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A Reconceptualization of the Innovativeness Construct

presented by

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has been accepted towards fulfillment
of the requirements for

Doctor of Philosophy degree in Marketing

A handwritten signature in black ink, reading "R. Dale Wilson".

R. Dale Wilson

Major professor

Date January 19, 1988



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Wilhelmus Paulus Burgers

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
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ABSTRACT

A RECONCEPTUALIZATION OF THE INNOVATIVENESS CONSTRUCT

By

Wilhelmus Paulus Burgers

This dissertation offers a reconceptualization of the innovativeness construct. The reconceptualization is derived from and presented in response to a broad range of criticisms and concerns regarding diffusion research found in the behavioral diffusion and consumer behavior literatures.

The diffusion modeling literature conceptualization of innovativeness is integrated with contributions from the behavioral diffusion and consumer behavior literatures to form the reconceptualized innovativeness construct. Validation of the new construct takes place through construction and testing of a causal model which relates the construct to additional consumer behavior theoretical constructs. Specifically, the model relies on situational variables (namely, enduring involvement and situational involvement) to explain innovativeness.

The model is tested in three product-market settings: personal computers, restaurants, and movie theater attendance. The overall findings support the

dissertation's central contention that innovativeness is a function of situational variables (i.e., situational and enduring involvement) and is not a personality trait. Overlap between innovativeness and opinion leadership is also examined. Hypotheses are presented and tested on the nature and direction of such overlap.

The findings are shown to have potential implications for new product (concept) testing and new product introduction strategies. Suggestions are also provided for future research on diffusion of innovations.

To my father, Johannes Arend Burgers,
and my mother, Wilhelmina Maria Burgers van Eijk.

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TABLE OF CONTENTS

	Page
LIST OF TABLES	ix
LIST OF FIGURES	x
Chapter	
I Introduction and Background	1
INTRODUCTION	1
PURPOSE	2
CONTRIBUTIONS	9
ORGANIZATION -	10
II Literature Review	12
INTRODUCTION	12
Section I. The Classical Paradigm	12
ORIGINS	12
THEORETICAL UNDERPINNING	13
THE CLASSICAL PARADIGM IN THE MARKETING	
LITERATURE	16
EMPIRICAL RESULTS: SUMMATION	17
EMPIRICAL RESULTS: EVALUATION	17
Section II. Changing Perspectives.	25
CONCEPTUALIZATION IN THE DIFFUSION MODEL- . .	
ING LITERATURE	25
RECONCEPTUALIZATION IN THE CONSUMER DIF-. . .	
FUSION LITERATURE	28
SUMMARY	33

Chapter	Page
III Theoretical Framework and Hypotheses	35
Section I. Theoretical Framework	35
DEFINITION OF INNOVATIVENESS	35
METATHEORETICAL PERSPECTIVES	39
Section II. Hypotheses	42
ENDURING INVOLVEMENT AND INNOVATIVENESS	42
SITUATIONAL INVOLVEMENT AND INNOVATIVENESS	47
HEAVY USAGE, ENDURING INVOLVEMENT, AND	
EARLY ADOPTION	49
OPINION LEADERSHIP AND INNOVATIVENESS	50
SUMMARY	53
IV. Methodology	54
Section I. Data	54
SAMPLE	54
SELECTION OF PRODUCT-MARKET SETTINGS	55
RESEARCH INSTRUMENT	56
Section II. Variable Operationalization	57
INNOVATIVENESS	57
ENDURING INVOLVEMENT	59
SITUATIONAL INVOLVEMENT	60
OPINION LEADERSHIP	62
EARLY ADOPTION	63
Section III. Analysis	66
HYPOTHESES H1 THROUGH H5	66
HYPOTHESES H6 THROUGH H7	70
V. Results	75
INTRODUCTION	75
Section I. Summary Results	75
SAMPLE	75
RELIABILITIES	76
VALIDITY	77

Chapter	Page
Section II. Hypotheses H1 through H5	81
RESULTS	81
DISCUSSION	93
Section III. Hypotheses H6 and H7	96
RESULTS	96
VI. Conclusion	99
INTRODUCTION	99
THEORETICAL CONTRIBUTIONS	99
ADDITIONAL THEORETICAL IMPLICATIONS	103
FUTURE RESEARCH DIRECTIONS	104
MANAGERIAL IMPLICATIONS	106
CONCLUSION	108
APPENDICES	
Appendix A. Pretest Questionnaire: Computers . .	110
Appendix B. Pretest Questionnaire: Restaurants .	115
Appendix C. Pretest Questionnaire: Movies . .	120
Appendix D. Questionnaire	126
Appendix E. Carlson-Grosbart Innovativeness Scale	134
Appendix F. Zaichowski's Involvement Scale . .	136
Appendix G. Major Movies of 1986	137
BIBLIOGRAPHY	138

LIST OF TABLES

Table II-1.	Early Adopter Characteristics	18-19
Table IV-1.	Innovativeness Scale	58
Table IV-2.	Enduring Involvement Scale	60
Table IV-3.	Pretest Situational Involvement Scale	61
Table IV-4.	Pretest Opinion Leadership Scale	64
Table IV-5.	Model Equations	69
Table V-1.	Reliabilities	76
Table V-2.	Analysis of Variance - Innovative- ness by Product Category (3 groups)	78
Table V-3.	Innovativeness - Confirmatory Factor Analysis	79
Table V-4.	Analysis of Variance - Situational Involvement by Product Category (3 groups)	80
Table V-5.	Parameter Estimates for Personal Computers	83
Table V-6.	Cross-Sectional Approach: Parameter Estimates for Movie Theater Attendance	86
Table V-7.	Direct Approach: Parameter Esti- mates for Movie Theater Attendance	89
Table V-8.	Parameter Estimates for Restaurants	91
Table V-9.	Parameter Estimates for Hypotheses H1 and H2 Tested Across the Three Product Categories	92
Table V-10.	Combined Results: Hypotheses H1-H5	93
Table V-11.	Means and (Standard Deviations)	94

LIST OF FIGURES

Figure I-1.	A Causal Model of Innovativeness	7
Figure II-1.	Adopter Categories	14
Figure III-1.	A Causal Model of Innovativeness	44
Figure IV-1.	LISREL Model of Innovativeness	68
Figure IV-2.	Cross-Tabulation of Innovators and Opinion Leaders	71
Figure V-1.	Structural Model Results for Personal Computers	82
Figure V-2.	Cross-Sectional Approach: Structural Model Results for Movie Theater Atten- dance	85
Figure V-3.	Direct Approach: Structural Model Results for Movie Theater Attendance	88
Figure V-4.	Structural Model Results for Res- taurants	90
Figure V-5.	Structural Model Results: Hypotheses H1 and H2 Tested Across the Three Product Categories	92
Figure V-6.	Cross-Tabulation of Innovators and Opinion Leaders	97
Figure VI-1.	Enduring and Situational Involvement	107

Chapter I

Introduction and Background

INTRODUCTION

Innovativeness is the central construct in several areas of marketing theory. First, according to Hirschman (1980), few constructs are as important to consumer behavior as innovativeness. The dynamic nature of the market place is a direct consequence of consumers' innovativeness. Second, assumptions on innovativeness underlie implicitly or explicitly all models in the diffusion modeling literature (e.g., Muller and Mahajan 1979; Fourt and Woodlock 1960; Mansfield 1961; Bass 1969). Third, to an extent new product management theory is, or should be, based directly on a general theory of innovative behavior (Midgley 1977, p. 161; see also Kleyngeld 1974). The current classical behavioral conceptualization of the innovativeness construct however has, as this dissertation will argue, hindered progress in diffusion research in marketing.

From a managerial perspective, it must be pointed out that the great majority of products, at any point in time, has a strictly limited life span (Midgley 1977, p. 278). The continuous successful introduction of new products is thus essential for the very survival of many firms. Yet, failure remains common in the introduction of new products. Estimates of failure rates for new products, given an identified opportunity, range from 70% for industrial

products to 80% for consumer products (Urban and Hauser 1980, p. 54). Hence, ample room exists for improvement in the practice of new product introduction.

Currently, diffusion theory receives only a rather perfunctory treatment in the new product management literature (e.g., Urban and Hauser 1980) barring a few exceptions (e.g., Midgley 1977; see also Robertson 1971). An increase in the understanding of innovators and innovativeness, that would lead to greater applicability of diffusion theory to the theory and practice of new product management and introduction, will likely prove to be particularly helpful to managers in today's fast-paced, increasingly competitive business environment.

PURPOSE

This dissertation, in an attempt to achieve such increased understanding, offers a reconceptualization of the innovativeness construct. This reconceptualization is designed to enhance both the theoretical meaningfulness and the managerial relevance of the innovativeness construct.

Currently, innovativeness is defined in the classical behavioral diffusion literature as

"The degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than the other members of a social system" (Rogers 1983, p. 22).

This classical definition suffers from what Rogers (1976, 1983) has termed the "pro-innovation bias" that

characterizes much of the diffusion literature. The classical definition implicitly assumes that "new ideas" are desirable and should be adopted. If an individual does not adopt early, he or she is not innovative according to this definition.

However, individuals may not adopt early, or may reject an innovation altogether, for reasons other than a lack of innate innovativeness. For example, an innovation may be considered by an innovator and found to be inadequate and not an improvement over current offerings. Beyond possible inadequacy of the innovation, any number of situational variables (e.g., financial considerations) may also delay or prevent adoption of a given innovation by an otherwise innovative individual (Midgley 1977; Midgley and Dowling 1978). The current operational definition of innovativeness thus confuses the trait of innovativeness with adoption behavior (Midgley and Dowling 1970; see also Peterson 1973).

In this dissertation, the innovativeness construct is defined as a continuous variable as follows:

The degree to which an individual makes innovation-decisions independently of the decisions of other individuals in his or her social system.

The term "innovation-decision", introduced by Rogers and Shoemaker (1971), implies that both adoption and rejection by innovator and non-innovator alike may occur upon consideration of the innovation. An individual's social

system comprises co-workers , neighbors, relatives, and friends (Childers 1986) with whom the individual interacts, also independently of consideration of the innovation.

The criterion then that is used to distinguish innovators from non-innovators according to the conceptualization in this dissertation is the independence of the innovator's decision making. Diffusion models (e.g., Bass 1969; Muller and Mahajan 1979) currently are based on this criterion. In addition, in the consumer behavior literature, Midgley (1977), Midgley and Dowling (1978), Hirschman (1980), and Gatignon and Robertson (1985) endorsed this criterion of independence in decision making.

The new definition, which integrates contributions from the diffusion modeling and consumer behavior literatures, is presented as a response to and is derived from a broad range of concerns and criticisms found in the literature. These concerns and criticisms may be categorized as follows:

1. Methodological issues raised by Rogers (1976). These include the absence of consideration of causality, the pro-innovation bias found in most studies, and the general lack of a process orientation in diffusion research.
2. The inconsistency and or weakness of empirical findings in the literature on innovativeness and innovators (Robertson 1971; Kohn and Jacoby 1973; Downs and Mohr 1976; Taylor 1977; Midgley and Dowling 1978; Gatignon and Robertson 1985).
3. The lack of integration of the behavioral diffusion literature with the theory and practice of new product (concept) testing (Kleyngeld 1974) and new product management (Midgley 1977).

4. The lack of integration of the behavioral and modeling diffusion literatures (Gatignon and Robertson 1985).
5. The need for advances in consumer diffusion theory beyond merely applying concepts from the general diffusion literature (Gatignon and Robertson 1985).

The latter two concerns, or suggestions, provided the direction which this dissertation has taken in its search for an answer to the concerns and criticisms aimed at methodologies, empirical results, and managerial relevance of diffusion research. Hence, through integration of the behavioral and diffusion modeling literatures and by drawing upon consumer behavior theory, it is proposed that methodological and empirical weaknesses may be resolved.

The successful resolution of these weaknesses should result in an increased potential for managerial relevance of consumer diffusion theory. For example, the key concern in new product management and new product (concept) testing is whether innovators will adopt a new product. The current classical conceptualization of innovators as "early adopters" by definition precludes consideration of that question.

The focus, therefore, of the dissertation's efforts at integration and reconciliation of prior theoretical and empirical contributions and criticisms thereof lies in its reconceptualization of innovativeness. Thus, the contention of this dissertation is that the key issue underlying the above concerns and criticisms involves the classical operational definition of innovativeness in the

behavioral diffusion literature.

Validation of the new innovativeness construct will take place through construction and testing of the causal model depicted in Figure I-1. This model shows the variables, enduring and situational involvement, that are hypothesized to influence the individual's innovativeness. Enduring involvement has been defined as "the ongoing concern with a product the individual brings into a purchase situation" (Bloch and Richins 1983, p. 71). Situational involvement has been defined as "the degree of involvement evoked by a particular situation, such as a purchase occasion" (Bloch and Richins 1983). These variables, enduring and situational involvement, do not represent personality traits of the consumer. In Belk's (1975) classification of situational variables, these would be categorized as "task definition" variables.

This focus on situational variables represents a significant departure from tradition in the diffusion literature. The classical approach conceives of innovativeness as a personality trait, defined as a "persisting characteristic by which individuals can be distinguished from one another" (English and English 1958; Wolman 1973; see Midgley and Dowling 1978). Thus, according to the classical approach, some individuals will be innovative all the time, and research efforts have been directed at the identification of various characteristics of such innovative individuals. The model proposed in this

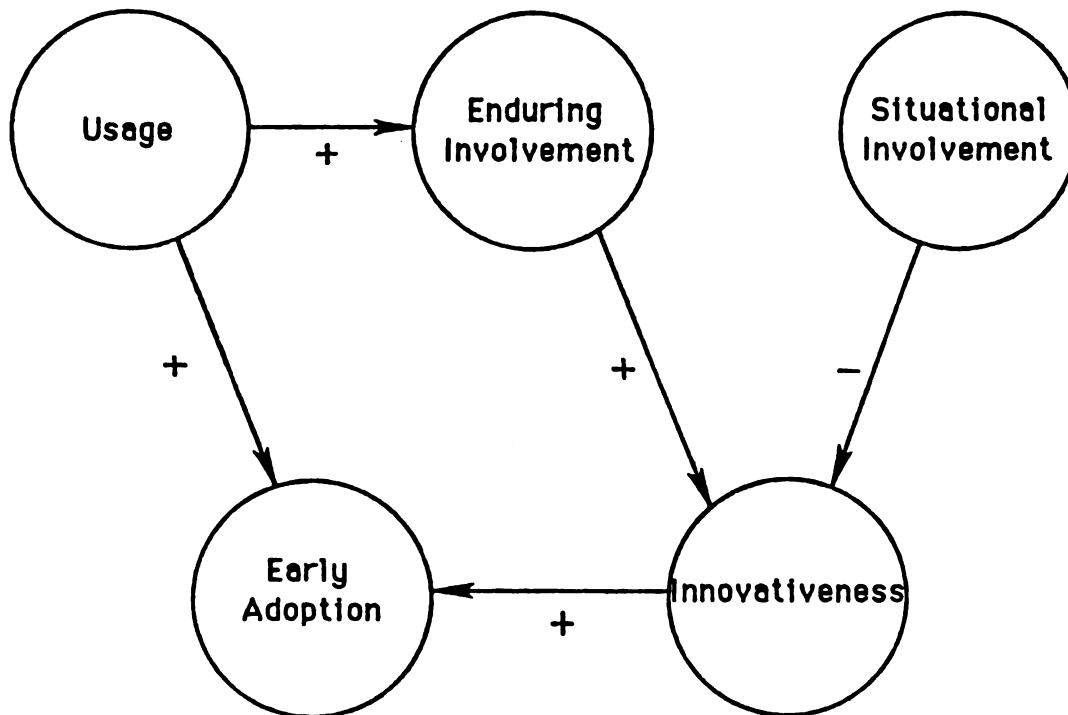


Figure I-1. A Causal Model of Innovativeness

dissertation on the other hand suggests that all consumers can sometimes be innovative and therefore endeavors to investigate situational variables that do or do not lead to innovative behavior.

Early adoption and usage are also included in the model, linking the alternative approach of this dissertation to traditional diffusion research. Usage, it may be noted, has consistently been positively related to early adoption and is hypothesized to also be related positively to enduring involvement.

Specifically, the following hypotheses will be tested in the context of the causal model depicted above:

- H1: Enduring Involvement will have a positive impact on innovativeness
- H2: Situational involvement will have a negative impact on innovativeness
- H3: Usage will have a positive impact on enduring involvement
- H4: Usage will have a positive impact on early adoption
- H5: Innovativeness will have a positive impact on early adoption

Further (nomological) validation of the reconceptualized innovativeness construct is attempted through the application of the new construct in a related area. The relationship between early adoption and opinion leadership has been extensively investigated in past research. According to the literature, opinion leadership tends to be a characteristic of early adopters

and early adoption tends to be positively related to opinion leadership (King and Summers 1970; Summers 1971; Baumgarten 1975; Engel, Kegereis, and Blackwell 1969). According to Baumgarten (1975), "this very substantial similarity between opinion leaders and early adopters leads to the question of the extent to which opinion leaders are early adopters, and vice versa". This dissertation addresses that question, be it in the context of the reconceptualized innovativeness construct rather than early adoption, through the investigation of the following two hypotheses:

H6: All innovators are likely to be opinion leaders

H7: Not all opinion leaders are necessarily innovators

In other words, it is expected that innovators are a subset of opinion leaders. By addressing separately the degree of opinion leadership among innovators and the degree of innovativeness among opinion leaders, (stronger) results can be obtained than would be indicated by simple correlation of the two constructs. Specifically, a weak relationship would obtain if a large proportion of opinion leaders were found to be non-innovative, even if meanwhile innovators consistently were high in opinion leadership.

CONTRIBUTIONS

Hence, the major contributions that this dissertation intends to make to consumer diffusion theory may be stated

formally as follows:

1. A reconceptualization of the innovativeness construct in response to criticisms and concerns in the literature.
2. The building and testing of a causal model that explains innovativeness on the basis of situational rather than personality variables.
3. Refinement of the opinion leadership construct.

In addition, the following contributions derived directly and or indirectly from the first two major contributions may be listed:

- * The introduction of causality in the specification of relationships between relevant constructs in the diffusion of innovations.
- * The reconciliation of conflicting and or weak empirical results through the reconceptualization of innovativeness on the basis of explanations in the diffusion literature for these conflicting results.
- * The integration of the behavioral assumptions underlying diffusion modeling theory with the behavioral diffusion literature through the reconceptualization of the innovativeness construct on the basis of these behavioral assumptions.
- * The advancement of consumer diffusion theory beyond mere application of diffusion theory in consumer behavior through the use of consumer behavior theoretical constructs in the explanation of innovativeness.

A lack of integration of the behavioral diffusion literature and the theory and practice of new product (concept) testing and new product management presents the final challenge in this dissertation. Ultimately, good theory should lead to good practice. If this dissertation is to be considered successful, it will have to show how

and why its theoretical contributions will lead to good or better practice. Hence, implications for the theory and practice of new product (concept) testing and new product management will be explored in the final chapter on the basis of the results of this dissertation.

ORGANIZATION

The balance of the dissertation is presented in Chapters II through VI. Chapter II contains the literature review. Chapter III develops the theoretical framework underlying the propositions to be tested. Chapter IV deals with the research design. The methodology and a framework for data collection are developed in this chapter. Topics include scale development, tests for reliability and validity, data analysis, and survey procedures. The main findings and any supplementary findings are dealt with in Chapter V. In Chapter VI the conclusions are summarized and theoretical and managerial implications are explored. Suggestions for further research are also included.

Chapter II

Literature Review

INTRODUCTION

The literature review is contained in two separate sections. The first section surveys theoretical and empirical contributions that have been made in the context of what may be called the classical paradigm of diffusion research. The origins and theoretical underpinning of the classical conceptualization of innovativeness and attendant research methodologies are examined first, followed by a summation and evaluation of the collateral body of empirical evidence, generated in the course of over four decades of diffusion research.

The second section of the literature review investigates several alternative conceptualizations of innovativeness. These include the conceptualization of innovativeness that underlies the diffusion modeling literature and recent alternative conceptualizations that have been developed in the consumer behavior literature.

Section I. The Classical Paradigm

ORIGINS

The classical conceptualization of innovativeness traces its theoretical roots to the rural sociology literature. Specifically, the classical conceptualization and attendant research methodologies can be traced to the seminal article

by Ryan and Gross (1943) on the diffusion of hybrid-seed corn among Iowa farmers. Their study provided the central paradigm for subsequent diffusion research in a variety of disciplines including marketing (Rogers 1983, pp. 51-55; Robertson 1971, pp. 22-23).

The following, brief description of the Ryan and Gross study serves to illustrate this central paradigm.

Respondents in the study, 259 farmers in two small Iowa communities, were interviewed about when they decided to adopt hybrid-seed corn. This time of adoption from the year of introduction of hybrid-seed corn became the main dependent variable in the study. In addition, respondents were asked about their education, age, income, size of operations, sources of information on the innovation, and other variables. Following the collection of these data, the relationship between time of adoption and all other variables was examined. The publication of this study led, in a variety of disciplines, to a virtual explosion of research effort on the diffusion of innovations. Further theoretical and methodological development, however, remained extremely limited (Rogers 1976).

