly championed by Oliver (1980, 1981), states that stimuli are perceived only in relation to existing standards. Unlike the previously mentioned theories, the emphasis here is on perception, and the source of the standard, as well as the effect of perceptions on subsequent judgements and attitudes. The theory predicts that only stimuli which differ significantly

from what was expected will yield any but a neutral result. Based on studies of physical phenomena, Helson has been used by a number of researchers as a basis for refinements in expectancy models (Kahneman and Tversky 1979, Cofer and Appley 1964), but the weaknesses are the continued lack of emphasis on the context in which expectations develop and the outcome of judgements on future events.

The first difficulty is that the source level radically affects the outcomes. The purely physical perceptual phenomena studied which formed the original basis for the theory, tended to limit further consideration of the source. Thus, although the standard is defined as a function of perceptions of the stimulus itself, the context, and psychological and physiological characteristics of the organism (Oliver 1981), there is no consideration of the possibilities for changing the standard. More significantly, the theory rests on the assumptions of operant conditioning which, to a great extent, presuppose fairly stable, continuous conditions. The second major shortcoming is the short-shrift given to the role of affect (see Feather 1982). Cofer and Appley (1964) see the discrepancy between expectations and events as the antecedent condition for the development of affect, however, this rather begs the question of the role affect plays in expectations, does not specify how affect relates to the persistence (or lack thereof) of adaptation level, and generally ignores the potential of affect as an influence on belief strength and direction. Given the concept of affect as central to satisfaction as a complex emotional response, this is a problem. It also makes it somewhat difficult to link satisfaction research to other areas of consumer behavior when affect has been posited as a major influence, e.g., impulse goods shopping, advertising appeals. It should be noted that Oliver, the major proponent of Helson's adaptation level approach in consumer satisfaction research, has tried to demonstrate the utility of this theory by redefining satisfaction as the evaluation of the degree of "surprise inherent in a product acquisition and/or consumption experience and attitude as an affective response (Oliver 1981). As he proceeds to claim that satisfaction has an impact on attitude, the connection with affect is still indeterminate in this context.

Two other researchers, Rosenberg and Fishbein, have proposed theories more formally concerned with attitude and affect.

Rosenberg. Rosenberg proposed a theory of attitude where attitudes are defined as positive or negative feelings toward an object with affective significance. Persons want to maintain a balance between affect and belief as the importance of an object is instrumental with respect to values. While not used directly in satisfaction research, one proposition (Rosenberg and Abelson 1960) directly concerns the limitations of the early consistency based approaches: imbalance is predicted to lead to change in affect or belief only if the person thinks about the imbalance. Thus, if an object, or beliefs associated with it, is not sufficiently important, adjustment and change will not occur. If this be true, then disconfirmation of expectations, sufficient to affect satisfaction in Oliver's terms, would occur only when the object or the most salient of beliefs were viewed as especially important. In the context of expectation/satisfaction generally, it calls affect into play as well as beliefs. A second proposition, which might be of some importance, is that adjustments follow the path of least resistance - a variant of the maximum principle. If true, this suggests that goal primacy might be the framework from which to predict the least and most likely paths of adjustment, as well as the likelihood of disconfirmation effects on satisfaction. Rosenberg's concept has not been used with any frequency in consumer research largely due to the emphasis on the primacy of core values as the base. Most marketing situations are seen as fairly removed from these values and close alternatives without such restricting conditions have been available. Lutz (1981) notes that Rosenberg is potentially useful in examining highly involving conceptual situations or for looking at behaviors and attitudes at the product class level.

The other major difference which links Rosenberg and Fishbein in opposition to what has preceded is the detailed attention both give to the concept of attitude. In fact, Rosenberg attempts to show that object evaluation is related to the expectation (set of beliefs) that the object will facilitate (or

not) attaining a goal and that the evaluation thus has both cognitive and affective elements. His model is a specification of the relationship of affect and belief with respect to the object. The components and their relationships are:

$$\text{Attitude} = F (V_i P_i)$$

Where

attitude = favorability or unfavorability toward an attitude object

V_i = value important of the i th value

P_i = perceived instrumentality of the attitude object
with respect to the i th value

n = number of value

Fishbein. By contrast, Fishbein, whose major interest is the link between attitude and behavior, devised a similar expectancy model Whose original form is:

$$\text{Attitude} = F(b_i, e_i)$$

Where

Attitude = affect for or against the attitude object

b_i = strength of the belief that the object
possess the i th attribute

e_i = evaluative aspect of the i th attribute

n = number of salient attributes

As Fishbein describes this model, it is a way of determining an attitude about an object or behavior based on the attributes salient to the particular object and is not composed of a set of evaluative attributes (Fishbein and Azjen 1980). To that end, then, the more traditional uses of expectancy formulations in marketing research are criticized as often inappropriate and seldom validated. Thus, looking for consumer preference or satisfaction without using both a saliency measure and a behavioral tendency is seen as inadequate as there may be two attitudes underlying consumption: attitudes toward the product and attitudes toward buying the product. For this reason, a normative component was added to the above model. However, that addition is, in a sense, a move closer toward Rosenberg's position in that the purchase choice is now seen as somewhat instrumental. In Fishbein's own examples, attitudes derived from salient beliefs about the product and the situation plus beliefs about the social factors of the purchase together are good predictors of buying intentions, which, in turn, are good

predictors of purchase. Consumer research has used a Fishbein approach both directly and in severely modified form (e.g. Wilkie and Pessemier 1973). The multi-attribute choice models are not, however, studies of satisfaction in consumption. Thus, those satisfaction studies which have loosely referred to a Fishbein approach or adopted a multi-attribute measure for expectations have not really examined the implications of the intentions underlying the model. What satisfaction research is intended to accomplish is an understanding of what occurs at purchase choice and afterwards. It is important, then, to look at the salient beliefs for the product chosen and the instrumental features those beliefs may represent in order to understand the consumption evaluation.

Two examples in Fishbein and Azjen (1980) may clarify this. One example was the British study of detergents where it was found that one brand was purchased where it was believed good for woolens and another not purchased where it was believed to cause scum. Attributes of detergents in general elicited from informants did not include these characteristics. Another way of looking at this is to observe that a desired (satisfactory) detergent must have the relevant properties of detergents generally plus one additional instrumental benefit (good for woolens) and no serious negative effect not present in the whole product class. A first purchase of any given detergent would depend on beliefs about detergents plus some specific quality while satisfaction with the product after use would depend on confirmation of the good reasons plus some possible additional benefit. Dissatisfaction would result from inadequate performance on the general qualities or some unlooked for negative quality. This is essentially similar to Herzberg's two factor model of satisfaction.

The second example of toothpaste/car purchasing introduces situational and normative components, where the purchase choice varies depending on the perceived consequences as well as the attributes of the product in itself. This goal/instrumental focus, subsumed into subject norms, ignores the potential relationship between the attributes and the situation which may affect both purchase choice and satisfaction. Thus, fluoride may be important in a toothpaste only if it is purchased for a

child's use. Floride would be a salient belief and the child's use a subjective norm, but the approach omits the relationship.

Vroom. Vroom (1964) examining motivation and job satisfaction faced essentially the same set of problems, and, in doing so, proposed two different expectancy models for the prediction of job satisfaction.

The first formulation treats activities as instrumentalities to the achievement of desired benefits and is operationally defined as:

$$V = f^n (V_{kjl})$$

$$k = 1$$

Where

V_j = valence of outcome j

I_{jk} = cognized instrumentality of j
for attainment of k

V_k = valence of outcome k

n = number of outcomes

The second, still emphasizing desired benefits, looks at the probability about effort required to obtain benefits desires:

$$F_i = \sum_{j=1}^n (E_{ij}V_j)$$

Where

F_i = force on individual

E_{ij} = strength of belief that i leads to j

V_j = valence of j

In both forms, the goal is a choice of actions and the models are designed to predict the likelihood of choosing some end. Later researchers extended the inquiry into satisfaction with the results of the choice. For many of the researchers in this area, however, the relationship between expectations and satisfaction is moderated by two factors: goal setting (Carroll and Tosi 1973, Kim and Homans 1976) and perceived equity of outcomes (Ilgen 1971, Ilgen and Hamstra 1972, Hamner and Harnett 1974). This whole line of research finds, therefore, that satisfaction is dependent on two comparisons: actual performance to expected, and, comparison of actual performance to a referent person's performance. Results of experiments along these lines have produced evidence for both pure expectancy gaa goals and expectancy plus equity. This essentially combines both models proposed by Vroom.

These efforts derive more directly from proposals about expectancy from motivation theorists like Rotter and Atkinson. (See Figure 2.1) They are indirectly related to the consumer issue at hand,

but are important for two reasons. First, the expanded framework is similar to Fishbein's in that motivation is introduced. Second, all the more recent work on job satisfaction and motivation emphasizes the continuous nature of expectancy processes; expectancies arise from a background of experience, information and observation.

Equity. Equity theories, which have become increasingly important in job satisfaction research, have been examined in only a limited fashion in the consumption literature. Two forms of equity theory, Adams (1961, 1965) and Thibaut and Kelley (1959), have been used as a basis for empirical research in consumer satisfaction. With roots in general dissonance theory, equity can have two comparison bases: equity as compared with a significant other and/or equity as compared to some more general sense of equality in exchange. Both approaches specify that greater satisfaction occurs when there is greater perceived equity and vice versa. To date, results of limited testing show that equity approaches provide lower explanatory power than disconfirmation paradigms (Swan 1982, Evans 1982). However, this may result from two factors. First, experimental testing has not included examination of real purchase events and significant others, but has relied on simulated experience in laboratory settings. Second, the Thibaut and Kelley framework, designed to organize data about interpersonal relationships, contributes little to specify the type and influence of cost/benefit analysis consumers may apply to purchases. Cordozo's (1965) finding that shopping effort significantly affected satisfaction supports the idea of some cost/benefit consideration.

Theorist	Determinants of	
	Impulse to Action	Subject
Tolman (1932)	Expectancy of goal, demand for goal	Maze behavior
Lewin et.al (1944)	Potency x valence	Level of aspiration, decision making
Rotter (1954)	Expectancy, reinforcement value	Social learning
Edwards (1961)	Subjective probability x subjective utility	Economic decisions
Atkinson (1964)	Expectancy x (motive x incentive)	Achievement-oriented behavior
Vroom (1964)	Expectancy x (value x instrumentality)	Organizational behavior
Dulany (1968)	Hypothesis of the distribution of reinforcement x value of the reinforcer	Verbal learning
SOURCE: Lutz, Richard J. Contemporary Perspectives in Consumer Research, Kent publishing Co., 1981, p. 246.		

Figure 2.1

The success of equity approaches in the job satisfaction literature and the intuitive appeal of a framework which includes some form of consumption attitude do support further work to refine and adapt a notion of equity. Perhaps, as in job satisfaction research, it will enter as an additional set of factors which partially explain levels of satisfaction, particularly in longitudinal studies.

Motivation. A number of expectancy formulations attempt to explain and predict motivation effects on outcomes.

Atkinson (1978, 1982) has examined risk taking and action. In the latest formulation of his expectancy model, he sees action as a consequence of evaluations of both instigating and inhibiting tendencies. Some of the conclusions he draws from this stream of research which have a bearing on consumer satisfaction include: (1) preference may be greater for less ideally satisfactory activities [products] if the negative risks are greater for the potentially more desirable outcome; (2) time is a significant factor as individuals more conscious of risk will be initially more resistant to risky choices but moderate that anxiety over time; (3) individual characteristics have significant effects on choices and evaluations.

Feather (1982) in summarizing 20 years of research on actions as related to expectations, he found that difficulty and risk significantly affect the evaluation of the goal [benefits] itself. Additionally, it has been found that past experience (or reports of others' past experience) is a significant mediating link between expectation and personal aspiration - e.g. a systematic tendency to over-estimate success with low reported probabilities and vice versa. A second area of interest in the importance of a goal: the more highly valued the goal, the more the effect of success or failure impacts affect with respect to the experience or goal. Related to this is his proposition that goals and expectancies have affect (valences) which are determined by values; the more closely a goal is related to some terminal value,

the more impact a set of instrumental values becomes. The implications of this for consumption is the importance of considering the benefits to be derived as the set of properties which are evaluated. As a corollary, if satisfaction is directly related to affect, then reconsideration of values as demonstrated through purchases and consumption is called for. The intermingling of tangible properties (attributes) and benefits derived from consumption of the product needs further investigation.

Rotter, whose interest is social learning, notes that the assumption, supported by a considerable body of research is that:

Expectancies in each situation are determined not only by specific experiences in that situation, but also, to some varying extent, by experiences in other situations that the individual perceives as similar. (Rotter 1982)

He follows by noting that the amount of prior similar experience has a significant effect on the importance of specific expectancies versus a more generalized set. In consumer contexts, that means that the newer the product type is to a consumer, the more general consumption experience will affect the type of specific expectancies the person will hold with respect to that product. With greater experience, expectations will be more product specific. (Although I know of no research in this area, it does suggest that both persons and products need to be carefully controlled in satisfaction and brand choice experiments). Rotter also emphasizes the importance of personal and situational variables.

Implications and Conclusions

Despite the extensive work in psychology which has generated such diverse ways of dealing with beliefs and expectancies, the borrowing into consumer satisfaction research has been very general. Real consideration of the theoretical sources for empirical work has been quite limited (See Hunt 1982). Much of the difficulty, of course, lies in the difference in the range of behavior and the explanatory motivation considered. Nevertheless, the insights from social psychology can be used in developing a better basis for consumer behavior research and explanation.

Despite the many differences in the approaches briefly discussed, there are some similarities all share which seem well supported by empirical research. First, expectations about objects, behaviors, or outcomes are derived from information and/or experience. The effect of expectations are moderated by the characteristics of the individuals forming these beliefs: values, motivation, self confidence. The difference between expectations and actual outcomes does affect the overall evaluation a person gives to the object, behavior, or outcome, although the degree of affect does seem dependent on the extent to which the moderating factors play a part. Moderating factors affect summary outcome judgments depending on the degree to which outcomes are attributed (to oneself or to some outside actor), by the relative importance of goal or instrumental values, and by the consistency/consensus basis of the expectations. (Consistency is experience derived and consensus is indirectly derived via others) (Wiener 1980, Abramson, Seligman and Teasdale 1978, Feather 1982). It has been noted also that the degree to which an outcome is perceived as related to self esteem magnifies the outcome evaluation. Thus, one would expect contingent theories of consumer satisfaction to emerge which are parallel to the contingent approaches to consumer choice, e.g. low/high involvement. The base for this type of approach would specify a limited number of components with specified relationships. Those relationships would, however, be modified by contingent factors.

To date, marketing research has indicated that the type of good (Churchill and Suprenant 1982), the existence of prior consumption experience (Westbrook and Newman 1968), and the ease/difficulty of shopping (Cardozo 1965) all may be significant modifying elements of a simpler expectation outcome satisfaction/disatisfaction model. There are, also, strong indications in the disputes over disconfirmation as an element of satisfaction models that expectations may modify post-usage evaluations in a contingent manner: contingent on the type of expectation (this is discussed in more detail in a later section of this chapter).

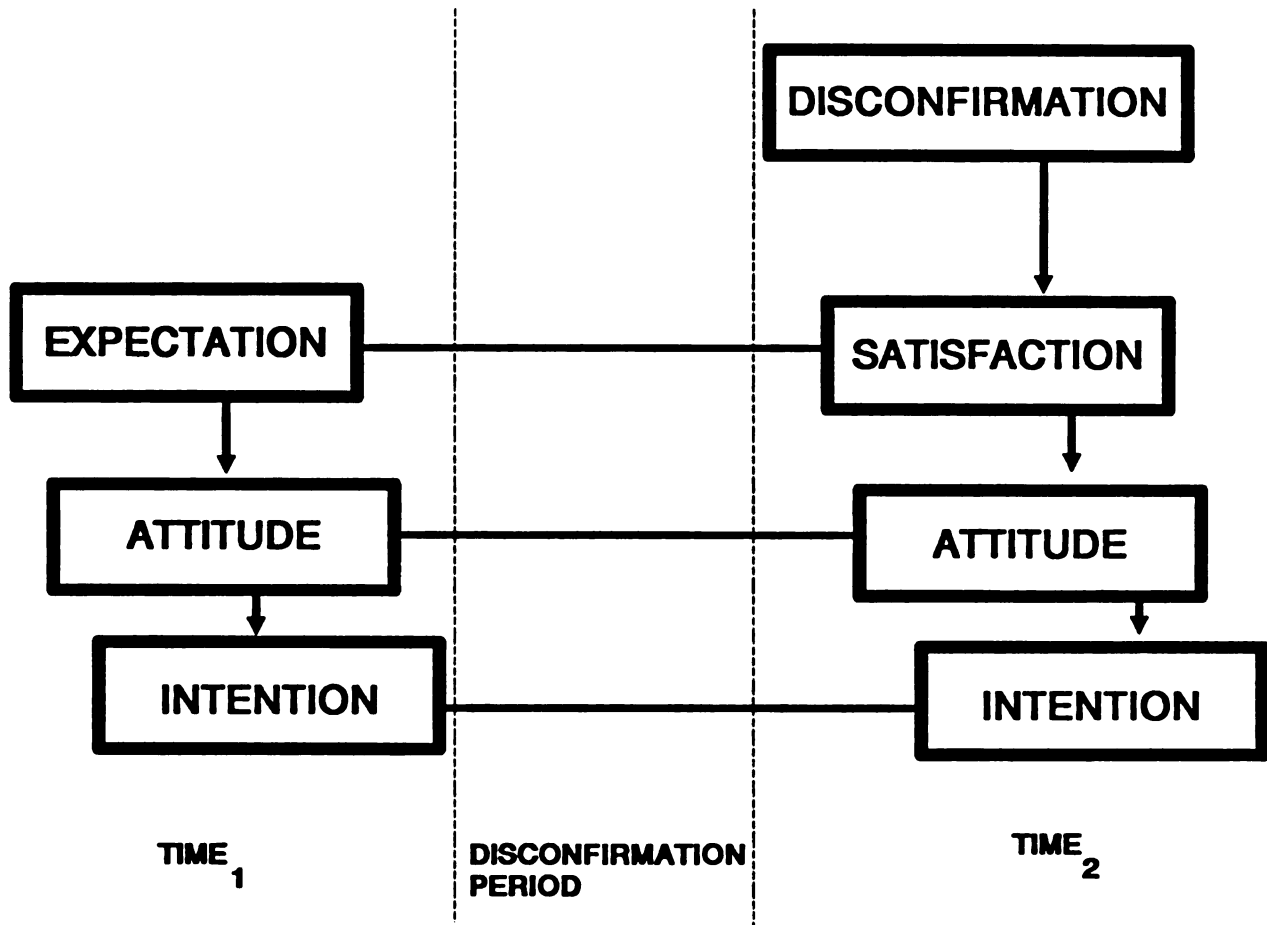
Three models have been presented heretofore in the marketing literature. Each derives differently from the social psychology framework so far presented.

Marketing Models

The first formalized model is, also not surprisingly, the one most often used as a basis for research and discussion by marketing researchers. Oliver (1980) developed his model on the basis of Helson's Adaptation Level Theory and the results of his own empirical work (see Figure 2.2). As he presents it, a person forms expectations about a product from summed evaluations of individual beliefs about attributes. This evaluation prior to use results in the formation of an attitude toward the act of purchasing the object which issues in the intention to purchase or to not purchase. After usage, disconfirmation occurs: an evaluation of the degree to which perceived performance deviates from what was expected. The outcome of this comparison is an affective judgment about the product which is a judgment of satisfaction/dissatisfaction. In Oliver's terms, this is:

an evaluation of the surprise inherent in a product acquisition and/or consumption experience. In essence, it is the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer's prior feelings about the consumption experience. (1981, p. 27)

This emotion is then posited to form part of the attitude toward the product and purchase after consumption with an effect on intention to rebuy. Over time, satisfaction is expected to decay and general expectation for future purchases returned to a homeostatic level unless disconfirmation was so strong that attitude change has occurred.



KEY: $\text{Expectation} = \sum b_i e_i$

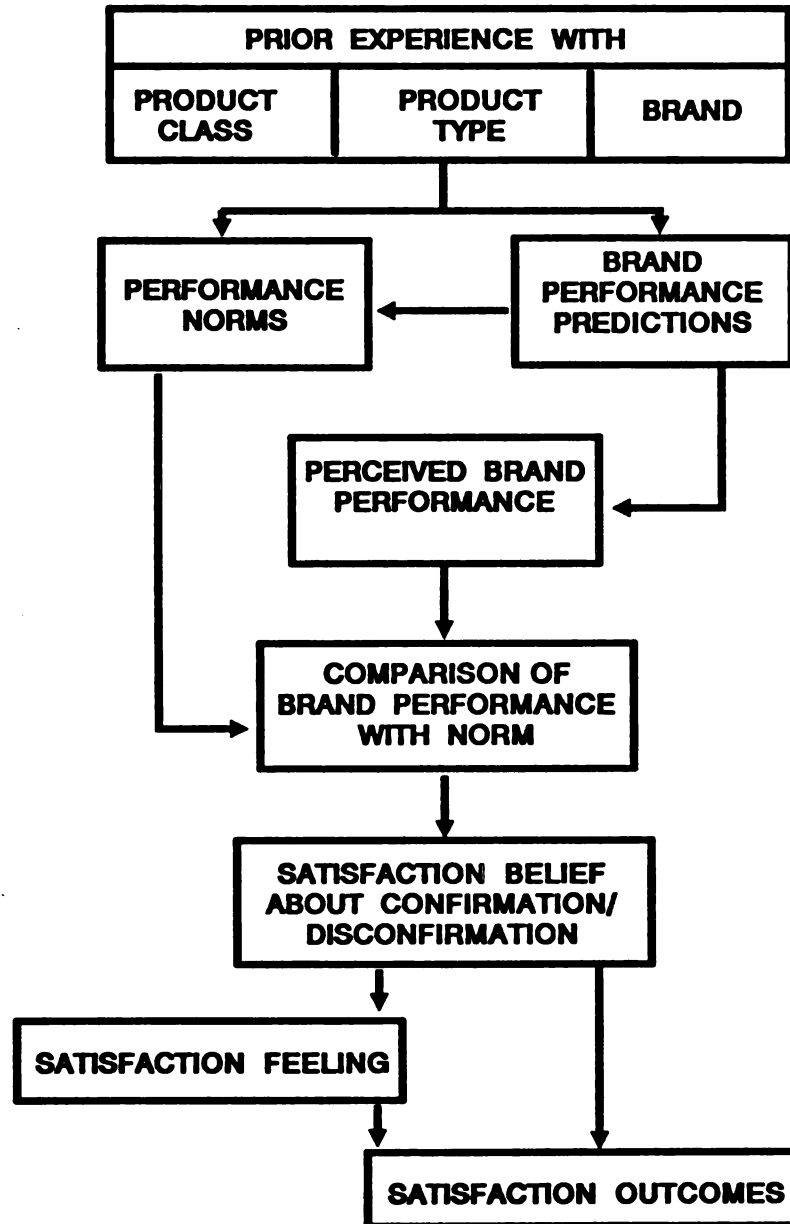
Disconfirmation = degree to which actual performance deviates from expected

b = belief

e = evaluation

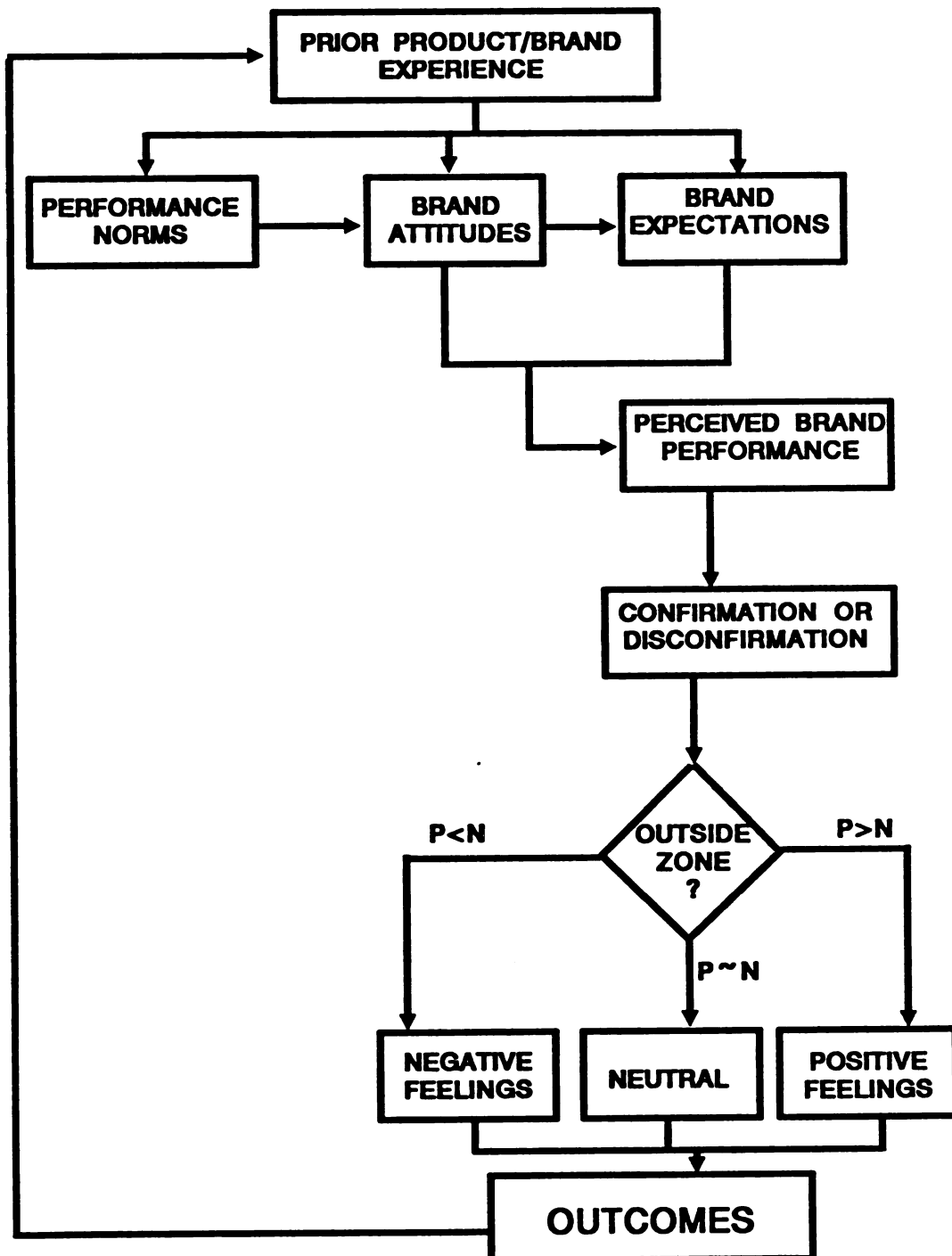
Source: Oliver (1980)

