

**Attitude and Image Measurement
for
Utility Companies**

Prepared by:

**Dr. Andrew J. Morrison, Market Opinion Research
Dr. Richard J. Lutz, University of Florida**

TITLE: Attitude and Image Measurement for Utility Companies

EPRI RESEARCH PROJECT: #1537-2.2

FINAL REPORT

LEGAL CONTRACTORS: Dr. Andrew J. Morrison
Senior Vice President
Market Opinion Research
550 Washington Boulevard
Detroit, MI 48226

Dr. Richard J. Lutz
University of Florida
College of Business
Administration
Marketing Department
Gainesville, FL 32611

PRINCIPAL INVESTIGATORS: Dr. Andrew J. Morrison
Dr. Richard J. Lutz
Dr. Philip E. Hendrix

EPRI PROJECT MANAGER: Joe Wharton
Project Manager
Consumer Research, Commercial Forecasting

FOREWORD

The central goal of this monograph is to provide a straightforward, illustrated approach to conceptualizing and executing various types of attitude and image research within a utility company environment. To this end, the monograph has summarized and synthesized a variety of attitude theory and research techniques which have been elaborated in great detail in other publications. We have included a list of readings as an Appendix to the monograph for those who wish further information on attitude and image research issues, and general research techniques.

ACKNOWLEDGEMENTS

In order to make this monograph directly applicable to the needs and problems of utility managers, five cases are described to illustrate the uses of attitude and image research. We would particularly like to acknowledge the help of four companies in supplying research materials that helped the authors formulate the five cases. These companies include Cleveland Electric Illuminating Company, Delmarva Power and Light, Detroit Edison, and Niagara Mohawk. We would also like to thank the many other utilities who responded with preliminary information to Dr. Phil Hendrix, coordinating editor of this monograph series. Finally, it should be noted that the five cases were made as realistic as possible, using the sources mentioned above, but in no way should be interpreted as directly exemplifying the actual research conducted by these companies. The authors have modified all the case materials in order to best illustrate the central concepts and techniques of attitude and image research.

CONTENTS

	<u>Page</u>
<u>Chapter One: The Uses of Attitude and Image Research in the Electric Utility Industry</u>	
A. INTRODUCTION	1-1
B. BASIC APPROACH TO ATTITUDE RESEARCH	1-4
C. FOCUSING THE APPROACH TO ATTITUDE RESEARCH	1-6
D. THE USES OF ATTITUDE RESEARCH BY ELECTRIC COMPANIES	1-7
<u>Chapter Two: Synopsis of Key Attitude Theory Concepts</u>	
A. INTRODUCTION	2-1
B. ALTERNATIVE DEFINITIONS OF THE ATTITUDE CONCEPT	2-1
1. The Tripartite View of Attitude	2-4
2. The Unidimensionalist View of Attitude	2-6
C. ATTITUDE FORMATION AND CHANGE	2-7
<u>Chapter Three: Techniques for Measuring Attitudes</u>	
A. MEASURING ATTRIBUTE BELIEFS	3-1
1. The Elicitation of Salient Beliefs	3-3
2. Attribute Belief Measurement	3-9
B. MEASURING ATTRIBUTE IMPORTANCE WEIGHTS	3-17
1. Direct Measurement of Importance Weights	3-18
2. Indirect Measurement of Importance Weights	3-22
C. MEASURING ATTITUDES	3-26

CONTENTS

	<u>Page</u>
D. MEASURING INTENTIONS	3-33
E. MEASURING BEHAVIORS	3-35
F. OTHER ATTITUDE RESEARCH ISSUES	3-37
 <u>Chapter Four: Specification of Attitudinal Dimensions for the Electric Utility Industry</u>	
A. INTRODUCTION	4-1
B. FUNDAMENTAL ATTITUDE DIMENSIONS	4-3
1. Service	4-3
2. Price and Value	4-5
3. Communications	4-6
4. The Electric Company as a Business	4-8
5. Safety and Health Issues	4-10
6. Attitudes and Positions on Issues Facing the Electric Company and Its Customers	4-11
7. The Electric Company as a Marketing Organization	4-12
C. SUMMARY	4-14
 <u>Chapter Five: The Results of Attitude and Image Research</u>	
1. Management is Interested in the "Bottom Line"	5-1
2. Specifying the Relationship between Measures and Research Objective	5-2
3. Consistency Over Time	5-3
4. Developing a Corporate Image Profile	5-3

CHAPTER ONE: THE USES OF ATTITUDE AND IMAGE
RESEARCH IN THE ELECTRIC UTILITY INDUSTRY

A. INTRODUCTION

Electric utility managers have long been concerned with understanding, evaluating, and reacting to the relationship between the customers and the utility. In a fundamental sense, electric utilities are in a sales and service business, where "knowing the customer" is a primary corporate value, and daily operating exigency.

Compared to many other businesses, electric utilities have obvious and unique capabilities for determining "facts" about the customer-company relationship. There exists, at a minimum, a monthly sale recorded for each customer, a monthly bill sent to each customer, a record of specific contacts with a customer, rate codes, arrears codes, and other information about each customer.