THEORETICAL UNDERPINNING

As regards subsequent theoretical development, one may point to Rogers (1962; Rogers and Shoemaker 1971; Rogers 1983) as having almost singlehandedly defined the field of diffusion research. Among the many contributions by Rogers to the field of diffusion research is his classification of

members of a population of potential adopters into separate categories. Five adopter categories were defined by Rogers, including: innovators, the first 2.5% of a population to adopt; early adopters, the next 13.5%; early majority, the next 34%; late majority, the next 34%; and laggards, the remaining 16%. This classification, in conjunction with the normal curve depicting diffusion over time (see Figure II-1), became widely accepted.

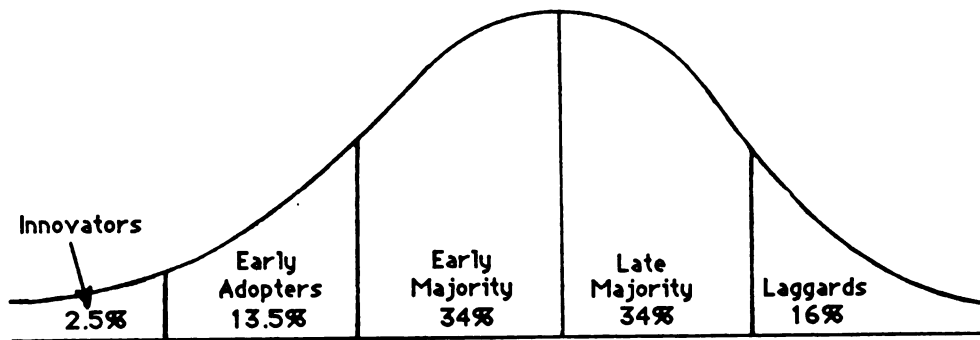


Figure II-1. Adopter Categories

This presentation of the normal diffusion curve signified an important theoretical development in the classical conceptualization of the innovativeness construct. The assumption of normality for the diffusion curve was based on an explicit new assumption on the nature of innovativeness, heretofore synonymous with early adoption behavior. The degree to which an individual would be relatively earlier in adopting an innovation was now

assumed to be a function of the speed with which that individual would be able to complete some sequence of information processing activities that presumably precede adoption. The classificational scheme was not meant to imply that there be pronounced breaks in the innovativeness continuum between these categories. For example, early adopters were not considered to be "non-innovative" but rather "less innovative than innovators". Innovativeness thus became conceptualized as a human trait, akin to traits such as human intelligence or the learning of information (Rogers 1983, p. 244). This conceptualization of innovativeness as a human trait rather than behavior became part of the classical paradigm widely adopted by diffusion researchers (Midgley and Dowling 1978).

Yet, the accepted operational definition of innovativeness, though conceptualized as a human trait, is behavioral (viz., "the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than the other members of a social system" Rogers 1983, p.22). The time of adoption of an innovation (from the time that the innovation had been introduced) therefore continued to be the central element of the classical paradigm of diffusion research. No less than 60% of all diffusion research studies focused on early adoption as the main dependent variable (Rogers 1976). Research designs mainly followed the Ryan and Gross (1943) approach, described earlier, consisting of correlational analyses of

cross-sectional data, generally gathered in a single survey (Rogers 1976).

THE CLASSICAL PARADIGM IN THE MARKETING LITERATURE

The marketing tradition of diffusion research, modeled on the rural sociology tradition described above, emerged during the early 1960's (e.g., Bell 1963; King 1963, 1965; Cunningham 1966; Arndt 1967; Robertson 1967). The subsequent, near explosive, growth in research effort (e.g., see Robertson 1971, p. 22) led marketing diffusion research to be ranked among the more prominent of major diffusion research traditions (Rogers 1983, pp. 52-53). Yet, conceptual and methodological contributions remained rather limited. Research, for the most part, focused on applications of the classical paradigm (i.e., its conceptualizations and methodologies) to marketing problems (Gatignon and Robertson, 1985).

The following two sub-sections summarize and evaluate the empirical evidence concerning early adoption behavior and assorted related variables accumulated across a variety of disciplines, including marketing. Following that, the second major part of the literature review examines theoretical and conceptual developments in the diffusion modeling and consumer diffusion literatures. Developments in the latter literature were motivated by deficiencies in the nature of the empirical evidence to be surveyed and represent additions to -- rather than applications of -- diffusion theory in marketing.

EMPIRICAL RESULTS: SUMMATION

The amount of research on variables related to innovativeness, that has accumulated since the Ryan and Gross (1943) study was first published, is truly impressive. By 1983, the total number of empirical publications on characteristics of innovators could be estimated at approximately 1800 studies (see Rogers, 1983, p. 261). A summary of generalizations on characteristics of early adopters, derived from the accumulated empirical evidence across a variety of disciplines, including marketing, is presented below in Table II-1, taken from Rogers (1983, pp. 260-261).

EMPIRICAL RESULTS: EVALUATION

A variety of criticisms regarding these generalizations, however, can be found in the literature. First, it may be noted here that the majority of generalizations supported by more than 75% of relevant studies tend to be those that have received less attention. Different studies, moreover, often report opposite findings on several of the characteristics presumed to be related to innovativeness.

Robertson and Meyers (1969) concluded that personality variables had little if any relationship to innovative behavior. Taylor (1977) comments that "the overall result of these empirical studies is characterized by finding correlations that are so weak as to be questionable or meaningless." Midgley and Dowling (1978) point to the

Table II-1. Early Adopter Characteristics

			Studies:		
	Direc- tion.	Genera- lization.	Suppor- ting.	Not Suppor- ting.	Percentage of Studies Supporting
I. Socioeconomic Characteristics					
2-1		Age (not related)	108	120	48
2-2	+	Education	203	72	74
2-3	+	Literacy	24	14	63
2-4	+	Higher social status	275	127	68
2-5	+	Upward social mobility	5	0	100
2-6	+	Larger-sized units	152	75	67
2-7	+	A commercial, rather than a subsistence, economic orientation	20	8	71
2-8	+	A more favorable atti- tude toward credit	19	6	76
2-9	+	More specialized operations	9	6	60
II. Personality Variables					
2-10	+	Empathy	9	5	64
2-11	-	Dogmatism	17	19	47
2-12	+	Ability to deal with abstractions	5	3	63
2-13	+	Rationality	11	3	79
2-14	+	Intelligence	5	0	100
2-15	+	A more favorable attitude toward change	43	14	75
2-16	+	Ability to cope with uncertainty	27	10	73
2-17	+	A more favorable atti- tude toward education	25	6	81
2-18	+	A more favorable atti- tude toward science	20	7	74
2-19	-	Fatalism	14	3	82
2-20	+	Achievement motivation	14	9	61
2-21	+	Higher aspirations for education, occupations	29	10	74

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Table II-1 (Cont'd)

III. Communication Behavior

2-22	+	Social participation	109	40	73
2-23	+	Interconnectedness with the social system	6	0	100
2-24	+	Cosmopolitaness	132	42	76
2-25	+	Change agent contact	135	21	87
2-26	+	Mass media exposure	80	36	69
2-27	+	Exposure to inter- personal communica- tion channels	46	14	77
2-28	+	More active informa- tion seeking	12	2	86
2-29	+	Knowledge of inno- vations	61	19	76
2-30	+	Opinion Leadership	42	13	76
2-31	+	Belonging to highly interconnected systems	8	7	53

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"confused and contradictory nature" of these findings. Similar comments are made by Robertson (1971), Kohn and Jacoby (1973), Ostlund (1974), and Downs and Mohr (1976).

It may be noted, in defense of Rogers' continuing presentation of generalizations that are based on arguably less than perfect empirical evidence (Rogers 1962; Rogers and Shoemaker 1971; Rogers 1983), that the burden of evidence in the social sciences is not quite the same as in "harder" sciences. Several instances of falsification need not lead to outright rejection of stated hypotheses in the scientific realist (Hunt 1982) or relativist (e.g., see Anderson 1983) metatheoretical perspectives that typify the social sciences, including marketing. Instead, occurrences of falsification provide impetus for further refinement and explanation regarding extant bodies of theory and evidence.

A variety of explanations for the relative inconsistency of empirical evidence is accordingly found in the diffusion literature. First, it has been suggested that the classical paradigm was developed for major (discontinuous) innovations rather than the minor (continuous) innovations to which the classical paradigm was subsequently applied in many studies, particularly in marketing and consumer behavior (Midgley and Dowling 1978). However, it is not made clear how or why the classical paradigm is relevant to major innovations only. In addition, the logically concomitant argument is not made

that previous findings would gain in consistency if publications on minor innovations were to be eliminated from the body of evidence.

According to Midgley and Dowling (1978), conflicting results are more likely due to differences between operationalizations of the innovativeness construct in different studies, and to the operational definition of the innovativeness construct per se. For example, in marketing innovativeness has been measured on the basis of: (1) early adoption of one particular innovation (e.g., Donnelly and Ivancevich 1974; Peat, Gentry and Brown 1975; Robertson 1968; Engel, Blackwell and Kegereis 1969; Robertson and Kennedy 1969; Warren 1985); (2) ownership of a range of new products in a particular product category (Robertson and Meyers 1969; Summers 1972; Ostlund 1972; Darden and Reynolds 1974; Kohn and Jacoby 1973; King and Sproles 1973); and (3) ownership of new products or stated preference for new products across a range of product categories (Summers 1971).

Additional confusion in measurement is generated through the divergent manner in which researchers deviate from Rogers' specification of innovators as "the first 2.5% to adopt". For example, in the marketing literature innovators are defined by Robertson and Kennedy (1968) as the first 10% to adopt while Ostlund (1972) defines innovators as the 33% of his subjects who had tried the greatest number of new products among a prescribed

category. Uhl, Andrus and Paulson (1970) define the first 16% to be innovators, the next 24% as laggards, and the remaining 60% as "other adopters". It is therefore possible that conflicting findings regarding relationships between innovativeness and other variables are due to differences in operationalization (Kohn and Jacoby 1973).

An additional explanation of conflicting findings centers on the definition of the innovativeness trait as early adoption behavior. That definition necessarily neglects the effect of situational factors that may intervene between the trait of innovativeness and resulting early adoption behavior. A prominent example of such situational factors is represented by a consumer's interest, or lack of interest, in the product category in which the innovation takes place. Robertson (1971) concluded that innovativeness is product category specific (see also Midgley and Dowling 1978; Summers 1971). Product category interest may be a necessary though not necessarily sufficient factor in the early adoption of innovations. As a result, samples of later adopters will include individuals that would adopt early, but for their lack of interest in the product category as a whole.

Also, members of a population of potential adopters may not all receive information on an innovation at the same time. The latter constitutes an additional example of a situational factor intervening between trait and behavior (Midgley and Dowling 1978, see also Robertson 1971).

Consequently, samples of early adopters may include individuals who received information on the innovation earlier than other members of the population and adopted earlier for that reason, rather than from an inner inclination to embrace innovations sooner than other members of the population.

The relative lack of consistency in the accumulated empirical evidence is however in the view of this dissertation less problematic than weaknesses in the theoretical underpinnings of the hypothesized relationships per se. Specifically, while all variables are generally treated separately in their relationship to innovativeness, many of these variables are closely, possibly causally, related to one another while others seem tautological (e.g., education, literacy, social status, and upward social mobility; or upward social mobility, achievement motivation, and higher aspirations; or interconnectedness, belonging to interconnected systems, social participation, and exposure to interpersonal communication channels). Yet, issues of causality remain largely unaddressed (Rogers 1976), though causality is often implied (e.g., Eveland 1979; see Rogers 1983, p.263). The causality issue will receive additional attention in the third chapter of this dissertation.

Summarizing, it may be concluded first that widespread agreement exists regarding the disappointing nature of empirical results (Robertson and Meyers 1969; Taylor 1977;

Robertson 1971; Downs and Mohr 1976; Ostlund 1969, 1974; Midgley and Dowling 1978; Kohn and Jacoby 1973). Second, these disappointing empirical results can be attributed not only to differences in the operationalization of the innovativeness construct, but also to the definition and conceptualization of innovativeness itself. This is so because the tautological definition of innovativeness as early adoption behavior does not account for the influence of situational variables. Consistency in the operationalization of an improperly conceived construct would therefore not suffice to address deficiencies in the nature and quality of empirical evidence. Third, diffusion research has largely ignored the issue of causality. For example, it is not clear whether innovative behavior is caused by a consumer's personality or whether it is caused by situational variables.

The following, second section of the literature review examines the conceptualization of innovativeness developed in the diffusion modeling literature and surveys recent efforts toward a reconceptualization of innovativeness in the consumer behavior literature. It is these contributions, both from the diffusion modeling and the consumer diffusion literatures, that provide the basis for this dissertation's reconceptualization of the innovativeness construct.

Section II. Changing Perspectives

CONCEPTUALIZATION IN THE DIFFUSION MODELING LITERATURE

The objective of diffusion models is to represent the diffusion of an innovation among a population of potential adopters as a mathematical function of time (Mahajan and Muller 1979). This allows the modeler to forecast future sales. The diffusion modeling literature (Bass 1969; Fourt and Woodlock 1960; Mansfield 1961; Mahajan and Muller 1979) therefore focuses mainly on prediction rather than explanation or understanding. Yet, the behavioral assumptions underlying diffusion modeling are of great interest to this dissertation.

The intriguing behavioral assumption underlying diffusion modeling is that much of new product acceptance is an imitation process (Bass 1969; Rogers and Shoemaker 1971; Muller and Mahajan 1979). Specifically, Bass (1969) defines innovators as "individuals who decide to adopt an innovation independently of the decisions of other individuals in a social system" (p.216). Non-innovators on the other hand are defined as 'imitators'.

It is the variation in the proportions of innovators and imitators among adopters in subsequent time periods that underlies the mathematics of diffusion models. Simply put, the shape of the diffusion curve is calculated on the basis of the proportions of innovators and imitators that are expected to adopt an innovation over subsequent time periods. The total number of innovators that adopt in a

given time period decreases over time as the pool of nonadopters, of which a constant proportion is assumed to innovate during any given time period, becomes smaller; the total number of imitators that adopt in a given time period first increases with the number of earlier adopters that becomes available for imitation and then decreases as the pool of nonadopters becomes smaller.

The diffusion modeling literature definition of innovators therefore represents a radical departure from the widely accepted definition of innovators as earlier adopters. The conceptualization by Bass distinguishes innovators from other adopters on the basis of differences in communication behavior. That is, innovators do not need supportive (socially or otherwise) communication from the social system. Innovators, according to the diffusion modeling literature conceptualization, can be found both among earlier and among later adopters.

The average time of adoption from the time of introduction of an innovation will, however, be less for innovators as a consequence of a lack of a need for communication from other consumers. Relatively later adoption by imitators, on the other hand, is caused by their need for supportive communication from those who have adopted earlier. The conceptualization of innovativeness in the diffusion modeling literature therefore introduces causality into the explanation of earlier and later adoption by innovators and imitators respectively.

This conceptualization also provides a theoretical basis for its distinction between innovators and non-innovators. This is so because diffusion theory is essentially a theory of communication (Gatignon and Robertson 1985). A classification of adopters that intends to explain diffusion should consequently be related in some manner to communication behavior by adopters. Note in this respect that the ultimate criterion as regards proper classification schemata concerns the usefulness of a classification as regards explanation (Hunt 1983). The arbitrary (Robertson 1971) classical categorization of adopters is essentially tautological (Midgley and Dowling 1978) and is not, and for that very reason could not be, explanatory.

The diffusion modeling literature allows for the possibility that there may be no innovators among a population of potential adopters (Mansfield 1961) or that all potential adopters be innovators (Fourt and Woodlock 1960), or any variation in between. The diffusion modeling literature conceptualization of innovativeness is therefore entirely innovation specific and does not suggest the existence of certain characteristics by which innovators might be consistently identified since individuals will not consistently innovate across different innovation-decision situations. Any consumer, depending on the situation, can sometimes be innovative according to the diffusion modeling definition of innovativeness, a notion also found with

Hirschman (1980).

The conceptualization of innovativeness as a personality trait on the other hand, if it is to lay claim to validity, should necessarily be connected somewhat consistently to additional personality variables. The accumulated body of empirical evidence reviewed earlier hardly indicates that such has been or can be successfully accomplished.

It may also be noted here that the conceptualization of innovativeness in the diffusion modeling literature provides a good explanation as regards the lack of integration between the diffusion modeling literature and the behavioral diffusion literature, remarked upon by Gatignon and Robertson (1985). The very existence of diffusion modeling in its attempt to predict the future shape of diffusion curves denies the central tenet of the behavioral diffusion literature which assumes the existence of a normally distributed innovativeness personality trait, the latter having been connected explicitly (Rogers 1983, p.20) with the existence of normally distributed diffusion curves.

RECONCEPTUALIZATION IN THE CONSUMER DIFFUSION LITERATURE

The diffusion modeling literature developed independently from the general behavioral diffusion literature. Hence, it did not itself specify or examine the theoretical implications for the behavioral diffusion literature as regards its conceptualization of the innovativeness

construct. Several authors in the consumer diffusion literature have however attempted to specifically explain and address the failure of empirical evidence to confirm the existence of some set of defined characteristics shared by innovators. First the seminal contribution by Midgley (1977) and Midgley and Dowling (1978) is examined.

The conflicting nature of empirical evidence in the diffusion literature may, as noted above, be attributed not only to differences in operationalization of the innovativeness construct, but, more importantly, to the very conceptualization of innovativeness itself. Midgley and Dowling (1978) provide the following cogent summary on that issue.

"Researchers in this [diffusion] area make two implicit assumptions. First, that innovativeness is a personality trait possessed, to a greater or lesser degree, by all members of a society, and second that what is being measured [early adoption] is, in fact, this trait" ---"By anchoring the construct [innovativeness] directly to its measurement [early adoption] researchers --- have rendered their version of innovativeness innovation-specific, leading to severe problems of inter-study comparison."

Their solution to this problem centers on a reconceptualization of the innovativeness construct, rendering it distinct from its measurement. They argue, referencing Rozeboom (1966, p.206), that when a construct is central to a theory, as is innovativeness to diffusion theory, that construct and measurement should be logically distinct.

They extract that necessary distinction by first

pointing to researchers who measured innovativeness across a range of products within a product category (e.g., Robertson and Meyers 1969; Darden and Reynolds 1974; Kohn and Jacoby 1973; King and Sproles 1973; see Midgley and Dowling 1978) or even across a range of product categories (e.g., Summers 1971). The innovativeness construct when measured through such cross-sectional methodologies is presumably more likely to reflect some persisting characteristic of the individual, since its presence is measured across a series of innovation-decisions confronting the individual, thereby eliminating the influence of situational factors. The cross-sectional methodology is therefore appropriate to measure the innovativeness personality trait according to Midgley and Dowling (1978).

That measurement methodology may however not serve to define the innovativeness construct, since the definition of that central construct should be logically distinct from its measurement. Such a definition moreover should be logically consistent with the theory in which it plays a central role. Midgley and Dowling (1978) approach the problem of defining innovativeness by pointing to the key role in diffusion theory played by communication behavior (see also Rogers 1976; Gatignon and Robertson 1985). Indeed they argue that it would be difficult to account for observed non-linear cumulative adoption curves without the existence of communication processes. An assertion, it may

be noted, that is contrary to theoretical and empirical assumptions and empirical evidence found in the diffusion modeling literature. Specifically, Fourt and Woodlock (1960) present a diffusion model where all adopters are assumed to be innovators (i.e., assumed to adopt independently of communication with others).

The general tendency of the Midgley and Dowling (1978) argument however closely follows assumptions implicit in diffusion modeling. Thus, Midgley and Dowling offer the following definition of innovativeness as "the degree to which an individual makes innovation-decisions independently of the communicated experience of others." They explicitly present this definition however while conceptualizing innovativeness as a trait, a dimension of the human personality, and a function of additional dimensions of the human personality.

Additionally, it is suggested by Midgley and Dowling (1978) that a receptivity to new ideas is part of the essential notion of innovativeness. Individuals who adopt very late because they lack receptivity to new ideas may therefore not be real innovators even if they adopt independently of interpersonal communication. This, as was seen earlier, directly contradicts the notion of innovativeness that underlies diffusion modeling, in spite of the close resemblance between the definitions offered by Midgley and Dowling (1978) and Bass (1969) respectively. Midgley and Dowling (1978), quoting Rogers and Shoemaker

(1971), express the expectation that receptivity to new ideas will be closely linked to independent decision making, but also suggest that such should be empirically examined.

Hirschman's (1980) reconceptualization of innovativeness closely follows Midgley and Dowling's metatheoretical stance. That is, she rejects the operationalist definition of innovativeness and seeks to replace it with an axiomatic definition that is valid in the context of the theoretical framework to which the construct is central. However, she argues that a consumer's "receptivity to new ideas" should serve to define that consumer's degree of innovativeness.

She points out that Midgley and Dowling did not identify factors that cause independent decision making, be it within or across product categories. She combines theories on consumer creativity, role accumulation, inherent novelty seeking (the inner inclination for stimulation by the new and different), and actualized novelty seeking (actions to experience, possibly vicariously, the new and different) to arrive at a causal explanation of early independent adoption and/or rejection behavior. Her explanation of early adoption behavior, simply put, proposes that early adoption is caused by a consumer's ability to recognize superior solutions to (sometimes novel) consumption problems. That superior ability is ultimately, primarily determined by novelty

seeking self-fulfillment. The latter concept is connected to some internal drive or motivating force to seek out new and potentially discrepant information, and to an inherent need for variety in experiences.