FIGURE 2.2
Oliver's Model



Source: Cadotte, Woodruff, Jenkins (1982)

FIGURE 2.3



Source: Cadotte, Woodruff, Jenkins (1983)

FIGURE 2.4

- H₁: Selection of a standard for evaluating brand performance depends on the consumer's perception of the relevant use situation.
- H₂: Selection of norms as standards for evaluating performance is more likely when the relevant product set has several brands than when the set has one or very few brands.
- H₃: The position of the reference norm along the performance dimension varies directly with the average performance of the brands which are evoked by the use occasion.
- H₄: The more similar the performance across brands, the more likely a product-based norm will be used.
- H₅: Unless the consumer has extensive experience with the focal brand, experience-based norms serve as a better basis of comparison than focal brand expectations.
- H₆: If the consumer has had extensive experience with the focal brand, the brand norm is equivalent to focal brand expectations.
- H₇: If the consumer has limited experience with the focal brand but extensive experience with a second brand, the norm for the second brand serves as the basis of the comparison.
- H₈: If the consumer has experience with an assortment of brands and no one brand dominates, the norm for the product category serves as the basis of comparison for the focal brand.
- H₉: The perception of focal brand performance is influenced directly by prior focal brand expectations and attitudes.
- H₁₀: Only perceived performance outside the zone of indifference elicits positive or negative feelings about the consumption process.
- H₁₁: The initiation of unusual satisfaction outcomes (i.e., recommendations to friends, letter writing, seeking out the manager, legal action, etc.) is associated only with brand performances outside the zone of indifference.
- H₁₂: The frequency of performance disconfirmation varies inversely with the width of the zone of indifference.
- H₁₃: The width of the zone of indifference varies
- a. inversely with the breadth and depth of a consumer's experience with a particular brand.
 - b. inversely with the degree of personal and/or situational involvement with a brand, and
 - c. directly with the variability in performance of the brands in the consumer's experience set.

Source: Cadotte, Woodruff, Jenkins (1983)

FIGURE 2.5
Hypotheses for Experience-Based Norms

This model depends on the existence of three factors in the purchase situation:

- (1) a distinct difference between expected and perceived performance in order to produce either satisfaction or dissatisfaction and**
- (2) stability of relationship between beliefs and purchase attitude.**
- (3) that the question of interest in this line of research is the effect of disconfirmation on future purchase intentions.**

The third factor is the most fundamental and its significance will be discussed in the measurement section of this chapter.

Research based on this model (and similar, reduced form, variants which generally exclude the attitude constructs) has centered essentially on three themes. The first, of course, is the overall explanatory fit of the model to obtained data. The disconfirmation construct, as a construct, has been the most problematic of the proposed portions of the structure. Essentially, the issue has two parts: the demonstrable existence of disconfirmation as a construct, and, the other on problems of measuring disconfirmation. (The relevant research is discussed in the next section of this chapter.)

The second issue centers on the nature of expectations and their measurement. The most common approach has been the conceptualizing of expectations as beliefs about attributes or performance. However, expectations have been treated as product specific attitudinal scales (that is, with beliefs weighted by some evaluative measure) and as summary judgments prior to use. Sources of beliefs have been scrutinized more recently as the Cadotte-Woodruff-Jenkins model discussed next

indicates. Equity and cost/benefit expectancies have also been proposed although research support for these types of expectancies has been weak. It also has been proposed (e.g. Miller 1977) that expectations should not be conceived as a unitary set of beliefs, but rather as a multiple set of constructs antecedent to purchase and post-purchase judgments. The Miller proposal, supported by limited experimental work, parallels recent proposals in social psychology (Heckhausen 1977, Bandura 1977, Feather 1982). Such multidimensional sets imply, in turn, more complex post-purchase judgments.

The third issue is the relative importance of prepurchase and post purchase effects on satisfaction. The arguments center on the relative importance of post-purchase evaluation versus disconfirmed initial expectancies, the role of previous experience and product norms, and the change or modification of the belief set between pre- and post-purchase judgments.

Finally, the proposed model, as an expectancy model, shows the limitations noted for all models of that type. Among the more serious concerns is the issue of falsification. Many critics note that manipulation of measurement models can significantly alter experimental results, but as there is no theoretical standard specified within expectancy theory, falsification conditions have not been established. A second major criticism, particularly applicable to the research in marketing areas, is that behaviors and motivations exist in continuing streams while most expectancy approaches look at events as discrete, thereby obscuring the possible importance or lack thereof of insights from expectancy theories. A third criticism concerns the distinction between object, action, and outcome expectancies--it has been a frequently blurred distinction although there are some potentially important implications, especially in the area of consumption. For example, tradeoffs among product, opportunity, and benefits may be central to understanding the satisfaction, intention and future behavior links so important managerially as well as academically.

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A second, but distinctly different expectancy model has been proposed by Cadotte, Woodruff, and Jenkins (see Figure 2.3). Incorporating suggestive information from experimental research with acknowledgement of some of the criticisms delineated previously, they have proposed a model which specially incorporates performance norms and experience into the antecedents of satisfaction. Drawing on concepts from Morris (1976) about normative deficit, Swan and Mercer (1981) on social equity, and from Thibaut and Kelley (1959) on comparison levels (with related research [Latour and Peat 1977, Swan and Martin 1981]), they posit that a normative comparison level exists, just as Oliver does, but that its source is not specific product expectations, but rather a standard derived from previous experience or information about the product class, shopping experience or other relevant variables. The perceived performance of a particular brand, then, is evaluated relative to those norms as well as the predicted brand specific performance. The outcome of disconfirmation is similarly posited to be complexly dependent on the intensity and direction of disconfirmation.

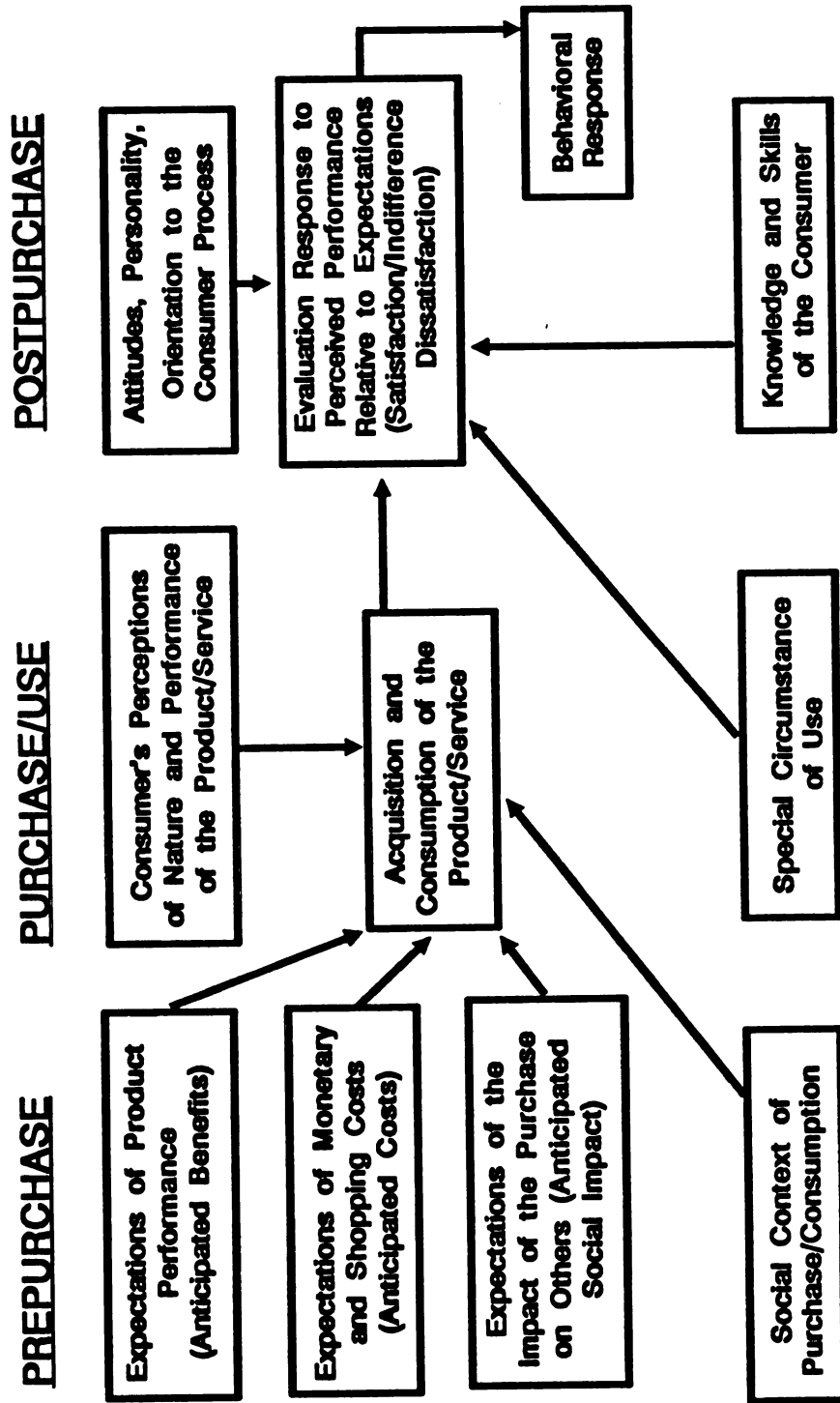
The norm can be understood as several different comparison standards: brand based, product average based, or best brand/favorite brand based. The number and range of items in the norm set are individually determined. The number and use of norms in confirmation/disconfirmation may vary with involvement, risk and investment associated with the purchase. The general pattern is expressed as a median/mean norm in a bell shaped distribution across brands and in a summary judgment rather than attribute form. The presentation of the model is accompanied by a set of hypothesis and measurement specifications. (See Figure 2.5 - The measurement issues are discussed later). The hypotheses indicate the contingent dimensions of this proposed formulation which takes into account a number of other consumption behavior concepts, and thereby strengthens the applicability of research. It also recognizes research findings indicating that product types (durable, service, etc.) may have a strong impact on information processing which suggests limits on the utility and reliability of a more general model like Oliver's.

Other than the limitations pertaining to all expectancy models, the utility and informativeness of the model appear promising. To date, only one limited research test based on this model has been conducted. Not specifically accounted for are the questions about the nature of expectations and the readjustments of criteria throughout the process. The implication of norms is that all criteria will be included in past purchase judgments; whether a difference in criteria affects satisfaction is still unexplored.

The third major paradigm proposed is Day's (1977, 1982). As shown in Figure 2.6, this model is more inclusive than either of the previous two. Similar to Cadotte, et.al., it posits a set of expectancies (brand and product norms), but there are three categories of antecedent norms and expectancies: performance, social benefits, and total cost all of which enter into cost consumption evaluation and issue as multiple responses.

There are explicit conditions specified, including the definition of satisfaction as an emotional response, the differentiation of norms from expectancies (predicted product performance), all measures are summary judgements, and the model is applicable to one specific event. The emphasis on social and economic benefits is a natural consequence of the intent of the model: to provide a method for explaining and predicting post-satisfaction behaviors, particularly "complaining behavior".

The problems lie first in the antecedents to satisfaction. Although much discussion in marketing has centered on equity and cost/benefit, researchers attempting to operationalize and test for it in satisfaction paradigms have had little success (see Swan 1982). Given the unsettled nature of agreement on expectations and product norms, this model is unlikely to assist research in the near future.



Day (1977)

FIGURE 2.6
THE PURCHASE/CONSUMPTION/EVALUATION PROCESS

A second problem lies in the strong position on measurement. Irrespective of other considerations, the summary nature of the measurement lessens the potential for uncovering specific features which may causally link or correlate with other elements. As a diagnostic process, it is weak.

A third limitation is the specified intent to look at single events only. While this does maintain focus on consumption versus life satisfaction, it also ignores the longitudinal aspects of many consumer situations, e.g., health care, and is highly time-of-occurrence bound .

The positive features of all three models are several. First, all represent an improved maturity in the field; earlier research in this area was neither systematic nor programmatic. Second, attention to the context of decisions, in time, experience, and marketing efforts has been progressively added. Third, the development of models addressing the issue of measurement specification allows for better and more rigorous research.

The issues raised by the models (and their presentation) are many, but two theoretical questions are emerging as central. The first is the nature of the effect of previous experience (or surrogates for it) on specific product expectancies, post-purchase judgements, or satisfaction. It was proposed by two of the theorists that previous experience enters into the satisfaction process as a norm which establishes the center of the "zone of indifference" for post-purchase judgements and disconfirmation with effects on satisfaction. Cadotte, et.al., also indicate that brand performance may affect product norms (Figure 2.3) or that performance norms may affect brand attitudes (Figure 2.4). The effect of norms on specific brand (product) choices is an open question both theoretically and empirically.

A second consideration is the nature of judgements both pre- and post-purchase. As previously mentioned, the set of evaluative items may differ in content and focus at different points in the process. The tendency toward summary disconfirmation measures and the varying approaches toward defining and measuring expectancies have resulted in few guides to the nature of product norms: do they include summary judgements, judgements across all salient attributes, and in what ways do they affect the attributes for the choice object? Based on available indicators, previous experience may provide a ground for baseline performance and may determine the attributes salient for the single purchase. An alternative view, which is implicit in the Cadotte (Figure 2.4) model is that product norms are affective in influence on a chosen brand.

An unresolved and undiscussed issue is the nature of performance expectations. The multi-attribute formulation of expectancies typically may include features which are desirable because their presence partially determines the benefits conferred by the product: e.g., softness in pajamas because it aids sleep, prevents unpleasant feelings, etc.. Which sort of performance is to be the focus of concern? It is possible that both sorts of conditions, attributes, and benefits need to be evaluated as satisfaction and disconfirmation may depend on evaluations of both types of beliefs. The same may be true of product norms. Attributes may be desired (or baseline levels set) since previous experience has demonstrated their mediating utility.

All of the models accept some form of adaptation theory while including elements from other social psychology formulations: values, equity, motivation. What is still missing is a consideration of the peculiar features in the domain of marketing and the essential questions which the various proposals are designed to address.

These are broad issues and the subtleties are reflected in the major differences of each of the proposals. This thesis is designed to examine only a few of the issues in a highly limited way. First,

several alternative models incorporating product norms will be examined. Each of the variants looks at product norm effects on each of the other constructs which the models have in common: specific product expectations, post-purchase evaluation, and satisfaction. Second, the nature of expectations will be explored in order to see if indicators (or observable performance features) and derived benefits are separate or interdependent expectancies. A third intent is to examine the overall causal structure: expectancies -> post-purchase judgements -> satisfaction -> intention. The importance of this third objective will be highlighted in the next section.

RESEARCH SUMMARY

There are several important features of previous research which have a bearing on this examination. This summary, not intended as an exhaustive, but rather a selective survey, of research to date will consider three areas where current experimentation bears on the issues of this research. These are: concept development and testing, product and marketing variables, and measurement issues.

Concepts

Expectancy. The first experimental research was derived from the long tradition of expectancy and the varying dissonance theories prominent in the 1960's (see Figure 2.8 and 2.9 for summary of major experimental research). A specifically marketing oriented tradition has emerged over the past 20 years although there seem to be more disagreements than agreements as to the paradigm, research methods, and limits. Swan (1982) has summarized a consensus view of the field in the two charts shown in Figure 2.8 and Figure 2.9

<u>Researchers</u>	<u>Subjects</u>	<u>Product</u>	<u>Findings</u>	<u>Measurement/Definitions</u>	<u>Theory/Model</u>
Cardozo (1965)	students	ballpoints	Satisfaction is affected by shopping effort and initial expectation level: greater effort > higher satisfaction confounded with expectation.	expectation - manipulated by info + price summary satisf. > to norm no direct pre-measures	cog. disson.
Anderson (1973) and Haire	students	ballpoints	threshold level of disparity for satisf/dissatisf	expectations manipulated pre-exposure test	assim/contact dissonance
Olshovsky + Miller (1972)	students	tape recorders	satisf assimilated to expectations regardless of actual perf.	manip. exp + perf. anchored to an "ideal" post only perf.	congruity balance dissonance
Olson + Dover (1976)	housewives	coffee	expectancies shown to be belief elements > sat. assim. to expectancies	exp. manipulated by information difference measure tested pre + post-attitude + intention	assimilation
Oliver (1977)	student	automobile test drive	disconf. effect strongly related to post-exposure affect and intentions. Expectations also affect level of sat.	summary + attribute exp. measures summary + diff. disconf.	Oliver + Brickman
Oliver (1977)	sampled pop. of city + students	flu innoculation	satisf is linear function of expectations + disconf. attitude more highly related than expectations to disconfirmation satisfaction to intention pre-exp. affects mixed-sign. for one sample not other.	exp. as beliefs about outcomes att. scale (semantic diff) summary disconf. (path analysis)	Helson Adap. level
Swan (1977)	shoppers	dept. store	satisf. positively related to net expectation, confidence, and purchase	pre + post belief scales confidence outcome measured	
Swan and Trawick (1979)	shoppers	spot remover	satisf. related to fulfillment of desired perf.; indifference and dissatisfaction related to predicted	predictive + desired expectations about performance + attitude toward expectations	

FIGURE 2.7

<u>Researchers</u>	<u>Subjects</u>	<u>Product</u>	<u>Findings</u>	<u>Measurement/Definitions</u>	<u>Theory/Model</u>
Westbrook + Newman (1978)	actual buyers	appliances	dissatisfaction is partly a function of shoppers' characteristics Previous experience satisfaction was significant factor in new purchase satisfaction	MCA, AID3 telephone survey 10 item satisfaction	Life Satisfaction
Westbrook (1980)	students	automobiles footwear	automobiles satisfaction related to wide range of affective factors; footwear satisfaction related only to expectations.	multiple regression 5 multiple item scales	mood + expectations attribution
Oliver and Linda (1980)	mall shopper	men's pajamas	expectations and disconfir- mation significantly affect satisfaction with disconfirmation the strongest factor	attribute and satis- faction expectations separate male/female analysis Path Analysis disconfirma- tion measured by Oship for degree of diff from what was expected simulated usage	Helson
Swan and Martin (1981)	shoppers	automobile	past experience was stronger predictor of satisfaction than predictive expectations	predictive and experienced expectations	Miller expectation types
Latour and Peat (1980)	mall intercept	cleaner tile	only prior experience related to satisfaction-not information or experience of others	3 types of expectations	equity, experience

FIGURE 2.7 continued

Researchers	Subjects	Product	Findings	Measurement/Definitions	Theory/Model
Swan and Combs (1976)	students	clothing	satisfaction related to expectation fulfillment and dissatisfaction related to qualitatively different outcomes: instrumental to dissatisfaction; expressive to satisfaction	instrumental and expressive attributes	Herzberg Majors and Alpert
Maddox (1981)	students and non-students (convenience)	clothing personal care small appliance bread	mixed results: product types vary significantly some support for expressive/ satisfaction good, but patience of attributes provides better explanation	critical incident technique	replication of Swan and Combs
Gilly, Cron and Barry (1982)	students	courses	does support existence of differing types of expectations disconfirmation of deserved is most significant with respect to disconfirmation past experience significantly affects expectations - repetitive/ longitudinal study	4 types of expectation and relationship to satisfaction discriminant analysis	Miller's expectation types
Kennedy and Thirkill (1982)	Canadian auto owner	automobiles	previous experience significantly affected satisfaction with new car ownership, slightly less impact for used cars information quantity and source was also inversely significant	mail survey multiple item/factor scales	Day 1977

<u>Researchers</u>	<u>Subjects</u>	<u>Product</u>	<u>Findings</u>	<u>Measurement/Definitions</u>	<u>Theory/Model</u>
Cadotte, Woodruff, and Jenkins (1982)	random geographical sample	restaurants	inferred disconfirmation superior support differing norms with different effects on satisfaction	Brand and Best Brand Norms, Brand, Expectations, Perceived Brand Performance scales. Extensive reliability and validity testing	Normative Deficit Miller
Suan and Trawick (1982)	Random telephone sample	Public radio	Involvement and previous satisfaction lead to continuing patronage and higher reported satisfaction	satisfaction as multiple item summary scale several behavioral intentions measures low reliabilities for scales	Day
Churchill and Suprenant (1982)	mall intercept	video disc player chrysanthemum plant	plant: expectations and disconfirmation did relate to satisfaction VDP: only performance affected satisfaction some correlation between expectation and disconfirmation	both global and attribute scales for all constructs expectation and performance manipulated disconfirmation - retroactive report LISREL causal model analysis	composite experimental model
Bearden and Teel (1983)	panel	auto repair	expectations and disconfirmation are positively related to satisfaction disconfirmation and expectation exhibit some correlation overall model not significant status of disconfirmation as a moderator not clarified expectations and attitude closely related	longitudinal multiple item scales single retroactive disconfirmation measure Path analysis (LISREL)	Oliver model

FIGURE 2.7 continued

<u>Researchers</u>	<u>Subjects</u>	<u>Product</u>	<u>Findings</u>	<u>Measurement/Definitions</u>	<u>Theory/Model</u>
Westerbrook and Reilly (1983)	students	automobiles	expectations not as satisfactory as attitude neither expectations nor value-percept disparity model substantially better but still not significant	all recall of previous experience disconfirmation - retroactive LISREL also value - percept disparity global expectation measures disconfirmation and expectations not correlated	Oliver Model
Oliver and Bearden	panel	diet - appetite suppressant	satisfaction was a function of disconfirmation only, not of expectations low correlation between expectation and attitude, more relationship in high involvement group pre-attitude significantly related to disconfirmation for low involvement group as was satisfaction does not support expectations as an adaptation level	outcome expectations retroactive disconfirmation scale involvement scale Path analysis, but no overall test of model - only specified coefficients	Oliver Model
Swan, Gorden and Trawick (1983)	store shoppers (1st time)	department store	good, but not significant fit of data to model experience related to satisfaction as is self-confidence	global satisfaction path analysis (Pathen) pre-shopping attitudes and expectations	Oliver

FIGURE 2.7 continued

<u>Researchers</u>	<u>Subjects</u>	<u>Product</u>	<u>Findings</u>	<u>Measurement/Definitions</u>	<u>Theory/Model</u>
Prakash and Lounsbury (1984)	students	fast food beer	normative expectations most significantly related to satisfaction, although all related post-purchase evaluation is most significant factor for satisfaction normative and comparative jointly are best predictor set difference scores show low reliabilities, but alternatives also problematic	predictive, normative, and comparative expectations inferred confirmation post-purchase evaluation global satisfaction testing for reliability of difference correlation analysis multiple regression	Miller Woodruff, Cadotte and Jenkins
Moore and Shuptrine (1984)	panel	non-profit health foundations	disconfirmation is not an independent construct; satisfaction is a function of pre-giving plus disconfirmation however, the measurement for the construct is important in the magnitude and significance of the results: a difference scale for disconfirmation and the multiple-item satisfaction scale produced more significant results	alternative measures of disconfirmation and satisfaction regression	Oliver

FIGURE 2.7 continued

A major area of concern among researchers continues to be the nature of expectations. They have been conceptualized as beliefs about specific attributes (Olson and Dover 1976, Swan 1977, Churchill 1982, see Figure 2.7); beliefs about outcomes (Oliver 1977, 1980, Moore and Shuptrine 1984, see Figure 2.7); as value in use (Thirkill 1981); and as beliefs about anticipated satisfaction (Oliver and Linda 1980). Thus far, the major emphasis has been the evaluation of the varying definitions in terms of how well the procedure fit the measurement process.