However, the electric utility business has become increasingly complex, as has the relationship with customers. Knowing the facts about a customer, or particular groups of customers, is often not enough information to allow electric utility managers to make policy and program decisions. Two customers with the same daily consumption levels, and receiving the same monthly bills from the electric company, may have entirely different knowledge levels about company policies and programs; entirely different feelings about their relationship with the electric company; take different

positions on what they may or may not do with regard to issues, policies, and programs, and, ultimately, behave in different ways toward their electric company.

In essence, analyzing customer attitudes can play an important role in the decision process at the electric company. Understanding customer attitudes about the company, and the company image in the minds of its customers, becomes a necessary task for electric utility managers.

Thus, primary objectives of this monograph are to provide the utility manager with:

- An overview of the application of attitude and image research to the resolution of policy and program decisions;
- A basic system of attitude and image measurement in terms of definitions of the concept called attitude, and alternative approaches to measuring attitudes; and
- A description of attitudinal and image dimensions that have direct applicability to the relationship between electric companies and their customers.

Already in this brief introduction, terms like "attitude" and "image" have been used which need to be defined and clarified in subsequent chapters of this monograph. However, one basic distinction can be made between the concepts of "attitudes" and "image":

Attitudes may refer either to the positive or negative feeling a customer has about some object, or to combinations of knowledge, feelings, and positions (or behavioral intentions) customers hold about particular "objects" (e.g., issues, policies, and programs) that are the components of the relationship between customers and company.

Image generally refers to combinations of attitudes

held by customers, which define a profile, from the customer's perspective, of "the electric company". The image of a company held by a customer can be dominated by one or two attitudes, or can be composed of a variety of attitudinal dimensions which comprise the total customer-company relationship.

The monograph focuses primarily on explicating attitude research as it applies to the electric utility industry. The concept of "corporate image" is addressed in the final chapter in terms of the analysis and communication of attitude research to company decision-makers.

The five cases which will be used to illustrate the discussion of utility attitude research are drawn from the needs of various managers in utility public affairs, marketing, and customer service activities. The cases include:

- the development and subsequent evaluation of a general "corporate image" customer communications program;
- a customer evaluation of service contacts with a utility, and the impact service contacts have on the general customer-company relationship;
- a research program to guide the marketing of heat pumps;
- an evaluation of customer response to a residential conservation audit (RCS) program; and
- an assessment of customer attitudes and positions regarding the construction and operation of a nuclear power plant.

A description of the goals and objectives of the attitude research in each case is included at the end of this chapter. A rationale for selecting particular components of the attitude concept in each case is shown at the end of Chapter Two which describes key concepts

and definitions of attitudes. Chapter Three uses examples from the five cases to illustrate how attitudes can be measured. Chapter Four then outlines the objects of measurement pertinent to utility managers with the five cases representing an array of these attitude objects. Finally, Chapter Five shows how attitude data can be organized and analyzed within the context of these selected cases.

B. BASIC APPROACH TO ATTITUDE RESEARCH

In order to make this monograph applicable to the needs of electric utility managers, four types of research are described below, with attitude research potentially being useful within each research setting.

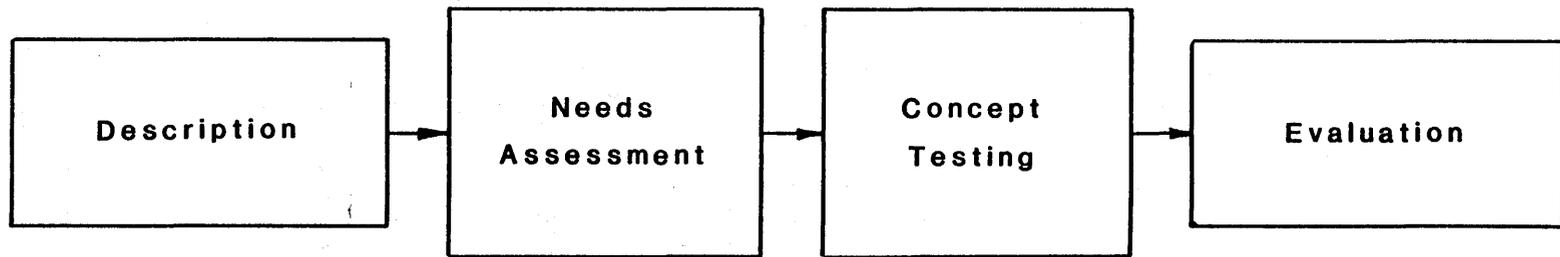
INSERT FIGURE 1-1

DESCRIPTION. Descriptive research usually entails the definition and categorization of the existence, intensity, and distribution of particular attitudes of interest to the company within a given population. Descriptive attitude research has as a primary objective the determination of whether, and in what strength, particular attitudes exist in the population of interest.

NEEDS ASSESSMENT. The attitudes customers hold may well relate to the underlying needs customers have for some specific relationship with the company. The company may suspect that particular attitudes are operative and important in terms of some aspect of the company-customer relationship, but needs to have customers speak from their

Figure 1-1

APPLICATIONS OF ATTITUDE AND IMAGE RESEARCH



perspective as to the attitudes that they hold about particular issues, policies, or programs.