In addition, Hirschman (1980) advances a teleological notion underlying novelty seeking. Specifically, she proposes that such behavior might be explained by a consumer's need for knowledge in a complex environment. The latter notion is metatheoretically quite different from established practice in the diffusion literature, as will be seen in the next and third chapter of this dissertation.

SUMMARY

In view of the above, the following conclusions can be listed summarizing the current status of diffusion research in marketing:

1. The nature of empirical evidence on characteristics of early adopters is considered quite unconvincing. It is particularly doubtful that any conclusions can be drawn regarding relationships between personality variables and early adoption.
2. A consensus has emerged in the marketing literature that the operational definition of innovativeness as early adoption behavior is tautological. That is, to equate innovativeness with innovative behavior makes it impossible for the former to explain the latter.

3. Research efforts attempting to address that deficiency have focused on establishing an independently defined innovativeness trait that, though mediated by situational factors, explains early adoption behavior.

4. Two distinct directions have been taken in the conceptualization of such a separate innate innovativeness trait. First, innovativeness as a personality trait has been equated with an inner inclination to independent judgment making. Secondly, innovativeness as a personality trait has been equated with an inner inclination to embrace that what is new and different.

The following chapter presents this dissertation's theoretical framework and hypotheses.

Chapter III

Theoretical Framework and Hypotheses

Section I. Theoretical Framework

DEFINITION OF INNOVATIVENESS

This dissertation defines innovativeness as

the degree to which an individual makes innovation-decisions independently of the decisions of other individuals in his or her social system.

The term "innovation-decision", introduced by Rogers and Shoemaker (1971), implies that both adoption and rejection by innovator and non-innovator alike may occur upon consideration of the innovation. An innovation is defined as any product, service, or idea that is perceived as new by the individual (Rogers 1983, p. 11). An individual's social system comprises co-workers, neighbors, relatives, and friends (Childers 1986) with whom the individual interacts, also independently of consideration of the innovation.

The definition above traces its roots to the conceptualization of innovativeness in the diffusion modeling literature. That is, it implies that non-innovators are imitators who (in a given product category) do not make innovation-decisions independently, and it regards early adoption as neither sufficient nor necessary to infer innovativeness. The use of the term innovation-decision emphasizes that adoption is not a necessary

conclusion of the adoption process or innovation-decision process (Rogers and Shoemaker 1971). The definition thereby incorporates Hirschman's (1980) conceptual distinction between vicarious innovativeness and actualized innovativeness. That is, the making of an innovation-decision is conceptually distinguished from acting on that decision. The latter can include adoption or rejection and/or impartment of (positive or negative) recommendations regarding an innovation. Note that, strictly speaking, mere rejection does of course not constitute a physical act, but rather the absence thereof. That absence is included however in this dissertation among the possible actions on a decision since, given the high failure rate of new products, it is not unlikely to be the most prominent of "actions" taken in innovation-decision situations and of consequent great interest to managers.

The key difference between the proposed definition and the definition by Midgley and Dowling (1978), to which it bears a close resemblance, lies in its conceptualization of innovativeness as behavior. This behavior is admittedly not readily observable, nevertheless it is potentially measurable.

Midgley and Dowling (1978) criticized the operational definition of the innovativeness personality trait as early adoption behavior. Accordingly, they proposed the following definition of innovativeness as a personality trait: "the degree to which an individual makes

innovation-decisions independently of the communicated experience of others."

This definition of the construct is separate from its behavioral operationalization. Operationally, the presence of this trait should be inferred, according to Midgley and Dowling (1978), from observations of early adoption behavior across a series of innovation-decision opportunities in order to eliminate the influence of situational factors.

Closer inspection of the Midgley and Dowling (1978) definition however reveals that it too is implicitly behavioral and tautological. This is so because their definition, though said to be so, is not in fact that of a personality trait. To see this, consider the following. The degree to which a consumer selects new service stations for car repairs "independently of communicated experience of others" is a function of that consumer's trust in his or her ability to judge the character and expertise of management and mechanics in the car repair business. It is hardly inconceivable that the same consumer who confidently decides to give the new service station in the neighborhood a try may call on friends and relatives when contemplating the use of a new recipe. Therefore, the degree to which an individual makes innovation-decisions independently of the communicated experience of others cannot be a personality trait, which is defined as a "persisting characteristic or disposition by which one individual can be distinguished from another" (English and English 1958, Wolman 1973, see

Midgley and Dowling 1978). Instead, it constitutes behavior. Such behavior may or may not be explained additionally through some inner inclination to independence of decision making, or related to additional psychological traits such as empathy, dogmatism, achievement motivation, etc. (see Midgley and Dowling 1978).

Thus Midgley and Dowling (1978) offer a behavioral definition of innovativeness ("the degree to which innovation-decisions are made independently") and explain it tautologically by assuming an underlying personality trait (an inclination to make innovation-decisions independently). In view of the example provided above, one may wonder about the explanatory power of the assumed inner inclination to independent decision making. Specifically, in explaining the occurrence of independent decision making in a product category, situational factors such as consumers' familiarity with the product category (e.g., cars or cooking) seem rather more important than consumers' inner inclinations.

As stated, this dissertation's definition of innovativeness is essentially behavioral, similar to the classical paradigm, and similar in fact to Midgley and Dowling (1978). But it does not, implicitly or explicitly, equate that behavior with a personality trait. It also does not regard that behavior directly connected to, caused by, or mirrored by a corresponding personality trait. Such may appear to be somewhat radical, yet this perspective is

sanctioned by the lack of results of prior empirical evidence (Taylor, 1977; Robertson and Meyers 1969; Downs and Mohr 1976; Ostlund 1969, 1974; Midgley and Dowling 1978; Robertson 1971).

In its attempt to explain innovative behavior, as defined, this dissertation views innovative behavior as situationally determined. Belk (1975) has pointed to the need for examination of situational variables to explain variance in consumer behavior. Lavidge (1966) similarly noted that differences in behavior between consumers may be based on differences in situational variables.

METATHEORETICAL PERSPECTIVES

This dissertation, in the explanation of innovative behavior, views human action as consciously motivated to achieve certain goals that are relevant to the individual. Thus a purposive, teleological perspective is taken as regards the causality that presumably underlies human action. The dissertation thereby breaks new ground, leaving the metatheoretical confines of the classical paradigm of diffusion research. Confines that also characterize the conceptualizations by Midgley (1977), Midgley and Dowling (1978), and (to an extent) Hirschman (1980). To see this, a necessarily concise survey of current thinking on metatheoretical issues in social science, especially marketing, may be appropriate and is provided below.

Two basic philosophical paradigms dominate theory

construction in social science. In psychology these are characterized as behavioristic and phenomenological (Runyon 1980). Deshpande (1983) characterizes the approximately similar metatheoretical dichotomy in marketing as positivist versus idealist. Logical empiricism and scientific realism (see Hunt 1982) have been predominant in marketing (Peter 1982; Arndt 1985), and more nearly reflect the positivist perspective of science.

Positivism originated as the paradigm of natural science. In the extreme it rejects any consideration of causality; in its more moderate form it considers causality factual (Deshpande 1983), operating from deterministic necessity (Rapoport 1969). That perspective is exemplified in previous approaches where the explanation of adoption is akin to explanations of chemical reactions. That is, if the elements are present, an innovator and an innovation or an inclination to make decisions independently and the opportunity to make a decision independently, and the environment is appropriate, adoption or an independent decision occur. Accordingly, positivism is said to hold to the existence of a reality independent of theory, or what might be called a mechanistic reality, which theory attempts to verifiably explain (Hunt 1982). Its methodologies are consequently quantitative in nature, uniquely qualified to verify, but not to discover, hypotheses (Deshpande 1983, see also Reichardt and Cook 1979).

The polar opposite of positivism has been termed relativism (Long 1985) or idealism (Deshpande 1983). Its approach to the explanation of human behavior can be considered teleological. Specifically, it attempts to understand human action from the actor's frame of reference (Deshpande 1983). A prominent example of the non-positivist school of thinking is found in the Austrian economists' approach to explanation. According to their perspective (see Kirkpatrick 1982) the actor's free will is considered axiomatic, and the causes of the actor's behavior must be sought in the actor's purposes. Hence, the idealist school may adopt a purposive or teleological understanding as regards the meaning of causality. A prominent application in marketing of this paradigm is found in Alderson's functionalism. The two examples below may clarify the meaning of causality according to deterministic and teleological prehensions respectively.

I. Q. Why does the earth move around the sun?

A1. (Deterministic necessity) because of a combination of gravitational and centrifugal forces.

A2. (Teleological) because it can keep an even temperature in that manner.

II. Q. Why did the general execute the tallest men among his captives?

A1. (Deterministic necessity) Because his father, who was tall, beat him as a child.

A2. (Teleological) Because he feared that the tallest among prisoners would more likely prove troublesome.

The debate between supporters of the positivist and idealist schools of thought has often been sharp, yet they are also somewhat complementary in nature. Deshpande (1983) strongly advocates that both approaches be applied in marketing in a balanced way (see also Long 1985).

This dissertation will follow that recommendation in the generation and testing of its theory and associated hypotheses. The conceptualization of innovativeness, and the generation of the accompanying causal model and associated hypotheses pay tribute to the idealist view of human behavior (i.e., behavior is explained from the actor's frame of reference). Subsequent verification of the theoretical framework will take place according to quantitative methodologies that more nearly reflect the positivist paradigm.

Section II. Hypotheses

ENDURING INVOLVEMENT AND INNOVATIVENESS

In view of the above, this dissertation therefore does not ask who the innovative consumer is. This dissertation asks instead why the consumer is innovative. Moreover, when it asks the latter question, the answer (contrary to previous efforts) is not sought in deterministic necessity. That is, it is not assumed that the consumer is innovative because the consumer is innately inclined to embrace the new and different, or innately inclined to independence in decision making, or innately curious. The answer instead

is sought in the motivation of the innovative consumer. That is, this dissertation asks why the consumer would want to be innovative (i.e., want to make innovation-decisions and forgo the communicated experience of others).

The answer to that question, according to the causal model presented in Chapter 1 and reproduced below (Figure III-1), is sought initially in the consumer's enduring involvement with the product category in which the innovation takes place.

Enduring involvement is defined as "the ongoing concern with a product the individual brings into a purchase situation" (Bloch and Richins 1983, p. 71). Enduring involvement is a situational variable akin to Midgley and Dowling's (1978) "interest in product category" variable. In Belk's (1975) taxonomy of situational variables, enduring involvement would be classified as a "task definition" variable. Task definition variables include such variables as "an intent or requirement to select, shop for, or obtain information about a general or specific purchase" (Belk, p. 159).

The proposed model and the proposed conceptualization of innovativeness argue that enduring involvement does not serve as an intervening variable, allowing or disallowing (in its absence) the expression of innate innovativeness. Instead, it is argued that innovativeness (independence of innovation-decision making) is directly caused by enduring involvement.

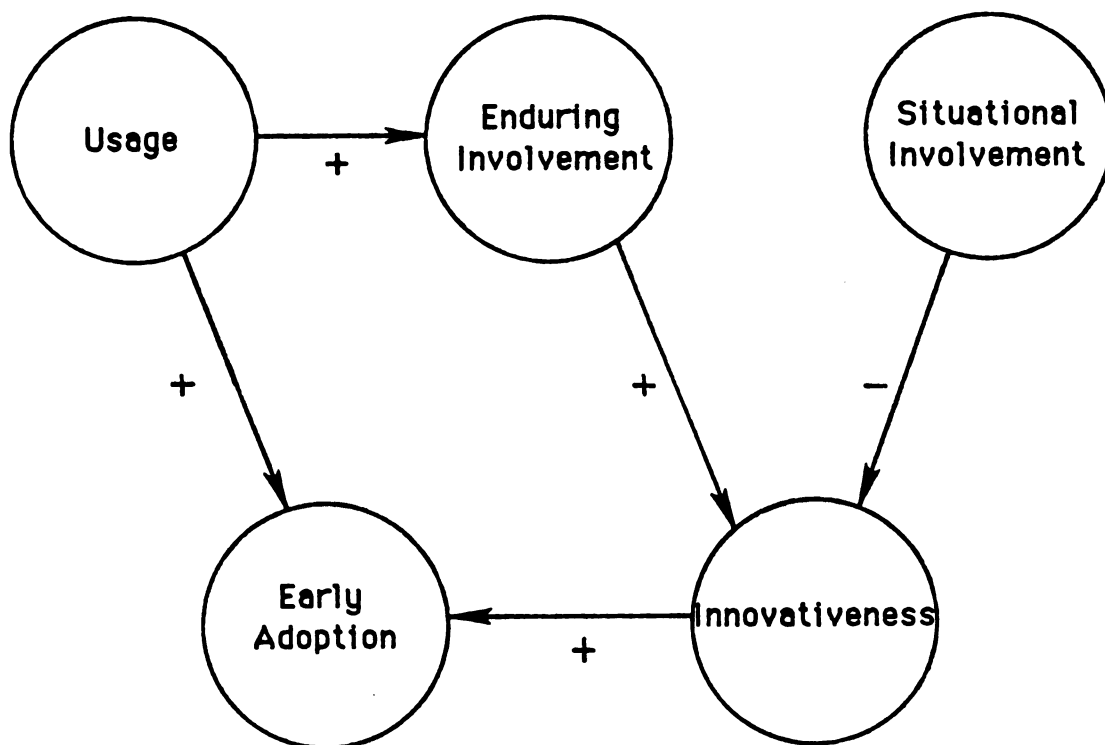


Figure III-1. A Causal Model of Innovativeness

To see this, consider an individual who is less inclined to rely on interpersonal communication. Such an individual likely believes either that interpersonal communication will not yield additional useful information or that the cost of waiting for such additional information exceeds its potential value.

As regards the former, the individual may learn through experience that his or her peers or near-peers generally do not know as much or do not know much more than he or she does about innovations in the product category of interest. Innovators, therefore, should be expected to know more and know earlier about innovations. Greater knowledge of innovations is indeed positively related to earlier adoption according to 61 out of 76 studies examined by Rogers (1983, see Table II-1, generalization 2-29, p. 19 of this dissertation, see also Engel, Kegereis, and Blackwell 1969; Hirschman 1980; Dickerson and Gentry 1983; Gatignon and Robertson 1985). Greater and earlier knowledge of innovations in a product category is precisely the condition that is brought on by enduring involvement, or involvement with products (Howard and Sheth 1969). This is so, since enduring involvement is acted upon or expressed by a consumer's continuing search for information on products in the product category of interest, independent of the need to purchase (Bloch, Sherrell and Ridgway 1986). Enduring involvement, reflected in a continuous monitoring of the marketplace for new

and interesting information, is therefore hypothesized to cause independent decision making.

Knowledgeability per se however, though a characteristic or condition likely brought on by enduring involvement, is not thought to necessarily lead in and of itself to continuous independent decision making. Since knowledgeability may also be a temporary condition brought on by a recent or current experienced need to purchase and may have been acquired on the basis of the experience of others. Hence, it is hypothesized that

H1: Enduring involvement will have a positive impact on innovativeness.

This first hypothesis embodies the central argument contained in this dissertation and reflects this dissertation's teleological understanding of causality in the explanation of the adoption of innovations by consumers. It may therefore be appropriate to interrupt the presentation of the hypotheses in order to further consider this causality issue in connection with the presentation of the hypothesis above.

Enduring involvement is not considered a dimension of the human personality, or as being caused by a dimension of the human personality, with the exception of the axiomatic assumption that human action is aimed at the achievement of certain goals. This means that it is assumed that the adoption of innovations is a consequence of a desire for better solutions to consumption problems. New products

will be adopted if, and more importantly because, they present superior solutions. They are not, in the view of this dissertation, adopted because an innovative consumer is inherently predisposed to embrace that which is new and different. The latter notion, which reflects a deterministic necessity understanding of the meaning of causality, has directly or indirectly served to explain innovativeness in previous conceptualizations (except for certain considerations advanced by Hirschman (1980) as reviewed).

The high failure rate of new products in fact suggests that innovators are, if anything, inherently more likely to reject rather than adopt new products. If innovators were to be defined on the basis of adoption behavior, they would be termed more accurately early rejectors rather than early adopters. Implications of that consideration as regards the theory and practice of new product (concept) testing and new product management, and the lack of integration of these with diffusion research, will be examined in the final chapter of this dissertation. Here it is necessary to return to a consideration of additional hypotheses to be tested in this dissertation.

SITUATIONAL INVOLVEMENT AND INNOVATIVENESS

As stated, a consumer may have concluded on the basis of experience that additional useful information is not likely to be gained from his or her social system, or alternatively a consumer may feel that the value of such

information does not exceed the cost of waiting. One example of the latter is innovativeness in the face of desperation, for example, a terminal disease or (more mundane) a car failure in a strange town. Another example is when the cost of an incorrect innovation-decision is quite low. According to Houston and Rothschild (1978) product-related stimuli and social psychological stimuli combine to reflect the perceived severity of the consequences of an inappropriate purchase decision. That perceived severity induces situational involvement "evoked by a particular situation, such as a purchase occasion" (Bloch and Richins 1983). Involvement with a purchase causes individuals to spend more time gathering information and to gather greater amounts of information (Clarke and Belk 1979).

Hence, it is suggested that situational involvement may cause an individual to be more willing to delay an innovation-decision until additional information in the form of communicated experiences of others becomes available in his or her social system. That perspective is supported by Arndt (1967) and Ostlund (1974). They found that perceived risk is negatively related to early adoption. The situational involvement construct captures the "consequence" component of perceived risk according to Houston and Rothschild (1978). Hence,

H2: Situational involvement will have a negative impact on innovativeness

HEAVY USAGE, ENDURING INVOLVEMENT, AND EARLY ADOPTION

The alternative approach to innovativeness is linked to the traditional approach through inclusion of early adoption in the model. Heavy usage, for two reasons, is also included in the model. First, consumer diffusion researchers have consistently verified, across a range of product categories, that early adopters are found among heavy users within a product category (Frank, Massy, and Morrison 1964; Robertson 1971; Taylor 1977; Danko and MacLachlan 1983; Dickerson and Gentry 1983). Second, heavy users as a group are of great managerial importance and are generally readily identifiable.

The strong relationship between early adoption behavior and heavy usage is hypothesized to operate in two different ways, as shown in the model. Heavy usage may directly influence early adoption, since purchase occasions on average will arrive sooner for the heavy user, or heavy usage may influence early adoption through its enhancement of the individual's level of enduring involvement (Houston and Rothschild 1978), and consequently the individual's inclination to make innovation-decisions independently. Hence,

H3: Heavy usage will have a positive impact on enduring involvement

H4: Heavy usage will have a positive impact on early adoption

Finally, independent innovation-decision making on average

leads to earlier adoption, since independent innovation-decision makers need not wait for adoption by other individuals in their social systems as discussed in the examination of the diffusion modeling literature. Hence,

H5: Innovativeness will have a positive impact on early adoption

OPINION LEADERSHIP AND INNOVATIVENESS

Opinion leaders are defined in the marketing literature as "individuals who influence the general and purchase behavior of other people" (Engel, Kollat and Blackwell 1982, p. 354). The construct originated with the Lazarsfeld, Berelson, and Gaudet (1948) study of the 1940 presidential elections. That study proposed a two-step flow of communication hypothesis, meaning that information flows from the mass media to opinion leaders and from them to the rest of a population of potential adopters.

The latter conceptualization distinguishes opinion leaders from non-opinion leaders on the basis of the nature of information (impersonal versus personal) used to determine their respective opinions. That conceptualization is directly related to the conceptualization of innovators versus imitators found in the diffusion modeling literature and adopted in this dissertation. That is, it regards opinion leaders not only as disseminators of opinions, but also as originators of opinions within their social system. Thus, it may be said to conceptualize

opinion leaders as individuals who make decisions independently of decisions by others.

The accepted conceptualization of the opinion leader in marketing (and in the diffusion literature, see Rogers 1983, p. 27) focuses on influence only, regardless of whether the opinion leader was in turn influenced by others. That definition therefore includes a much larger proportion of individuals in a target market. The distinction between the two interpretations of the opinion leadership construct serves to develop the final two hypotheses to be tested in this dissertation.

Specifically, researchers in marketing repeatedly report findings of a positive relationship between opinion leadership and earlier adoption (King and Summers 1970; Summers 1971; Baumgarten 1975; Engel, Kegereis, and Blackwell 1969; Mancuso 1969) although the relationship is not always found to be very strong (Meyers and Robertson 1972; Summers 1971; Mancuso 1969). Opinion leadership is also reported to be product category specific (Katz and Lazarsfeld 1955; King and Summers 1970; Montgomery and Silk 1971). As therefore might be expected, the search for characteristics that can consistently (across product categories) identify opinion leaders has not been very successful. yielded low or inconclusive correlations (Montgomery and Silk 1971). However, characteristics of innovators and opinion leaders within a specific product category (fashion) exhibited remarkable similarity

(Baumgarten 1975). The considerable overlap between early adoption behavior and opinion leadership in general (and between characteristics of innovators and opinion leaders in fashion in particular) led Baumgarten to suggest that the question arises of the extent to which opinion leaders are innovators and vice versa. It is precisely that question this dissertation intends to answer. That answer will however be provided in the context of the definition of innovators as proposed in this dissertation.