The use of attribute ratings stems from the long standing view of the nature of products and the predominance of multi-attribute models. The influence of Fishbein, who tendered a perspective and method well suited for the investigation of marketing phenomena, further solidified this as a preferred method. The approach has been criticized by Day (1977, 1982), in particular, as inappropriate for all goods and services. Within the context of satisfaction, a consumer cannot be assumed involved, although that assumption underlies the full attribute approaches. It may also be inappropriate where the product is familiar and frequently purchased.

Studies directly addressing these issues are few. Swan and Trawick (1987) did find that involvement was significantly related to satisfaction. Churchill and Suprenant (1982) found that for a durable product only post exposure measures affected satisfaction, while a less valuable item showed the disconfirmation effect to be significant. Westbrook (1978, 1980, 1981) has demonstrated that previous experience is an important factor in satisfaction for durables, but disconfirmation was not significant for automobiles. He also established a relationship between emotion and evaluation at the global attitude level for automobiles. The indirect evidence, therefore, tends to support the idea that involvement and/or type of good may partially determine the information processing and relationships within the full consumption process.

Information processing research itself reflects some of the same dilemmas: Troutmen and Shantiari (1976) raised the question of whether consumers average or add attribute information. Cohn, Miniard and Dickson (1980) argue that situational features affect the choice of averaging or adding attribute ratings. An extended purchasing process, level of confidence, and involvement all shown to affect satisfaction would appear as factors affecting information processing strategies as well.

The definition of expectations as beliefs needs to be examined, therefore, for the type of beliefs encompassed. A contingent definition seems to be indicated: summary belief for some products and extended attribute evaluation for others. The interesting complication is the fairly consistent findings that expectation disconfirmation is less significant for durable products and some services (Bearden and Teel 1983). That is, in precisely those situations where one would expect extended information processing, the pre-purchase criteria do not seem to affect post-purchase judgments to the extent that they do less valuable products. The data are somewhat limited, however, since most of the research involving durables and services has been retrospective or laboratory. Thus, real time and usage conditions have not been examined (the exception is Bearden and Teel 1983).

The use of beliefs about the product versus beliefs about the outcomes similarly reflects dilemmas in consumer research generally. The low predictive results obtained in purchase research based on Rosenberg, Fishbein and hybrid attitude models where purchase was predicted by attitude toward the object has led to the interest in Fishbein's extended model which incorporates outcomes and choice probabilities. (Fishbein and Azjen 1975). The corresponding change in satisfaction research has been the development of expectations as beliefs about outcomes. No testing of differences in effects in the context of satisfaction research are known to this author. Oliver has used both types of measures with similar results (compare Oliver 1977a and 1977b). Additionally, many of the outcomes measures reported are measuring expected levels of attributes inherent in the product after purchase rather than effect of product usage (e.g. softness of pajamas, size of plant).

The trend in most research has been to sum belief statements with great variation in the inclusion or exclusion of evaluative components where it is assumed to be incorporated into beliefs or stable (see Bearden and Teel 1983). To some extent, the statistical procedures have influenced the ways in which the expectations have been treated. Only two causal modeling studies have been published to date where the summative versus singular treatment issue does not arise (Churchill and Suprenant 1982, Bearden and Teel 1983). Summative measures are another question of interest. It has been proposed that a summative measure of overall expectation be included. Where used, the measure tends to fall within the scale for the other items. Conceptually it may be important if the intent of the research is to indicate a proposed difference in information processing between high involvement/high complexity goods and those for which a general expectancy may be a more accurate direction. It is not an issue in this research.

The use or nonuse of evaluative weights reflects the definitional dilemma: studies which have operationalized expectations as beliefs and also included an attitude measure have shown very strong correlations between the two with similar effects on satisfaction (Oliver 1980, Bearden and Tiel 1983). It may be argued that the expectancies are simply the beliefs portion of the underlying attitude (Day 1977, 1982). Alternatively it has been argued that since affect is stable during the disconfirmation processes, only belief changes are of interest (Bearden and Teel 1983).

The introduction of normative influences and different types of expectations has further clouded the issue of what expectations are. At this point, there seems to be a consensus only that expectations include beliefs about outcomes with no resolution on any of the other issues.

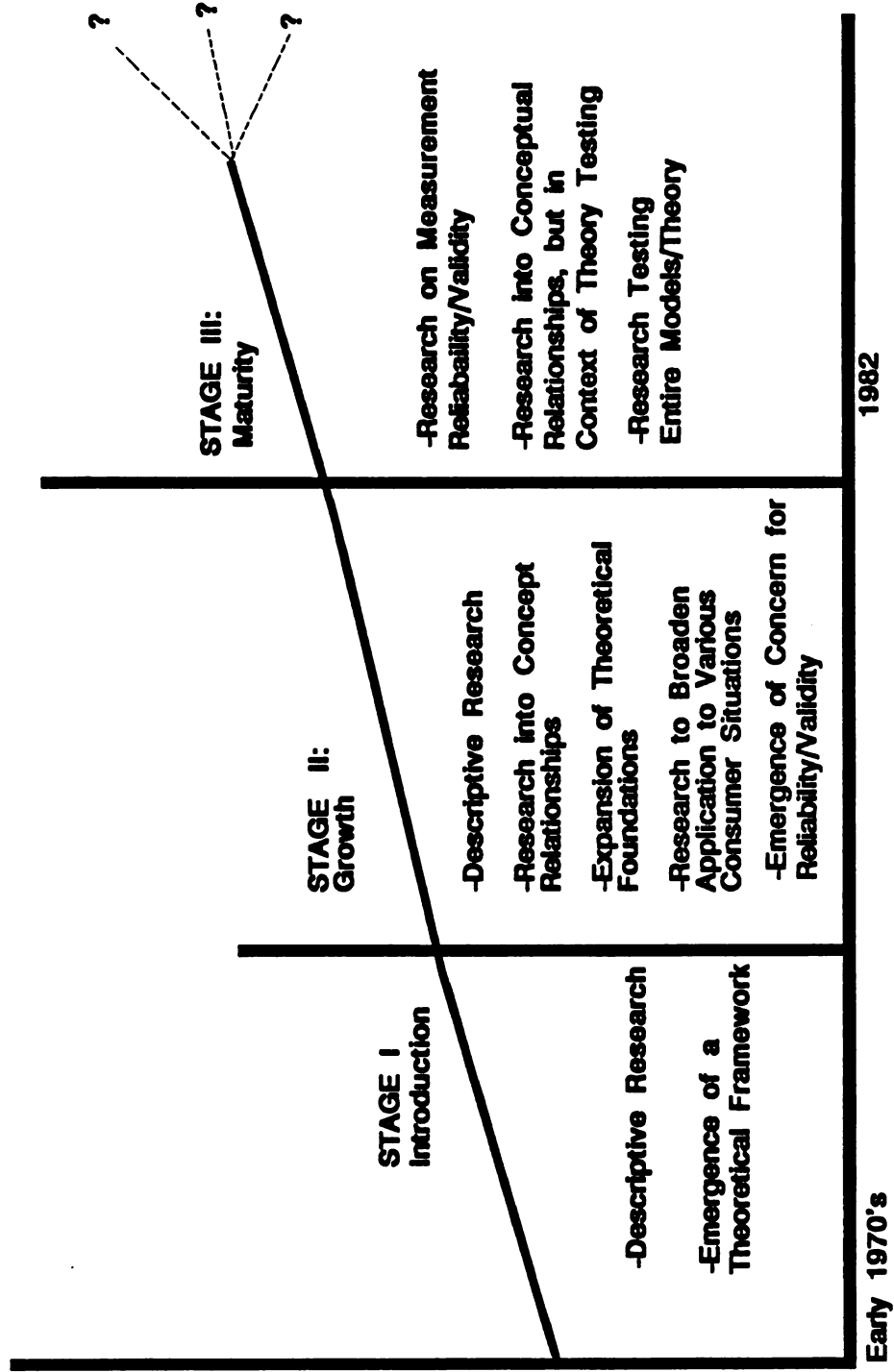


FIGURE 2.8
A View of the Development of CCS/D Research

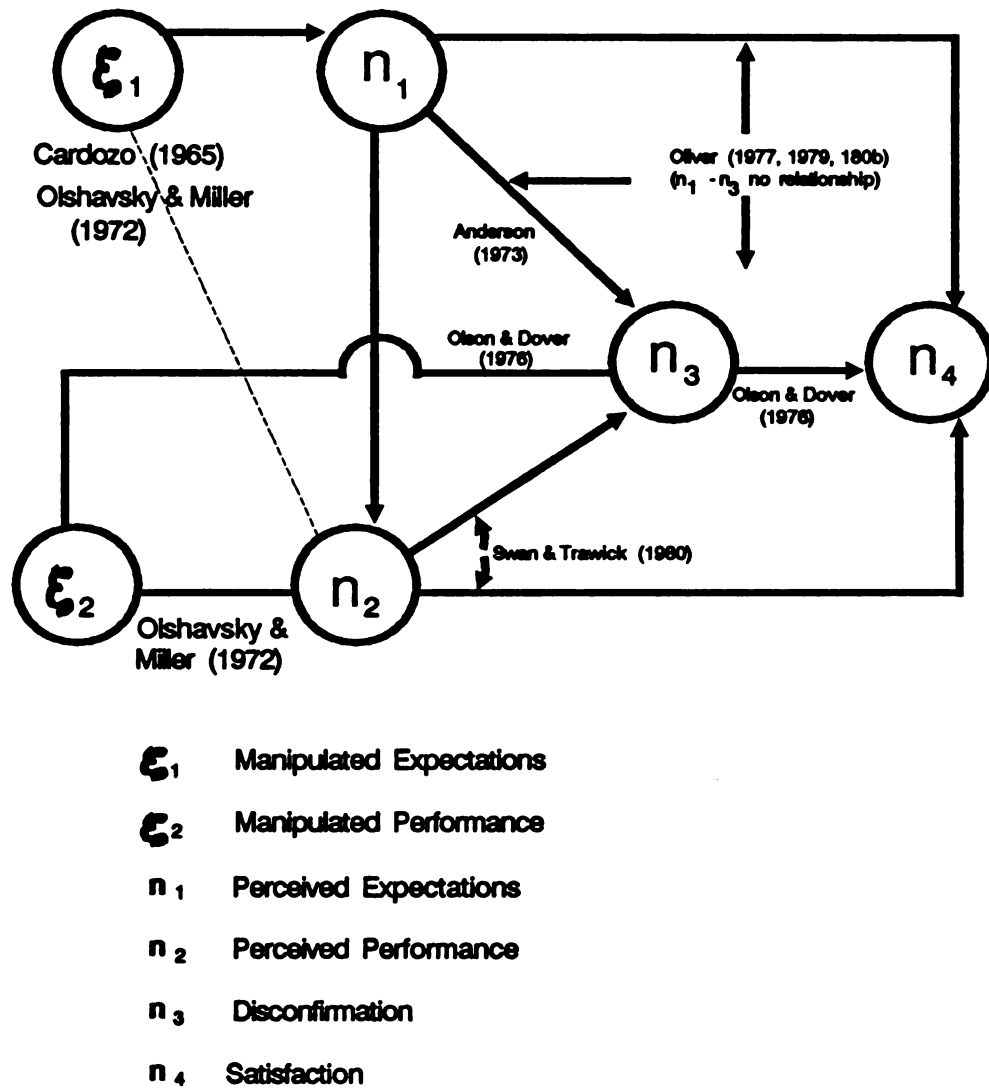
Source: Swan (1982)

THE DISCONFIRMATION PARADIGM: UNRESOLVED ISSUES		
Issue	Conceptual Development	Empirical Work
1. Satisfaction process over time--entire consumption period for product.	Moderate	Slight
2. What is satisfaction: Testing alternative conceptualization	Moderate	Slight
3. Discriminant validity: Expectations, disconfirmation, satisfaction, attitude, intentions	Slight	Slight
4. Dimensions of expectations	Moderate	Slight
5. Process of Disconfirmation	Moderate	Moderate
6. Consequences of satisfaction	Moderate	Moderate
7. Repurchase as a consequence of satisfaction	Moderate	Almost None

FIGURE 2.9
Summary of Research Approaches

	Disconfirmation		Equity	Normative deficit	Composite
Main Dependent Variables:	Immediate Post Purchase Satisfaction, Intentions, Repurchase		Dissers or Post- Purchase Satisfaction	Satisfaction with goods & services as comprising a standard of living	Overall (or Global) Satisfaction
Key Causal Mechanism	Satisfaction Increases (decreases) as performance exceeds (falls below) expectation.		Dissers Increases as the Customer- Marketer exchange becomes more inequitable. Equity exists when the Customer's Relative Gains (outcomes minus Inputs) equal the Relative Gains of the Marketer.	Satisfaction occurs when the "quality" of the consumers goods and service equals social norms.	Overall satisfaction = Summation of Satisfaction with Product/Service Attributes
Quantity of Research	Moderate		Slight	Moderate/Slight	Slight for most goods/services. Moderate for health-care services
Predominant Type of Research	Field cross sectional and some longitudinal field studies.		Role playing experiences	Field cross sectional	Field cross sectional
Confidence In Empirical Support for the Paradigm	Moderate		Slight	Moderate	Moderate
Measurement Development	Moderate		Little	Moderate	
Conceptual Development of the Paradigm	Moderate		Slight	Moderate	Slight/Moderate

FIGURE 2.9 continued



Source: Churchill (1982)

FIGURE 2.10
Research Based Causal Model

Miller (1977) first raised the question as to whether there were several types of expectations which affect satisfaction differently. He speculated that there might be four types of expectations: Ideal, Expected, Minimum Tolerable, and Deserved. Ideal is a set of "hoped for" beliefs derived from learning and experience. Expected is a set of objective probabilities with no affective component. Deserved, which includes an affective dimension, is the result of some cost benefit evaluations so that it is a statement of value expected. Minimum tolerable are the floor performance and benefit levels. The suggestion was that dissatisfaction would inevitably result from negative disconfirmation of Minimum Tolerable values. Ideal would represent the most that could be hoped for. Deserved and Expected would be contingent in effect on Satisfaction as the equity and value incorporated into Deserved would vary with price, time, involvement, risk and other factors. Although there has been much discussion of these proposals, experimental work is quite limited.

Swan and Trawick (1981) attempted to examine Desired and Predicted expectations, finding that they were equally good predictors of satisfaction. In a similar laboratory study using a different product, the same researchers (1979) found that satisfaction depended on confirmation of Desired expectations while indifference and dissatisfaction resulted from Predictive expectations. Güily, Cron, and Barry (1982) used all four types of expectations and found that Deserved and Predicted Expectations emerged as valid constructs, while Ideal and Minimum Tolerable did not. They concluded that Ideal expectations appear to be incorporated into Deserved when there is previous experience.

The results of a preliminary study by Cadotte, Woodruff and Jenkins (1982) suggest that product norms seems to fit better with the results of other variables in the total model of expectation/satisfaction and that the product norm appears to be a basis for predictions. As the reported study was not a test of the model, but rather an investigation of the validity and reliability of the concepts and scales, the results are only indications for further research.

Varying proposals on expectations can be summarized as:

1. In an enlarged context, specific product expectations seem to be predictive in nature.
2. Desired expectations appear to be a function of both a product norm and a norm for a best brand or better than previous experience concept.
3. The product norm appears to form a base for both expectations and post-usage evaluation.
4. Satisfaction appears to result from both product norm and specific product information.

Satisfaction

The nature of this concept has been much disputed. Fairly general agreement exists that affect is a primary part of the essence: like or dislike of the product, the use, the value/equity, etc. The disagreement concerns the presence/absence of a cognitive element. Oliver (1980) argues strongly that the evaluation which precedes satisfaction/dissatisfaction is cognitive and that satisfaction is the emotional response to the judged outcome. Day (1977, 1982) agrees, summarizing his position as:

Satisfaction/dissatisfaction is an emotional response manifested in feelings and is conceptually distinct from cognitive responses, brand affect, and behavioral responses. (1982, p. 113)

Swan partially agrees, noting that consumers substitute emotional words for satisfaction and dissatisfaction, such as glad, happy, regret, disappointment. However, he notes that there does seem to be a cognitive element concerning the utility or fitness of the product which is present.

For the most part, there is a consensus emerging on the issue which tends toward the purely affective element. Swan's position may reflect the minor attention given in most satisfaction research to situational factors of all sorts. Thus, some of the evaluative judgments consumers make may not be appearing elsewhere. It may be just as reasonably argued that use and value are part of the post-usage evaluation.

Disconfirmation and Post usage Judgement

One of the most problematic areas in marketing research is the status of disconfirmation as a theoretical construct. The arguments for Disconfirmation are two. First, it is proposed as the link between expectations or satisfaction, parallel to similar proposals in psychological theory (e.g. Helson). The explanation is that disconfirmation occurs when what is received is compared with what was anticipated; strong deviations, either positive or negative, issue in satisfaction or dissatisfaction affective states, whereas confirmation produces a neutral affect. The second argument is that extensive experimental testing shows evidence for such a phenomenon as an independent construct (Oliver 1980, Cordozo 1965).

The arguments against dissatisfaction rest on differing theoretical explanations as well as mixed research results. Essentially, the question of the status of disconfirmation depends on the stability of expectations and the nature of post usage judgements. Disconfirmation rests on the unchanging points of judgement throughout a consumption experience: a change in the attributes considered would mean that disconfirmation is not the major contributor to satisfaction (Swan 1982, Cadotte, et. al. 1982). Alternatively, the information processing rules used may change the simple expectations - disconfirmation - satisfaction relationship. Any form of compensatory judgement opens the possibility that post usage judgments employing direct pre- and post-comparisons are rare. Previously unknown

information added to the judgement basis or readjustment of the relative value of attributes in determining both cognitive and affective judgements could be as, or more, influential than pre- and post-comparisons.

Evidence from experimental research indicates that post-usage judgement may be both important and quite separate from any direct pre- and post-comparison process. The mixed results, even within the same experiment (Westbrook 1980, Churchill and Suprenant 1982) indicate that disconfirmation tends to be significant only in specialized cases: where clear product specifications are not met as promised by the provider, or when expectancies were otherwise matched fairly closely to product norms. In neither of the mixed cases were product norms directly tapped. Experiments where experience was directly or indirectly tapped (Bearden and Teel 1983, Prakash 1984, LaTour and Peat 1979) showed that disconfirmation of predictive expectations was nonsignificant in impact on satisfaction and future intentions. Conversely, Swan and Trawick (1981) tested the Oliver model and found that disconfirmation was independent of expectations and significantly related to satisfaction, as did Moore and Shuptrine (1984).

It may be that disconfirmation is a moderator variable whose effect is significant only in specific situations and for certain product categories. Unexplored to date are the relationships of experience, confidence, and specificity of preusage information on the role of expectation and disconfirmation. Of course, the questions about the nature of expectations and evidence of their differing effects on satisfaction suggest that further research on types of disconfirmation may also be warranted.

Given the problematic status of disconfirmation and the associated measurement issues (discussed in the next section of this chapter), post-usage evaluation stands as a complex and not

particularly well understood phenomenon despite its apparent importance managerially and theoretically. The central issue of whether disconfirmation is independently important or part of a more inclusive judgement process is still an open question.

Measurement

Throughout the development of research into consumer satisfaction, the issue of proper measurement has played a central role, affecting the definition of theoretical constructs and limiting the generalizability of research results.

The measurement issue first rests on what is measured. Most research has necessitated the development of product specific attribute and outcome scales, not all of which report on the reliability and validity. Further, although in theory, most of the recent research has insisted on measuring expected outcomes, in practice, both attributes and utilities are mixed in the scales. The importance and severity of this are very product and study specific. The addition of semantic differential adjective scales as measures of attitude in a number of studies (Oliver 1980) has also reinvigorated the older issue of whether expectancies are only beliefs or are attitudes as the correlations between the expectancy and attitude measures are very high. Some researchers, noting this, have used adjective scales as expectancy measures (Westbrook 1982) with general results very similar to product specific designs. A related issue raised as to whether summary measures might not provide equally good measurement results is the purpose of this inquiry. If an overall theoretical consideration, e.g. the status of disconfirmation, is at issue, the summary or attitude measure may serve. If information on specific product or brand aspects is important, then the summary measures are inadequate.

Other researchers have attempted to pursue the information processing aspects of expectancy and post-usage judgements by looking at the tradeoffs involved - negative versus positive outcomes.

Maddox (1981) found that product type and usage situations prevented any inferences about the tradeoffs. Oliver (1980) found that only positive outcome judgements correlated with satisfaction, while negative outcomes did not. The lack of determinative directed research on this issue is a continuing problem.

Corresponding to questions of measurement content are questions about the type of measures and their mathematical manipulation. Westbrook and Oliver (1981) investigated a variety of scales and measures, including a number suggested in the management literature (e.g. Connolly 1976). While several types of scales performed well, no single type of item (faces, ladders, 7 point verbal) outperformed all others across all products. Several recent studies have incorporated the idea of mixed scale types into research designs (see Churchill and Suprenant 1982).

The other issue concerns the overall type and manipulation of the scale regardless of how the questions are framed. Moore and Shruptrine (1984) examined the impact of different operational and mathematical manipulations on overall test results. Disconfirmation and Satisfaction were measured in three ways: specific item, 7 point scales, better than/worse than 7 point scales (disconfirmation), percent scale (satisfaction), difference scale (disconfirmation) and delighted terrible (satisfaction). Results showed that differences in the measures were significantly different in impact on the overall model being tested. Further, the difference scale measure for disconfirmation produced the largest coefficients in the regression equations. Prokash and Lounsbury (1984) indicate, however, that difference scores may be highly suspect on several grounds. They cite the general agreement in psychology that difference scores are seldom reliable since "difference score unreliability increases as the unreliability of either score on which it is computed increases ... <and> the relative magnitude of difference score unreliability is increased as the correlation between the two measures on which it is based increases." (p. 3). Considering that Moore and Shuptrine found significant correlations between the expectancy and disconfirmation measures, the argument for use of difference scores and the role of disconfirmation,

generally significant in research where difference scores were used, is weakened. Alternative measures have their problems as well. Asking for retrospective judgements of disconfirmation raises problems of bias and face validity. It is clear, however, that measurement per se has a significant impact on results of research conducted in this area.

SUMMARY

The status of research into consumer satisfaction from an expectancy perspective was well summarized by Swan (see Figure 2.8 and 2.9). Most current research rests on some version of learning theory from psychology although the differences important in psychology have not been as explicitly examined in the consumer context. General agreement may be said to consist of the following:

1. Consumers use information from experience, other people, and goods providers to form judgements which lead to product choice.
2. Evaluation of products after use occurs.
3. Judgements, both cognitive and affective, are made about products which affect future intentions with respect to the product.

There is no consensus on:

1. How judgements and evaluations are formed.
2. The basis of post usage evaluations
3. The strength of relationships of judgements across products and situations
4. The nature of judgements: predictive, idealistic, normative
5. Proper measurement techniques
6. The effect of individual affective states and personality characteristics on judgements in this consumer context.

The study proposed here will examine these aspects of the problem of consumer satisfaction and its antecedent:

- 1. The relationship between general product class norms and specific product choice expectancies in impact on satisfaction and intention.**
- 2. The differential and interactive effect of benefits and attributes on satisfaction and intention.**

The research is, as most in this area is, based on aspects of learning theory. It assumes that behavior is purposive and represents accumulated knowledge about what behaviors are likely to enhance goal attainment. It strongly suggests that cumulative learning establishes a base norm of what ought to occur in new situations and the range of acceptable deviations.

CHAPTER III

Models, Hypotheses, and Definitions

MODELS

Introduction

This research investigates possible antecedents of consumer satisfaction. The analysis is conducted through the testing of models which specify both constructs and the relationships among them. The constructs and relationships have been developed on the basis of existing theory and research, which was discussed in the previous chapter (Chapter II). The models, in diagramatic form are contained in Figure III.1. The models represent ways of analysing the two research questions presented earlier in Chapter I.

The first question centers on the existence of a product class attitude and its effect on the other constructs in the consumer satisfaction process. The essential premise is that expectations and evaluations of specific products are both grounded by reference to beliefs about the nature of the generic product class. The existence of a product class effect of this type provides for a fuller contextual exploration of consumption. The research question can be stated as:

- Q1 Does an attitude about a product class partly determine consumer satisfaction by affecting expectations and evaluations of specific product choices?**

The second question concerns the nature of product attitudes and expectations. This interest is derived from the notion that consumers seek products for the benefit use of such products may confer even though the benefits may not be observable at the time a product is chosen. This concept is common to marketing definitions of product (see Kotler 1984). Over time it is plausible to believe that consumers may associate observable properties (characteristics) with desired benefits (goals). Whether these are separable at any point in the purchase process, and, if separable, exert different influences at different stages is an open question. Thus the second research question is:

- Q2 Are product characteristics and goals separate conceptions and, if so, do they have differing effects on other elements of the consumer satisfaction process?**

CONSTRUCTS AND DEFINITIONS

As reported in Chapter II, a variety of definitions, conceptual and operational, are found in the expectancy/satisfaction tradition. The theoretical and operational definitions for this dissertation are presented here, along with the reasons for these choices.

There are six major constructs in the models, as well as a postulated division of three constructs into two parts.

Product Class Norms (PCN)

This is the consumer's evaluation of the product type's characteristics and benefits. A product type is a set of similar offerings differing largely in non-essential features or levels of quality.

Consumers may rate the product in its essence as their ideal, their vision of the average, or their view of the best possible. Operationally, in this study, the consumers were asked to rate all previous products in a way that implied the average performance. Further, consumers were asked to rate the product class for the degree to which certain characteristics were present in the product, and the degree of salience each of those characteristics had for satisfaction or dissatisfaction with the product category.

This operationalization differs from that of Woodruff, Cadotte and Jenkins (1982) where three different product class measures were obtained: best brand, product, and specific brand ratings. The average expectation ratings in the same study were closest to the product ratings and in post-usage ratings also the product norm emerged as more significantly correlated with all other measures than the other two. Thus, the interest here is in pursuing this more general product norm.

Finally, in the operationalization, consumers were asked to rate the product class for both characteristics of, and benefits obtained from, the product. The product class used in this study was business school classes.

Finally, this construct is termed a norm although it is related closely to attitude "a learned predisposition to respond consistently in a favorable or unfavorable manner with respect to a given objective" (Fishbein and Ajzen, 1975, p.6). The learned predisposition requires information, experience

or some combination which is used to construct an image based on a set of beliefs and a judgement of the favorability of an object as it is believed to be.

Specific Product Expectations (SPE)

Specific product expectations are predictions about the degree to which a product will possess some characteristic or confer some benefits. These judgements are made prior to the use of the product purchased this time.

There has been great debate over what expectations really ought to be conceived as Miller (1977) suggested that four types of expectations may play a role in consumer selections: ideal, desired, minimum tolerable, and expected (predicted). Only desired and predicted have been supported (Gilly 1982). The efforts of LaTour and Peat (1980), Prakash (1980), Swan and Trawich (1980), and Woodruff et al (1982) to expand expectation measures beyond simple predicted levels of attributes have indicated that some sort of normative standard is incorporated into pre-purchase expectations and does correlate to satisfaction and post-purchase evaluation. This corresponds closely to Miller's notion of desired expectations. (Prakash and Lounsbury (1984) found that comparative expectations were also important, that is, specific product rated against competing alternatives with respect to the same set of attributes were significant in effects on satisfaction.)

In this study, many of the features of normative and comparative expectations were incorporated into the product class construct. Operationally, consumers were asked to predict both the degree to which an attribute or benefit was likely and, again, the salience of that feature to positive or negative evaluations of the product. Thus, the operational construct includes some degree of desired or normative expectations as well as the predictive expectation notion.

The designed inclusion of benefits as well as characteristics also draws together some of the information implied by desired and comparative expectations, as the conceptual definitions of these constructs include the idea of benefits to be obtained.

Post Evaluation (PE)

Post-evaluation is the consumers judgement about the degree to which a product possessed certain characteristics or conferred some benefits subsequent to the consumers use of the product.

Operationally, consumers were asked to rate the product after use on the same set of characteristics and benefits as they rated the product class and the specific product prior to consumption.

Satisfaction (SAT)

Satisfaction is a post-usage summary affective judgement as to the adequacy or inadequacy of the product. Swan (1982), in a review of the various conceptions of satisfaction, notes that the central dispute in defining the construct theoretically revolves on the question of whether satisfaction is a cognitive or affective state. In this study, satisfaction is conceived of as a summary affective state based on cognitive judgements but which may also include feelings or judgements which are not captured directly by looking at expectations, attributes or benefits of the product per se. Feelings about other type of products not purchased in order to purchase this offering may be present. (A vacation may be evaluated positively, but satisfaction levels may be lower than they would be because the vacationer is also regretting the VCR he cannot now afford. Day (1979) discusses this at length.)

Satisfaction is also conceptually different from attitude in that satisfaction represents a judgement about a specific experience whereas attitudes may represent judgements which are non-experiential. Clearly, however, there is a relationship between the two, which is explicitly represented in Oliver (1980) and Bearden and Teel (1983).

Satisfaction was operationally measured by a set of questions asking for judgements about the overall product and the happiness/unhappiness the consumer felt as a result of using the product. The set of items constituted a satisfaction scale.

Intentions (I)

Intentions are consumers' expressed willingness or desire to re-purchase or recommend the purchase of the same product.

Operationally, consumers were asked to judge two types of intentions which correspond to intention to repurchase the brand and intention to repurchase the same product type.

Attributes (A)

Attributes are the perceived features of a product. These are the aspects of a product which a consumer can assess most easily. Examples would be color, style, size. These were assessed directly by asking consumers to rate 10 characteristics of the product in question. The ten items were selected from a larger set of potentially significant features (see Chapter IV for details.) These characteristics may be important in themselves as sources of satisfaction, or they may serve as cues to the desired benefits which are the object of the consumer's purchase.

Goals (G)

Goals are the benefits consumers desire from use of the product. Goals are the benefits which the use of the product is expected to confer. They constitute the motivations for choice of the product class and the selection of the particular offering within that category.

Operationally, the goals were represented by a scale consisting of five items chosen from a larger initial set. The development and refinement of the scale is contained in Chapter IV.

The final items used in the analysis are shown in Figure III.1. (See Questionnaire in Appendix for exact statement and order):

STRUCTURAL MODELS

The models have been constructed so that each represents a set of relationships among the constructs which are relevant to the research questions posed at the beginning of the chapter. The hypotheses underlying the models are contained in the presentation of the structural models. The hypotheses and models are presented in a hierarchical testing order, that is, logically sequential. Some sections are dependent on previous sections. The use of a limited information causal modeling technique was specifically chosen so that re-specifications could be made on the basis of information obtained at each stage.

The first model represents the null hypothesis of no distinction between goals and attributes.

Model Single	PCN ---> SPE ---> PE ---> SAT ---> INT
Factor	

CONSTRUCTS**Attributes:****OBSERVABLE ITEMS**

Teacher prepared and easy to take notes from

Teacher enjoys teaching.

Teacher respects and understands students

Teacher is enthusiastic

Teacher stimulates thought and hard work.

The class is enjoyable.

The class is not boring.

Goals:

Gives competence in the discipline.

Give competence in business.

Improves understanding of my major.

See progress toward graduation.

Satisfaction:

The class was similar to what was expected.

The class was similar to what had been heard.

Extent to which feel satisfied with the class.

Extent to which satisfied compared to other courses.

Extent satisfied with what was learned.

Ladder scale - Best to Worst class.

Intention:

Would take another course from this instructor.

Would recommend this class to a friend.

FINAL QUESTIONNAIRE ITEMS

Figure III.1

The second model represents the converse:.

Model D PCNA ---> SPEA ---> PEA----
 SAT ---> INT
 PCNG ---> SPEG --> PEG

Ho₁ There is no difference between a model with product attributes as dual constructs and a model with product attributes and benefits as a single construct.

Operationally, the best performing model with the distinction between attributes and goals will be compared to a single-factor version of the same model. As discussed earlier in this chapter, a central marketing concept that consumers buy products primarily to receive benefits, which are not entirely tangible at the time of purchase. Therefore, products are chosen with expectations about benefits - that they will occur and the level of occurrence - but product choices often are made at least in part, on the basis of the more visible attributes which may serve as cues about the benefits. In some cases, particularly, but not only, service products, those attributes are also desirable in themselves and are in some sense, therefore, also a class of desired benefits - pleasantness of experience, etc.

It also may be true that the more tangible attributes and goals are desired, but have unequal impacts at different stages in the consumption process, i.e., the more tangible aspects being more important at the purchase stage and the benefits at the post-usage stage. In the case of service products, one might expect the experiential and tangible attributes to be more important at all stages than for hard goods which are primarily utilitarian. Thus, the atmosphere, decor, pleasantness of a dentist, may affect satisfaction as well as choice more significantly than the appearance, color and ease of ordering might in the case of a power saw.

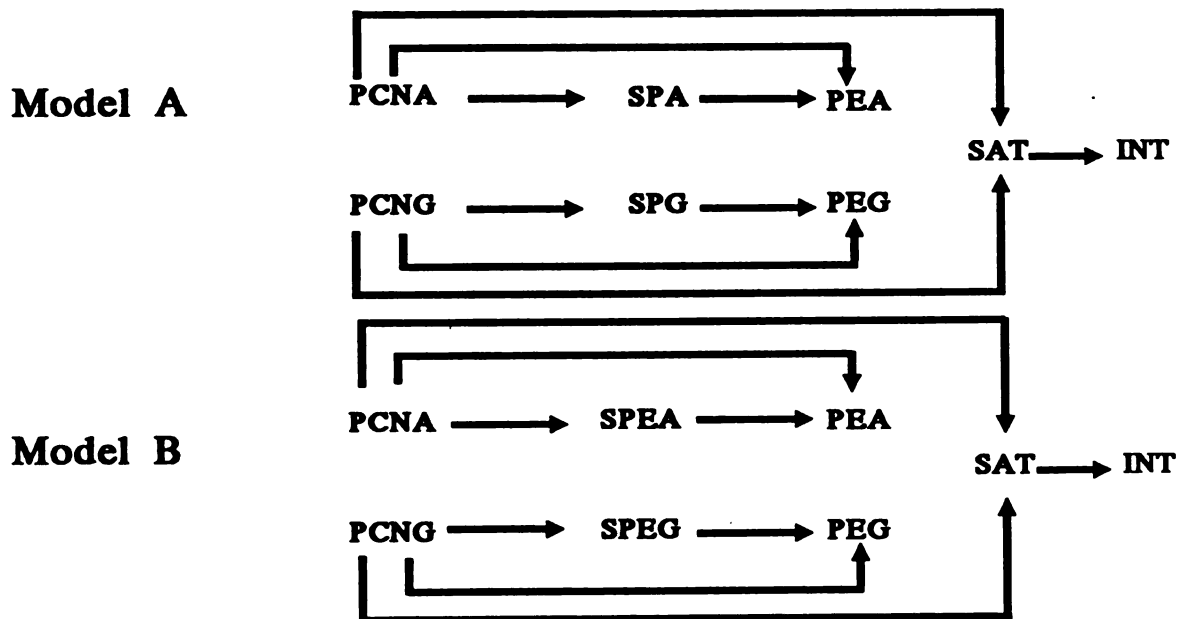
On the basis of this logic derived from theory and previous research, a reasonable expectation is that attributes and benefits should be related but independent concepts. It is plausible, however, that a singular relationship (essentially a multi-attribute conceptualization) may be better.

There are two types of testing for this hypothesis. The first type, whose results are reported in Chapter IV, requires the development and testing of scales to obtain measures of the proposed latent variable. Determining reliability and validity will, in itself, constitute a partial test of the relationship between attributes and benefits. The second test is the comparison of models 1 and 2 to determine which is a better fit to the data. The outcome of the test for H_{01} constitutes a partial response to research question 2. Hypotheses two and three also concern that research question, and are dependent on the rejection of H_{01} .

H_{02} There is no difference in the impact on satisfaction between attribute and goals.

H_{03} There is no difference in the way information is processed between attributes and goals.

These two hypotheses are similar, but reflect two aspects of the issue regarding the status of attributes and goals. The first examines the overall effect whereas the second direct attention to manner in which such an effect may occur. The models which will be used to test H_{02} will include:



The models represent a way of obtaining results which can be tested for an unequal impact on satisfaction. The results of this will, in turn, be reflected in additional models designed to investigate other aspects.

The second hypothesis requires testing the significance of differences in the variances between the beta coefficients for attributes and goals obtained from the test of the full model to the total variance. A statistically significant difference would result in rejection of H_{02} .

The next set of hypotheses are generated from the first research question. All sets of relationships are reflected in the models contained in Figure III.2

The test for rejection of the following null hypotheses are two. The models will each be subject to path analysis in order to determine the overall goodness of fit for the models. The models will each, in turn, be compared for significance to each other in order to determine which best represents the causal relationships, if any, of all the constructs. Second, the individual links, as indicated, will be tested for their strength and direction.

The first 3 of this set represent the specified relationships among latent variables which are strongly supported by previous research as reported in Chapter II.

H_{03} There is no linear relationship between Specific Product Expectation and Post-Evaluation.

H_{04} There is no linear relationship between Satisfaction and Intention.

H_{05} There is no linear relationship between Post-Evaluation and Satisfaction.

The next of the hypothesis set are of great importance to the question directly raised about the possible causal influence of a product class on expectations, evaluations and satisfaction.

Ho₆ There is no linear relationship between Product Class and Specific Product Expectation.

Ho₇ There is no linear relationship between Product Class and Post-Evaluation.

Ho₈ There is no linear relationship between Product Class and Satisfaction.

While the models allow for testing of Ho₃, Ho₄, and Ho₅, the differences between specific models which will be subject to path analysis represent the direct tests for Ho₆, Ho₇, and Ho₈. Model D is a graphic representation of the relationship specified in Ho₆, model C adds the information relevant to Ho₇ and Model B indicates the link referred to in Ho₈. Again, if any of these specified relationships are not supported (the null hypotheses above are not rejected) the proposed models will be respecified to reflect those results.

The ninth hypothesis is, in essence, a summary of the whole thrust of this research proposal:

Ho₉ There is no difference between any of the proposed models in the amount of variance explained.

The results of investigating this hypothesis are important even if none of the proposed models is, in itself, significant for the identification of the "best" model. It directs attention to those areas which are most relevant to theory and/or model respecification. Conversely, if any or all of the models yields significant results, the testing among models allows us to determine (with greater confidence) what elements may contribute to the better explanation.

All models, presented here in simplified graphic form, conform to standard formal path equations. Chapter IV contains the details of sample, research design, and construct measurement.

CHAPTER IV

RESEARCH DESIGN AND THE MEASUREMENT MODEL

The research design for this study takes into account the criticisms of previous research in consumer satisfaction/dissatisfaction Day (1979), Olson and Dover (1979), LaTour and Peat (1979), and Westbrook and Oliver (1980) have written useful critical commentaries. Summaries of past research with suggestions for future study by Hunt, Swan, and Woodruff, Codotte, and Jenkins (all 1982 at the Seventh Annual Conference on Consumer Satisfaction, Dissatisfaction and Complaining Behavior) were also useful (See chapter 2 for details).

Essential elements of the research design are reported in the appropriate subsection. However, the overall intent of the research - the exploration of previous product class experience effects on satisfaction and the relation of benefits and attributes - dictated certain essential elements of the research program. These included choice of a product that would minimize the effect of marketing elements not germane to the study (e.g. brand image), choice of a natural, self-selecting consumer group with some previous product experience, and unobtrusive testing measures.

This chapter reports the product, sample, and data gathering methodologies. The last section of the chapter contains a detailed discussion of data refinement and testing in light of the models and hypotheses of interest as presented in Chapter III.

PRODUCT

The product, a service offering, chosen for use is a set of marketing courses generally taken by a fairly wide range of majors. The classes selected were mid-level university courses, so that students had had other business school classes and had heard, presumably, enough about future classes to have formed some expectations regarding the new courses. The previous exposure allows for the formation of product class attitudes, and the preview information for expectation formation for the new offerings. The courses also were selected to increase the chances of obtaining a range of product expectations; this was accomplished through analysis of instructors' experiences and advisors' impressions from past student commentary and behavior with respect to the classes.

The basic research design requirements for the product used were:

- 1. The specific product should be a new offering to the consumer (any respondent repeating one of the courses was eliminated from the final example) so that results would be generalizable to other new product offering situations.**
- 2. The consumers reasonably could be expected to have prior experience with the product class to preserve the claim of an experience basis for product class attitude.**
- 3. The product be one considered a high involvement item for the majority of consumers, again to improve uniformity of conditions for the research.**

4. Brand name effects be controlled to reduce the number of marketing variables affecting results.
5. A reasonable chance for a variety in attitudes and expectations for the product class and new offering expectations
6. A product for which prior evaluation and research were available for comparison of scaling and item results.
7. A product for whom those surveyed could be natural consumers that is the research would be conducted on those who would be choosing and using the product even if the research had not been conducted.
9. A product chosen, consumed, and evaluated in its normal setting. (The fact that course evaluations are required made even the evaluation portion of the research more natural than intrusive).

A service was preferred, because service products provide benefits whose impact is often long-term. The impact of some services, restaurants for example, generally is immediate and not long-lasting, but other services - medical, legal - have outcomes which extend far beyond the time the service is performed. A product whose impact would be intermediate and less life-determining than the latter example, but of longer duration and more important than the former would be chosen as ideal for the purposes of this research. One of the criticisms of previous research is that the consumption and measurement periods were too short to reflect "real" consumption experience. Use of a long duration service may increase the naturalness of an experimental situation. The drawback is, of course, that the post-purchase evaluation would not reflect the truly longer term effects since the evaluation still would be solicited at the end of the service offering.

SAMPLE

The classes used were one large section (200+ enrolled) of introductory marketing, four small sections (30-35 students each) of business statistics and four small sections of a marketing case course (50-60 students each). All classes are required for all business majors and for several majors from other colleges. These classes were taught by 7 different instructors.

The fact that all courses used are required for business majors is a limitation of this research. Choice is limited to the term, time, and instructor rather than content. Thus, this research does not represent a number of purchasing situations where the product is truly a discretionary choice. On the other hand, a number of purchase situations are, in effect, constrained choices for most consumers analogous to this one: detergent, new tires, medical or legal assistance. The required classes were selected because they guaranteed a larger range of students and because the number of factors affecting choice could be limited to a more constrained set.

The total number of students to be sampled was 470. It was estimated on the basis of a pretest analysis that an initial sample of 450 would yield about 200 usable, complete, and non-duplicate respondent surveys, an amount deemed necessary for reliable statistical analysis. The final sample of 197 was checked using the formula suggested by Bagozzi for LISRE procedures as a guide for adequate sample size (Bagozzi, 1981) and, therefore, adequate for the path technique chosen for this research.

The pre-usage instrument was administered during the initial sessions of the spring 1984 quarter. The post-exposure instrument was administered in the last meeting of the courses. The researcher administered the surveys to ensure consistency.

Demographic information (presented on Figure IV.1) shows a reasonably wide distribution of

respondents by experience, sex, grade point, and major. Complete responses from the three courses were fairly proportional to the total sampled overall.

Respondents were asked to fill in self-report questionnaires during class time . As similar course evaluations are routinely gathered in every course, every term, the testing situation appeared a normal procedure to the respondent.

QUESTIONNAIRE DESIGN

The survey instrument was developed in accord with the following criteria:

1. following a recommended format for attitude research
2. items were product specific
3. ease of use for the respondents
4. reflecting the experience and recommendations of researchers in both satisfaction/dissatisfaction and course evaluation.

The attribute and goal items for all three latent variables (Specific Product, Post-Usage, Disconfirmation) were rated in two ways: likelihood and importance. For Product Class, the ratings were agree/disagree and importance. All items were rated on 5 - point anchored scales. The choice of agree/disagree and likelihood combined with importance follows standard marketing research procedures, which, although often criticized as a departure from psychological practice, has been shown to work well in multi-attribute preference studies and attitude/purchasing intentions research (Wilkie and Pessemier 1973, Lutz 1981, Lutz and Bettman 1977).

	No.	%	No.	%
Sex:	Male	103	Female	95
		52		48
Course:	Statistics:	30%	Principles:	40%
			Case:	30%
Number of Previous Courses:		5 or more:		72%
		3 - 4:		19%
		less than 3:		6%
Grade Point Average:		3.6 - 4		5 - 1
(4.0 Scale)		3.1 - 3.5		33.8
		2.6 - 3.0		46.1
		2.1 - 2.5		14.2
		less than 2.0		.5
Source of Payment for Course:		Parent		50.2%
		Self		35.2%
		Scholarship		5.9%
		Loan		5.5%
		Other		2.7%
Major:		Marketing		16%
		Finance		9.1%
		Management		16.4%
		Accounting		20.1%
		Packaging/Engineering		1.8%
		General Business		11.4%
		Advertising/Journalism		12.8%
		Retailing		.5%
		Other		14.2%

Table IV.1

SAMPLE DEMOGRAPHICS

(FINAL SAMPLE)

* May not total 100% due to rounding or omitted answers

Fishbein and Ajzen's (1975) objections are not fully applicable to this research as the preliminary scale development included obtaining and refining a set of item/beliefs which were salient across the sampled population. However, the particular saliency to the differing courses and persons differ. The issue of whether these self-rated weights correspond to "empirical" measures is somewhat difficult to determine since all judgements in the study are psychological and not empirical.

Respondents were asked for student number, not name, and assured that data would not be retrievable by use of student number nor made available except in summary form, to instructors.

DEVELOPMENT

Two stages of pre-testing were used to develop the final survey instrument. First, 62 attribute-related items and 16 goal items were generated on the basis of previous research in course evaluations and from analysis of approximately 1200 open-ended course evaluation forms. (Wilson, 1982, Bertsch and Peek, 1982). Statistical analysis of questionnaires gathered in a basic marketing class resulted in a second instrument which contained a reduced set of 30 attribute-related items and 16 goal items. Analysis of the second survey administered in a different course than the first resulted in the selection of 10 attribute-items and 5 goals for use in the final survey. The post-usage survey also contains 8 satisfaction and 2 intention items which were tested in both groups for reliability and consistency.

ANALYSIS PROCEDURES

Ninety-nine usable questionnaires were obtained in the first pre-test administration and item-to-total correlations, coefficient alpha, and factor analysis techniques were employed in the second pre-test, 839 questionnaires were obtained. In addition to the above procedures which were replicated

on the final data, a systemic sample of 10% was used to determine the preferred goals by importance and desirability measures where forced choice respondents were elected. Results were consistent with the first pre-test but allowed further refinement of the instrument.

The attribute areas identified were: instructor, course content/atmosphere, and grading practices. These results are consistent with previous findings (Wilson 1982). The goal items are related to benefits expected, which reflect, to some extent, the degree to which the content area itself is valued. This is also consistent with findings on courses and service products requiring extensive consumer involvement. The derived scales all had alphas above .75. (See Table IV.2 for full array.)

DESCRIPTION

The final instrument has two parts. The first section was administered during the initial class sessions and elicited responses to items reflecting product-class attitude and specific course expectations. The instrument contains 10 attribute items, and 5 goal items. The items were rated on a 5-point anchored scale following standard attitude measurement procedures and wording. The second section was a post-exposure survey, asking for post-exposure beliefs about the same 10 attribute-related items and 5 goals, with 8 satisfaction items (7 verbal scales and 1 graphic scale) and 2 future intention items. In addition, 5 demographic items were contained in the post-exposure questionnaire. (See Appendix for copy of the final questionnaire).