As mentioned, the two-step flow hypothesis of communication regards opinion leaders as those who collect and interpret information from mass media at the behest of others. That conceptualization of opinion leadership concurs with this dissertation's conceptualization of innovativeness. It suggests the following hypothesis:

H6: All innovators are likely to be opinion leaders

The accepted conceptualization in marketing of opinion leaders as influencers however includes also those individuals who initially were influenced by others. In other words, it includes also imitators. As noted in the earlier discussion of the diffusion modeling literature, non-innovators imitate those that adopted earlier. Both innovators and imitators will be found among these (influential) earlier adopters according to the diffusion modeling literature conceptualization of innovativeness, similar to the conceptualization of innovativeness in this

dissertation. This suggests the following hypothesis:

H7: Not all opinion leaders are necessarily innovators

Therefore, in response to the question posed by Baumgarten (1975) as regards "the extent to which innovators are opinion leaders, and vice versa", this dissertation hypothesizes that the answer may be that innovators are opinion leaders, but not necessarily vice versa.

SUMMARY

This chapter has conceived of innovativeness as consciously motivated by a desire to recognize superior alternatives to consumption problems. The innovative consumer has been distinguished from the non-innovative consumer on the basis of the former's ability and willingness to independently evaluate and decide on the merits of proposed alternative solutions to consumption problems. This conceptualization formed the basis for hypotheses linking the innovativeness construct to well defined additional consumer behavior constructs. In addition, the proposed conceptualization of innovativeness served to establish a theoretical foundation on the basis of which a distinction could be made between opinion leaders that are and opinion leaders that are not innovators.

Chapter IV

Methodology

Section I. Data

SAMPLE

A mail survey of 333 clerical and administrative staff members at a major university was used to collect the data to test the research hypotheses. The selection of this non-random population is appropriate since the research at hand entails the application of general scientific theory. That is, the effects observed in the research are employed to assess the status of theory. They are not intended to be generalizeable to other settings or other populations. Instead, the theoretical considerations of the study are intended to be generalizeable to alternative settings (for additional discussion see Calder, Phillips, and Tybout 1981).

The selection of clerical and administrative staff as subjects was motivated by the expectation that they are likely to have a certain degree of experience with each of the three product categories investigated (personal computers, movie theater attendance, and restaurants). In addition, they are expected to be relatively homogeneous with respect to factors that are not included in the model (e.g., income or lifestyle). The latter consideration led to the decision not to include, for example, faculty members or students. This approach

provides for a stronger test of the theory, since it reduces the likelihood of type II errors occurring due to sample heterogeneity (Cook and Campbell 1975; see also Calder, Phillips, and Tybout 1981). For example, as regards inclusion of faculty members, it is not inconceivable that the nature of the academic life style leads to greater enduring involvement with personal computers or with restaurants. Findings of a positive relationship between enduring involvement, earlier adoption, and higher usage might then be attributable to relatively higher incomes earned by faculty members.

SELECTION OF PRODUCT-MARKET SETTINGS

The variables of interest are measured across three different product-market settings: personal computers, movie theater attendance, and restaurants. Several considerations led to the selection of these categories.

First, the categories are presumed to vary with respect to the degree of involvement evoked by a purchase occasion (situational involvement). This is important since variance in situational involvement is likely to be greater between product categories than between subjects (Houston and Rothschild 1978). Second, as regards movie theater attendance and restaurants, services have received comparatively little attention in the marketing diffusion literature (Warren 1985). Third, the timing of adoption or purchase in the selected categories is presumed to be quite recallable, an important consideration in diffusion

research (Rogers 1976). Finally, movie theater attendance and restaurants continuously present innovation-decision opportunities.

RESEARCH INSTRUMENT

Three separate questionnaires, each addressing a single product category (personal computers, movie theater attendance, and restaurants) were used to pretest the operationalization of the constructs. A direct comparison of the results across the three product categories is intended. Hence, it was decided that data on each of the three product categories should be collected from the same group of subjects. As a result, a concern existed that subject cooperation might be imperiled due to the lengthy and repetitive nature of their intended task.

The pretest allowed an assessment of that issue. Thirty-eight subjects were requested (in person by the researcher's assistant) to fill out all three questionnaires (see Appendices A-C). Eighteen of thirty-eight respondents returned all three questionnaires within one week. Questionnaires from two additional subjects were received several weeks later. Of these (sixty) questionnaires all but one were completed. This response rate was felt to be quite low given the personal nature of the request for cooperation. Comments by prospective respondents confirmed that the task of filling out all three questionnaires was felt to be quite burdensome.

The results of the pretests however led to significant

reductions in the size of the research instruments. This, in combination with changes in lay-out and design, allowed the construction of a single questionnaire (appendix D). That questionnaire measures all variables across each of the three product categories without, it was expected, unduly burdening respondents. The response rate of 43.2% (within a three week cutoff period) to the final mail survey bore out that expectation.

Section II. Variable Operationalization

INNOVATIVENESS

The items used to measure innovativeness are adapted from a scale developed by Carlson and Grosbart (1984). Their 13-item scale, developed in accordance with suggestions by Hirschman (1980) and Midgley and Dowling (1978), measures the degree to which an individual makes innovation-decisions independently (see Appendix E). Such independence need not imply an absence of interpersonal communication. Indeed, Kohn and Jacoby (1974) found early adopters to be more likely to obtain information from friends. Instead, the items are designed to measure the degree to which the innovator's decision is not dependent on such communication.

The Carlson-Grosbart scale, following Midgley and Dowling's (1978) recommendation, measures innovativeness as a personality trait, generalizable across product

categories. The present approach however considers innovativeness to be product category specific. Hence, the items of the Carlson-Grosbart scale were adapted to fit each of the three product categories investigated (see Appendices A-C and Table IV-1 below). Pretests led to the elimination of all but five items. These five items are used for each of the three product categories investigated. The five-item innovativeness scale for movie theater attendance is presented below in Table IV-1. The essentially identical innovativeness scales that fit computers and restaurants can be found in Appendix D. Reliability scores obtained during pretesting for the five-item scale equal .8414 (computers), .9444 (movie theater attendance), and .8809 (restaurants).

Table IV-1. Innovativeness Scale

	Strongly Agree							Strongly Disagree						
1. I talk with others who have seen new movies before I decide whether to go see them.	1	2	3	4	5	6	7							
2. I seek advice from other people who have seen a new movie before I go see it.	1	2	3	4	5	6	7							
3. I find it hard to decide whether to go see a new movie before I learn the opinions of those who have already seen it.	1	2	3	4	5	6	7							
4. I wait to see new movies until I know whether friends who have tried them think they are "ok".	1	2	3	4	5	6	7							
5. I am one of those people who would decide to go see a new movie without consulting others who had previously tried it.	1	2	3	4	5	6	7							

ENDURING INVOLVEMENT

Enduring involvement has been defined as "the ongoing concern with a product the individual brings into a purchase occasion" (Bloch and Richins 1983, p. 71). In other words, enduring involvement exists independently of the purchase occasion. This construct is operationalized in this dissertation on the basis of an adaptation of Zaichowski's (1985) 20-item bipolar adjective scale (see Appendix F).

Machleit (1986) found that the twenty items in the Zaichowski scale possibly represent three different dimensions: importance, utility, and interest. The latter involvement dimension was taken to represent the domain especially pertinent to enduring involvement. Hence, the enduring involvement construct was operationalized on the basis of items that constituted the interest dimension of the Zaichowski scale.

A content analysis of the 20-item scale suggested items 10 (uninterested-interested), 13 (boring-interesting), 14 (exciting-unexciting), and 16 (mundane-fascinating) to reflect interest rather than importance or usefulness. Quantitative analysis by Machleit (1986) of student response data to the 20-item scale led to elimination of item 10 and to consideration of item 15 (appealing-unappealing) for inclusion. Machleit (1986) found Cronbach alpha scores for the resulting 4-item scale (see Table IV-2) of .85 (for blue jeans), .88 (for soft

drinks), and .89 (for cookies). Machleit's results are confirmed by reliability scores obtained from the pretests performed for this dissertation. These scores equal .9118 (for computers), .9036 (for movie theater attendance), and .8137 (for restaurants). Machleit (1986) suggested that item 15 (appealing-unappealing) might not really fit well with any of the three possible dimensions. The pretest results obtained in this dissertation indicated that item 15 be retained.

Table IV-2. Enduring Involvement Scale

Below are sets of word pairs. Please circle the numbers that best reflect your FEELINGS ABOUT.....

- | | | | | | | | | | |
|----|------------|---|---|---|---|---|---|---|-------------|
| 1. | boring | 1 | 2 | 3 | 4 | 5 | 6 | 7 | interesting |
| 2. | unexciting | 1 | 2 | 3 | 4 | 5 | 6 | 7 | exciting |
| 3. | appealing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unappealing |
| 4. | mundane | 1 | 2 | 3 | 4 | 5 | 6 | 7 | fascinating |

SITUATIONAL INVOLVEMENT

Perceived risk incorporates two main risk components: importance and uncertainty (Cunningham 1964). Of these two components, situational involvement reflects the importance component (Houston and Rothschild 1979). Importance refers to the perceived severity of making an incorrect innovation-decision. An early attempt to measure the importance component of perceived risk is provided by Arndt (1967) who asks: "How important is it to you that a brand

of this product you have never tried before is as good as your present brand?"

The content of Arndt's question is retained in the measure of situational involvement used in this dissertation. The measure is however structured to conform to Zaichowski's (1985) approach to the measurement of involvement. Zaichowski (1985) had suggested that her scale be used also to measure involvement with purchase situations. Rather than use all twenty items however, it was decided to reduce the number of items presented to subjects. Specifically, only items reflective of the importance domain sought for in the situational involvement construct were retained (see Table IV-3 below).

Table IV-3. Pretest Situational Involvement Scale

Next, using similar scales, we would like you to indicate how important it is to you that you do not make a mistake when choosing a movie to go see in a movie theater.

1.	important	1	2	3	4	5	6	7	unimportant
2.	of no concern	1	2	3	4	5	6	7	of concern to me
3.	irrelevant	1	2	3	4	5	6	7	relevant
4.	means a lot	1	2	3	4	5	6	7	means nothing to me
5.	trivial	1	2	3	4	5	6	7	fundamental
6.	matters to me	1	2	3	4	5	6	7	doesn't matter to me
7.	significant	1	2	3	4	5	6	7	insignificant

Pretesting of these seven items for each of the three product categories led to the elimination of items 2 (of no concern-of concern to me), 3 (irrelevant-relevant), and 5

(trivial-fundamental). The resulting 4-item situational involvement scale yielded reliability scores of .8741 (computers), .9495 (movie theater attendance), and .9525 (restaurants). As intended, mean situational involvement scores exhibited considerable variance between product categories. Mean situational involvement scores obtained during pretesting were 6.67 (standard deviation = .54) for computers, 4.36 (standard deviation = 1.43) for movie theater attendance, and 5.71 (standard deviation = 1.26) for restaurants.

OPINION LEADERSHIP

Opinion leadership has long been a prominent construct in both marketing and diffusion theory (e.g., Robertson 1971; Rogers 1962; Rogers and Shoemaker 1971; Rogers 1983; Gatignon and Robertson 1985). Among several measures of opinion leadership, the most prominent is the self-designating method developed by King and Summers (1970).

Previous research (see Riecken and Yavas 1983; Yavas and Riecken 1982) found Cronbach alpha scores ranging from .50 to .87 for the King-Summers scale. Childers (1986), in a recent effort to improve the scale's reliability and validity, revised it by rewording the questions to allow the range of response alternatives to include five response categories.

This dissertation adopted Childer's refinement of the King-Summers scale and pretested the revised scale across the three product categories (see Table IV-4). The number

of response categories was however expanded to seven to maintain consistency throughout the questionnaire. Based on pretest results, item 5 was eliminated. Childers (1986) also suggested that item 5 be dropped. In addition, it was found that scale reliability improved greatly through elimination of item 7. Given the product category specific nature of opinion leadership, this was not surprising. Reliability scores for the resulting 5-item opinion leadership scale equaled .8744 (computers), .8857 (movie theater attendance), and .8944 (restaurants).

EARLY ADOPTION

Early adoption is operationalized in the personal computer product category on the basis of subjects' relative time of adoption from the introduction of the innovation. The purchase of a personal computer is likely to be a single and major purchase in that product category. Accordingly, it is not expected that respondents will encounter much difficulty in recalling the time of such a purchase, even if it occurred several years ago. Respondents who did not yet purchase a computer were asked to indicate if such a purchase was anticipated and if so when (see Appendix D). Previous research relying on anticipated purchase behavior to establish relative time of adoption includes studies by Jacoby (1971), King and Baumgarten (1970), and Summers (1971).

For movie theater attendance, two alternative methods

Table IV-4. Pretest Opinion Leadership Scale

We would like to ask a few questions about how you interact with friends and neighbours regarding.....

1. In general do you talk to your friends and neighbours about...?

Often 1 2 3 4 5 6 7 Never

2. When you talk to your friends and neighbours about ... do you:

give a great deal of information 1 2 3 4 5 6 7 give very little information

3. During the past six months, how many people have you told about a ...?

told a number of people 1 2 3 4 5 6 7 told no one

4. Compared with your circle of friends how likely are you to be asked about ...?

very likely to be asked 1 2 3 4 5 6 7 not at all likely to be asked

5. In a discussion of ... would you be most likely to:

listen to your friends' ideas 1 2 3 4 5 6 7 convince your friends of your ideas

6. In discussions of ... which of the following happens most often?

you tell your friends about ... 1 2 3 4 5 6 7 your friends tell you about ...

7. Overall, in all of your discussions with friends and neighbours are you:

often used as a source of advice 1 2 3 4 5 6 7 not used as a source of advice

for operationalization of early adoption behavior were used: the classical direct approach (Ryan and Gross 1943) and the cross-sectional method often used in marketing (e.g., Summers 1971, 1972; Darden and Reynolds 1974; Baumgarten 1975).

Specifically, all respondents were asked to indicate which of ten major movies released during 1986 (see Appendix G) they attended and when. Then, following the direct approach, the mean time of attendance since release of the movie was computed to assess adoptive innovativeness. Next, following the cross-sectional method, the number of new movies attended was used to measure respondents' adoptive innovativeness.

Pretests yielded a surprising $-.16$ correlation between the two measures. The precision of recall by respondents regarding the timing of movie attendance is subject to some doubt however since three respondents reported having seen movies prior to their release dates. Two additional respondents indicated they did not recall timing of attendance. Accordingly, on the basis of pretest results, it seems likely that the cross-sectional method may be more accurate and should be preferred. However, also on the basis of pretest results, it must be kept in mind that the cross-sectional method may measure a construct that is not necessarily identical to the early adoption construct from the traditional diffusion literature (Ryan and Gross 1943; Rogers 1983). It was decided to retain both approaches in

the final questionnaire to allow further examination of this issue, using a larger sample.

Finally, early adoption behavior for restaurants was operationalized by asking respondents to indicate the number of restaurants visited for a first time during the six months prior to filling out the questionnaire. This approach is similar to the cross-sectional method discussed above. In effect, the number of new adoption decisions made in the past is used to establish indirectly a likelihood that a particular respondent would be among the earlier adopters of any given new restaurant.

The above has described and justified the selection of the sample used in this study, the selection of product categories investigated, and the operationalization of the variables. The balance of this chapter discusses the statistical methods used to test the hypotheses.

Section II. Analysis

HYPOTHESES H1 THROUGH H5

The analysis takes place in two parts. This part addresses hypotheses H1 through H5. The second part addresses hypotheses H6 and H7. Recall

H1: Enduring involvement will have a positive impact on innovativeness

H2: Situational involvement will have a negative impact on innovativeness

H3: Heavy usage will have a positive impact on enduring involvement

H4: Heavy usage will have a positive impact on early adoption

H5: Innovativeness will have a positive impact on early adoption

To test hypotheses H1 through H5, the causal model illustrated in Figure IV-1 is specified and tested. The attendant structural and measurement model equations are provided in Table IV-5.

The structural equation model (Tables IV-5.1 and IV-5.2) consists of three equations. In the first equation, enduring involvement (η_1) is a function of usage (ξ_1). In the second equation, innovativeness (η_2) is a function of enduring involvement (η_1) and situational involvement (ξ_2). In the third equation, adoptive innovativeness (η_3) is a function of innovativeness (η_2) and usage (ξ_1).

The measurement models are presented in Tables IV-5.3 and IV-5.4. Each of the five latent variables in the three structural equations is measured by one or more observable variables as discussed in the previous section on operationalization of the variables. By definition, these five latent variables do not have a definite scale, since they are unobserved. Hence, for each it is necessary to assign an origin and a unit of measurement (Joreskog and Sorbom 1984, p. I-7). The origins are assigned by constraining one lambda for each variable to

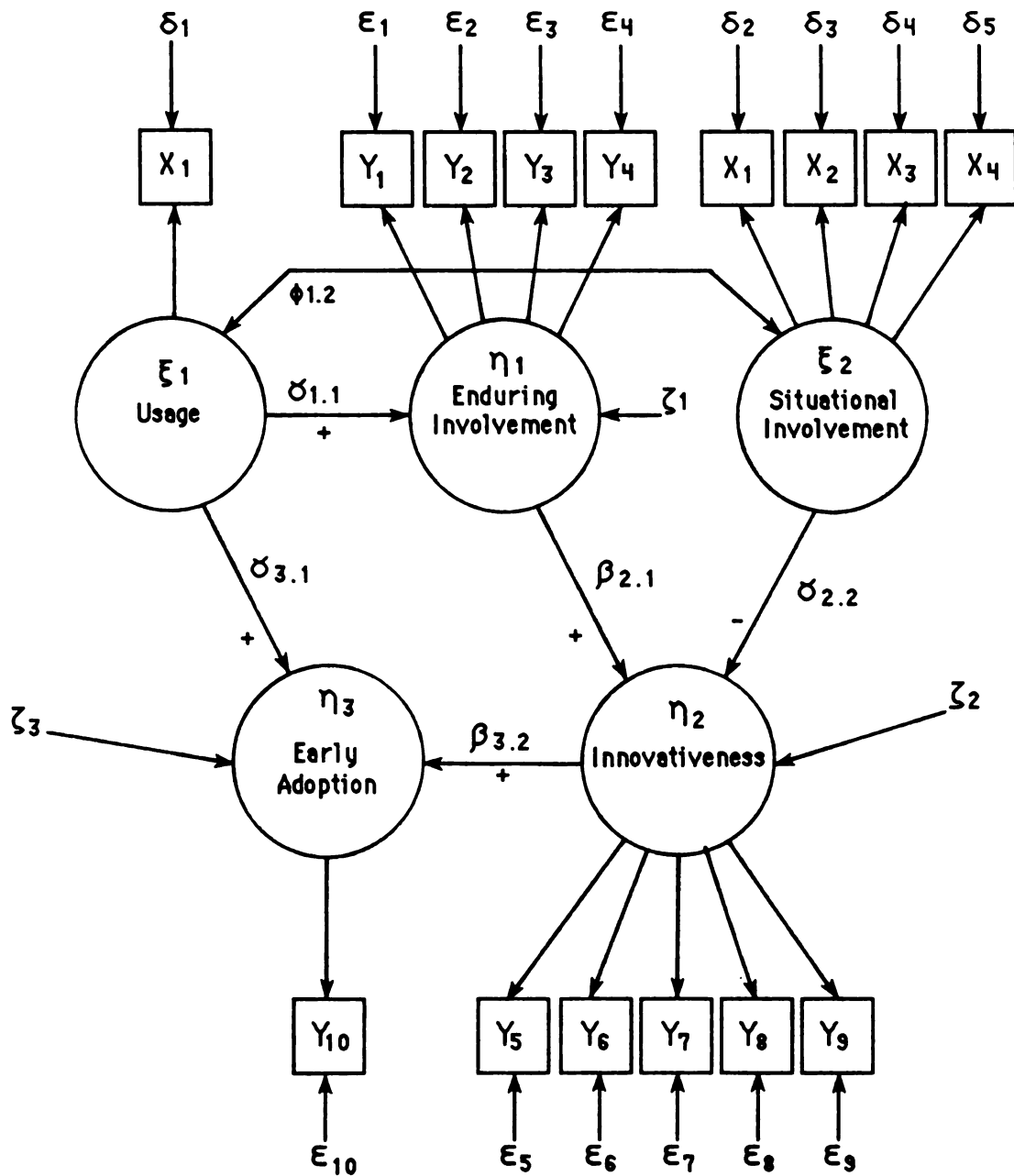


Figure IV-1. LISREL Model of Innovativeness

Table IV-5. Model Equations

The structural equations are

$$\begin{aligned} \eta_1 &= \sigma_1 \xi_1 + \zeta_1 \\ \text{IV-5.1} \quad \eta_2 &= \beta_{2.1} \eta_1 + \sigma_{2.2} \xi_2 + \zeta_2 \\ \eta_3 &= \beta_{3.2} \eta_2 + \sigma_{3.1} \xi_1 + \zeta_3 \end{aligned}$$

or

$$\text{IV-5.2} \quad \begin{pmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{pmatrix} = \begin{pmatrix} 0 & 0 & 0 \\ \beta_{2.1} & 0 & 0 \\ 0 & \beta_{3.2} & 0 \end{pmatrix} \begin{pmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{pmatrix} + \begin{pmatrix} \sigma_{1.1} & 0 \\ 0 & \sigma_{2.2} \\ \sigma_{3.1} & 0 \end{pmatrix} \begin{pmatrix} \xi_1 \\ \xi_2 \end{pmatrix} + \begin{pmatrix} \zeta_1 \\ \zeta_2 \\ \zeta_3 \end{pmatrix}$$

The measurement model equations are

$$\text{IV-5.3} \quad \begin{pmatrix} y_1 \\ y_2 \\ y_3 \\ y_4 \\ y_5 \\ y_6 \\ y_7 \\ y_8 \\ y_9 \\ y_{10} \end{pmatrix} = \begin{pmatrix} \lambda_{1.1} & 0 & 0 \\ \lambda_{2.1} & 0 & 0 \\ \lambda_{3.1} & 0 & 0 \\ \lambda_{4.1} & 0 & 0 \\ 0 & \lambda_{5.2} & 0 \\ 0 & \lambda_{6.2} & 0 \\ 0 & \lambda_{7.2} & 0 \\ 0 & \lambda_{8.2} & 0 \\ 0 & \lambda_{9.2} & 0 \\ 0 & 0 & \lambda_{10.3} \end{pmatrix} \begin{pmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{pmatrix} + \begin{pmatrix} \epsilon_1 \\ \epsilon_2 \\ \epsilon_3 \\ \epsilon_4 \\ \epsilon_5 \\ \epsilon_6 \\ \epsilon_7 \\ \epsilon_8 \\ \epsilon_9 \\ \epsilon_{10} \end{pmatrix}$$

and

$$\text{IV-5.4} \quad \begin{pmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \\ x_5 \end{pmatrix} = \begin{pmatrix} \chi_{1.1} & 0 \\ 0 & \chi_{2.2} \\ 0 & \chi_{3.2} \\ 0 & \chi_{4.2} \\ 0 & \chi_{5.2} \end{pmatrix} \begin{pmatrix} \xi_1 \\ \xi_2 \end{pmatrix} + \begin{pmatrix} \delta_1 \\ \delta_2 \\ \delta_3 \\ \delta_4 \\ \delta_5 \end{pmatrix}$$

equal 1 (see Joreskog and Sorbom 1984, p. I-7; see also Howell 1987). Since ξ_1 (usage) and η_3 (adoptive innovativeness) are each measured by a single observed variable, the above procedure also constrains error terms δ_1 and ϵ_3 (see Tables IV-5.3 and IV-5.4) to equal zero. Finally, it is assumed by convention that the error terms (vectors ϵ and δ) of the observed variables are independently distributed (Bagozzi 1980, p.89).