Measurement Model: The primary focus of this dissertation is the possible effect of prior product class attitudes and beliefs on subsequent satisfaction for a single product choice. Before testing of structural models relevant to the propositions regarding product class could proceed, the measurement models had to be developed and tested.

The measurement model, which specifies causal relations between the theoretical variables and responses to observed variables as directed by the theory underlying the structural model, requires four steps in order to detect both random and specific error. The first stage is the creation of scales and testing them in order to obtain unidimensionality, reliability and validity. All scales in this research were so tested. Scales were constructed for Product and Specific attributes, goals, satisfaction and intention. While all portions of the measurement model were so treated, the portions regarding product-related and goal-related benefits constitute a secondary set of hypotheses which are central to the structural models. Procedures for examining the reliability and constructs will also serve as some of the tests for that hypotheses:

H_{o_1} There is no difference between a model in which goals and attributes are part of a unidimensional construct and a model in which they are separate constructs.

The tests are those recommended by Kenny (1979) and Anderson and Gerbing (1982). Reliability was assessed through Cronbach's coefficient alpha applied twice: to each separate proposed scale and to calculated scales using confirmatory factor analysis. Split-half reliabilities for both the proposed scales and for the sample were computed, both as an additional source of information and as a partial response to criticisms by Bagozzi (1980, p. 128) in this discussion on the limitations of reliability measures as components of construct validity. Bagozzi's major argument against both types of reliability testing is the problem of systematic, situational error. The use of two sample and several situations combined with both types of tests should give good, robust measures reliability.

A similarity coefficient index (Hunter 1973, Anderson & Gerbing 1982) was used to assess the unidimensionality of each the constructs. This is a measure of both internal and external consistency and also a check on interpretational confounding. For the purpose of H_{o_1} , it provides additional information necessary to evaluation and confirmation/rejection of the hypothesis.

(Full data is contained in the Appendix--The reliabilities for all tests and both samples were similar.)

Summary results on the final item sets show:

<u>Scale</u>	<u>Coefficient Alpha</u>	<u>No of Items</u>
Product class attributes	.78	7
Product class goals	.72	4
Specific product attributes	.95	7
Specific product goals	.88	4
Attributes	.88	7
Post-Use Evaluation	.82	4
Goals	.82	4
Satisfaction	.84	7
*Intentions	.61	2

*Less than three items, so Alpha scores are unreliable (SPSS, 1981).

SCALE RELIABILITIES

Table IV.2

(The similarity coefficients for the same scales are presented in full in the Appendix.)

Thus, the individual scales reliability and validity were sufficient (Nunnally 1978) to proceed in testing hypotheses related to the models of consumer satisfaction.

The final items used in the analysis were (see Questionnaire in Appendix for exact statement and order) are listed in Figure IV.1.

CONSTRUCT**Attributes:****OBSERVABLE ITEMS**

Teacher prepared and easy to take notes from

Teacher enjoys teaching.

Teacher respects and understands students

Teacher is enthusiastic.

Teacher stimulates thought and hard work

The class is enjoyable

The class is not boring.

Goals

Gives competence in the discipline

Give competence in business.

Improves understanding of my major.

See progress toward graduation.

Satisfaction:

The class was similar to what was expected.

The class was similar to what had been heard.

Extent to which feel satisfied.

Extent to which satisfied compared to other courses

Extent satisfied with what was learned

Ladder scale - Best to Worst class

Intention:

Would take another course from this instructor.

Would recommend this class to a friend.

FINAL QUESTIONNAIRE

Figure IV.1

The items which were discarded included all questions related to testing and grading. Maddox and Smart (1983) showed that students tend to discount those issues during a term, unless there is obvious unfairness, and accomodate to any prevailing system. The satisfaction items discarded also included questions relating to equity. There was an insufficient number to determine whether this should have been an additional, post-usage scale as some researchers suggest. However, the two items (numbers 5,6) did not intercorrelate highly with any other items or scales.

Copies of computer sheets containing reliability testing, similarity coefficients, and factor analysis are in Appendix. (All other results related to hypothesis testing and models are reported in Chapter V.)

Parameters for the measurement models were estimated by confirmatory factor analysis using PACKAGE (Hunter and Cohen 1969). This centroid multiple group analysis was chosen following Burt (1976) and Gerbing and Hunter (unpublished, 1980) who argue that the risks of interpretational confounding are fewer than from alternative methods.

This procedure fits with the usual causal research paradigm wherein first one constructs a theory of causal processes among a set of specified variables. This theory generates the predictions about the relationships which are stated in the form of a causal model tested by use of path analysis.

Valid use of causal measurement techniques depends on unidimensional measurements, both internally and externally consistent. When this is not the case, interpretational confounding may occur. Burt (1976) notes that confounding happens "when the sources of empirical meaning used to interpret an unobserved variable are different from those used to estimate parameters in terms of which the unobserved variable is interpreted" (p. 8). To prevent such an occurrence, both internal and external consistency conditions must be met.

In applying measurement techniques to models, one can only hope that the model is correctly specified. Since this is unlikely to be true, always, one must choose a method of analysis which will be useful and adequate for respecification. Two suggestions for information on respecification have been put forward: use of residuals (difference between predicted and observed variable covariances) or the use of first-order derivatives of the likelihood function.

Residuals from a maximum likelihood procedure have been deemed unsuitable for such purposes (Costner and Schoenberg 1973). Joreskog (1978) shows ways of using maximum likelihood information, however, these procedures are not applicable for multiple indicator models. A measurement procedure which does permit respecification in a grounded way and at the same time is sufficiently informative is most desirable.

Following the argument of Burt (1976) a limited information confirmatory technique is what was needed. Multiple groups centroid analysis is just such a procedure as only the covariances of the variables in each equation are used to estimate the parameters in the equation. Maximum likelihood techniques, by contrast, use all covariance. Thus, a multiple groups technique limits the effects of any partial misspecification on the other parts of a model, while the maximum likelihood procedure does not. Therefore, the parameter estimates for the former procedure can be used to detect the misspecification. Anderson and Gerbing (1982) provide examples of superiority of multiple group techniques over maximum likelihood for precisely this sort of problem, while both techniques yield comparable results after respecification. The tests for consistency - internal and external discussed above - also contribute a major portion of the information required for model evaluation. This information, together with results of reliability testing, allow one to determine whether one can proceed to test the full model. If both the reliability and validity are adequate, the measurement model can then be evaluated by comparing observed correlations to the correlations predicted by the model. In this dissertation, path analysis is used to obtain that information. The statistical results will be evaluated with reference to the causal models' predicted relationships.

Since all the models presented in Chapter III are based on multiple causation processes, the path coefficients will be beta weights. All the models are recursive with one or two exogenous variables: either both product class attributes and product class benefits or a single product class latent variable.

Path analysis is a systematic combining of partial and multiple correlation in order to investigate the causal relations among a specified set of latent variables. The parameters are estimated from the correlation matrix of latent variables constructed from the confirmatory factor analysis. As path analysis is now a fairly standard analytical technique, further information is better obtained from Blalock (1971), Hunter and Gerbing (1982), and Kenney (1979).

The final steps in this research will consist of cross-model comparisons and testing of individual coefficients for significance as required for testing of the hypotheses. Results of the analytic procedures are reported in the next chapter and discussion of the implications lies in Chapter VI.

CHAPTER V

Analysis: Testing Hypotheses

The hypotheses proposed in Chapter III were tested using the path analysis program **PACKAGE**. This chapter contains the results and conclusions. Implications of these findings are contained in Chapter VI.

HYPOTHESIS TESTING

The first set of hypotheses examines propositions relating to model specification. The second set examines the significance, if any, of specific relationships in the best fitting models. The models described in Chapter III each represent a set of relationships derived from theory and previous research. Each differs in at least one respect reflecting plausible alternative descriptions of the satisfaction process. The essential differences reflect the two basic research questions:

1. The possible effect of a product class norm on the evaluation of specific product offerings, and,
2. the unidimensional/multidimensional nature of the constructs antecedent to satisfaction.

The full correlation matrices, similarity coefficients and confirmatory factor analyses are contained in the Appendix. The models and path coefficients for the five models tested are depicted in Tables 5.1, 5.2, 5.3, 5.4, and 5.5.

Ho₁ There is no difference in a model in which goals and attributes are parts of a unidimensional construct and a model in which they are separate constructs.

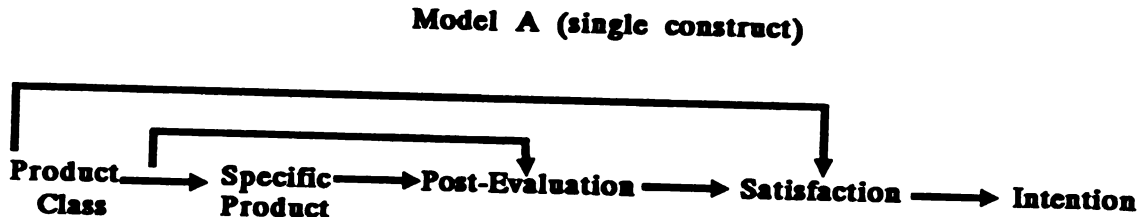
The significance of differences between models was tested using Chi Square. (Table 5.6 contains the set of comparisons). The difference between model A (dual-construct) and Model A (single - construct) was significant at $\alpha = .05$. Then the null hypothesis cannot be accepted as the single factor model was a significantly better representation of the specified linear relationships.

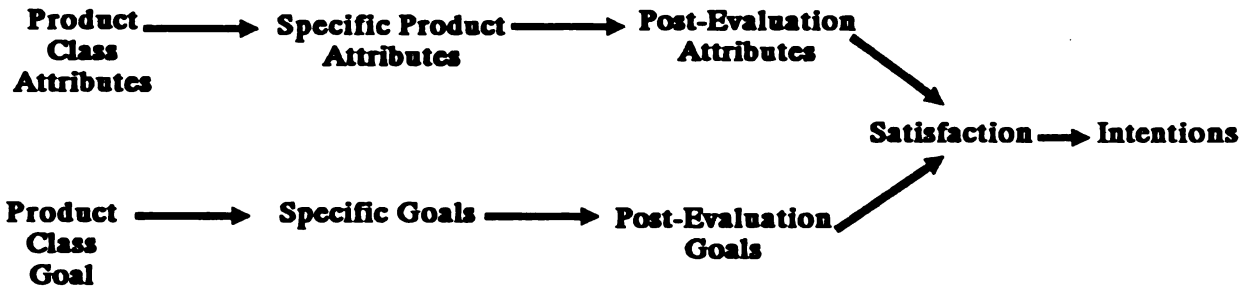
The display of Chi-square results also indicates that all models are significantly different from each other and thus Ho₀ is also rejected.

Ho₀: There is no difference between any of the proposed models in the amount of variance explained.

The full array of models tests this proposition. Model A, which specifies both relationships, is significantly better than any of the models which specify no, or only one, of the relationships at Chi Square $\alpha = .05$. Thus, the null hypothesis cannot be accepted.

The results in combination indicate that model A (single construct) represents the best specification of relationships for this data:





Reproduced Correlations

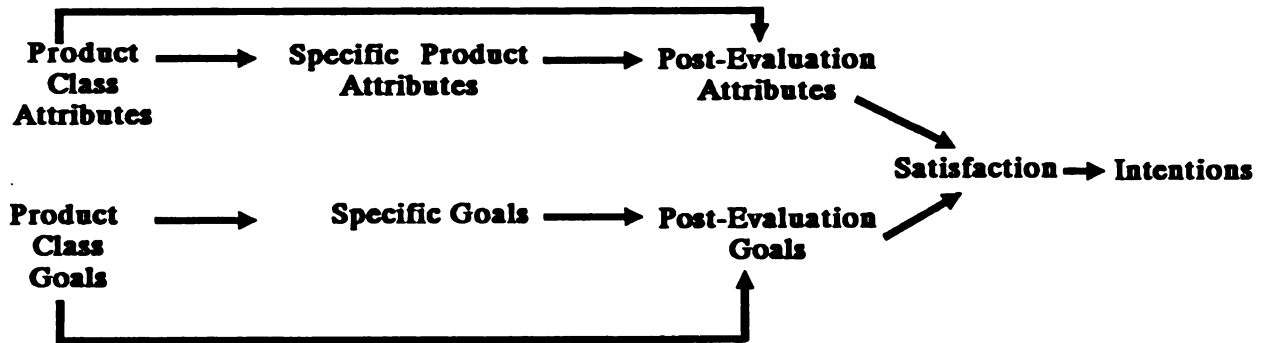
1.00	.76	.19	.09	-.14	.04	-.01	-.01
	1.00	.14	.12	.11	.05	.00	.00
		1.00	.02	-.76	.01	-.18	-.14
			1.00	-.01	.38	.22	.17
				1.00	-.01	.24	.19
					1.00	.59	.46
						1.00	.78
							1.00

Observed Minus Predicted Correlations

PCA	PCG	SPA	SPG	P-EA	P-EG	SAT	INT
0	0	0	.10	.39	.61	.71	.57
	0	-.03	0	.33	.38	.50	.89
		0	-.72	0	.19	.50	.38
			0	.82	0	.14	.19
				0	.25	.15	.13
					0	.06	-.07
						0	0

$$\chi^2 = 222.5 \text{ with } 19 \text{ d.f.}$$

Table 5.1: Model D



Reproduced Correlatives

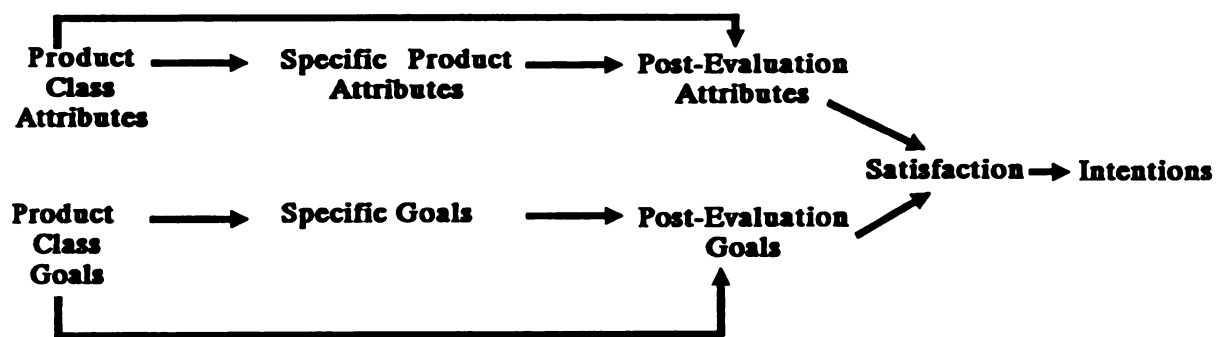
1.00	.76	.19	.09	.24	.33	.25	.2
	1.00	.14	.12	.19	.43	.30	.23
		1.00	.02	-.76	.06	-.15	-.12
			1.00	.02	.38	.23	.18
				1.00	.08	.29	.23
					1.00	.61	.48
						1.00	.78

Observed Minus Expected Correlations

0	0	0	.10	0	.32	.45	.36
	0	-.03	0	.03	0	.20	.65
		0	-.72	0	.14	.47	.36
			0	.79	0	-.15	-.20
				0	.17	.10	.09
					0	.04	-.09
						0	0

$$X^2 = 180. \quad 71 \text{ with } 17 \text{ d.f.}$$

Table 5.2 Model C



Reproduced Correlations

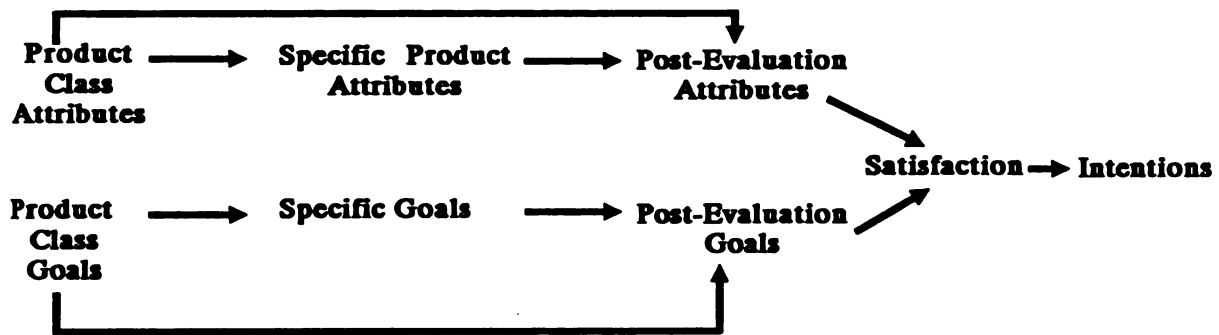
1.00	.76	.19	.09	-.14	.04	.44	.34
	1.00	.14	.12	-.11	.05	.32	.25
		1.00	.02	-.76	.01	-.07	-.05
			1.00	-.01	.38	.15	.12
				1.00	-.01	.14	.11
					1.00	.32	.25
						1.00	.78

Observed Minus Predicted

0	0	0	.10	.39	.61	.26	.22
	0	-.03	0	.33	.38	.18	.64
		0	-.72	0	.19	.38	.29
			0	.82	0	-.07	-.14
				0	.25	.25	.21
					0	.33	.14
						0	0

$$\chi^2 = 156.58 \text{ with } 17 \text{ d.f.}$$

Table 5.3 Model B



Reproduced Correlations

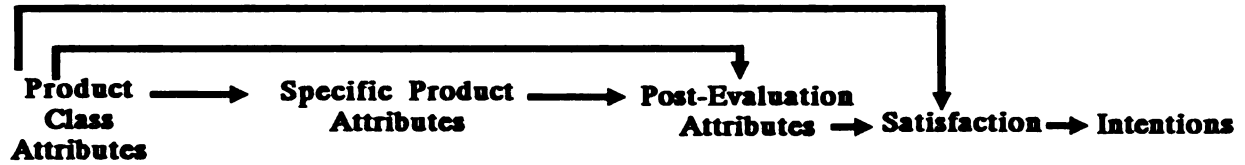
1.00	.76	.19	.09	.24	.33	.60	.47
	1.00	.14	.12	.19	.43	.50	.39
		1.00	.02	-.76	.06	-.05	-.04
			1.00	.02	.38	.16	.13
				1.00	.08	.34	.27
					1.00	.46	.36
						1.00	.78
							1.00

Observed Minus Predicted Correlations

0	0	0	.10	0	.32	.10	.09
	0	-.03	0	.03	0	.01	.50
		0	-.72	0	.14	.37	.28
			0	.79	0	-.08	-.14
				0	.17	.05	.05
					0	.19	.03
						0	0
							0

$$\chi^2 = 95 \text{ with } 15 \text{ d.f.}$$

TABLE 5.4 Model A (two factor)



Reproduced Correlations

1.00	.21	.59	.67	.53
	1.00	.86	.66	.53
		1.00	.86	.68
			1.00	.80
				1.00

Observed Minus Predicted Correlations

0	0	0	0	.20
	0	0	-.29	-.23
		0	0	-.01
			0	0
				0

$$\chi^2 = 22 \text{ with } 4 \text{ d.f.}$$

TABLE 5.5 Model A (single - factor)

	C	B	A ₁	A ₂
Model D	5.99			
Model C		3.84		
Model B			5.99	
Model A (Dual)				19.68
Model A (Single)				

All differences significant at $\alpha < .05$ lowest values reported

TABLE 5.6
CHI-SQUARE TEST FOR DIFFERENCE BETWEEN MODELS

Product Class	Specific Product Post-Evaluation Expectation	Satisfaction	Intension
Product Class Attitude	.240	-.538	.843
Specific Product Expectations		.326	-.339
Post-Evaluation			.341
Satisfaction			-.989

T-TEST OF PATH COEFFICIENTS,
SINGLE FACTOR MODEL

*significant at $\alpha = .01$

PC-Product	PCA-Goal	SP-Product	PS-Goal	PE-Product	PE-Goal	Sath.	Int.
PCA-Product	1.834*	.4084	.288	.447	1.783*	.886	1.008
PCA-Goal		.285	-.284	.284	7.804*	1.773*	.883
SP-Product			-.0212	-.419	1.28	.0357	.0828
SP-Goal				.0184	.738	.173	.232
PE-Product					.117	-.2088	-2.034*
Sath.						-.801	-2.034*
Int.							2.281

T-TEST OF PATH COEFFICIENTS

* significant at $\alpha = .05$ or better -

TWO FACTOR MODEL

Reproduced
Correlations

	Satisfaction	t-value
PCNA	.60	.985
PCNG	.50	1.773*
SPEA	-.05	.0357
SPEG	.16	.173

Significant at $\alpha < .05$

TABLE 5.7

Model- A (dual-construct) path Coefficient

All of the models were tested for goodness-of-fit using Chi Square as an indicator. All models were significant and therefore, following causal modeling procedure, must be rejected as representations of a linear relationship among all elements in accord with the data (See Tables for values). These results accord with the two other investigations which employed causal techniques (Churchill and Suprenant, 1982, Bearden and Teel, 1983). The best fitting model had a Chi Square of 22.4 at 4 degrees of freedom, $2 < .005$). The improvement in fit, significant for each additional relationship specified, does indicate that the more complex formulation represents a markedly better representation of the set of relationships. Investigation of the significance of the individual coefficients indicates areas where further investigation may be warranted. A Bentler and Benett (1980) suggestion for determining incremental fit by changing the null hypothesis to a form which tests the proposed model(s) against a completely independent model was deemed unnecessary as the progressive testing of the models proposed demonstrated essentially the same pattern.

The next set of hypotheses concern individual latent variable relationships which were examined by testing the significance of the path coefficients generated by the best performing models. The t-test was computed following Dillon and Goldstein (1980, p. 226), where path coefficients are treated similarly to beta coefficients:

$$t = \frac{b_i - B_i}{s \cdot c_i}$$

Where b_1 = path coefficient

$B_1 = 0$

S = unbiased estimate of

c_{ij} = element in i th row and j th column of the inverse matrix.

This was appropriate even though the true distribution is unknown since the sample size was large and the t-test is robust for departures from normality (Churchill, 1983, p.528). The full set of t values for all coefficients in the single-and dual-construct model A are contained on Table 5.7. Those relevant to the stated hypotheses are discussed below.

H_{02} There is no difference in the impact on satisfaction between product-related attribute and goal-related attributes.

Table 5.7 displays the relevant path coefficients and their significance test results. The results indicate that Product Class goal-related attributes are significantly related to satisfaction and post-usage evaluation. The product class attributes are not significantly related to any other construct. None of the paths for specific product are significant, although the goal-related attributes are closer to significance than the product attributes. Thus, the evidence suggests that there is a difference in the impact on satisfaction (and post-usage evaluation as well).

Thus, overall the null hypothesis cannot be rejected on the basis of this research. However, there is evidence of a more complex relationship which should be investigated further.

The remaining hypotheses concern the individual pairs of relationships embedded in the best fitting models.

H_{o3} : There is no linear relationship between Specific Expectation and Post-Evaluation.

H_{o4} : There is no linear relationship between Satisfaction and Intention.

H_{o5} : There is no linear relationship between Post-Evaluation and Satisfaction.

H_{o6} : There is no linear relationship between Product Class and Specific Product Expectation.

H_{o7} : There is no linear relationship between Product Class and Post-Evaluation.

H_{o8} : There is no linear relationship between product Class and Satisfaction.

Testing for each of these was accomplished through a t-test for each of relevant pairs of path coefficients. The results are presented in Table 5.7.

The table presents the testing of path coefficients for the two best models - model A (dual-construct) and Model A (single-construct). There are two points of interest here. First, although the single-construct model had the best overall fit, there are more individual pairs significant in the dual-construct model. Inspection of the individual path indicates that one aspect of the specific product was problematic for both models. It exerts more influence on the dual-construct model since there are more relationships dependent on this construct (specific product-related attributes). A fuller

consideration is presented in the discussion section of this chapter. Second, the analysis indicates the strength of individual relations.