Preliminary runs of the specified model indicate that the information matrix ("the probability limit of the matrix of second order derivatives of the fitting function used to estimate the model", see Joreskog and Sorbom 1984, p.I-24) is positive definite. That result indicates with near one hundred percent reliability that the model is identified (see Joreskog and Sorbom 1984, p. I-24).

HYPOTHESES H6 AND H7

The final part of this chapter discusses the methodology for testing hypotheses H6 and H7. Recall

H6: All innovators are likely to be opinion leaders

H7: Not all opinion leaders are necessarily innovators

In order to test these two hypotheses, it is necessary to assign respondents to four groups based on their scores on dichotomized innovativeness and opinion leadership scales. The dichotomization process will be discussed

shortly. These four groups (see Figure IV-2 below) include: (1) innovators who are also opinion leaders, (2) non-innovators who are opinion leaders, (3) innovators who are not opinion leaders, and (4) non-innovators who are also not opinion leaders.

	INNOVATORS	NON - INNOVATORS
OPINION LEADERS	1	2
NON OPINION LEADERS	3	4

Figure IV-2. Cross-Tabulation of Innovators and Opinion Leaders

Hypothesis H6 implies that cell 3 be empty, and hypothesis H7 implies that cell 2 may, but need not, be empty. That is, if respondents' scores on the dichotomized innovativeness and opinion leadership scores do not overlap perfectly, then according to hypotheses H6 and H7, this should be attributable to subjects who belong in cell 2 (opinion leaders but not innovators), rather than to subjects who belong in cell 3 (innovators but not opinion leaders).

The strongest possible test of these two hypotheses is

found in a simple inspection of the 2x2 matrix. Hypothesis H6 is falsified if even only one subject is found to occupy cell 3.

Obviously, given the nature of research in social science, this purely falsificationist approach is unlikely to result in a finding of support for the stated hypotheses. Hence, a weaker test is proposed to examine if support is found in the data for the basic argument underlying hypotheses H6 and H7. Namely, the absence of overlap between innovativeness and opinion leadership is said to be attributable to a greater extent to opinion leaders who are not innovative (cell 2) than to innovators who are not opinion leaders (cell 3). Hence, it is expected that the frequency of observations in cell 3 be less than indicated by pure chance (given a certain degree of overlap of innovators and opinion leaders) and that the frequency of observations in cell 2 be greater than indicated by pure chance (again, given a certain degree of overlap of innovators and opinion leaders).

Accordingly, to test hypotheses H6 and H7, first a simple inspection of frequencies in the 2x2 matrix is called for. Then a determination will be made of the frequencies in cells 2 and 3 that would obtain if a lack of overlap were equally attributable to non-innovative opinion leaders and to innovators who are not opinion leaders. Subsequently, a simple binomial proportions test will be used to assess if the actual frequencies differ

significantly in the proper direction from these expected frequencies.

Finally, before proceeding to the analysis of the data, it is necessary to examine in this chapter the dichotomization of the innovativeness and opinion leadership constructs. Obviously, the selection of the actual cutoff points for dichotomization may affect the results. Hence, it is appropriate to consider this issue in some detail, both in the context of precedent in the literature and in the context of assumptions regarding the two constructs that have been made in this dissertation.

Previous approaches in the marketing literature, conceiving of innovativeness as early adoption behavior, used a rather wide variety of cutoff points, including 10% (Robertson and Kennedy 1968), 16% (Uhl, Andrus, and Paulson 1970), and 33% (Ostlund 1972). The literature on opinion leadership exhibited greater consistency. Researchers used cutoff points of 27.7% (Baumgarten 1975), 28% (Summers 1970), and 23% (Katz and Lazarsfeld 1955).

While any one of these cutoff points is necessarily arbitrary, consistency presumably offers the advantage of inter-study comparability. However, this dissertation suggests that innovativeness is product category specific and that proportions of innovators may vary across product categories. Similarly, it has been accepted in the literature that opinion leadership is product category specific (Katz and Lazarsfeld 1955; King and Summers 1970;

Montgomery and Silk 1971), and it is certainly likely that proportions of opinion leaders also vary across product categories. Theoretically, it is not impossible therefore that in some product categories a cutoff point on the basis of assumed proportions of innovators and opinion leaders would include subjects who on average disagreed with items designating them as being innovators or opinion leaders.

Theoretical considerations therefore suggest that the dichotomization be based on a particular level of innovativeness and opinion leadership, independent of proportions of respondents who may or may not exceed such level. In this dissertation, it was decided to use an averaged score of 5.0 or higher on the 7-point innovativeness and opinion leadership scales for dichotomization. In other words, innovators and opinion leaders are operationally defined as subjects who on balance agree with items designating them as innovators or opinion leaders.

Chapter V

Results

INTRODUCTION

This chapter contains three sections. The first provides a general overview of the results obtained in the survey. The second addresses hypotheses H1 through H5, using the causal model discussed in the previous chapter. The third section addresses hypotheses H6 and H7.

Section I. Summary Results

SAMPLE

Three hundred and thirty-three questionnaires were distributed to administrative and clerical staff at the University of New Orleans. Of these, one hundred and fifty-seven were returned within a three week cutoff period. Subsequently, four questionnaires were eliminated because of severely incomplete responses across all three product categories. In addition, nine questionnaires were eliminated where the respondent was not a member of the intended sample population, including four faculty members and five students. Hence, one hundred and forty-four questionnaires (43.2%) were retained for analysis. This effective response rate of 43.2% within the three week cutoff period indicates that early concerns regarding the repetitive and burdensome nature of the response task were sufficiently addressed in the final questionnaire.

The mean age of the 144 respondents is 40.7 years, ranging from 20 to 64. They include 50 males and 94 females. For each product category, respondents were able to indicate that they "never or almost never" use a computer, go to a movie theater, or go to a restaurant. Respondents selecting that answer were designated non-users, and all others are designated users; 107 in the personal computer product category, 126 in the movie theater attendance category, and 141 in the restaurant product category.

RELIABILITIES

Given the changes in the layout and design of the final questionnaire after the pretests, it is appropriate to assess whether these changes impacted on the high degree of reliability attained during pretesting. The comparisons provided in Table V-1 clearly show that such was not the case.

Table V-1. Reliabilities

	Final Sample	-	Pretests
COMPUTERS			
Enduring Involvement	.8945		.9118
Situational Involvement	.9732		.8741
Innovativeness	.8343		.8414
Opinion Leadership	.8584		.8744
MOVIE THEATER ATTENDANCE			
Enduring Involvement	.9086		.9036
Situational Involvement	.9669		.9495
Innovativeness	.8808		.9444
Opinion Leadership	.8993		.8577
RESTAURANTS			
Enduring Involvement	.8562		.8137
Situational Involvement	.9678		.9525
Innovativeness	.8327		.8809
Opinion Leadership	.8696		.8944

VALIDITY

The validity of existing measures used in this dissertation has been addressed in depth by previous authors (Zaichowski 1985; Childers 1986; Rogers 1983). Nomological validation of the reconceptualized innovativeness construct is attempted in the context of hypotheses H1 through H7.

In addition, an examination is provided below of certain assumptions made, critical to the theoretical framework underlying the hypotheses, regarding the reconceptualized innovativeness construct. Also, the variance of the situational involvement construct is examined with respect to Houston and Rothschild's (1974) prediction that situational involvement varies more between than within product categories. Finally, in the movie theater attendance category, the relationship between two alternative measures of early adoption is evaluated.

First, regarding the reconceptualized innovativeness construct, the assumption was made that proportions of innovators vary among product categories. This assumption will be supported if the means of innovativeness scores differ between the three product categories. The results of the analysis of variance reported below in Table V-2 provide such support.

Table V-2. Analysis of Variance - Innovativeness by Product Category (3 groups)

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	568.45	284.23	158.62	<.001
Within Groups	425	761.55	1.79		
	427	1330.00			

Furthermore, it was asserted that the reconceptualized innovativeness construct does not reflect a personality trait. Therefore, regardless of differences among innovativeness scores between different product categories, it is necessary that individual subjects' scores not correlate highly across product categories. Specifically, innovativeness scores should not be correlated to an extent where it would have to be concluded that a single underlying force (i.e., personality trait) gives rise to these scores.

Confirmatory factor analysis is used to assess whether the three five-item innovativeness constructs are different across the three product categories. The LISREL model is used to perform the analysis. Table V-3 provides the standardized solution for the model. Depicted are the solutions for the lambda vectors (here factor loadings) and for the phi matrix (the true correlations between the constructs). The results reveal that the fifteen items load on three dimensions (the three product categories), that subjects' innovativeness scores are highly correlated within product categories, but not across product

Table V-3. Innovativeness - Confirmatory Factor Analysis

		Lambda X (factor loadings)		
		Factor 1 Computers	Factor 2 Movies	Factor 3 Restaurants
Computer				
Innovativeness	item 1	0.893	0.000	0.000
	item 2	0.975	0.000	0.000
	item 3	0.576	0.000	0.000
	item 4	0.515	0.000	0.000
	item 5	0.449	0.000	0.000
Movies				
Innovativeness	item 1	0.000	0.639	0.000
	item 2	0.000	0.781	0.000
	item 3	0.000	0.951	0.000
	item 4	0.000	0.929	0.000
	item 5	0.000	0.579	0.000
Restaurants				
Innovativeness	item 1	0.000	0.000	0.747
	item 2	0.000	0.000	0.777
	item 3	0.000	0.000	0.837
	item 4	0.000	0.000	0.845
	item 5	0.000	0.000	0.434

Total coefficient of determination = .998

Phi matrix (True correlations between constructs)

	Factor 1 Computers	Factor 2 Movies	Factor 3 Restaurants
Factor 1 Computers	1.000		
Factor 2 Movies	.093	1.000	
Factor 3 Restaurants	.106	.553	1.000

categories, and that the innovativeness construct therefore does not reflect some underlying personality trait.

Next, some comments are in order regarding the situational involvement construct. Houston and Rothschild (1974) assert that situational involvement is more likely to vary between product categories than between subjects (within product categories). The selection of the three product categories was partly motivated by that consideration. That is, they were selected in the expectation that they be dissimilar with respect to situational involvement.

Situational involvement was measured following Zaichowski's methodology for measuring involvement and based on the content of Arndt's (1967) early single-item measure of the same construct. The validity of this measure may be assessed based on the extent to which it performs according to theoretical expectations. The results of analysis of variance of situational involvement by the three product categories, reported below in Table V-4, confirm that situational involvement varies more between than within the three product categories selected.

Table V-4. Analysis of Variance - Situational Involvement by Product Category (3 groups)

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	120.17	60.09	24.06	<.001
Within Groups	423	1056.42	2.50		
Total	425	1176.59			

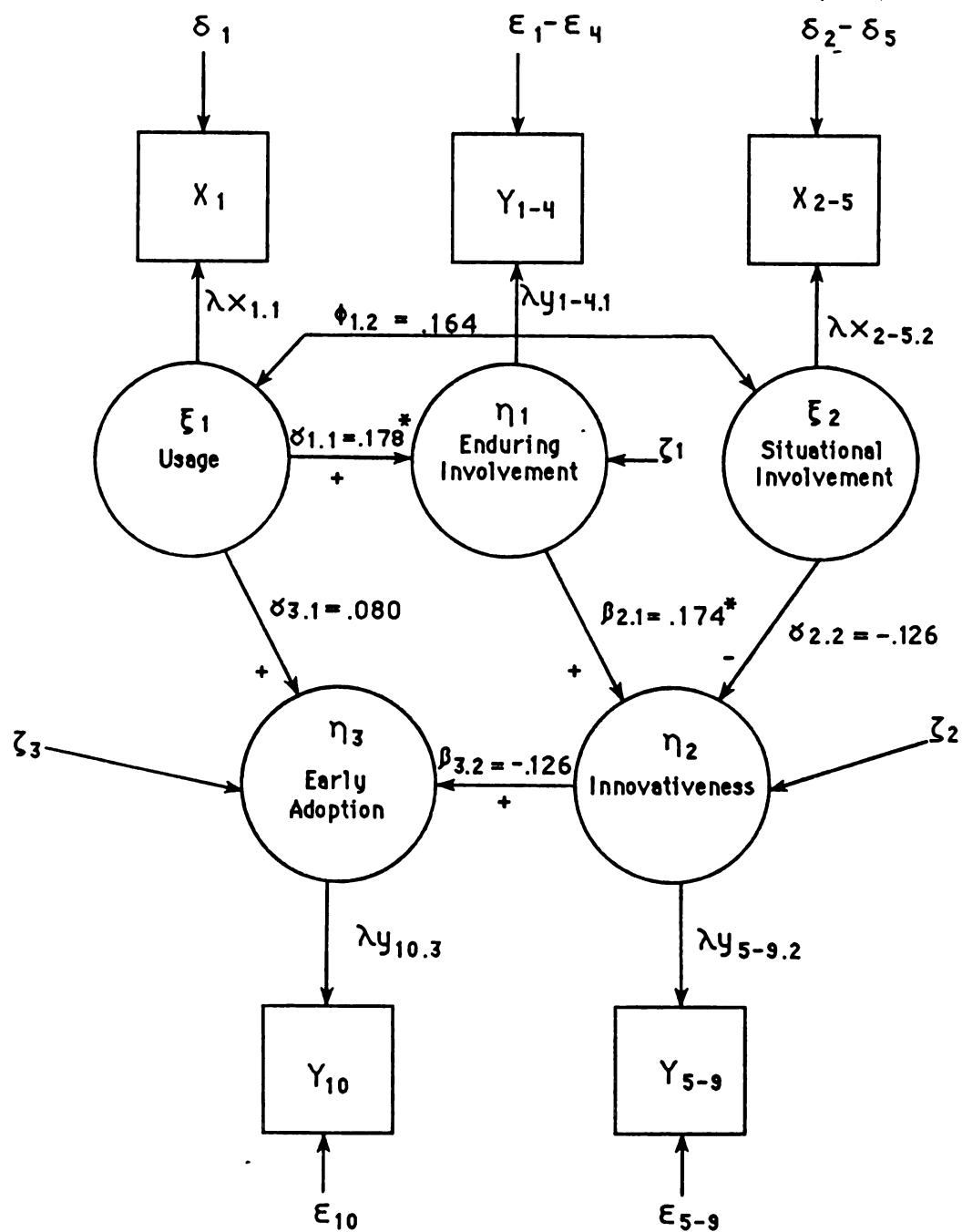
Finally, the relationship between the two operationalizations of early adoption in the movie theater attendance category is re-examined. The larger sample resulted in a correlation between the two measures of .72 ($p < .001$, $n = 91$). Non-response was substantial on the relative time of adoption measure. In addition, again, several respondents indicated having seen movies prior to their release date. These responses were excluded from the analysis. Yet the overall result seems to confirm the validity of the cross-sectional approach (simply counting the number of new products adopted) in measuring early adoption.

Section II. Hypotheses H1 through H5

RESULTS

This section reports the findings for hypotheses H1 through H5. Complete results are provided consecutively for each individual product category. Then, hypotheses H1 and H2 are also examined concurrently across the three product categories. A combined summary for all findings relating to hypotheses H1 through H5 can be found in Table V-10.

The results for the personal computer product category are provided below in Figure V-1 and Table V-5. For the purpose of clarity of presentation, the results for the measurement models (vectors λ_x and λ_y) are provided in Table V-5 only. Multiple item measures are depicted in single boxes in Figure V-1. This too was done for clarity of



* significant at $p = .10$

Figure V-1. Structural Model Results for Personal Computers

Table V-5. Parameter Estimates for Personal Computers

Parameters	Standardized LISREL Estimates	² X
lambda 1	1.000	
lambda 2	.911	
lambda 3	.877	
lambda 4	.656	
lambda 5	.922	
lambda 6	.907	
lambda 7	.931	
lambda 8	.977	
lambda 9	.992	
lambda 10	1.000	
lambda 11	.875	
lambda 12	.984	
lambda 13	.590	
lambda 14	.510	
lambda 15	.502	
beta 2 1	.174	2.74*
beta 3 2	-.126	1.49
gamma 1 1	.178	2.99*
gamma 2 2	-.126	1.49
gamma 3 1	.080	.63
phi 1 2	.164	
Chi-square = 178.36		
p < .001		
d.f. = 86		
R-square (eta 1)=.032		
R-square (eta 2)=.045		
R-square (eta 3)=.022		
GFI=.826		
AGFI=.757		
RMSR=.107		
* Significant at p=.10		

presentation. This convention will be followed throughout this chapter.

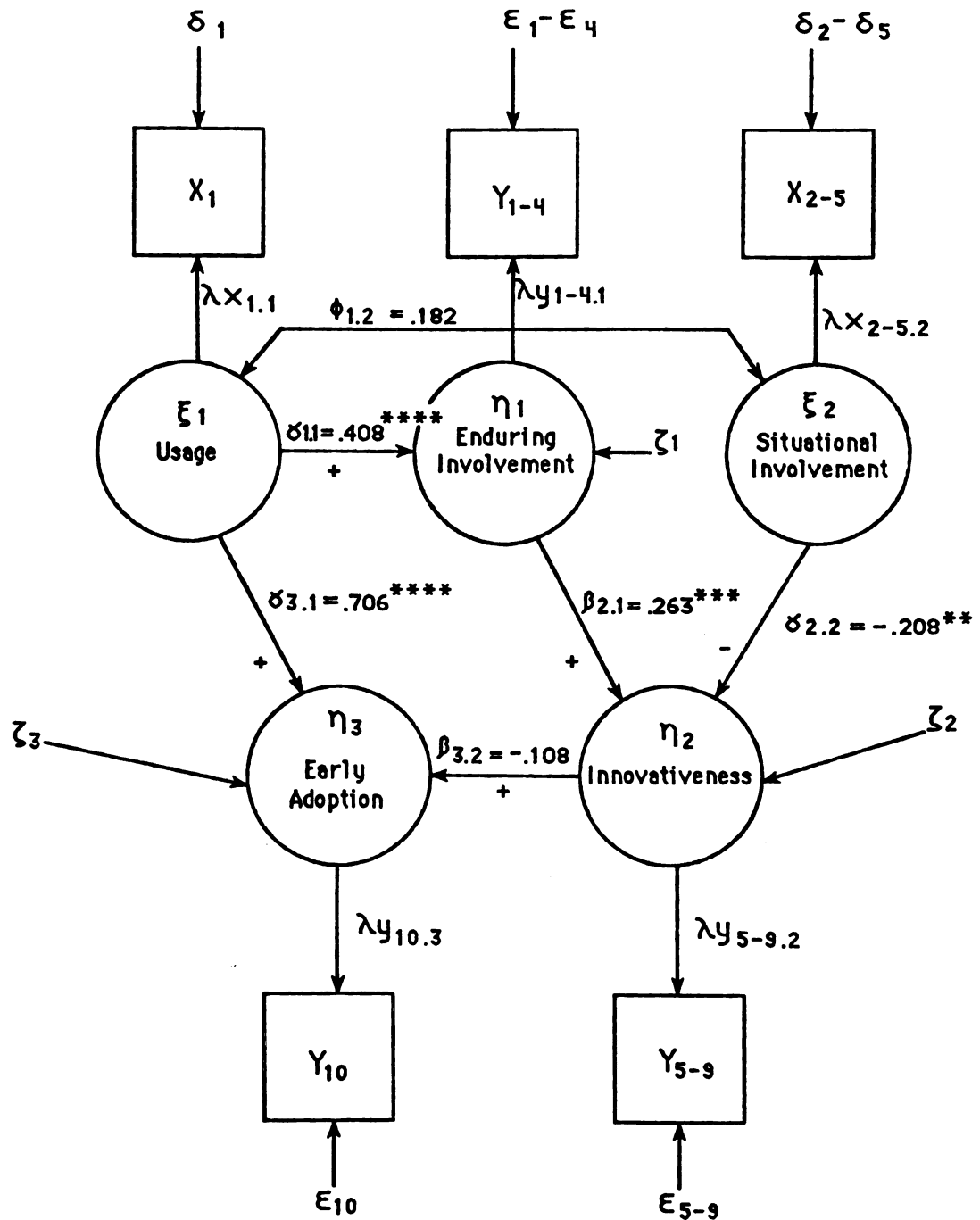
Table V-5 reveals that, for computers, the overall model does not fit the data very well. The structural parameters are all quite small and the relationship between innovativeness and early adoption shows a sign opposite to that hypothesized. Tests are conducted on the individual parameters by fixing each structural parameter in turn, re-estimating the model, and examining the differences in Chi-square with one degree of freedom (see Howell 1987; Steiger, Shapiro and Brown 1985).

These individual parameter tests suggest that only the relationships between usage and enduring involvement and between enduring involvement and innovativeness approach statistical significance (see Figure V-2 and Table V-5).

A complete discussion of these results will take place in the context of the results for the other two product categories.

In the movie theater attendance category, adoptive innovativeness was measured both by using the cross-sectional approach and on the basis of relative time of adoption. First, the results from using the cross-sectional approach are presented in Figure V-2 and Table V-6.

Although the overall model again fits poorly with the data, the tests of the individual parameters reveal that this may be primarily attributed to the absence of a



** significant at $p = .05$
 *** significant at $p = .01$
 **** significant at $p = .001$

Figure V-2. Cross-Sectional Approach: Structural Model Results for Movie Theater Attendance

Table V-6. Cross-Sectional Approach: Parameter Estimates for Movie Theater Attendance

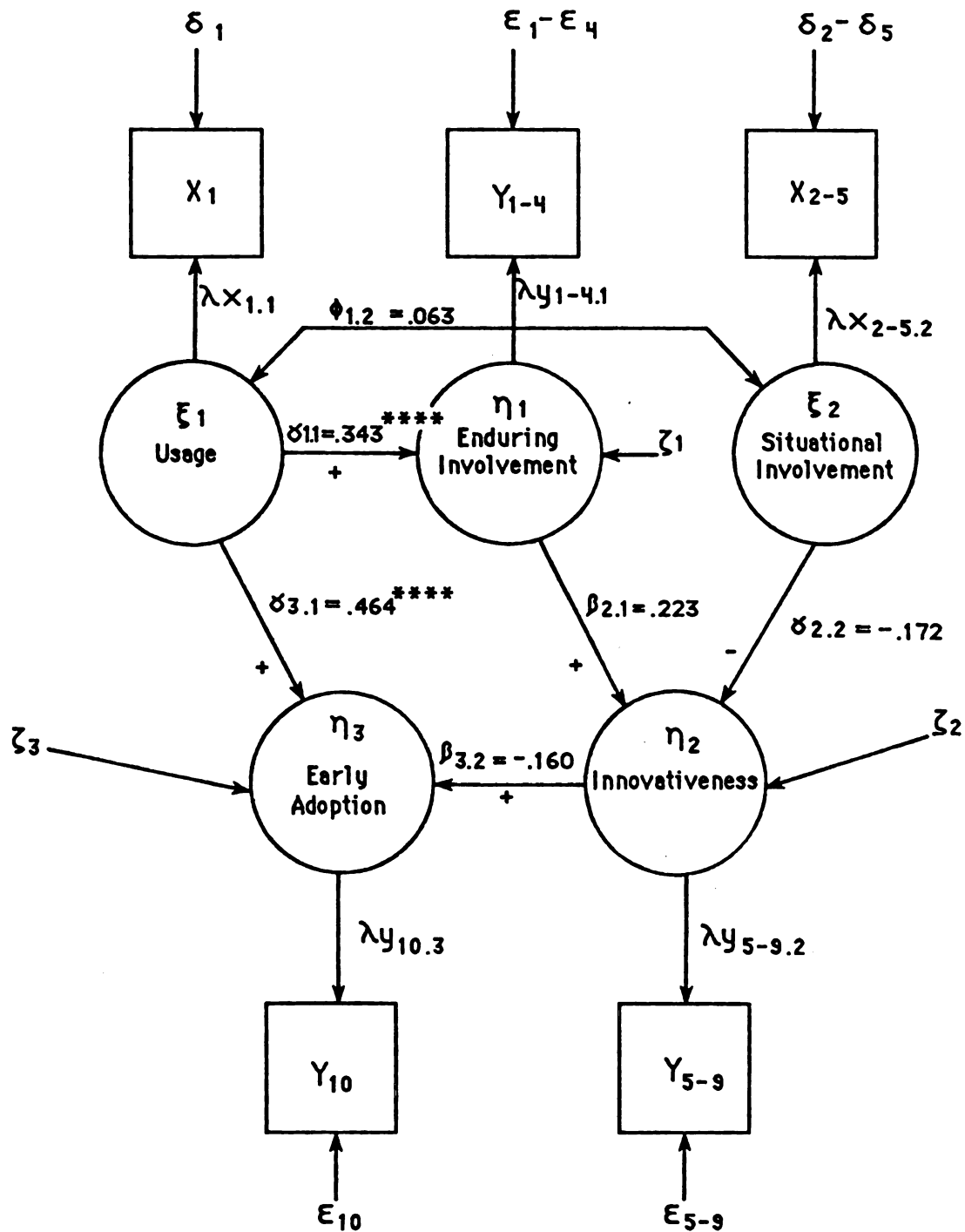
Parameters	Standardized LISREL Estimates	2 X
lambda 1	1.000	
lambda 2	.855	
lambda 3	.966	
lambda 4	.669	
lambda 5	.858	
lambda 6	.886	
lambda 7	.959	
lambda 8	.940	
lambda 9	.963	
lambda 10	1.000	
lambda 11	.707	
lambda 12	.780	
lambda 13	.960	
lambda 14	.937	
lambda 15	.642	
beta 2 1	.263	7.36***
beta 3 2	-.108	2.36
gamma 1 1	.408	19.88****
gamma 2 2	-.208	4.83**
gamma 3 1	.706	76.61****
phi 1 2	.182	
Chi-square = 172.41	R-square (eta-1) = .117	GFI = .777
p < .001	R-square (eta-2) = .075	AGFI = .689
d.f. = 86	R-square (eta-3) = .234	RMSR = .131
** significant at p=0.05		
*** significant at p=0.01		
**** significant at p=0.001		

relationship between innovativeness and early adoption. All other relationships hold quite strongly in accordance with the hypotheses, although the coefficients are admittedly not very high.

The model was re-estimated using the direct relative time of adoption approach to the measurement of early adoption behavior. The pattern of the results (see Figure V-3 and Table V-7) is entirely similar, but statistical significance is reduced. One reason for this might be the much smaller number of subjects (N=91) for whom complete data were available for the relative time of adoption measure of early adoption behavior.

Next, the results in the restaurant product category setting are provided in Figure V-4 and Table V-8. The significant relationships in this product category are found between usage and early adoption and between situational involvement and innovativeness. None of the other relationships turns out to be significantly different from zero.

Finally, the relationships between enduring involvement, situational involvement, and innovativeness are examined across the three product categories combined. The results are reported in Figure V-5 and Table V-9. Both the relationship between enduring involvement and innovativeness and between situational involvement and innovativeness are found to be highly significant.



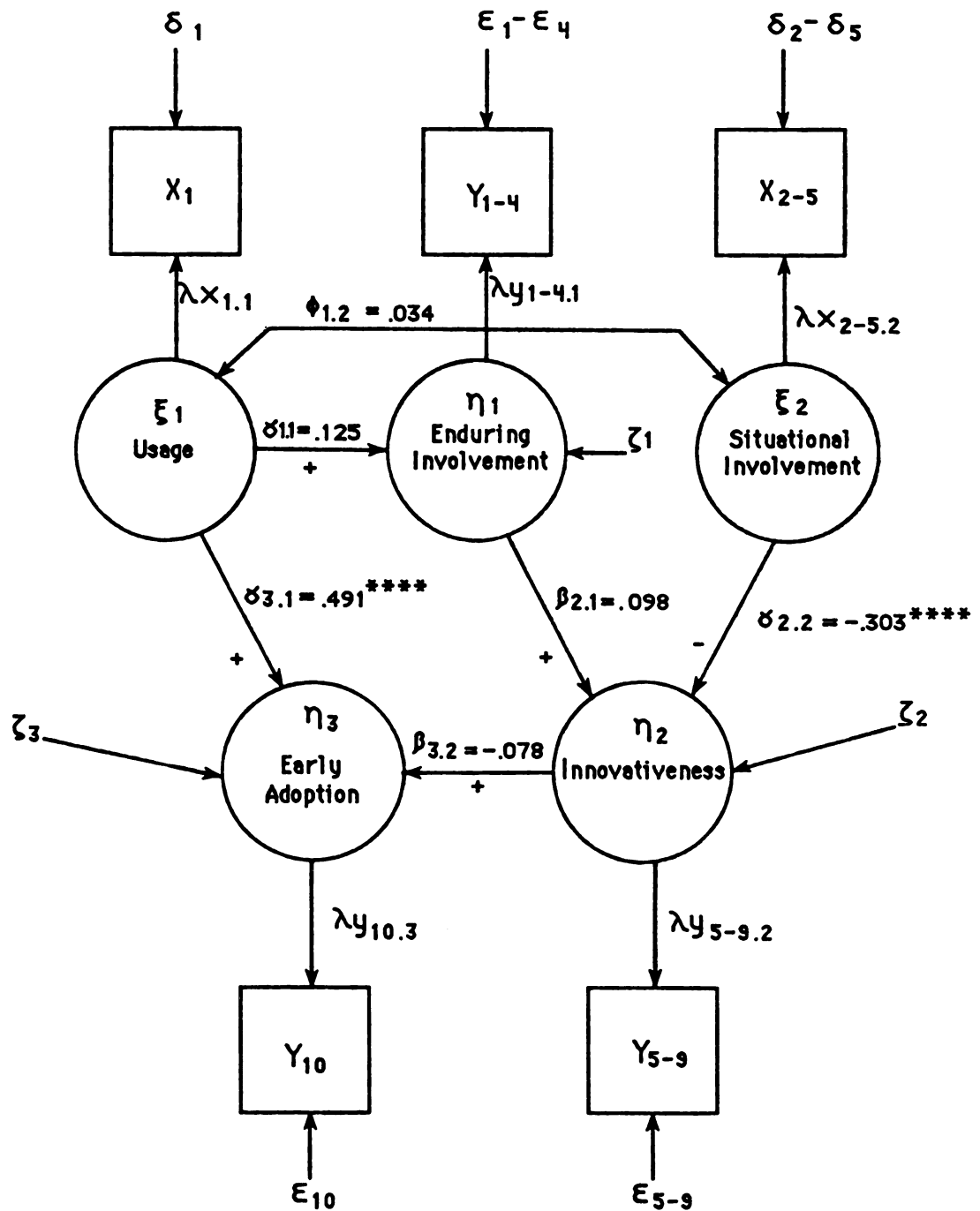
**** significant at $p = .001$

Figure V-3. Direct Approach: Structural Model Results for Movie Theater Attendance

Table V-7. Direct Approach: Parameter Estimates for Movie Theater Attendance

Parameters	Standardized LISREL Estimates	² X
lambda 1	1.000	
lambda 2	.881	
lambda 3	.970	
lambda 4	.698	
lambda 5	.847	
lambda 6	.890	
lambda 7	.988	
lambda 8	.960	
lambda 9	.967	
lambda 10	1.000	
lambda 11	.719	
lambda 12	.830	
lambda 13	.935	
lambda 14	.936	
lambda 15	.653	
beta 2 1	.223	2.63
beta 3 2	-.160	1.98
gamma 1 1	.343	8.02 ****
gamma 2 2	-.172	1.64
gamma 3 1	.464	16.39 ****
phi 1 2	.063	

**** significant at $p=.001$



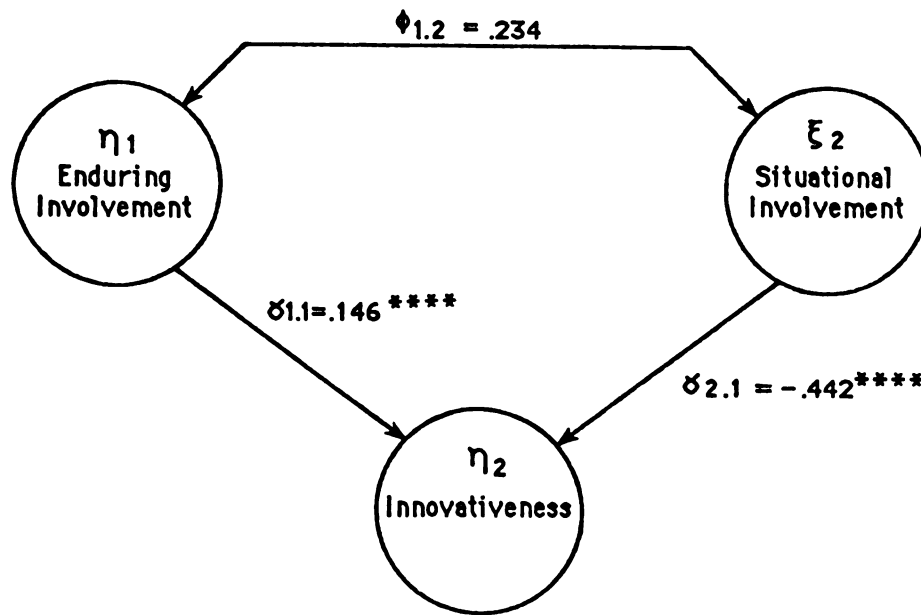
**** significant at $p = .001$

Figure V-4. Structural Model Results for Restaurants

Table V-8. Parameter Estimates for Restaurants

Parameters	Standardized LISREL Estimates	² X
lambda 1	1.000	
lambda 2	.740	
lambda 3	.972	
lambda 4	.543	
lambda 5	.802	
lambda 6	.920	
lambda 7	.960	
lambda 8	.962	
lambda 9	.966	
lambda 10	1.000	
lambda 11	.752	
lambda 12	.769	
lambda 13	.863	
lambda 14	.849	
lambda 15	.435	
beta 2 1	.098	1.07
beta 3 2	-.078	.89
gamma 1 1	.125	1.92
gamma 2 2	-.303	10.13****
gamma 3 1	.491	35.48****
phi 1 2	.034	
Chi-square = 246.84 R-square (eta-1) = .016 GFI = .793		
p < .001 R-square (eta-2) = .101 AGFI = .711		
d.f. = 86 R-square (eta-3) = .247 RSMR = .100		

**** significant at p=.001



**** significant at $p = .001$

Figure V-5. Structural Model Results: Hypotheses H1 and H2 Tested Across the Three Product Categories

Table V-9. Parameter Estimates for Hypotheses H1 and H2 Tested Across the Three Product Categories

Parameters	Standardized LISREL Estimates	χ^2
lambda 1	.841	
lambda 2	.937	
lambda 3	.631	
lambda 4	.850	
lambda 5	.919	
lambda 6	.958	
lambda 7	.961	
lambda 8	.974	
lambda 9	.906	
lambda 10	.940	
lambda 11	.807	
lambda 12	.762	
lambda 13	.683	
gamma 1 1	.146	47.26 ****
gamma 2 1	-.442	100.10 ****
phi 1 2	.234	
Chi-square = 299.76 R-square (eta 1) = .186		
p < 0.001		
d.f. = 62		

**** significant at $p = .001$

A summary of the results reported in Figures V-2 through V-6 and Tables V-5 through V-9 is provided below in Table V-10. The table reports the significance levels found for each of the hypotheses H1 through H5 in the three product-market settings separately and for hypotheses H1 and H2 across the three product categories combined.

Table V-10. Combined Results: Hypotheses H1-H5

Hypotheses	Direction	Product Categories				
		I	IIa	IIb	III	IV
H1: Enduring Involvement and Innovativeness	+	.10	.01	*	*	.001
H2: Situational Involvement and Innovativeness	-	*	.05	*	.001	.001
H3: Usage and Enduring Involvement	+	.10	.001	.001	*	**
H4: Usage and Early Adoption	+	*	.001	.001	.001	**
H5: Innovativeness and Early Adoption	+	*	*	*	*	**

* Not significant

** Not applicable

I Computers

IIa Movies: using the cross-sectional approach

IIb Movies: using the relative time of adoption approach

III Restaurants

IV Computers, Movies (IIa), and Restaurants

DISCUSSION

Two situational variables were hypothesized to underlie the innovativeness construct (viz., enduring involvement and situational involvement). Viewed in the aggregate, it may be concluded that both impact significantly on innovativeness. Admittedly, situational involvement was not significantly related to innovativeness for computers, while enduring involvement was not significantly related to

innovativeness for restaurants. However, the analysis across all three product categories, increasing both the number of observations and variance in the situational involvement and innovativeness constructs, yielded highly significant results for the relationships of both enduring and situational involvement with innovativeness.

Inspection of the means and standard deviations for the three constructs in the different product-market settings (Table V-11) shows why this result could be expected. Clearly, in comparison with the other two categories, a high level of situational involvement for personal computers is attended by a low level of innovativeness. Yet, within the personal computer product category no significant relationship between situational involvement and innovativeness was found (Figure V-1 and Table V-5).

Table V-11. Means and (Standard Deviations)

	Computers	Movies	Restaurants
Innovativeness	2.30 (1.29)	5.02 (1.43)	4.32 (1.30)
Enduring Involvement	5.29 (1.46)	5.25 (1.32)	5.18 (1.10)
Situational Involvement	6.01 (1.56)	4.71 (1.73)	5.34 (1.45)

Hence, while the relationships are not very strong within the personal computer product category or within the

restaurant product category, they become very strong when viewed across the three product categories. Possibly, the homogeneity of the sample also created homogeneity with respect to their involvement with these product-market settings, reducing variance within the product categories.

The model also included early adoption and usage. In the literature, usage is one of the few constructs consistently shown to be strongly related to early adoption. The results in this dissertation corroborate these previous findings for movies and restaurants. For computers no relationship was found. Note that for computers usage bears no relationship to frequency of purchase. Therefore, the often positive relationship between usage and early adoption may simply be due to a greater frequency of purchase occasions.

As hypothesized, usage was also found to have a positive impact on enduring involvement, both for computers and for movies, but not for restaurants. Possibly, heavy users of restaurants lose some of the excitement that may be felt by those who go less often.

Finally, no relationship was found between early adoption and innovativeness in any product category. This lack of a relationship between the traditional innovativeness construct and the reconceptualized innovativeness construct is further addressed in the final chapter.

Hypotheses H6 and H7 are examined next in the final section of this chapter.

Section III. Hypotheses H6 and H7

RESULTS

As noted in the previous chapter, subjects are classified as innovators and/or opinion leaders when their average scores on the innovativeness and/or opinion leadership scales exceed 5.0, in other words, if on average they agree with scale items designating them as innovators and/or opinion leaders. Figure V-6 shows a cross-tabulation of innovators and opinion leaders for each of the three product categories.

Simple inspection of Figure V-6 shows that H6 (All innovators are opinion leaders) does not hold. In each of the three product categories, subjects are found who are innovators, but who are not opinion leaders. H7 (All opinion leaders are not necessarily innovators) is confirmed, replicating previous findings of imperfect overlap of the two constructs.

As discussed in the previous chapter, a less stringent test of the general argument underlying hypotheses H6 and H7 examines whether, given the lack of overlap, this occurs more often due to opinion leaders who are not innovators than to innovators who are not opinion leaders. Thus, the null hypothesis is that the number of subjects in cell 2 (non-innovative opinion leaders) is less than or equal to the number of subjects in cell 3 (innovators who are not opinion leaders), the attendant research hypothesis being that the number of subjects in cell 2 is greater than the

FIGURE V-7COMPUTERS

		INNOVATORS	NONINNOVATORS
V-7.1	OPINION LEADERS	0	31
	NON OPINION LEADERS	6	105

MOVIES

		INNOVATORS	NONINNOVATORS
V-7.2	OPINION LEADERS	35	8
	NON OPINION LEADERS	51	49

RESTAURANTS

		INNOVATORS	NONINNOVATORS
V-7.3	OPINION LEADERS	22	34
	NON OPINION LEADERS	23	64

number of subjects in cell 3. A one-tailed binomial test of proportions (viz., testing whether the proportion of subjects in cell 2 among the total of subjects in cell 2 and 3 combined is greater than .5) allows rejection of the null hypothesis for the computer product category ($31/37 > .50$, $n=37$, $p < .01$). The results are exactly opposite however with respect to movies ($8/59 < .5$, see Figure V-6). For restaurants, the results are again as hypothesized ($34/57 > .50$, $n=57$, $p < .01$, see Figure V-6).