Analysis of the coefficient indicates that for the best fitting model, only the relationship of Specific Product to Intentions is significant at any reasonable level, although the relationships of Product Class to Intention are close to significance levels and in the correct direction. For the two-factor version of the same model, six relationships are significant, including Product Class goal related attributes to Satisfaction, both product-and-goal-related attributes to Post-Evaluation, and Satisfaction to Intention. Inspection of the full array leads to acceptance of the null hypotheses except in one clear case: the relationship of Satisfaction to Intention. There is also a strong indication that Product Class is related to Satisfaction and Intention. This latter point will be considered in the discussion section.

A further test for the seventh and eighth hypotheses lies in the relationship of specific models to each other.

Ho₈: There is no linear relationship between Product Class Attitude and Post-Evaluation.

This hypothesis was tested by comparing Model C and Model O where the difference in models was the relationship of interest. Model C was significantly better than Model D at $\alpha = .05$. Thus the null hypothesis cannot be accepted as the model including a direct linear relationship is significantly better in overall goodness-of-fit to the one without such a specification.

Ho₉: There is no linear relationship between Product Class Attitude and Satisfaction.

The difference in Model B and Model C is a test for this hypothesis. Model B which specifies such a relationship is better at a Chi Square $\alpha = .05$. Thus the null hypothesis cannot be accepted.

However, testing for the significance of the difference of magnitude in impact yields somewhat mixed support for rejection of the null hypothesis. For the product class constructs, the difference between goal-related and product-related attributes with respect to satisfaction is not significant, although the difference for the relationships to Post-usage evaluation is significant. The actual results for the difference testing is continued on Table 5.8. Neither specific product differences is significant.

<u>Relationship</u>	<u>t-value of differences</u>
Product Class and Post-image Evaluation	14.75
Product class and Satisfaction	.354
Specific Product and Post-image Evaluation	.244
Specific Product and Satisfaction	-.594

*Significant at = .001

TABLE 5.8
DIFFERENCE IN IMPACT

<u>Dual Factor Model</u>		<u>Single Factor Model</u>	
<u>Link</u>	<u>Difference</u>	<u>Link</u>	<u>Difference</u>
PCNA to PEG	.32	PCN to INT	.20
PCNG to INT	.50	SPE to SAT	-.29
SPEA to SPEG	-.72	SPE to INT	-.23
SPEA to SAT	.37		
SPEA to INT	.28		
SPEG to SPEA	.79		

Observed minus Reproduced Correlations:
significant deviations

INDIVIDUAL COMPARISONS, MODEL A
TABLE 5.9

One further point of analysis lies in the inspection of the matrix of Observed minus Reproduced correlations. A maximum acceptable deviation limit was calculated and each path coefficient's difference was inspected for diagnostic information (See Table 5.9). For the best-fitting model, the three values of interest are the relationships of Product Class to Intention, and Specific Product to both Satisfaction and Intention. See the discussion section for an explanation and suggestion for further research. Also of interest is the marked deviation from the predicted relationship between specific Product goals and Post-evaluation product-related attributes in the two factor version of the best model, as well as the relationship of the two Specific Product variables.

DISCUSSION

The conclusions derived from the foregoing analysis suggest that the two research questions posed in this research do deserve further investigation. The significant incremental improvement in the models provided by the extension of the range of Product Class on the other latent variables indicates that the inclusion of a product norm component provides a better explanation of satisfaction than an explanation without such a structural variable.

The second research question asked whether the benefits attained from a product and the more observable product attributes were separable, affecting post-purchase evaluation and satisfaction in different ways. First to what extent does this explanation accord with explanations of a similar nature? Second, to what extent are some unique factors contributing to the results?

Comparison of Research

The basic premise that experience and/or information about a generic product should affect the evaluation of a specific product offering rested on three considerations. First, research by other investigators indicated that purely predictive expectations about specific product performance were less satisfactory in explaining satisfaction than more normative measures and, that in combination with normative measures, better explanations still were derived from data analysis. Second, the group of learning theory and other cognitive theories in psychology predicting that previous experience serves as a ground for new situation evaluations has been supported by a long and rich research tradition. Third, there is evidence from marketing research outside the satisfaction area which suggests that initial learning establishes the conception of a product category and a pattern of affective response. Chapter II contains a more detailed discussion of these issues.

Satisfaction research into types of expectancies has shown on a consistent basis that something other than predictive expectations for specific product operates to mediate satisfaction with the product. La Tour and Peat (1980) concluded that satisfaction was an affective judgement comparing a specific product's performance with experience of similar brands. Although only those with less satisfactory previous experience than with the focal product expressed high satisfaction, the results indicate that previous experience was governing the response to the new product for all subjects. Swan and Trawick (1979) examined the effects of two types of expectations: desired and predicted. They found that desired prediction confirmation was a better predictor of satisfaction. Westbrbok and Newman (1978) determined that satisfaction with products previously purchased were highly determinate of satisfaction in new shopping experiences. Gilly, Cron and Barry (1982), testing among all four of Miller's proposed expectation types, concluded that previous experience had a strong impact on predictive expectations while "deserved" expectations had a stronger effect than predictive. Swan and Martin (1980) reported that confirmation of past experience in a new product as more strongly predictive of satisfaction than

new product expectancies. Cadotte, Woodruff and Jenkins (1982) found that the confirmation/disconfirmation of the product norm (and the best brand in category norm) was a better predictor of satisfaction and intention than the brand norm. Prakash (1984) in a direct test of predictive, normative (desired) and comparative expectations, found that both normative and comparative expectations were more significant than predictive in explaining satisfaction. Finally, there was some indirect evidence from both Churchill and Suprenant (1982) and Bearden and Teel (1983). In the former it was found that only performance and not prior expectations had an impact on satisfaction for a video disc, but the opposite was true for the plant in the same experiment. Although they concluded that durables may be evaluated differently than non-durables, it is noted that the VDP was a new product generically as well as specifically, while the same is not true for plants. This may indicate the difference in having and not having a normative standard of reference, and thus performance alone is used as the judgement base. Bearden and Teel, using automotive repair, found they could not support disconfirmation of predictions as a predictor of satisfaction. However, there were strong indications that a disconfirmation effect is less powerful than norms, suggesting again that predictive expectations for a single offering are insufficient.

Thus, this research tends to continue to provide support for this general view that evaluative judgements are made on the basis of general product norms and are thus consistent with proposed models herein and in Cadotte, Woodruff and Jenkins (1982). Such a view is strengthened by examining the sources of the lack-of-fit. Product class coefficients were better performing indicators than Specific Product relationships.

Additionally, only two other causal modeling tests of expectation/satisfaction paradigms have been conducted. In both cases (Churchill and Suprenant 1982, Bearden and Teel, 1983), the overall models had to be rejected despite indications of good incremental fit. As a similar pattern was in evidence here, examination of common sources of problems appears warranted. Two areas appear

to be important. First, measurement of constructs continues to create problems. Each previous study reported problems in individual measures. This study is no exception.

The single most problematic variable was Intention. Examination of confirmatory factor analysis and the similarity coefficient index, after viewing the reliability for the two item scale, strongly suggests that two different outcomes were being associated in one factor. Examination of the raw data suggests two sources. For this product, users made a distinction between the service product and the person performing the service. Thus, the goals which were closely associated with the product do associate more strongly with intention to recommend the product, rather than the offerer. Product-related attributes were more closely associated with the person. Since a number of different instructors were incorporated, sharp dislike of the instructor in two classes strongly affected the overall pattern. A change in the measures might have made a significant difference. However, this is a question of importance for many types of services. The implications will be discussed more fully in Chapter VI.

The second area indicating the reason for the problem in goodness-of-fit lies in the relationship of specific expectations to satisfaction. From the single-factor model, only limited inference is available. Inspection of the two-factor model provides more information. The source of the problem, looking at the Observed minus predicted matrix (see Appendix), is the specific product goal-related attributes. First, these attributes have a very low path coefficient for relationships with product-related attributes and also with post-evaluation on product-related attributes. Conversely, it is a better predictor of satisfaction than the product-related attributes. The strongly negative coefficient for product-related attributes and the corresponding post-evaluation is another piece of evidence. It is suggested that since approximately one-third of the respondents were evaluating a course which is, in student folklore, a stressful one and looked upon as only a necessary evil (statistics for Marketing majors), it may well be that a number of students predicted that the service would be unenjoyable but would provide necessary

benefits. Thus, this may be a measurement problem specific to the research. Unfortunately, it was not possible to refine the sample to exclude responses from the courses in order to verify this belief.

This observation, however, does fit with the results indicating that within the two-factor model goal-and product-related attributes were processed differently. The high correlation of the two variables, evident in the product class area, may suggest that attributes are in fact evaluated in terms of benefits their presence seems to promise. The mixed results and superiority of the simple-factor model should not be understood as conclusive.

There are also two other measurement issues. The first is the question of the reliability of different scores. Although this research did not use difference scores per se, the effect of using item-by-item post-ratings is the same. Prakash and Lounsbury (1984) raise the issue as it has been a concern in psychology research for some time. The argument is that the low inter-correlations produce some of the observed low correlations between confirmation and satisfaction, although in many cases the post-purchase variable alone is a good correlate of satisfaction. In this research, the relationship pattern was different for Product Class variable and Specific Product variable where the "typical" pattern was evidenced only for the product class variable.

The reliability of difference was computed using Lord (1963) as suggested where

for the Model A (single factor) variable, the results were:

Product Class - Post Evaluation: .683

Specific Product - Post Evaluation: .467.

Both of these are higher than the results reported by Prakash for his study and higher than most of the reported reliabilities for the multiple measures in Cadotte, Woodruff and Jenkins (1982). While these are not as high as the individual scales, they are reasonable given the measurement issues already discussed.

The second measurement issue is related: how should the variables be operationalized. The theoretical issues will be treated in Chapter VI, but there is one consideration relevant here. It has been suggested that a summary difference measure for post-evaluation be employed rather than an attribute post-rating or as a supplement. No such measure was used in this research. However, the pattern of responses tend to indicate that method probably did make a significant difference in the overall model outcome that could be explained in terms of the issues of direct concern to this research. The slight superiority for the difference scale found by Moore and Shuptrine (1984) raises yet another issue about pre-purchase and post-purchase judgements.

SUMMARY

The implications of these findings will be discussed in Chapter VI. The findings may be summarized as:

- 1) Each of the proposed models is significantly different from all of the others.
- 2) The role of product class as a determinant of satisfaction through its effect on specific product evaluations and satisfaction directly is supported.
- 3) The proposed differing effect of benefit desired and product attributes on the evaluation and satisfaction processes are indicated, but not fully supported by this research.
- 4) Only six path correlations, and none in the best model, were individually significant. However, most of the significant paths were between product goal-related attributes and other constructs.

- 5) Examination of the coefficients for the best performing models indicates that some of the results may explained by some measurement properties unique to the product and this study.
- 6) The hierarchical testing procedure, similar in conception to incremental fit procedures, strongly suggests that the two research questions were well-founded.
- 7) The results are consistent with other causal modelling investigations of expectations/satisfaction and also generally consistent with thrust of the Cadotte, Woodruff and Jenkins (1982) model.

Chapter VI

Summary of Research, Limitations and Implications

This study investigated some factors which bear on consumer evaluations of consumption. The research was conducted within the framework of general expectancy theory, examining some variables which had not previously been investigated into a marketing model for consumer satisfaction. The two research questions posed at the outset were:

- Q1. Do norms for a product class partly determine consumer satisfaction by affecting expectations and evaluations of specific product choices?**
- Q2. Are product characteristics and goals separate conceptions, and, if so, do they have differing effects on other elements of the consumer satisfaction process?**

Models were developed and data collected to investigate these propositions.

Results indicate that models incorporating product class effects on expectation and post-usage evaluation are better than those without their explicit incorporation, although no model was significant statistically. These results are similar to previous causal modeling efforts in the research tradition.

The study also showed that consumers evaluate both characteristics and goals jointly, although there are indications that the information is processed somewhat differently.

FINDINGS

The following contains the more important information gained from this research. Limitations and implications will be discussed at the end of this section.

Finding One

Product Class norms do have an impact on past-usage evolution and consumer satisfaction.

The analysis of results gained through hierarchical model testing indicated that product class norms do affect all success elements in the overall model of consumer satisfaction. The primary implication is that consumers base product choices on beliefs about the generic product. Further, they evaluate a chosen product's performance by comparing it to the expected generic product performances and the level of satisfaction is determined by the actual performance and the comparative performance.

This supports the general proposition advanced by Codotte, Woodruff and Jenkins (1982) that consumers, from their experiences, develop expectations about the level of performance they should receive... This standard or norm may be different from what a consumer predicts he/she will actually receive...If <only> brand performance predictions are used in a disconfirmation process, then experiences with competing brands and product types will not influence resulting satisfaction.

Since the test results are markedly improved as the range of product norm effects are increased, it must be concluded that predictive, specific product expectations are influenced during both choice and post-usage evaluations by learned norms, which leads us to the second finding.

Finding Two

Product class norms do affect Specific Product Evaluations.

The implication of this conclusion is that consumers do make choices of products based on beliefs and feelings about the general product class. Whether, as we often assume, consumers attempt to choose the "best" product or not, they clearly do make choices against the background of other available products.

The results of testing differing types of experiences, reviewed in Chapter III, suggests that consumers may, in general, use satisficing strategies. That is, they choose products which are, they hope, no worse than the generic norm, but do not "affect" the ideal. Rather, they appear to hope for better than average.

The Codotte, et. al. (1982) study of normative levels support this interpretation of the results. There, consumers asked to rate the Best Brand, Brand Chosen, Product Norm and Brand Norm chose products rated slightly above the product norm but significantly lower than the hypothetical Best Brand.

In this study, there was a strong relationship evidenced between product norms and specific product expectations, demonstrating a similar pattern.

Finding Three

Benefit and Attribute information is processed differently although they jointly affect post-Choice Evaluation and Satisfaction.

The high correlation between desired benefits and attributes resulted in a better model of satisfaction's antecedents when the two sets of indicators were considered as a unitary latent variable. However, the difference in their relative contributions to other variables as revealed by testing models which separated the indicators into two sets showed a difference in the contribution toward satisfaction. This suggests that there may indeed be shifts in consumer's evaluation criteria during the total consumption process. The major implication is that further research is required and this is discussed later in this chapter. It tends to support the notion raised in research question two, where it is argued that attributes serve as cues as well as ends in themselves. As learning occurs, there may be a shift in

relative strength. Alternatively, it may be a product-linked characteristic: for some products, outcomes are more significant overall, whereas for others, the attributes have a greater value.

Finding Four

Post-usage evaluations are a more significant contributor than expectation/disconfirmation to satisfaction.

One of the major points of dispute is the role of disconfirmation as a moderator of satisfaction. This study did not directly test disconfirmation, using inferred disconfirmation measures by comparing pre-usage to post-usage ratings. Examination of results shows that while disconfirmation/confirmation combined with post-usage ratings are important predictors, it is post-evaluation which is the significant factor. It also is similar to patterns in Suprenant and Churchill's (1983) data for VCR's. This lends support to the view that involvement may be a significant moderator of the entire evaluation process; contingent models may be required.

Finding Five

Specific product offerings are evaluated within the context of a product class standard. Model data in all formulations shows clearly that specific performance is strongly associated with satisfaction, but the second greatest association is with the product class norm. If this is so, we can tentatively infer that whatever the specific offering expectations are, the norms for actual performance are those derived from all previous experience and not merely some induced expectations. This finding is tentative, however, as expectations were not manipulated. If through advertising, word-of-mouth, brand halo, etc., consumers felt they had been promised a great deal more than they received, the discrepancy and resulting disappointment/anger might produce a more marked effect.

LIMITATIONS

Any research is limited by the time, place, and situation. However, specific conceptual and methodological considerations introduce other constraints on generalizability. The choices will be considered here as they bear on future research directions.

This study investigated only one product, which, for the majority of consumers, necessitated a high level of involvement. Less involving and stressful products may show quite different patterns; indeed the research summary reported on research indicating that expectations may be more important for less involving goods. Further, this was a service product which required effort from the consumer to use. A less demanding situation, possibly less affected by motivational and attribution issues might show different effects from experience and benefits on satisfaction.

This research also looked at a product not "freely" chosen. While there were good reasons for designing the study this way (Chapter IV), there are limitations on generalizing the results to products where choice is less constrained. The lack of choice may have had depressor effects on both expectation and performance. However, Cadotte, Woodruff and Jenkins (1982) showed that specific expectations for a new experience with known products were higher than brand norm levels. Thus, expectancy ratings may not be influenced as much by choice as by eternal hopefulness.

Nevertheless, a study of the same product with choice might produce differing considerations and results.

A final conceptual issue is the reality that alternative models specifying different linkages might have been proposed. For example, one could argue that knowledge of the general product benefits may affect expectations about product attributes or consumers have learned to use the attributes as cues to benefits. Thus, one might plausibly have proposed a model with a linkage between product benefits and specific expectations. However, as the intent of this research was to explore the general plausibility of product class effects on satisfaction and expectations generally, this was not tested. The mixed results concerning attributes and benefits certainly should direct attention to exploring relationships as a separate issue, as well as within the context of the paradigm.

There are several purely methodological issues which should be noted. First, the items and scales used to gather data for analysis were tested only for reliability and used only to test the models in that sense. They were not intended to predict choice or repeat intentions per se. Because these scales are not predictive measures, the research should not be interpreted to mean that satisfaction results from specific product conformity to some general product norm. In fact, this is a major issue for further investigation.

Second, the measurement models and procedures followed resulted in underpredicting the later conceptual links. Thus, the results should be interpreted with caution. A future reanalysis looking at interaction effects and corrections for underprediction may generate results more strongly supporting some of the proposed models. Examination of the data tables in the Appendix shows some clear indications of where attention should be directed in exploring linkages not proposed, which may have led to the underprediction. One in particular was the previously discussed product benefit-specific attribute connection.

A third limitation, methodologically, is the non-parallelism of results. In two of the three offerings, the ratings for future intentions were quite consistent. For the third offering, there was a great difference in the responses to the two intentions items: The respondents clearly differentiated between the service and the service provider. This "inconsistency" not only affected the link between satisfaction and intentions, but has implications managerially and conceptually.

Finally, there was no investigation of motivation and interest with respect to the product. Although some of the goal items indirectly assessed motivational aspects, this was not specifically addressed.

Implications and Future Research

Although earlier research examined expectations and satisfaction for advertising implications, the potential utility of this approach is much broader. The notion of product norms as base guidelines for new offerings supports the concept of product positioning, but allows for an understanding of the essential elements of a product as well as the distinctive elements of a brand. A focus on core

properties as seen by consumers might provide a method for looking at core products which would reduce new product risk. The research clearly supports the notion that product categories are defined by post learning; the limits of product change and innovation/diffusion are not yet areas of research focus. Discussions of what makes a new product "new" might be more productive if this line of approach were developed.

Pricing and advertising strategies designed to conform to existing notion of value and cue/benefit concepts, too, might be more successful in new product launch.

Finally, understanding of the existence of differences in what is evaluated differently at different consumption stages is essential for better management, particularly in the services area. Marketing communications, retail support, and follow-up activities might be better designed and engender higher levels of satisfaction.

Public policy makers, continually searching for improvements in consumer information and complaint servicing, need to attend to the implications of this research as well. Many refinements proposed in pricing, information presentation, and changes in the practices of various industries might be more effective if normative standards and evaluation phases were taken into account. Thus, consumer education projects should focus on the relationship between cues and benefits to find ways of enhancing peoples' ability to detect and use cues in a way consistent with existing habits, rather than attempting whole new habit formation.

Theoretical Research

This line of research necessarily touches on other lines of investigation. One of the major arguments in favor of continuing this approach is the potential for integrating other findings into a more diagnostic and predictive model. Inquiries into information processing, perceptual mapping, and choice strategies all represent areas closely connected to the processes expectation/satisfaction models attempt to describe. Programmatic integration in research from these areas into model testing might produce much broader and better models of buying behavior.

To date, little attention has been directed at the process of evaluation in this conceptual context. Research supporting the existence of differing types of expectations, higher expectations than norms for known brands and offerings, and generally neutral levels of satisfaction all indicate the need to examine information and attitude strategies employed by consumers.

Qualitative research into consumption is underdeveloped in this area. While surveys and scales produce manipulable data, we really have very little insight to guide the development of these measures. In particular, attention should be given to differences in cue response, certitude, and value considerations by consumers with differing amounts and types of experiences. The same effort should be conducted to understand differences in evaluative processes throughout the time of consumption. Heretofore, the dominant assumption has been that choice criteria are employed throughout the consumption process. This ignores the dynamism of consumption processes and leaves us unable to explain how shifts in tastes and preferences arise, affect, and determine products and marketing mix strategies. In the current absence of theory and research in this area, qualitative studies seem called for.

Related to that issue, the discussion about scale appropriateness and scale effects on model testing disguises a serious issue. The scales, including those in this study, are highly reliable tests for common elements across aggregated individuals. They are not predictive scales and, thus, may obscure some important issues. It is also implicit in the idea of product areas. Without knowing what people use as a norm, we really can't address the issue of distinctive choice aspects of particular offerings, much less the explanation for a total evaluation process. Attention to predictive elements may have to arise from more qualitative approaches followed by programmatic quantitative investigations. Here, to, the information and decision strategies employed may be significant but not captured adequately by current saliency measures.

Finally, although this research looked at norms by asking respondents for an average performance rating in the product class (which is consistent with previous research), examination of the norms actually employed by consumers is important. It may even be the case that several norms are used with varying impact on satisfaction and future consumption behavior. A perception of high

quality/high price products as the norm for someone who cannot afford the "standard" may produce much broader dissatisfaction than we have as yet addressed. We do need to examine individual factors such as self-confidence, sense of control, belief in actual ranges of choice, and situational factors as affectors of normative standards.