These conflicting results prohibit a definitive conclusion at this point. In addition, it should be pointed out that only a minor degree of overlap between the two constructs was found for movies ($r=.175$) and restaurants ($r=.068$). A slightly negative relationship existed for computers ($r=-.118$). This result indicates that opinion leaders are no more likely to be independent innovation-decision makers than other members of a target market. That is, they are distinct as purveyors, not creators, of opinion.

Chapter VI

Conclusion

INTRODUCTION

This chapter contains four parts. The first part examines the dissertation's achievement of intended theoretical contributions. Additional theoretical considerations and implications are discussed in the second part. Next, future research directions are explored. The final part examines managerial implications.

THEORETICAL CONTRIBUTIONS

The first major intended contribution of this dissertation, as stated in Chapter I, was to reconceptualize the innovativeness construct in response to criticisms and concerns in the literature. Recall that such concerns and criticisms of the state of diffusion research in general and the traditional approach to the innovativeness construct in particular were summarized in Chapter I as follows:

1. Methodological issues raised by Rogers (1976). These include the absence of consideration of causality, the pro-innovation bias found in most studies, and the general lack of a process orientation in diffusion research.
2. The inconsistency and/or weakness of empirical findings in the literature on innovativeness and innovators.

3. The lack of integration of the behavioral diffusion literature with the theory and practice of new product management and new product (concept) testing.
4. The lack of integration of the behavioral and modeling diffusion literatures.
5. The need for advances in consumer diffusion theory beyond merely applying concepts from the general diffusion literature.

The reconceptualization of the innovativeness construct in this dissertation took each of these issues into account. First, considerations of causality, taking a teleological (idealist) metatheoretical perspective, were introduced through specification of situational variables that lead individuals to engage in innovative behavior. The pro-innovation bias was eliminated by cutting the link between innovativeness and early adoption. The former was taken to represent the making of innovation-decisions independently, while the latter represents one of many possible outcomes of that decision process. A process orientation was included by linking innovativeness to communication behavior. Specifically, the absence of a need for interpersonal communication in the completion of the innovation-decision making process was used to distinguish innovators from non-innovators.

Second, explanations in the literature for the inconsistency and/or weakness of empirical findings led to the adoption of a product category specific perspective of innovativeness. This is also the approach taken in the diffusion modeling literature.

Third, the resulting reconceptualization has implications for the theory and practice of new product management and new product (concept) testing. These are discussed in the third and fourth parts of this chapter.

Fourth, the new construct is essentially that of the diffusion modeling literature. The diffusion modeling literature implicitly considers innovativeness to be product category specific and links it to the (absence of a) need for communication. The diffusion modeling literature however focuses on adoption, contrary to the approach taken in this dissertation.

Finally, by explaining innovativeness on the basis of consumer behavior constructs (enduring and situational involvement) and by integrating existing attempts in the consumer behavior literature toward reconceptualization of the innovativeness construct, consumer diffusion theory is advanced beyond the confines of traditional diffusion research.

The second major intended contribution of this dissertation was to build and test a causal model for empirical validation of innovativeness as reconceptualized. The empirical results verified that a situational and product category specific approach to innovativeness is valid, and that approaches relying on personality traits to explain innovativeness are not. Specifically, it was shown that subjects' innovativeness scores need not be correlated across product categories.

Early adoption and usage were also included in the model, linking the alternative approach of this dissertation to traditional diffusion research. However, the reconceptualized innovativeness construct showed no relationship with early adoption. That finding is likely attributable to variables intervening between favorable innovation-decisions and subsequent adoption behavior. These intervening variables, based on the empirical results, seem to nullify the impact of favorable innovation-decisions having been made earlier. Earlier adoption instead may depend more on the particular quality of communication received and favorability of the situation (Midgley and Dowling 1978) or "priority acquisition patterns" (Gatignon and Robertson 1985) extant. In addition, earlier adoption does not occur when the innovator rejects the innovation altogether.

Finally, as its third major intended contribution, the dissertation endeavored to refine the opinion leadership construct by re-examining the overlap between opinion leadership and innovativeness. As discussed in the previous chapter, conflicting empirical results did not allow for any definitive conclusion. It was also found however that opinion leaders are no more likely to be independent innovation-decision makers than other members of a target market.

ADDITIONAL THEORETICAL IMPLICATIONS

First, the results clearly indicate that much of consumer behavior at the individual level is product category specific. That is, relationships between innovativeness, usage, early adoption, and enduring and situational involvement generally hold across different product categories. However, the individual consumer who is an innovator, heavy user, early adopter, or enduringly or situationally involved in one product category need not behave similarly in another product category. Hence, previous diffusion research, focusing on personality traits to explain and predict adoption behavior across product categories, will likely remain unsuccessful.

Second, the product category specific nature of innovative behavior suggests that variables describing aspects of the person-product dyad are likely conducive to explanation of such behavior. Such variables include usage, enduring and situational involvement, innovativeness, etc. These are situational variables, describing aspects of a situation made up of an individual and his or her relationship with a product category.

Third, the idealist metatheoretical perspective, recognizing human action as consciously motivated in the pursuit of certain goals, was successfully adopted as the foundation for the theoretical framework of this dissertation. Much of marketing theory takes a managerial perspective, aiming to improve managerial (rather than

consumer) decision making. It may be argued that the idealist perspective is well suited to militate against biases (in casu, the pro-innovation bias) arising from researchers' identification with one of the parties to processes studied. That is, the idealist perspective forces explicit recognition of consumers as active participants in the exchange process rather than as passive recipients of marketers' manipulations.

FUTURE RESEARCH DIRECTIONS

First, research results validated the reconceptualized innovativeness construct in reference to enduring and situational involvement. The results also indicate however that additional explanatory variables relating to innovativeness may be successfully included in the model. Given the confirmed product category specific nature of the innovativeness construct, such additional variables should likely describe aspects of the person-product dyad; for example, a person's information searching behavior with respect to a product category, or perhaps additional dimensions of involvement (e.g., utility). Note that usage also is such a variable and was linked indirectly to innovativeness by way of enduring involvement.

Second, no relationship was found between innovativeness and early adoption. Early adoption however was strongly related to usage. It may be suggested therefore that early adoption is mostly a function of purchase occasions arising more frequently. If a new product is

perceived as superior to existing alternatives, purchases will occur, earlier and later, as purchase occasions arise.

The important question in explaining successful diffusion of innovations may therefore not be when (earlier or later in the diffusion process) an individual purchases a new product. Instead, attention should be focused on why an individual purchases some new products and rejects many others. In other words, an understanding of the diffusion process and characteristics of adopters at different stages of that process is not sufficient to explain why the diffusion process is set in motion for some products, but not for many others. To explain new product failure, one needs to identify and understand the motivations of early rejectors. Current diffusion research can only shed light on successful diffusion, not on the more common occurrence of failure. Yet, to achieve success and avoid failure, an understanding of both is needed.

Third, consideration of theoretical and empirical contributions from the literature on adoption and diffusion of innovations is virtually absent in new product (concept) testing. However, if imitation guides non-innovative adoption behavior, then it is incorrect to rely on non-innovators' evaluations in new product (concept) testing. Such evaluations might not be predictive of their actual behavior in the marketplace. Future research in new product (concept) testing should investigate differences among innovators' and non-

innovators' evaluations predicting products' ultimate market acceptance. Similar suggestions to differentiate among potential customers' evaluations of a new product have been made by Taylor (1977), who advocates a focus on heavy users, and Kleyngeld (1974) who advocates a focus on early adopters in a product category.

Finally, additional research should be undertaken relating alternative new product entry strategies to differing configurations of situational and enduring involvement found for different product categories. The following part addresses managerial implications and provides tentative recommendations pertaining to this issue.

MANAGERIAL IMPLICATIONS

First, it was determined that proportions of innovators vary between product categories. Managers should accordingly recognize that sales for new products may be much slower to develop in some categories than in others. Moreover, a new product that does not readily fit into any existing category, for example Pampers when introduced by Procter and Gamble, may lack a constituency of innovators to pass judgment positively or negatively. It took several years before Pamper sales finally took off. Test markets however are normally limited to periods of fairly short duration. When enduring involvement is low and/or situational involvement is high, management should take longer before conceding defeat.

Second, a lack of innovators may be caused by low enduring involvement, high situational involvement, or both. Marketers' actions should accordingly be tailored to address a lack of interest, a fear to make incorrect innovation decisions, or both. For example, promotion of a new very expensive audio system may be aimed primarily at very high income groups (addressing situational involvement) or primarily at audiophiles (capitalizing on enduring involvement). Research prior to introduction can map the target market on a two-dimensional, enduring and situational involvement plane (see Figure VI-1). If subjects are found grouped in quadrant A (Figure VI-1), a high proportion

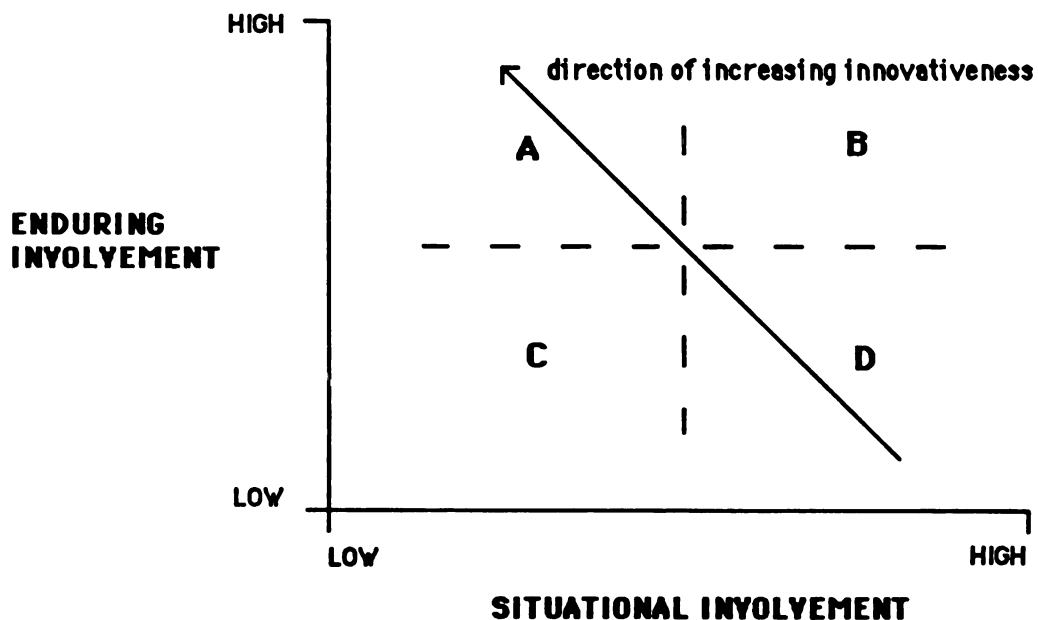


Figure VI-1. Enduring and Situational Involvement

of innovators exists, and success or failure of new products should be quickly determined. If subjects are found generally in quadrant B, marketers may want to focus on strategies enhancing trialability. For quadrant C, a choice exists to increase trialability or to enhance interest in the product category. For quadrant D, interest in the product category would need to be enhanced.

In any of these alternative situations however marketers may accept the existing distribution as given and work to identify and inform subjects found in quadrant A. Specifically, smaller numbers of innovators, properly identified, can often be reached quite economically. In such situations a proper entry strategy may be one that spends few resources at any point in time, but is committed to doing so for a long time. Metaphorically, the marketer may choose to patiently teach a targeted social system at the pace at which it is naturally inclined to learn.

CONCLUSION

The dissertation extended recent attempts in the consumer diffusion literature toward reconceptualization of innovativeness. A new definition of innovativeness was proposed and empirically validated. The new construct was shown to be promising for additional theoretical and empirical work in several areas relating to the diffusion of innovations. The new construct and the theoretical considerations on which it is founded were shown to entail

significant managerial implications. More importantly, however, they offer new directions from which to approach what may be the primary challenge in marketing, the successful introduction of new products.

APPENDICES

Appendix A

Pretest Questionnaire: Computers

Instructions: Please answer the following questions. Mark your answers on the survey and return the questionnaire in the accompanying envelope. First we would like to know how often you use a computer. Throughout this questionnaire, when we speak about computers we mean desk top or home computers.

Please circle the number that approximates how often you use a computer, at home or at work.

1. Never or almost never
2. Less than 3 times a year
3. From 3 to 6 times a year
4. From 6 to 12 times a year
5. More than once a month
6. More than twice a month
7. Once a week or more

Now we would like you to circle, on a scale from 1 to 7, the number that best describes your agreement or disagreement with the following statements.

	strongly agree					strongly disagree	
I know more about new computers than most of the people that I talk to.	1	2	3	4	5	6	7
I like to read about new computers even if I have no intention to go and buy one.	1	2	3	4	5	6	7
I think I look at ads about new computers more than most people.	1	2	3	4	5	6	7

Do you yourself own a personal computer? (Please circle correct answer):

Yes.

No.

If 'Yes': How long have you owned it?
(Please circle correct number)

1. Less than a year

2. 1 to 3 years

3. 4 to 5 years

4. More than 5 years

If 'No': When do you think you might purchase one in the future?
(Please circle correct number)

1. I am in the process of purchasing one

2. Within one year

3. 1 to 2 years from now

4. More than 2 years from now

5. Never

Below are sets of word pairs. Please circle, on the scales from 1 to 7 provided, the numbers that best reflect your feelings about computers, according to the word pairs below.

- | | | | | | | | | | |
|----|------------|---|---|---|---|---|---|---|-------------|
| 1. | boring | 1 | 2 | 3 | 4 | 5 | 6 | 7 | interesting |
| 2. | unexciting | 1 | 2 | 3 | 4 | 5 | 6 | 7 | exciting |
| 3. | appealing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unappealing |
| 4. | mundane | 1 | 2 | 3 | 4 | 5 | 6 | 7 | fascinating |

Next, using similar scales, we would like you to indicate how important it is to you that you do not make a mistake when choosing a computer to buy:

- | | | | | | | | | | |
|----|---------------|---|---|---|---|---|---|---|----------------------|
| 1. | important | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unimportant |
| 2. | of no concern | 1 | 2 | 3 | 4 | 5 | 6 | 7 | of concern to me |
| 3. | irrelevant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | relevant |
| 4. | means a lot | 1 | 2 | 3 | 4 | 5 | 6 | 7 | means nothing to me |
| 5. | trivial | 1 | 2 | 3 | 4 | 5 | 6 | 7 | fundamental |
| 6. | matters to me | 1 | 2 | 3 | 4 | 5 | 6 | 7 | doesn't matter to me |
| 7. | significant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | insignificant |

Next, we would like to ask a few questions about how you interact with friends and neighbors regarding computers.

1. In general, do you talk to your friends and neighbors about computers?

Often

Never

1 2 3 4 5 6 7

2. When you talk to your friends and neighbors about computers do you:

give a great deal
of information

give very little
information

1 2 3 4 5 6 7

3. During the past six months, how many people have you told about a computer?

told a number
of people

told
no one

1 2 3 4 5 6 7

4. Compared with your circle of friends, how likely are you to be asked about computers?

very likely
to be asked

not at all
likely to be asked

1 2 3 4 5 6 7

5. In a discussion of computers would you be most likely to:

listen to your
friends' ideas

convince your friends
of your ideas

1 2 3 4 5 6 7

6. In discussions of computers which of the following happens most often?

you tell your
friends about computers

your friends tell
you about computers

1 2 3 4 5 6 7

7. Overall in all of your discussions with friends and neighbors are you:

often used as a
source of advice

not used as a
source of advice

1 2 3 4 5 6 7

Now we have some additional questions on how you would decide on a new computer to buy. Please circle, on a scale from 1 to 7, the number that best describes your agreement or disagreement with the statements below.

	strongly agree						strongly disagree	
1. I would decide to buy a new computer without asking for advice from people who had previously bought it.	1	2	3	4	5	6	7	
2. I would talk with others who had bought a new computer before I would decide whether to buy it.	1	2	3	4	5	6	7	
3. I would decide to buy a new computer based on the opinions of friends who had already bought it.	1	2	3	4	5	6	7	
4. I would decide whether to buy a new computer before I knew what friends who had bought it thought.	1	2	3	4	5	6	7	
5. I would seek advice from other people who have tried a new computer before I would buy it.	1	2	3	4	5	6	7	
6. I would get advice from others who have tried a new computer when making up my mind about whether to buy it.	1	2	3	4	5	6	7	
7. I find it hard to decide whether to buy a new computer before I learn the opinions of those who have already bought it.	1	2	3	4	5	6	7	

	Strongly Agree				Strongly Disagree		
8. Before I would buy a new computer I would try to find out what friends who have already purchased it think.	1	2	3	4	5	6	7
9. I would talk with other people who have purchased a new computer before I would buy it.	1	2	3	4	5	6	7
10. I would wait to buy a new computer until I knew whether friends who had bought it thought it was "ok".	1	2	3	4	5	6	7
11. I would listen to friends who had bought a new computer before I would buy it.	1	2	3	4	5	6	7
12. I would talk with people I know who had bought a new computer before I would decide whether to buy it.	1	2	3	4	5	6	7
13. I am one of those people who would decide on buying a new computer without consulting others who had previously purchased one.	1	2	3	4	5	6	7

THANK YOU.

Appendix B

Pretest Questionnaire: Restaurants

The questionnaire is designed to examine consumers' behavior with respect to dining out in restaurants or having a lunch in a nice restaurant. Therefore, throughout this questionnaire WHEN WE SPEAK ABOUT RESTAURANTS THAT DOES NOT INCLUDE FAST FOOD PLACES OR CAFETERIAS.

Instructions: Please answer the following questions. Mark your answers on the survey and return the questionnaire in the enclosed envelope. First we would like to know how often you go to a restaurant.

Please circle the number that approximates how often you eat in a restaurant.

1. Never or almost never
2. Less than 3 times a year
3. From 3 to 6 times a year
4. From 6 to 12 times a year
5. More than once a month
6. More than twice a month
7. Once a week or more

Now we would like you to circle, on a scale from 1 to 7, the number that best describes your agreement or disagreement with the statements below.

	strongly agree					strongly disagree	
I know more about restaurants than most of the people that I talk to.	1	2	3	4	5	6	7
I like to read about restaurants even if I have no intention to go and eat there.	1	2	3	4	5	6	7
I think I look at ads for restaurants more than most people.	1	2	3	4	5	6	7

Now, during the past six months how many restaurants do you recall having gone to that you had not visited before? (Please circle correct number).

1. 2. 3. 4. 5. 6. more than 6.

How many of these restaurants do you recall having opened for business only fairly recently? (Please circle correct number).

1. 2. 3. 4. 5. 6. more than 6.

Below are sets of word pairs. Please circle on the scales from 1 to 7 provided, the numbers that best reflect your feelings about restaurants.

- | | | | | | | | | | |
|----|------------|---|---|---|---|---|---|---|-------------|
| 1. | boring | 1 | 2 | 3 | 4 | 5 | 6 | 7 | interesting |
| 2. | unexciting | 1 | 2 | 3 | 4 | 5 | 6 | 7 | exciting |
| 3. | appealing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unappealing |
| 4. | mundane | 1 | 2 | 3 | 4 | 5 | 6 | 7 | fascinating |

Next, using similar scales, we would like you to indicate how important it is to you that you do not make a mistake when you select a restaurant.

- | | | | | | | | | | |
|----|---------------|---|---|---|---|---|---|---|----------------------|
| 1. | important | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unimportant |
| 2. | of no concern | 1 | 2 | 3 | 4 | 5 | 6 | 7 | of concern to me |
| 3. | irrelevant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | relevant |
| 4. | means a lot | 1 | 2 | 3 | 4 | 5 | 6 | 7 | means nothing to me |
| 5. | trivial | 1 | 2 | 3 | 4 | 5 | 6 | 7 | fundamental |
| 6. | matters to me | 1 | 2 | 3 | 4 | 5 | 6 | 7 | doesn't matter to me |
| 7. | significant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | insignificant |

Now we would like to ask a few questions about how you interact with friends and neighbors regarding restaurants.

1. In general, do you talk to your friends and neighbors about restaurants?

Often					Never	
1	2	3	4	5	6	7

2. When you talk to your friends and neighbors about restaurants do you:

give a great deal of information					give very little information	
1	2	3	4	5	6	7

3. During the past six months, how many people have you told about a restaurant?

told a number of people					told no one	
1	2	3	4	5	6	7

4. Compared with your circle of friends, how likely are you to be asked about restaurants?

very likely to be asked					not at all likely to be asked	
1	2	3	4	5	6	7

5. In a discussion of restaurants would you be most likely to:

listen to your friends' ideas					convince your friends of your ideas	
1	2	3	4	5	6	7

6. In discussions of restaurants, which of the following happens most often?

you tell your friends about movies					your friends tell you about movies	
1	2	3	4	5	6	7

7. Overall in all of your discussions with friends and neighbors are you:

often used as a source of advice					not used as a source of advice	
1	2	3	4	5	6	7

Now we have some additional questions for you on how you choose the restaurants that you go to. Please circle the number that indicates, on a scale of 1 to 7, how often the following statements hold true for you.

	Never	Very Seldom	Seldom	Some- times	Often	Very Often	Always
1. I make decisions to visit new restaurants without asking for advice from people who have previously gone there.	1	2	3	4	5	6	7
2. I talk with others who have tried new restaurants before I decide whether to go there.	1	2	3	4	5	6	7
3. I decide to visit new restaurants based on the opinions of friends who have already tried them.	1	2	3	4	5	6	7
4. I decide whether to visit new restaurants before I know what friends who have tried them think.	1	2	3	4	5	6	7
5. I seek advice from other people who have tried new restaurants before I visit them.	1	2	3	4	5	6	7
6. I get advice from others who have tried new restaurants when making up my mind about whether to go there.	1	2	3	4	5	6	7
7. I find it hard to decide whether to visit new restaurants before I learn the opinions of those who have already tried them.	1	2	3	4	5	6	7

	Never	Very Seldom	Seldom	Some- times	Often	Very Often	Always
8. Before I go to a new restaurant I try to find out what friends who have already tried it think.	1	2	3	4	5	6	7
9. I talk with other people who have tried new restaurants before visiting them.	1	2	3	4	5	6	7
10. I wait to visit new restaurants until I know whether friends who have tried them think they are "ok".	1	2	3	4	5	6	7
11. I listen to friends who have tried new restaurants before I go there.	1	2	3	4	5	6	7
12. I talk with people I know who have tried new restaurants before I decide whether to go there.	1	2	3	4	5	6	7
13. I am one of those people who makes decisions on going to new restaurants without consulting others who have previously gone there.	1	2	3	4	5	6	7

Finally, please fill in the following classification data:

Sex:	1. Male	Position at UNO:	1. Clerical/technical
	2. Female		2. Supervisory
			3. Maintenance
Age:			4. Administrative
			5. Other (specify)

THANK YOU VERY MUCH

Appendix C

Pretest Questionnaire: Movies

Instructions: Please answer the following questions. Mark your answers on the survey and return the questionnaire in the enclosed envelope. First we would like to know how often you go to a movie theater.

Please circle the appropriate number to indicate approximately how often you go to see a movie in a theater.

1. Never or almost never
2. Less than 3 times a year
3. From 3 to 6 times a year
4. From 6 to 12 times a year
5. More than once a month
6. More than twice a month
7. Once a week or more

Now, please circle the appropriate numbers to indicate which of the following movies, if any, you went to see in a movie theater, and indicate approximately when you went to see them.

- | | Date: |
|----------------------------------|-------|
| 1. Top Gun | _____ |
| 2. Crocodile Dundee | _____ |
| 3. Karate Kid II | _____ |
| 4. Back to School | _____ |
| 5. Star Trek IV | _____ |
| 6. Aliens | _____ |
| 7. Ruthless People | _____ |
| 8. Ferris Bueller's Day Off | _____ |
| 9. Down and Out in Beverly Hills | _____ |
| 10. Golden Child | _____ |

Now we have some additional questions for you on how you choose movies that you go to. Please circle the number that indicates, on a scale of 1 to 7, how often the following statements hold true for you.

Very Some- Very
Never Seldom Seldom times Often Often Always

1. I make decisions to see new movies without asking for advice from people who have previously seen them.

1 2 3 4 5 6 7

2. I talk with others who have seen new movies before I decide whether to go see them.

1 2 3 4 5 6 7

3. I decide to see a new movie based on the opinions of friends who have already seen it.

1 2 3 4 5 6 7

4. I decide whether to see a new movie before I know what friends who have seen it think.

1 2 3 4 5 6 7

5. I seek advice from other people who have seen a new movie before I go see it.

1 2 3 4 5 6 7

6. I get advice from others who have seen a new movie when making up my mind about whether to go see it.

1 2 3 4 5 6 7

7. I find it hard to decide whether to go see a new movie before I learn the opinions of those who have already seen it.

1 2 3 4 5 6 7

	Very Never	Seldom	Seldom	Some- times	Often	Very Often	Always
8. Before I see a new movie I try to find out what friends who have already tried it think.	1	2	3	4	5	6	7
9. I talk with other people who have seen a new movie before going to see it.	1	2	3	4	5	6	7
10. I wait to see a new movie until I know whether friends who have tried them think they are "ok".	1	2	3	4	5	6	7
11. I listen to friends who have seen a new movie before I go to see it.	1	2	3	4	5	6	7
12. I talk with people I know who have seen a new movie before I decide whether to go see it.	1	2	3	4	5	6	7
13. I am one of those people who makes decisions on whether to see a new movie without consulting others who have previously seen it.	1	2	3	4	5	6	7

Now we would like you to circle, on a scale from 1 to 7, the number that best describes your agreement or disagreement with the following statements.

	agree strongly			disagree strongly		
I know more about recent movies than most of the people that I talk to.	1	2	3	4	5	6 7
I like to read about movies even if I have no intention to go and see them.	1	2	3	4	5	6 7
I think I look at ads for movies more than most people.	1	2	3	4	5	6 7
Among my friends, I am usually one of the first to have seen a particular new movie	1	2	3	4	5	6 7
I like to see a new movie as soon as possible	1	2	3	4	5	6 7
I don't like going to the theater to see a movie that has been around for several years	1	2	3	4	5	6 7

Next, we would like to ask a few questions about how you interact with friends and neighbors regarding movies.

1. In general, do you talk to your friends and neighbors about movies?

Often						Never
1	2	3	4	5	6	7

2. When you talk to your friends and neighbors about movies do you:

give a great deal of information						give very little information
1	2	3	4	5	6	7

3. During the past six months, how many people have you told about a-movie?

told a number
of people

told
no one

1 2 3 4 5 6 7

4. Compared with your circle of friends, how likely are you to be asked about movies?

very likely
to be asked

not at all
likely to be asked

1 2 3 4 5 6 7

5. In a discussion of movies would you be most likely to:

listen to your
friends' ideas

convince your friends
of your ideas

1 2 3 4 5 6 7

6. In discussions of movies, which of the following happens most often?

you tell your
friends about movies

your friends tell
you about movies

1 2 3 4 5 6 7

7. Overall in all of your discussions with friends and neighbors are you:

often used as a
source of advice

not used as a
source of advice

1 2 3 4 5 6 7

Below are sets of word pairs. Please circle on the scales provided the numbers, from 1 to 7, that best reflect your feelings about movies according to the word pairs below.

1. boring 1 2 3 4 5 6 7 interesting
2. unexciting 1 2 3 4 5 6 7 exciting
3. appealing 1 2 3 4 5 6 7 unappealing
4. mundane 1 2 3 4 5 6 7 fascinating

Next, using similar scales, we would like you to indicate how important it is to you that you do not make a mistake when choosing a movie to go see in a movie theater.

- | | | | | | | | | | |
|----|---------------|---|---|---|---|---|---|---|----------------------|
| 1. | important | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unimportant |
| 2. | of no concern | 1 | 2 | 3 | 4 | 5 | 6 | 7 | of concern to me |
| 3. | irrelevant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | relevant |
| 4. | means a lot | 1 | 2 | 3 | 4 | 5 | 6 | 7 | means nothing to me |
| 5. | trivial | 1 | 2 | 3 | 4 | 5 | 6 | 7 | fundamental |
| 6. | matters to me | 1 | 2 | 3 | 4 | 5 | 6 | 7 | doesn't matter to me |
| 7. | significant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | insignificant |

Appendix D

Questionnaire

First we would like to know how often you use a computer. When we speak about computers we mean desk top or home computers. Please circle the number that approximates how often you use a computer, at home or at work.

1. Never or almost never
2. Less than 3 times a year
3. From 3 to 6 times a year
4. From 6 to 12 times a year
5. More than once a month
6. More than twice a month
7. Once a week or more

Now we would like you to circle, on a scale from 1 to 7, the number that best describes your agreement or disagreement with the following statements.

	strongly agree						strongly disagree
I know more about new computers than most of the people that I talk to.	1	2	3	4	5	6	7

I like to read about new computers even if I have no intention to go and buy one.	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

I think I look at ads about new computers more than most people.	1	2	3	4	5	6	7
--	---	---	---	---	---	---	---

Do you yourself own a personal computer? (Please circle correct answer): 1. Yes 2. No

If 'Yes': How long have you owned it?
(Please circle correct number)

1. Less than a year
2. 1 to 3 years
3. 4 to 5 years
4. More than 5 years

If 'No': When do you think you might purchase one in the future?
(Please circle correct number)

1. I am in the process of purchasing one
2. Within one year
3. 1 to 2 years from now
4. More than 2 years from now
5. Never

Below are sets of word pairs. Please circle the numbers that best reflect your FEELINGS ABOUT COMPUTERS.

1. boring 1 2 3 4 5 6 7 interesting
2. unexciting 1 2 3 4 5 6 7 exciting
3. appealing 1 2 3 4 5 6 7 unappealing
4. mundane 1 2 3 4 5 6 7 fascinating

Similarly, please indicate how IMPORTANT IT IS TO YOU THAT YOU DO NOT MAKE A MISTAKE WHEN CHOOSING A COMPUTER TO BUY:

1. important 1 2 3 4 5 6 7 unimportant
2. means a lot 1 2 3 4 5 6 7 means nothing to me
3. matters to me 1 2 3 4 5 6 7 doesn't matter to me
4. significant 1 2 3 4 5 6 7 insignificant

Next, we would like to ask a few questions about how you interact with friends and neighbors regarding computers.

1. In general, do you talk to your friends and neighbors about computers?

Often

Never

1 2 3 4 5 6 7

2. When you talk to your friends and neighbors about computers do you:

give a great deal
of information

give very little
information

1 2 3 4 5 6 7

3. During the past six months, how many people have you told about a computer?

told a number
of people

told
no one

1 2 3 4 5 6 7

4. Compared with your circle of friends, how likely are you to be asked about computers?

very likely
to be asked

not at all
likely to be asked

1 2 3 4 5 6 7

5. In discussions of computers which of the following happens most often?

you tell your
friends about computers

your friends tell
you about computers

1 2 3 4 5 6 7

Now we have some additional questions on how you would decide on a new computer to buy. Please circle the numbers that best describe your agreement or disagreement with the statements below.

- | | strongly
agree | | | | | | | strongly
disagree |
|---|-------------------|---|---|---|---|---|---|----------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 1. I would talk with others who had bought a new computer before I would decide whether to buy it. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 2. I would seek advice from other people who have tried a new computer before I would buy it. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 3. I find it hard to decide whether to buy a new computer before I learn the opinions of those who have already bought it. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 4. I would wait to buy a new computer until I knew whether friends who had bought it thought it was "ok". | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 5. I am one of those people who would decide on buying a new computer without consulting others who had previously purchased one. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

Next, we want to investigate how people make decisions with respect to GOING TO MOVIE THEATERS:

Please circle the appropriate number to indicate approximately how often you go to see a movie in a theater.

1. Never or almost never
2. Less than 3 times a year
3. From 3 to 6 times a year
4. From 6 to 12 times a year
5. More than once a month
6. More than twice a month
7. Once a week or more

Now, please circle the appropriate numbers to indicate which of the following movies, if any, you went to see in a movie theater, and indicate approximately when you went to see them.

Date:

1. Top Gun
2. Crocodile Dundee
3. Karate Kid II
4. Back to School
5. Star Trek IV
6. Aliens
7. Ruthless People
8. Ferris Bueller's Day Off
9. Down and Out in Beverly Hills
10. Golden Child

Now we would like you to circle, on a scale from 1 to 7, the number that best describes your agreement or disagreement with the following statements.

	agree strongly			disagree strongly		
I know more about recent movies than most of the people that I talk to.	1	2	3	4	5	6 7
I like to read about movies even if I have no intention to go and see them.	1	2	3	4	5	6 7
I think I look at ads for movies more than most people.	1	2	3	4	5	6 7

Next we want to investigate how you interact with friends and neighbors regarding movies.

1. In general, do you talk to your friends and neighbors about movies?

Often							Never
1	2	3	4	5	6	7	

2. When you talk to your friends and neighbors about movies do you:

give a great deal of information						give very little information
1	2	3	4	5	6	7

3. During the past six months, how many people have you told about a movie?

told a number
of people

told
no one

1 2 3 4 5 6 7

4. Compared with your circle of friends, how likely are you to be asked about movies?

very likely
to be asked

not at all
likely to be asked

1 2 3 4 5 6 7

5. In discussions of movies, which of the following happens most often?

you tell your
friends about movies

your friends tell
you about movies

1 2 3 4 5 6 7

Below are sets of word pairs. Please circle the numbers that best reflect your FEELINGS ABOUT MOVIES.

1. boring 1 2 3 4 5 6 7 interesting
2. unexciting 1 2 3 4 5 6 7 exciting
3. appealing 1 2 3 4 5 6 7 unappealing
4. mundane 1 2 3 4 5 6 7 fascinating

Next, please indicate how IMPORTANT IT IS TO YOU THAT YOU DO NOT MAKE A MISTAKE WHEN CHOOSING A MOVIE TO GO SEE IN A MOVIE THEATER.

1. important 1 2 3 4 5 6 7 unimportant
2. means a lot 1 2 3 4 5 6 7 means nothing to me
3. matters to me 1 2 3 4 5 6 7 doesn't matter to me
4. significant 1 2 3 4 5 6 7 insignificant

Now some questions on how you choose movies to go to. Please indicate your agreement or disagreement with the following statements.

- | | | | | | | | | | |
|--|-------------------|---|---|---|---|---|---|---|----------------------|
| 1. I talk with others who have seen new movies before I decide whether to go see them. | Strongly
Agree | | | | | | | | Strongly
Disagree |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

	Strongly Agree					Strongly Disagree	
2. I seek advice from other people who have seen a new movie before I go see it.	1	2	3	4	5	6	7
3. I find it hard to decide whether to go see a new movie before I learn the opinions of those who have already seen it.	1	2	3	4	5	6	7
4. I wait to see new movies until I know whether friends who have tried them think they are "ok".	1	2	3	4	5	6	7
5. I am one of those people who would decide to go see a new movie without consulting others who had previously tried it.	1	2	3	4	5	6	7

Finally, we have some questions about restaurants, WHEN WE SPEAK ABOUT RESTAURANTS THAT DOES NOT INCLUDE FAST FOOD PLACES OR CAFETERIAS.

Please circle the number that approximates how often you eat in a restaurant.

1. Never or almost never
2. Less than 3 times a year
3. From 3 to 6 times a year
4. From 6 to 12 times a year
5. More than once a month
6. More than twice a month
7. Once a week or more

Now, please circle the numbers that best describe your agreement or disagreement with the statements below.

	strongly agree					strongly disagree	
I know more about restaurants than most of the people that I talk to.	1	2	3	4	5	6	7
I like to read about restaurants even if I have no intention to go and eat there.	1	2	3	4	5	6	7
I think I look at ads for restaurants more than most people.	1	2	3	4	5	6	7

During the past six months how many restaurants do you recall having gone to that you had not visited before? (Please circle correct number).

0. 1. 2. 3. 4. 5. 6. or more

Please circle the numbers below that best reflect your FEELINGS ABOUT RESTAURANTS.

- | | | | | | | | | | |
|----|------------|---|---|---|---|---|---|---|-------------|
| 1. | boring | 1 | 2 | 3 | 4 | 5 | 6 | 7 | interesting |
| 2. | unexciting | 1 | 2 | 3 | 4 | 5 | 6 | 7 | exciting |
| 3. | appealing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unappealing |
| 4. | mundane | 1 | 2 | 3 | 4 | 5 | 6 | 7 | fascinating |

Similarly, please indicate how IMPORTANT IT IS TO YOU THAT YOU DO NOT MAKE A MISTAKE WHEN YOU SELECT A RESTAURANT.

- | | | | | | | | | | |
|----|---------------|---|---|---|---|---|---|---|----------------------|
| 1. | important | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unimportant |
| 2. | means a lot | 1 | 2 | 3 | 4 | 5 | 6 | 7 | means nothing to me |
| 3. | matters to me | 1 | 2 | 3 | 4 | 5 | 6 | 7 | doesn't matter to me |
| 4. | significant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | insignificant |

Then,

- | | | | | | | | | | |
|----|---|----------------------------------|---|---|---|---|---|---|-------------------------------|
| 1. | In general, do you talk to your friends and neighbors about restaurants? | Often | | | | | | | Never |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 2. | When you talk to your friends and neighbors about restaurants do you: | give a great deal of information | | | | | | | give very little information |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 3. | During the past six months, how many people have you told about a restaurant? | told a number of people | | | | | | | told no one |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 4. | Compared with your circle of friends, how likely are you to be asked about restaurants? | very likely to be asked | | | | | | | not at all likely to be asked |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

5. In discussions of restaurants, which of the following happens most often?

you tell your friends about restaurants				your friends tell you about restaurants		
1	2	3	4	5	6	7

Finally, a few more questions about decision making:

	Strongly Agree					Strongly Disagree	
1. I talk with others who have tried new restaurants before I decide whether to go there.	1	2	3	4	5	6	7
2. I seek advice from other people who have tried new restaurants before I visit them.	1	2	3	4	5	6	7
3. I find it hard to decide whether to visit new restaurants before I learn the opinions of those who have already tried them.	1	2	3	4	5	6	7
4. I wait to visit new restaurants until I know whether friends who have tried them think they are "ok".	1	2	3	4	5	6	7
5. I am one of those people who makes decisions on going to new restaurants without consulting others who have previously gone there.	1	2	3	4	5	6	7

Finally, please fill in the following classification data (by circling the appropriate numbers):

Sex:	1. Male	Position at UNO:	1. Clerical/technical
	2. Female		2. Supervisory
			3. Maintenance
Age:			4. Administrative
			5. Other (specify)

THANK YOU VERY MUCH

Appendix E

Carlson-Grosbart Innovativeness Scale

	Never	Very Seldom	Seldom	Some- times	Often	Very Often	Always
1. I make decisions to purchase new products and brands without asking for previous purchasers' advice	_____	_____	_____	_____	_____	_____	_____
2. I talk with others who have tried new products and brands before I decide whether to buy them	_____	_____	_____	_____	_____	_____	_____
3. I decide to buy new products and brands based on the opinions of friends who have already tried them	_____	_____	_____	_____	_____	_____	_____
4. I decide whether to buy new products and brands before I know what friends who have tried them think	_____	_____	_____	_____	_____	_____	_____
5. I seek advice from other people who have tried new products and brands before I buy them	_____	_____	_____	_____	_____	_____	_____
6. I get advice from others who have tried new products and brands when making up my mind about whether to buy them	_____	_____	_____	_____	_____	_____	_____
7. I find it harder to decide whether to purchase new products and brands before I learn the opinions of those who have already tried them	_____	_____	_____	_____	_____	_____	_____

-

Appendix F

Zaichowski's Involvement Scale

(insert name of object to be judged)

important	_____	_____	_____	_____	_____	_____	unimportant*
of no concern	_____	_____	_____	_____	_____	_____	of concern to me
irrelevant	_____	_____	_____	_____	_____	_____	relevant
means a lot to me	_____	_____	_____	_____	_____	_____	means nothing to me*
useless	_____	_____	_____	_____	_____	_____	useful
valuable	_____	_____	_____	_____	_____	_____	worthless*
trivial	_____	_____	_____	_____	_____	_____	fundamental
beneficial	_____	_____	_____	_____	_____	_____	not beneficial*
matters to me	_____	_____	_____	_____	_____	_____	doesn't matter*
uninterested	_____	_____	_____	_____	_____	_____	interested
significant	_____	_____	_____	_____	_____	_____	insignificant*
vital	_____	_____	_____	_____	_____	_____	superfluous*
boring	_____	_____	_____	_____	_____	_____	interesting
unexciting	_____	_____	_____	_____	_____	_____	exciting
appealing	_____	_____	_____	_____	_____	_____	unappealing*
mundane	_____	_____	_____	_____	_____	_____	fascinating
essential	_____	_____	_____	_____	_____	_____	nonessential*
undesirable	_____	_____	_____	_____	_____	_____	desirable
wanted	_____	_____	_____	_____	_____	_____	unwanted*
not needed	_____	_____	_____	_____	_____	_____	needed

*Indicates item is reverse scored.

Items on the left are scored (1) low involvement to (7) high involvement on the right. Totaling the 20 items gives a score from a low of 20 to a high of 140.

Appendix G

Major Movies of 1986

MOVIES AND RELEASE DATES

MOVIE	
1. Top Gun	5-20-86
2. Crocodile Dundee	9-26-86
3. Karate Kid II	6-20-86
4. Back to School	6-13-86
5. Star Trek IV	11-26-86
6. Aliens	7-18-86
7. Ruthless People	6-27-86
8. Ferris Bueller's Day Off	6-11-86
9. Down and Out in Beverly Hills	1-31-86
10. Golden Child	12-12-86

Note: Rank is based on box office receipts.

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