APPENDICES

APPENDICES

APPENDIX A-1

NO. OF SUBJECTS = 200

NO. OF VARIABLES READ IN = 41

LOGICAL UNIT = 1

NO. OF FORMAT CARDS = 1

LIP = 0

VARS (1-41)

FORMAT CARD(S) READ =

(1X, 7F4.0, /, 2X, 11F4.0, /, 3X, 12F3.0, /, 4X, 11F3.0)

FIRST OBSERVATION IN ANALYSIS

VAR 1 = 3.00000
 VAR 2 = 3.00000
 VAR 3 = 3.00000
 VAR 4 = 3.00000
 VAR 5 = 3.00000
 VAR 6 = 3.00000
 VAR 7 = 3.00000
 VAR 8 = 20.00000
 VAR 9 = 25.00000
 VAR 10 = 20.00000
 VAR 11 = 25.00000
 VAR 12 = 15.00000
 VAR 13 = 12.00000
 VAR 14 = 15.00000
 VAR 15 = 12.00000
 VAR 16 = 12.00000
 VAR 18 = 20.00000
 VAR 19 = 12.00000
 VAR 20 = 15.00000
 VAR 21 = 15.00000
 VAR 22 = 15.00000
 VAR 23 = 15.00000
 VAR 24 = 12.00000
 VAR 25 = 15.00000
 VAR 26 = 16.00000
 VAR 27 = 16.00000
 VAR 28 = 3.00000
 VAR 29 = 25.00000
 VAR 30 = 15.00000
 VAR 31 = 12.00000
 VAR 32 = 15.00000
 VAR 33 = 12.00000
 VAR 34 = 15.00000
 VAR 35 = 20.00000
 VAR 36 = 16.00000
 VAR 37 = 20.00000
 VAR 38 = 20.00000
 VAR 39 = 20.00000
 VAR 40 = 20.00000
 VAR 41 = 25.00000

CORRELATION MATRIX

APPENDIX A-2

FINAL OBSERVATION IN ANALYSIS

VAR 1 = 5.00000
VAR 2 = 5.00000
VAR 3 = 4.00000
VAR 4 = 4.00000
VAR 5 = 4.00000
VAR 6 = 4.00000
VAR 7 = 3.00000
VAR 8 = 25.00000
VAR 9 = 25.00000
VAR 10 = 25.00000
VAR 11 = 25.00000
VAR 12 = 25.00000
VAR 13 = 20.00000
VAR 14 = 15.00000
VAR 15 = 20.00000
VAR 16 = 25.00000
VAR 17 = 20.00000
VAR 18 = 25.00000
VAR 19 = 15.00000
VAR 20 = 15.00000
VAR 21 = 15.00000
VAR 22 = 15.00000
VAR 23 = 20.00000
VAR 24 = 5.00000
VAR 25 = 5.00000
VAR 26 = 25.00000
VAR 27 = 25.00000
VAR 28 = 10.00000
VAR 29 = 25.00000
VAR 30 = 25.00000
VAR 31 = 20.00000
VAR 32 = 15.00000
VAR 33 = 20.00000
VAR 34 = 15.00000
VAR 35 = 25.00000
VAR 36 = 15.00000
VAR 37 = 10.00000
VAR 38 = 25.00000
VAR 39 = 20.00000
VAR 40 = 15.00000
VAR 41 = 25.00000

NO. OF OBS. IN ANALYSIS = 197

APPENDIX A-3

MEANS AND STANDARD DEVIATIONS

1	3.056	1.379
2	2.848	1.362
3	3.086	1.195
4	2.843	1.238
5	2.726	1.160
6	2.777	1.180
7	3.030	1.089
8	16.228	5.500
9	15.543	5.058
10	15.391	5.078
11	14.391	5.459
12	12.868	4.984
13	12.117	6.146
14	11.538	5.884
15	13.741	6.368
16	13.147	5.558
17	10.726	6.160
18	15.944	6.233
19	16.330	4.508
20	15.000	4.431
21	14.853	4.591
22	13.822	4.533
23	14.914	5.437
24	13.315	5.537
25	12.411	5.141
26	15.589	6.504
27	15.234	5.836
28	12.787	6.695
29	17.416	6.451
30	13.594	6.238
31	16.259	4.344
32	15.122	4.429
33	13.685	4.428
34	13.690	4.218
35	13.685	5.030
36	13.193	4.684
37	12.020	4.816
38	13.919	5.562
30	14.990	5.092
40	16.421	5.679
41	16.305	6.133

APPENDIX A-4

CORRELATIONS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	100	81	75	72	66	64	64	58	62	68	64	45	68	62	54
2	81	100	84	83	76	75	75	47	58	59	60	54	79	67	66
3	75	84	100	87	74	78	78	48	55	62	60	54	82	70	64
4	72	83	87	100	75	80	71	42	52	57	54	54	77	65	60
5	66	76	74	75	100	67	67	42	53	54	54	42	68	60	59
6	64	75	78	80	67	100	68	38	44	53	49	53	71	59	66
7	64	75	78	71	67	68	100	39	48	52	50	43	65	57	57
8	58	47	48	42	42	38	39	100	55	59	46	43	48	41	43
9	62	58	55	52	53	44	48	55	100	73	77	53	59	52	50
10	68	59	62	57	54	53	52	59	73	100	73	57	63	54	55
11	64	60	60	54	54	49	50	46	77	73	100	54	62	56	50
12	45	54	54	54	42	53	43	43	53	57	54	100	57	46	55
13	68	79	82	77	68	71	65	48	59	63	62	57	100	77	65
14	62	67	70	65	60	59	57	41	52	54	56	46	77	100	55
15	54	66	64	60	59	66	57	43	50	55	50	55	65	55	100
16	52	62	64	59	52	61	58	36	44	55	45	51	59	47	71
17	43	60	51	54	47	52	49	28	37	51	32	47	53	44	60
18	36	42	41	38	31	38	42	28	29	35	30	32	34	29	42
19	15	12	9	9	2	5	9	29	22	21	15	23	10	7	19
20	18	19	11	8	8	9	9	26	54	36	35	28	19	16	20
21	6	14	6	6	-4	11	5	22	26	37	17	32	15	7	19
22	18	25	19	14	10	19	17	28	43	38	49	38	29	23	26
23	3	11	4	0	-5	14	6	18	21	27	19	51	20	10	28
24	17	27	28	22	15	24	18	24	29	31	24	30	52	40	34
25	17	27	28	19	17	25	17	18	23	25	25	29	38	47	35
26	17	33	27	24	24	34	28	22	31	31	26	42	31	27	66
27	9	22	16	13	8	22	14	14	19	27	15	33	16	16	45
28	16	30	22	24	20	29	22	16	17	18	10	31	27	23	45
29	2	8	7	6	-1	9	13	3	3	10	7	13	4	2	16
30	19	28	26	26	20	29	19	21	35	31	30	39	28	25	32
31	3	5	10	6	-1	8	12	8	6	17	12	21	6	0	6
32	3	6	11	7	-2	15	10	19	32	27	20	29	11	1	14
33	3	15	10	9	0	19	11	12	13	19	12	25	16	15	14
34	13	19	17	12	7	15	17	15	24	23	24	28	18	19	17
35	3	14	9	7	4	14	16	11	18	23	18	36	18	10	13
36	-4	3	3	-1	-8	9	1	-1	3	6	6	12	9	6	7
37	11	18	18	19	11	18	17	5	11	13	12	20	26	20	18
38	10	15	11	8	2	11	12	6	13	18	18	26	16	12	16
39	5	11	10	8	1	11	13	7	12	21	16	20	6	3	14
40	7	6	5	2	1	10	13	4	13	17	11	16	0	-3	10
41	-3	1	-3	-4	-3	-3	4	4	-1	2	-1	8	-4	0	4

APPENDIX A-5

CORRELATIONS

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	52	43	36	15	18	6	18	3	17	17	17	9	16	2	19
2	62	60	42	12	19	14	25	11	27	27	33	22	30	8	28
3	64	51	41	9	11	6	19	4	28	28	27	16	22	7	26
4	59	54	38	9	8	6	14	0	22	19	24	13	24	6	26
5	52	47	31	2	8	-4	10	-5	15	17	24	8	20	-1	20
6	61	52	38	5	9	11	19	14	24	25	34	22	29	9	29
7	58	49	42	9	9	5	17	6	18	17	28	14	22	13	19
8	36	28	28	29	26	22	28	18	24	18	22	14	16	3	21
9	44	37	29	22	54	26	43	21	29	23	31	19	17	3	35
10	55	41	35	21	36	37	38	27	31	25	31	27	18	10	31
11	45	32	30	15	35	17	49	19	24	25	26	15	10	7	30
12	51	47	32	23	28	32	38	51	30	29	42	33	31	13	39
13	59	53	34	10	19	15	29	20	52	38	31	16	27	4	28
14	47	44	29	7	16	7	23	10	40	47	27	16	23	2	25
15	71	60	42	19	20	19	26	28	34	35	66	45	45	16	32
16	100	65	52	11	15	19	20	23	19	22	53	65	45	30	40
17	65	100	39	7	12	17	24	23	28	28	46	41	74	20	33
18	52	39	100	10	15	18	16	19	10	21	32	38	28	61	43
19	11	7	10	100	54	46	45	44	33	32	30	19	23	9	21
20	15	12	15	54	100	57	65	47	43	36	31	33	24	16	45
21	19	17	18	46	57	100	56	48	39	31	33	36	27	23	33
22	20	24	16	45	65	56	100	58	50	42	37	33	29	17	37
23	23	23	19	44	47	48	58	100	51	43	45	44	37	25	40
24	19	28	10	33	43	39	50	51	100	66	41	28	42	16	37
25	22	28	21	32	36	31	42	43	66	100	47	36	42	24	43
26	53	46	32	30	31	33	37	45	41	47	100	71	54	32	52
27	65	41	38	19	33	36	33	44	28	36	71	100	55	45	52
28	45	74	28	23	24	27	29	37	42	42	54	55	100	30	45
29	30	20	61	9	16	23	17	25	16	24	32	45	30	100	44
30	40	33	43	21	45	33	37	40	37	42	52	52	45	44	100
31	25	14	25	35	26	20	23	28	16	27	24	28	21	20	33
32	17	7	17	22	39	29	33	30	25	18	26	24	14	6	29
33	29	29	15	18	26	37	30	25	26	32	28	39	29	14	36
34	22	25	22	25	40	31	47	36	35	40	35	26	27	24	34
35	25	27	18	17	19	29	38	52	28	25	30	28	24	23	35
36	16	8	18	13	17	23	31	26	33	33	25	24	16	18	24
37	25	22	24	16	16	19	20	27	42	39	27	25	25	15	28
38	35	19	26	18	22	27	30	37	26	21	29	35	19	20	31
39	41	15	29	14	20	28	23	24	15	17	33	48	15	32	37
40	22	19	35	22	29	22	25	23	9	17	22	25	22	33	38
41	21	11	48	10	11	13	9	21	3	14	15	27	17	59	31

APPENDIX A-6

CORRELATIONS

	31	32	33	34	35	36	37	38	39	40	41
1	3	3	3	13	3	-4	11	10	5	7	-3
2	5	6	15	19	14	3	18	15	11	6	1
3	10	11	10	17	9	3	18	11	10	5	-3
4	6	7	9	12	7	-1	19	8	8	2	-4
5	-1	-2	0	7	4	-8	11	2	1	1	-3
6	8	15	19	15	14	9	18	11	11	10	-3
7	12	10	11	17	16	1	17	12	13	13	4
8	8	19	12	15	11	-1	5	6	7	4	4
9	6	32	13	24	18	3	11	13	12	13	-1
10	17	27	19	23	23	6	13	18	21	17	2
11	12	20	12	24	18	6	12	18	16	11	-1
12	21	29	25	28	36	12	20	26	20	16	8
13	6	11	16	18	18	9	26	16	6	0	-4
14	0	1	15	19	10	6	20	12	3	-3	0
15	6	14	14	17	13	7	18	16	14	10	4
16	25	17	29	22	25	16	25	35	41	22	21
17	14	7	29	25	27	8	22	19	15	19	11
18	25	17	15	22	18	18	24	26	29	35	48
19	35	22	18	25	17	13	16	18	14	22	10
20	26	39	26	40	19	17	16	22	20	29	11
21	20	29	37	31	29	23	19	27	28	20	13
22	23	33	30	47	38	31	20	30	23	25	9
23	28	30	25	36	52	26	27	37	24	23	21
24	16	25	26	35	28	33	42	26	15	9	3
25	27	18	32	40	25	33	39	21	17	17	14
26	24	26	28	35	30	25	27	29	33	22	15
27	28	24	39	26	28	24	25	35	48	25	27
28	21	14	29	27	24	16	25	19	15	22	17
29	20	6	14	24	23	18	15	20	32	33	59
30	33	29	36	34	35	24	28	31	37	38	31
31	100	39	36	30	31	25	30	27	27	36	18
32	39	100	37	41	27	23	25	30	29	32	9
33	36	37	100	41	41	31	28	32	38	26	15
34	30	41	41	100	44	40	35	44	41	33	27
35	31	27	41	44	100	36	32	43	35	29	25
36	25	23	31	40	36	100	46	30	35	30	20
37	30	25	28	35	32	46	100	38	28	29	23
38	27	30	32	44	43	30	38	100	53	29	32
39	27	29	38	41	35	35	28	53	100	48	37
40	36	32	26	33	29	30	29	29	48	100	42
41	18	9	15	27	25	20	23	32	37	42	100

APPENDIX A-7

INPUT R-MATRIX

	31	32	33	34	35	36	37	38	39	40	41	1	2	3	4
31	100	39	36	30	31	25	30	27	27	36	18	3	5	10	6
32	39	100	37	41	27	23	25	30	29	32	9	3	6	11	7
33	36	37	100	41	41	31	28	32	38	26	15	3	15	10	9
34	30	41	41	100	44	40	35	44	41	33	27	13	19	17	12
35	31	27	41	44	100	36	32	43	35	29	25	3	14	9	7
36	25	23	31	40	36	100	46	30	35	30	20	-4	3	3	-1
37	30	25	28	35	32	46	100	38	28	29	23	11	18	18	19
38	27	30	32	44	43	30	38	100	53	29	32	10	15	11	8
39	27	29	38	41	35	35	28	53	100	48	37	5	11	10	8
40	36	32	26	33	29	30	29	29	48	100	42	7	6	5	2
41	18	9	15	27	25	20	23	32	37	42	100	-3	1	-3	-4
1	3	3	3	13	3	-4	11	10	5	7	-3	100	81	75	72
2	5	6	15	19	14	3	18	15	11	6	1	81	100	84	83
3	10	11	10	17	9	3	18	11	10	5	-3	75	84	100	87
4	6	7	9	12	7	-1	19	8	8	2	-4	72	83	87	100
5	-1	-2	0	7	4	-8	11	2	1	1	-3	66	76	74	75
6	8	15	19	15	14	9	18	11	11	10	-3	64	75	78	80
7	12	10	11	17	16	1	17	12	13	13	4	64	75	78	71
8	8	19	12	15	11	-1	5	6	7	4	4	58	47	48	42
9	6	32	13	24	18	3	11	13	12	13	-1	62	58	55	52
10	17	27	19	23	23	6	13	18	21	17	2	68	59	62	57
11	12	20	12	24	18	6	12	18	16	11	-1	64	60	60	54
12	21	29	25	28	36	12	20	26	20	16	8	45	54	54	54
13	6	11	16	18	18	9	26	16	6	0	-4	68	79	82	77
14	0	1	15	19	10	6	20	12	3	-3	0	62	67	70	65
15	6	14	14	17	13	7	18	16	14	10	4	54	66	64	60
16	25	17	29	22	25	16	25	35	41	22	21	52	62	64	59
17	14	7	29	25	27	8	22	19	15	19	11	43	60	51	54
18	25	17	15	22	18	18	24	26	29	35	48	36	42	41	38
19	35	22	18	25	17	13	16	18	14	22	10	15	12	9	9
20	26	39	26	40	19	17	16	22	20	29	11	18	19	11	8
21	20	29	37	31	29	23	19	27	28	20	13	6	14	6	6
22	23	33	30	47	38	31	20	30	23	25	9	18	25	19	14
23	28	30	25	36	52	26	27	37	24	23	21	3	11	4	0
24	16	25	26	35	28	33	42	26	15	9	3	17	27	28	22
25	27	18	32	40	25	33	39	21	17	17	14	17	27	28	19
26	24	26	28	35	30	25	27	29	33	22	15	17	33	27	24
27	28	24	39	26	28	24	25	35	48	25	27	9	22	16	13
28	21	14	29	27	24	16	25	19	15	22	17	16	30	22	24
29	20	6	14	24	23	18	15	20	32	33	59	2	8	7	6
30	33	29	36	34	35	24	28	31	37	38	31	19	28	26	26

CONFIRMATORY MODEL
(SINGLE DIMENSION)

APPENDIX A-8

INPUT R-MATRIX

	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
31	-1	8	12	8	6	17	12	21	6	0	6	25	14	25	35
32	-2	15	10	19	32	27	20	29	11	1	14	17	7	17	22
33	0	19	11	12	13	19	12	25	16	15	14	29	29	15	18
34	7	15	17	15	24	23	24	28	18	19	17	22	25	22	25
35	4	14	16	11	18	23	18	36	18	10	13	25	27	18	17
36	-8	9	1	-1	3	6	6	12	9	6	7	16	8	18	13
37	11	18	17	5	11	13	12	20	26	20	18	25	22	24	16
38	2	11	12	6	13	18	18	26	16	12	16	35	19	26	18
39	1	11	13	7	12	21	16	20	6	3	14	41	15	29	14
40	1	10	13	4	13	17	11	16	0	-3	10	22	19	35	22
41	-3	-3	4	4	-1	2	-1	8	-4	0	4	21	11	48	10
1	66	64	64	58	62	68	64	45	68	62	54	52	43	36	15
2	76	75	75	47	58	59	60	54	79	67	66	62	60	42	12
3	74	78	78	48	55	62	60	54	82	70	64	64	51	41	9
4	75	80	71	42	52	57	54	54	77	65	60	59	54	38	9
5	100	67	67	42	53	54	54	42	68	60	59	52	47	31	2
6	67	100	68	38	44	53	49	53	71	59	66	61	52	38	5
7	67	68	100	39	48	52	50	43	65	57	57	58	49	42	9
8	42	38	39	100	55	59	46	43	48	41	43	36	28	28	29
9	53	44	48	55	100	73	77	53	59	52	50	44	37	29	22
10	54	53	52	59	73	100	73	57	63	54	55	55	41	35	21
11	54	49	50	46	77	73	100	54	62	56	50	45	32	30	15
12	42	53	43	43	53	57	54	100	57	46	55	51	47	32	23
13	68	71	65	48	59	63	62	57	100	77	65	59	53	34	10
14	60	59	57	41	52	54	56	46	77	100	55	47	44	29	7
15	59	66	57	43	50	55	50	55	65	55	100	71	60	42	19
16	52	61	58	36	44	55	45	51	59	47	71	100	65	52	11
17	47	52	49	28	37	41	32	47	53	44	60	65	100	39	7
18	31	38	42	28	29	35	30	32	34	29	42	52	39	100	10
19	2	5	9	29	22	21	15	23	10	7	19	11	7	10	100
20	8	9	9	26	54	36	35	28	19	16	20	15	12	15	54
21	-4	11	5	22	26	37	17	32	15	7	19	19	17	18	46
22	10	19	17	28	43	38	49	38	29	23	26	20	24	16	45
23	-5	14	6	18	21	27	19	51	20	10	28	23	23	19	44
24	15	24	18	24	29	31	24	30	52	40	34	19	28	10	33
25	17	25	17	18	23	25	25	29	38	47	35	22	28	21	32
26	24	34	28	22	31	31	26	42	31	27	66	53	46	32	30
27	8	22	14	14	19	27	15	33	16	16	45	65	41	38	19
28	20	29	22	16	17	18	10	31	27	23	45	45	74	28	23
29	-1	9	13	3	3	10	7	13	4	2	16	30	20	61	9
30	20	29	19	21	35	31	30	39	28	25	32	40	33	43	21

APPENDIX A-9

INPUT R-MATRIX

	20	21	22	23	24	25	26	27	28	29	30
31	26	20	23	28	16	27	24	28	21	20	33
32	39	29	33	30	25	18	26	24	14	6	29
33	26	37	30	25	26	32	28	39	29	14	36
34	40	31	47	36	35	40	35	26	27	24	34
35	19	29	38	52	28	25	30	28	24	23	35
36	17	23	31	26	33	33	25	24	16	18	24
37	16	19	20	27	42	39	27	25	25	15	28
38	22	27	30	37	26	21	29	35	19	20	31
39	20	28	23	24	15	17	33	48	15	32	37
40	29	20	25	23	9	17	22	25	22	33	38
41	11	13	9	21	3	14	15	27	17	59	31
1	18	6	18	3	17	17	17	9	16	2	19
2	19	14	25	11	27	27	33	22	30	8	28
3	11	6	19	4	28	28	27	16	22	7	26
4	8	6	14	0	22	19	24	13	24	6	26
5	8	-4	10	-5	15	17	24	8	20	-1	20
6	9	11	19	14	24	25	34	22	29	9	29
7	9	5	17	6	18	17	28	14	22	13	19
8	26	22	28	18	24	18	22	14	16	3	21
9	54	26	43	21	29	23	31	19	17	3	35
10	36	37	38	27	31	25	31	27	18	10	31
11	35	17	49	19	24	25	26	15	10	7	30
12	28	32	38	51	30	29	42	33	31	13	39
13	19	15	29	20	52	38	31	16	27	4	28
14	16	7	23	10	40	47	27	16	23	2	25
15	20	19	26	28	34	35	66	45	45	16	32
16	15	19	20	23	19	22	53	65	45	30	40
17	12	17	24	23	28	28	46	41	74	20	33
18	15	18	16	19	10	21	32	38	28	61	43
19	54	46	45	44	33	32	30	19	23	9	21
20	100	57	65	47	43	36	31	33	24	16	45
21	57	100	56	48	39	31	33	36	27	23	33
22	65	56	100	58	50	42	37	33	29	17	37
23	47	48	58	100	51	43	45	44	37	25	40
24	43	39	50	51	100	66	41	28	42	16	37
25	36	31	42	43	66	100	47	36	42	24	43
26	31	33	37	45	41	47	100	71	54	32	52
27	33	36	33	44	28	36	71	100	55	45	52
28	24	27	29	37	42	42	54	55	100	30	45
29	16	23	17	25	16	24	32	45	30	100	44
30	45	33	37	40	37	43	52	52	45	44	100

APPENDIX A-10

MULTIPLE GROUPS PROGRAM

PCA (31-41)
SPE (1-11)
DIS (12-22)
SAT (23-28)
INT (29-30)

STANDARD SCORE COEFFICIENT ALPHAS

84. 95. 85. 84. 61.

APPENDIX A-11

FACTOR INTERCORRELATIONS AND LOADING MATRIX

COMMUNALITY IN THE DIAGONAL

	31	32	33	34	35	36	37	38	39	40	41	1	2	3	4
31	27	39	36	30	31	25	30	27	27	36	18	3	5	10	6
32	39	26	37	41	27	23	25	30	29	32	9	3	6	11	7
33	36	37	33	41	41	31	28	32	38	26	15	3	15	10	9
34	30	41	41	45	44	40	35	44	41	33	27	13	19	17	12
35	31	27	41	44	36	36	32	43	35	29	25	3	14	9	7
36	25	23	31	40	36	31	46	30	35	30	20	-4	3	3	-1
37	30	25	28	35	32	46	30	38	28	29	23	11	18	18	19
38	27	30	32	44	43	30	38	40	53	29	32	10	15	11	8
39	27	29	38	41	35	35	28	53	43	48	37	5	11	10	8
40	36	32	26	33	29	30	29	29	48	34	42	7	6	5	2
41	18	9	15	27	25	20	23	32	37	42	18	-3	1	-3	-4
1	3	3	3	13	3	-4	11	10	5	7	-3	74	81	75	72
2	5	6	15	19	14	3	18	15	11	6	1	81	80	84	83
3	10	11	10	17	9	3	18	11	10	5	-3	75	84	81	87
4	6	7	9	12	7	-1	19	8	8	2	-4	72	83	87	74
5	-1	-2	0	7	4	-8	11	2	1	1	-3	66	76	74	75
6	8	15	19	15	14	9	18	11	11	10	-3	64	75	78	80
7	12	10	11	17	16	1	17	12	13	13	4	64	75	78	71
8	8	19	12	15	11	-1	5	6	7	4	4	58	47	48	42
9	6	32	13	24	18	3	11	13	12	13	-1	62	58	55	52
10	17	27	19	23	23	6	13	18	21	17	2	68	59	62	57
11	12	20	12	24	18	6	12	18	16	11	-1	64	60	60	54
12	21	29	25	28	36	12	20	26	20	16	8	45	54	54	54
13	6	11	16	18	18	9	26	16	6	0	-4	68	79	82	77
14	0	1	15	19	10	6	20	12	3	-3	0	62	67	70	65
15	6	14	14	17	13	7	18	16	14	10	4	54	66	64	60
16	25	17	29	22	25	16	25	35	41	22	21	52	62	64	59
17	14	7	29	25	27	8	22	19	15	19	11	43	60	51	54
18	25	17	15	22	18	18	24	26	29	35	48	36	42	41	38
19	35	22	18	25	17	13	16	18	14	22	10	15	12	9	9
20	26	39	26	40	19	17	16	22	20	29	11	18	19	11	8
21	20	29	37	31	29	23	19	27	28	20	13	6	14	6	6
22	23	33	30	47	38	31	20	30	23	25	9	18	25	19	14
23	28	30	25	36	52	26	27	37	24	23	21	3	11	4	0
24	16	25	26	35	28	33	42	26	15	9	3	17	27	28	22
25	27	18	32	40	25	33	39	21	17	17	14	17	27	28	19
26	24	26	28	35	30	25	27	29	33	22	15	17	33	27	24
27	28	24	39	26	28	24	25	35	48	25	27	9	22	16	13
28	21	14	29	27	24	16	25	19	15	22	17	16	30	22	24
29	10	6	14	24	23	18	15	20	32	33	59	2	8	7	6
30	33	29	36	34	35	24	28	31	37	38	31	19	28	26	26
501	52	51	57	67	60	55	55	63	66	59	42	8	18	16	11
502	10	17	14	21	16	2	18	14	13	10	-1	86	89	90	86
503	31	34	39	45	39	25	35	38	33	30	20	64	77	72	68
504	35	33	43	49	46	38	45	41	37	29	24	19	37	30	25
505	39	26	37	43	43	32	32	39	51	53	67	16	27	24	24

APPENDIX A-12

FACTOR INTERCORRELATIONS AND LOADING MATRIX

COMMUNALITY IN THE DIAGONAL

	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
31	-1	8	12	8	6	17	12	21	6	0	6	25	14	25	35
32	-2	15	10	19	32	27	20	29	11	1	14	17	7	17	22
33	0	19	11	12	13	19	12	25	16	15	14	29	29	15	18
34	7	15	17	15	24	23	24	28	18	19	17	22	25	22	25
35	4	14	16	11	18	23	18	36	18	10	13	25	27	18	17
36	-8	9	1	-1	3	6	6	12	9	6	7	16	8	18	13
37	11	18	17	5	11	13	12	20	26	20	18	25	22	24	16
38	2	11	12	6	13	18	18	26	16	12	16	35	19	26	18
39	1	11	13	7	12	21	16	20	6	3	14	41	15	29	14
40	1	10	13	4	13	17	11	16	0	-3	10	22	19	35	22
41	-3	-3	4	4	-1	2	-1	8	-4	0	4	21	11	48	10
1	66	64	64	58	62	68	64	45	68	62	54	52	43	36	15
2	76	75	75	47	58	59	60	54	79	67	66	62	60	42	12
3	74	78	78	48	55	62	60	54	82	70	64	64	51	41	9
4	75	80	71	42	52	57	54	54	77	65	60	59	54	38	9
5	64	67	67	42	53	54	54	42	68	60	59	52	47	31	2
6	67	61	68	38	44	53	49	53	71	59	66	61	52	38	5
7	67	68	60	39	48	52	50	43	65	57	57	58	49	42	9
8	42	38	39	34	55	59	46	43	48	41	43	36	28	28	29
9	53	44	48	55	53	73	77	53	59	52	50	44	37	29	22
10	54	53	52	59	73	59	73	57	63	54	55	55	41	35	21
11	54	49	50	46	77	73	54	54	62	56	50	45	32	30	15
12	42	53	43	43	53	57	54	50	57	46	55	51	47	32	23
13	68	71	65	48	59	63	62	57	52	77	65	59	53	34	10
14	60	59	57	41	52	54	56	46	77	35	55	47	44	29	7
15	59	66	57	43	50	55	50	55	65	55	57	71	60	42	19
16	52	61	58	36	44	55	45	51	59	47	71	50	65	52	11
17	47	52	49	28	37	41	32	47	53	44	60	65	39	39	7
18	31	38	42	28	29	35	30	32	34	29	42	52	39	23	10
19	2	5	9	29	22	21	15	23	10	7	19	11	7	10	14
20	8	9	9	26	54	36	35	28	19	16	20	15	12	15	54
21	-4	11	5	22	26	37	17	32	15	7	19	19	17	18	46
22	10	19	17	28	43	38	49	38	29	23	26	20	24	16	45
23	-5	14	6	18	21	27	19	51	20	10	28	23	23	19	44
24	15	24	18	24	29	31	24	30	52	40	34	19	28	10	33
25	17	25	17	18	23	25	25	29	38	47	35	22	28	21	32
26	24	34	28	22	31	31	26	42	31	27	66	53	46	32	30
27	8	22	14	14	19	27	15	33	16	16	45	65	41	38	19
28	20	29	22	16	17	18	10	31	27	23	45	45	74	28	23
29	-1	9	13	3	3	10	7	13	4	2	16	30	20	61	9
30	20	29	19	21	35	31	30	39	28	25	32	40	33	43	21
501	2	20	20	14	23	29	24	38	19	13	21	44	31	44	34
502	80	78	77	59	73	77	74	64	85	74	72	68	57	45	17
503	58	68	63	57	72	76	68	71	72	59	75	71	62	48	38
504	19	36	25	27	34	39	29	53	45	39	61	56	59	36	44
505	14	28	24	18	28	30	27	39	23	21	36	52	39	77	22

APPENDIX A-13

FACTOR INTERCORRELATIONS AND LOADING MATRIX

COMMUNALITY IN THE DIAGONAL

	20	21	22	23	24	25	26	27	28	29	30	501	502	503	504	505
31	26	20	23	28	16	27	24	28	21	20	33	52	10	31	35	39
32	39	29	33	30	25	18	26	24	14	6	29	51	17	34	33	26
33	26	37	30	25	26	32	28	29	29	14	36	57	14	39	43	37
34	40	31	47	36	35	40	35	26	27	24	34	67	21	45	49	43
35	19	29	38	52	28	25	30	28	24	23	35	60	16	39	46	43
36	17	23	31	26	33	33	25	24	16	18	24	55	2	25	38	32
37	16	19	20	27	42	39	27	25	25	15	28	55	18	35	45	32
38	22	27	30	37	26	21	29	35	19	20	31	63	14	38	41	39
39	20	28	23	24	15	17	33	48	15	32	37	66	13	33	37	51
40	29	20	25	23	9	17	22	25	22	33	38	59	10	30	29	53
41	11	13	9	21	3	14	15	27	17	59	31	42	-1	20	24	67
1	18	6	18	3	17	17	17	9	16	2	19	8	86	64	19	16
2	19	14	25	11	27	27	33	22	30	8	28	18	89	77	37	27
3	11	6	19	4	28	28	27	16	22	7	26	16	90	72	30	24
4	8	6	14	0	22	19	24	13	24	6	26	11	86	68	25	24
5	8	-4	10	-5	15	17	24	8	20	-1	20	2	80	58	19	14
6	9	11	19	14	24	25	34	22	29	9	29	20	78	68	36	28
7	9	5	17	6	18	17	28	14	22	13	19	20	77	63	25	24
8	26	22	28	18	24	18	22	14	16	3	21	14	59	57	27	18
9	54	26	43	21	29	23	31	19	17	3	35	23	73	72	34	28
10	36	37	38	27	31	25	31	27	18	10	31	29	77	76	39	30
11	35	17	49	19	24	25	26	15	10	7	30	24	74	68	29	27
12	28	32	38	51	30	29	42	33	31	13	39	38	64	71	53	39
13	19	15	29	20	52	38	31	16	27	4	28	19	85	72	45	23
14	16	7	23	10	40	47	27	16	23	2	25	13	74	59	39	21
15	20	19	26	28	34	35	66	45	45	16	32	21	72	75	61	36
16	15	19	20	23	19	22	53	65	45	30	40	44	68	71	56	52
17	12	17	24	23	28	28	46	41	74	20	33	31	57	62	59	39
18	15	18	16	19	10	21	32	38	28	61	43	44	45	48	36	77
19	54	46	45	44	33	32	30	19	23	9	21	34	17	38	44	22
20	25	57	65	47	43	36	31	33	24	16	45	42	27	50	52	45
21	57	22	56	48	29	31	33	36	27	23	33	44	17	47	52	42
22	65	56	33	58	50	42	37	33	29	17	37	49	33	58	61	41
23	47	48	58	40	51	43	45	44	37	25	40	53	14	57	63	49
24	43	39	50	51	44	66	41	28	42	16	37	41	30	58	66	39
25	36	31	42	43	66	47	47	36	42	24	43	45	28	55	69	50
26	31	33	37	45	41	47	60	71	54	32	52	47	34	66	77	63
27	33	36	33	44	28	36	71	47	55	45	52	53	21	58	68	72
28	24	27	29	37	42	42	54	55	45	30	45	37	26	58	67	56
29	16	23	17	25	16	24	32	45	30	47	44	42	8	32	42	67
30	45	33	37	40	37	43	52	52	45	44	47	57	33	58	66	67
501	42	44	49	53	41	45	47	53	37	42	57	100	21	59	67	73
502	27	17	33	14	30	28	34	21	26	8	33	21	100	86	37	30
503	50	47	58	57	58	55	66	58	58	32	58	59	86	100	86	67
504	52	52	61	63	66	69	77	68	67	42	66	67	37	86	100	80
505	45	42	41	49	39	50	63	72	56	67	67	73	30	67	30	100

APPENDIX A-14

REORDERED R-MATRIX

	501	502	503	504	505
501	100	21	59	67	73
502	21	100	86	37	30
503	59	86	100	86	67
504	67	37	86	100	80
505	73	30	67	80	100

APPENDIX A-15
PATH ANALYSIS, ORDINARY LEAST SQUARES
THE NUMBER OF EXOGENOUS VARIABLES IS 2
PATH COEFFICIENTS, DECIMALS OMITTED

	501	502	503	504	505	506	507	508
501	0	0	0	0	0	0	0	0
502	0	0	0	0	0	0	0	0
503	19	0	0	0	0	0	0	0
504	0	12	0	0	0	0	0	0
505	40	0	-83	0	0	0	0	0
506	0	39	0	34	0	0	0	0
507	49	-4	0	0	20	30	0	0
508	0	0	0	0	0	0	78	0

REPRODUCED CORRELATIONS, DECIMALS OMITTED

	501	502	503	504	505	506	507	508
501	100	76	19	9	24	33	60	47
502	76	100	14	12	19	43	50	39
503	19	14	100	2	-76	6	-5	-4
504	9	12	2	100	2	38	16	13
505	24	19	-76	2	100	8	34	27
506	33	43	6	38	8	100	46	36
507	60	50	-5	16	34	46	100	78
508	47	39	-4	13	27	36	78	100

OBSERVED MINUS PREDICTED CORRELATIONS

	501	502	503	504	505	506	507	508
501	0	0	0	10	0	32	10	9
502	0	0	-3	0	3	0	1	50
503	0	-3	0	-72	0	14	37	28
504	10	0	-72	0	79	0	-8	-14
505	0	3	0	79	0	17	5	5
506	32	0	14	0	17	0	19	3
507	10	1	37	-8	5	19	0	0
508	9	50	28	-14	5	3	0	0

THE SUM OF SQUARED DEVIATIONS IS 1.84

MODEL AI

APPENDIX A-16

PATH ANALYSIS, ORDINARY LEAST SQUARES
 THE NUMBER OF EXOGENOUS VARIABLES IS 1
 PATH COEFFICIENT, DECIMALS OMITTED

	501	502	503	504	505
501	0	0	0	0	0
502	21	0	0	0	0
503	42	77	0	0	0
504	25	0	71	0	0
505	0	0	0	80	0

REPRODUCED CORRELATIONS, DECIMALS OMITTED

	501	502	503	504	505
501	100	21	59	67	53
502	21	100	86	66	53
503	59	86	100	86	68
504	67	66	86	100	80
505	53	53	68	80	100

OBSERVED MINUS PREDICTED CORRELATIONS

	501	502	503	504	505
501	0	0	0	0	20
502	0	0	0	-29	-23
503	0	0	0	0	-1
504	0	-29	0	0	0
505	20	-23	-1	0	0

THE SUM OF SQUARED DEVIATIONS IS .18

MODEL A2

APPENDIX A-17

PATH ANALYSIS, ORDINARY LEAST SQUARES
THE NUMBER OF EXOGENOUS VARIABLES IS 2
PATH COEFFICIENTS, DECIMALS OMITTED

	501	502	503	504	505	506	507	508
501	0	0	0	0	0	0	0	0
502	0	0	0	0	0	0	0	0
503	19	0	0	0	0	0	0	0
504	0	12	0	0	0	0	0	0
505	0	0	-76	0	0	0	0	0
506	0	0	0	38	0	0	0	0
507	49	-4	0	0	20	30	0	0
508	0	0	0	0	0	0	78	0

RELATIONS, DECIMALS OMITTED

	501	502	503	504	505	506	507	508
501	100	76	19	9	-14	4	44	34
502	76	100	14	12	-11	5	32	25
503	19	14	100	2	-76	1	-7	-5
504	9	12	2	100	-1	38	15	12
505	-14	-11	-76	-1	100	-1	14	11
506	4	5	1	38	-1	100	32	25
507	44	32	-7	15	14	32	100	78
508	34	25	-5	12	11	25	78	100

OBSERVED MINUS PREDICTED CORRELATIONS

	501	502	503	504	505	506	507	508
501	0	0	0	10	39	61	26	22
502	0	0	-3	0	33	38	18	64
503	0	-3	0	-72	0	19	38	29
504	10	0	-72	0	82	0	-7	-14
505	39	33	0	82	0	25	25	21
506	61	38	19	0	25	0	33	14
507	26	18	38	-7	25	33	0	0
508	22	64	29	-14	21	14	0	0

THE SUM OF SQUARED DEVIATIONS IS 3.13

MODEL B

APPENDIX A-18

PATH ANALYSIS, ORDINARY LEAST SQUARES
THE NUMBER OF EXOGENOUS VARIABLES IS 2
PATH COEFFICIENTS, DECIMALS OMITTED

	501	502	503	504	505	506	507	508
501	0	0	0	0	0	0	0	0
502	0	0	0	0	0	0	0	0
503	19	0	0	0	0	0	0	0
504	0	12	0	0	0	0	0	0
505	40	0	-83	0	0	0	0	0
506	0	39	0	34	0	0	0	0
507	0	0	0	0	24	59	0	0
508	0	0	0	0	0	0	78	0

REPRODUCED CORRELATIONS, DECIMALS OMITTED

	501	502	503	504	505	506	507	508
501	100	76	19	9	24	33	25	20
502	76	100	14	12	19	43	30	23
503	19	14	100	2	-76	6	-15	-12
504	9	12	2	100	2	38	23	18
505	24	19	-76	2	100	8	29	23
506	33	43	6	38	8	100	61	48
507	25	30	-15	23	29	61	100	78
508	20	23	-12	18	23	48	78	100

OBSERVED MINUS PREDICTED CORRELATIONS

	501	502	503	504	505	506	507	508
501	0	0	0	10	0	32	45	36
502	0	0	-3	0	3	0	20	65
503	0	-3	0	-72	0	14	47	36
504	10	0	-72	0	79	0	-15	-20
505	0	3	0	79	0	17	10	9
506	32	0	14	0	17	0	4	-9
507	45	20	47	-15	10	4	0	0
508	36	65	36	-20	9	-9	0	0

THE SUM OF SQUARED DEVIATIONS IS 2.53

MODEL C

APPENDIX A-19

PATH ANALYSIS, ORDINARY LEAST SQUARES
 THE NUMBER OF EXOGENOUS VARIABLES IS 2
 PATH COEFFICIENTS, DECIMALS OMITTED

	501	502	503	504	505	506	507	508
501	0	0	0	0	0	0	0	0
502	0	0	0	0	0	0	0	0
503	19	0	0	0	0	0	0	0
504	0	12	0	0	0	0	0	0
505	0	0	-76	0	0	0	0	0
506	0	0	0	38	0	0	0	0
507	0	0	0	0	24	59	0	0
508	0	0	0	0	0	0	78	0

REPRODUCED CORRELATIONS, DECIMALS OMITTED

	501	502	503	504	505	506	507	508
501	100	76	19	9	-14	4	-1	-1
502	76	100	14	12	-11	5	0	0
503	19	14	100	2	-76	1	-18	-14
504	9	12	2	100	-1	38	22	17
505	-14	-11	-76	-1	100	-1	24	19
506	4	5	1	38	-1	100	59	46
507	-1	0	-18	22	24	59	100	78
508	-1	0	-14	17	19	46	78	100

OBSERVED MINUS PREDICTED CORRELATIONS

	501	502	503	504	505	506	507	508
501	0	0	0	10	39	61	71	57
502	0	0	-3	0	33	38	50	89
503	0	-3	0	-72	0	19	50	38
504	10	0	-72	0	82	0	-14	-19
505	39	33	0	82	0	25	15	13
506	61	38	19	0	25	0	6	-7
507	71	50	50	-14	15	6	0	0
508	57	89	38	-19	13	-7	0	0

THE SUM OF SQUARED DEVIATIONS IS 4.45
 MODEL D

APPENDIX B--1

Part 1.

1. Teachers are prepared and easy to take notes from.

5 4 3 2 1
 Agree Disagree (5)

5 4 3 2 1
 Highly Important Not Important (6)

2. Teachers enjoy teaching.

5 4 3 2 1
 Agree Disagree (7)

5 4 3 2 1
 Highly Important Not Important (8)

3. Teachers respect and understand students.

5 4 3 2 1
 Agree Disagree (9)

5 4 3 2 1
 Highly Important Not Important (10)

4. Teachers are enthusiastic.

5 4 3 2 1
 Agree Disagree (11)

5 4 3 2 1

5. Teachers stimulate thought and hard work.

5 4 3 2 1
 Agree Disagree (13)

5 4 3 2 1
 Highly Important Not Important (14)

APPENDIX B--2

Part 1 (Cont.)

5. The classes are enjoyable.

5	4	3	2	1	
Agree				Disagree	(15)

5	4	3	2	1	
Highly Important				Not Important	(16)

7. The material is relevant to my life.

5	4	3	2	1	
Agree				Disagree	(17)

5	4	3	2	1	
Highly Important				Not Important	(18)

8. Classes are not boring.

5	4	3	2	1	
Agree				Disagree	(19)

5	4	3	2	1	
Highly Important				Not Important	(20)

9. Examinations are fair and cover expected material.

5	4	3	2	1	
Agree				Disagree	(21)

5	4	3	2	1	
Highly Important				Not Important	(22)

10. Grades are fairly assigned.

5	4	3	2	1	
Agree				Disagree	(23)

5	4	3	2	1	
Highly Important				Not Important	(24)

11. Give competence in the discipline.

5	4	3	2	1	
Agree				Disagree	(25)

5	4	3	2	1	
Highly Important				Not Important	(26)

APPENDIX B--3

Part 1 (Cont.)

12. Give competence in business.

5	4	3	2	1	
Agree					Disagree (27)

5	4	3	2	1	
Highly Important					Not Important (28)

13. Improve understanding of my major.

5	4	3	2	1	
Agree					Disagree (29)

5	4	3	2	1	
Highly Important					Not Important (30)

14. See progress toward graduation.

5	4	3	2	1	
Agree					Disagree (31)

5	4	3	2	1	
Highly Important					Not Important (32)

15. Lead to understanding of how people and institutions behave.

5	4	3	2	1	
Agree					Disagree (33)

5	4	3	2	1	
Highly Important					Not Important (34)
5	4	3	2	1	

APPENDIX B--4

Part II. Now please indicate the extent to which you believe that each statement will be true of the class you are now in. Then, how important to your evaluation of the class.

Example:

Will be taught by the King of Ruratania.

5 4 3 2 1
Very Likely Very Unlikely

5 4 3 2 1
Highly Important Not Important

Part II.

1. Teacher(s) will be prepared and easy to take notes from.

5 4 3 2 1
Very Likely Very Unlikely (36)

5 4 3 2 1
Highly Important Not Important (37)

2. Teacher(s) will enjoy teaching.

5 4 3 2 1
Very Likely Very Unlikely (38)

5 4 3 2 1
Highly Important Not Important (39)

3. Teacher(s) will respect and understand students.

5 4 3 2 1
Very Likely Very Unlikely (40)

5 4 3 2 1
High Important Not Important (41)

4. Teacher(s) will be enthusiastic.

5 4 3 2 1
Very Likely Very Unlikely (42)

5 4 3 2 1
Highly Important Not Important (43)

APPENDIX B--5

Part II (Cont.)

5. Teacher(s) will stimulate thought and hard work.

5 4 3 2 1
 Very Likely Very Unlikely (44)

5 4 3 2 1
 Highly Important Not Important (45)

6. The class will be enjoyable.

5 4 3 2 1
 Very Likely Very Unlikely (46)

5 4 3 2 1
 Highly Important Not Important (47)

7. The material will be relevant to my life.

5 4 3 2 1
 Very Likely Very Unlikely (48)

5 4 3 2 1
 Highly Important Not Important (49)

8. The class will not be boring.

5 4 3 2 1
 Very Likely Very Unlikely (50)

5 4 3 2 1
 Highly Important Not Important (51)

9. Examinations will be fair and cover expected material.

5 4 3 2 1
 Very Likely Very Unlikely (52)

5 4 3 2 1
 Highly Important Not Important (53)

10. Grades will be assigned fairly.

5 4 3 2 1
 Very Likely Very Unlikely (54)

5 4 3 2 1
 Highly Important Not Important (55)

APPENDIX B--6

Part II (Cont.)

11. The class will make me more competent in marketing.

5	4	3	2	1	
Very Likely					Very Unlikely (56)

5	4	3	2	1	
Highly Important					Not Important (57)

12. The class will make me more competent in business.

5	4	3	2	1	
Very Likely					Very Unlikely (58)

5	4	3	2	1	
Highly Important					Not Important (59)

13. The class will improve my understanding of my major.

5	4	3	2	1	
Very Likely					Very Unlikely (60)

5	4	3	2	1	
Highly Important					Not Important (61)

14. The class will help my progress toward graduation.

5	4	3	2	1	
Very Likely					Very Unlikely (62)

5	4	3	2	1	
Highly Important					Not Important (63)

15. The class will lead to an understanding of how people and institutions behave.

5	4	3	2	1	
Very Likely					Very Unlikely (64)

5	4	3	2	1	
Highly Important					Not Important (65)

APPENDIX B-7

EVALUATION PROJECT 11-1

STUDENT NUMBER _____

Please fill in your student number. It is for data collection purposes only and will not be matched to your responses nor be available to your instructors.

DIRECTIONS: Circle the appropriate number.

1. For each of the following statements, indicate the degree to which you agree/disagree that the statement is true of this class.

Example: Was taught by the King of Ruratania.

5 4 3 1 1
 Agree Disagree

Part I.

1. Teacher(s) was prepared and easy to take notes from.

5 4 3 2 1
 Very likely Very Unlikely (1)

2. Teacher(s) enjoyed teaching.

5 4 3 2 1
 Very Likely Very Unlikely (2)

3. Teacher(s) respected and understood students.

5 4 3 2 1
 Very Likely Very Unlikely (3)

4. Teacher(s) was enthusiastic.

5 4 3 2 1
 Very Likely Very Unlikely (4)

APPENDIX B-8

5. **Teacher(s) stimulated thought and hard work.**
 5 4 3 2 1
 Very Likely Very Unlikely (5)
6. **The class was enjoyable.**
 5 4 3 2 1
 Very Likely Very Unlikely (6)
7. **The material was relevant to my life.**
 5 4 3 2 1
 Very Likely Very Unlikely (7)
8. **The class was not boring.**
 5 4 3 2 1
 Very Likely Very Unlikely (8)
9. **Examinations were fair and covered expected material.**
 5 4 3 2 1
 Very Likely Very Unlikely (9)
10. **Grades assigned fairly.**
 5 4 3 2 1
 Very Likely Very Unlikely (10)
11. **The class made me more competent in marketing.**
 5 4 3 2 1
 Very Likely Very Unlikely (11)

APPENDIX B-9

12. The class made me more competent in business.

5 4 3 2 1
 Very Likely Very Unlikely (12)

13. The class improved my understanding of my major.

5 4 3 2 1
 Very Likely Very Unlikely (13)

14. The class helped my progress toward graduation.

5 4 3 2 1
 Very Likely Very Unlikely (14)

15. The class lead to an understanding of how people and institutions behave.

5 4 3 2 1
 Very Likely Very Unlikely (15)

Part II. Please circle the number which best corresponds to your belief:

1. To what extent was this class what you expected it to be like?

5 4 3 2 1
 Very Similar Very Dissimilar (16)

2. To what extent was this class similar to what you had heard about it?

5 4 3 2 1
 Very Similar Very Dissimilar (17)

3. To what extent do you feel satisfied with this class.

5 4 3 2 1
 Very Satisfied Very Dissatisfied (18)

4. How satisfied are you with this class compared to other courses you have had?

5 4 3 2 1
 Very Satisfied Very Dissatisfied (19)

APPENDIX B-10

5. To what extent do you feel satisfied that what you received was worth what you paid for the class?

5 4 3 2 1
 Very Satisfied Very Dissatisfied (20)

6. How similar was the level of effort required in this course to the level you expected?

5 4 3 2 1
 Very Similar Very Dissimilar (21)

7. Relative to your own effort, how satisfied are you with your grade in this course?

5 4 3 2 1
 Very Satisfied Very Dissatisfied (22)

8. To what extent are you satisfied with what you learned in this class?

5 4 3 2 1
 Very Satisfied Very Dissatisfied (23)

9. Place yourself on the ladder:

_____ Probably the best class I could expect.

 _____ (24)

 _____ Probably the worst class I could expect.

10. Would you take another course from this instructor?

5 4 3 2 1
 Definitely Yes Definitely No (25)

11. Would you recommend this course to a friend?

5 4 3 2 1
 Definitely Yes Definitely No (26)

Part III Please indicate the number corresponding to the correct response.

1. Major: 1) Marketing/FSM 2) Finance 3) Management/MLM 4) Accounting
 5) My major is in the next question. (27)
2. Major: 1) Packaging 2) General Business 3) Advertising/Journalism/Telecomm.
 4) Retailing 5) Other (28)
3. Sex: 1) Female 2) Male (29)
4. GPA: 1) 1-2.0 2) 2.1-2.5 3) 2.6-3.0 4) 3.1-3.5 5) 3.6-4.1 (30)
5. Number of previous business courses: 1) 0 2) 1-2 3) 3-4 4) 5 or more (31)
6. This class was primarily paid for by: 1) parents 2) self 3) scholarship
 4) loan 5) other (32)

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