CONCEPT TESTING. Along with describing the general attitudinal environment from both the company's and the customer's perspective, it may also be important to determine levels of customer knowledge, feelings, and positions with regard to more specific "objects" (e.g., policies, products or programs the utility does or could offer). It also may be necessary to determine attitudes regarding specific characteristics (e.g., the perceived "benefits" or lack thereof) of each product, program or policy.

EVALUATION. The application of attitude research will also pertain directly to definitions of "success" in terms of customer reactions to the company's decisions or activities. Program or policy goals may be established in terms of attitudes the company would like to support or change, and enhance or diminish in intensity or importance. Corporate objectives may pertain to attitude change by comparison to some previously determined set of attitudes.

The first three of these four applications of attitude research are often viewed as the interrelated objectives of a single attitude research project. Attitude research for evaluation purposes typically follows the implementation of some decision, and focuses on the effects of that decision on customer attitudes. However, it is also not at all unusual to view these four applications of attitude research as a process that relates, for example, to an on-going communications or marketing effort undertaken by the company.

C. FOCUSING THE APPROACH TO ATTITUDE RESEARCH

From a practical perspective, any attitude research conducted by utility companies can be defined in terms of answering five questions:

1. Whose attitudes are of interest?: The answer to this question can be as broad as "the general public" and as narrow as "our top five industrial customers". Traditionally, electric utilities divide customers into industrial, commercial, and residential classifications. The attitude research concepts discussed here are equally applicable to all groups of customers, albeit the methodology for collecting attitudinal data may vary substantially across the groups. The essential point is to formulate a precise definition of the population of interest as one starting point for defining the possible "pool" of attitudes of interest in a particular study. The focal individual of a particular piece of attitude research may also vary considerably. For example a "decision-maker" or "decision-influencer" is sometimes the critical individual. Other times, any adult in a household may qualify as the individual of interest.
2. Where is the population of interest? The geographical distribution of the population of interest obviously needs definition in terms of the design of the attitude research, and the sampling procedure to be used, and may have direct implications with regard to particular sets of attitudes which have a geographical orientation. For example, customers living in an area where natural gas is readily available may have different attitudes toward electricity than customers who do not have gas available. Customers living close to a nuclear power plant may have different attitudes about the use of nuclear power to generate electricity than other customers.
3. What are the focal "objects" about which attitude data will be collected? As mentioned previously, attitudes can be identified in relation to the company as a whole; specific policies, programs, and practices of the company; or characteristics of each policy, program, or practice under scrutiny. One could, for example, evaluate attitudes about heating and cooling systems; the heat pump as one type of heating or cooling system, and the "comfort provided" by the heat pump as a specific product "benefit".

4. When is the proper time frame for evaluating attitudes? The dimension of time enters into attitude research in several basic ways. First, the collection of attitude data has an immediacy to it--the attitude measured on the day the questions were asked to determine the attitude. However, questions asked to determine a customer's attitude can have an explicit time frame included in the questions. For example, one can ask about how the customer felt about the topic sometime in the past versus the current time. Time is also a critical variable in terms of the process of determining attitude change relative to "events" that may have occurred between attitudinal measurements at two or more points in time.

5. Why are particular attitudes held by customers?: Within the context of addressing consumer attitudes toward electric companies from their perspective, a central component of attitude research should be the effort to go beyond responses to batteries of scaled questions, and determine the reasons why consumers hold particular attitudes. The verbatim responses to "why" type questions often reveal respondent feelings that are important to the formulation of attitudes across a variety of customer-company relationships, and may also reveal how intensely or strongly those attitudes are for the customer.

D. THE USES OF ATTITUDE RESEARCH BY ELECTRIC COMPANIES

As mentioned earlier in the chapter, five attitude research case studies have been formulated to illustrate the following:

- the conditions or situation in which attitude research can play an important part in formulating company programs and policies; executing, and evaluating company programs and policies;
- the types of questions used to develop the attitude analysis; and
- the way the attitude research was used in making management decisions.

The five case studies analyzed at the end of each chapter are taken

recent examples of electric company attitude and image
ch. Each case is intended to illustrate one primary use of
the research although there are clearly overlaps in terms of
general objectives and types of measurement used across the five

These cases generally apply to the following situations:

The design and evaluation of a communications program:

Many utilities communicate with their customers via direct mail, bill inserts, and mass media advertising. While customer communications programs may address a variety of topics, there are typically some fundamental objectives the utility is attempting to accomplish in the communications program that relate to creating or modifying particular attitudes held by customers. The responsibility for customer communications may be shared by several departments, including Public Affairs, Marketing, and Customer Service departments.

The evaluation of customer service contacts with the company: one of the basic customer-company relationships involves the liability of the company to answer customer questions or resolve customer problems. Customer attitudes about the handling of customer-initiated contacts with the company are, therefore, measurable in terms of customer reports of those contacts. The Customer Service/Customer Relations management, and the "line" organization in the business offices and telephone centers typically hold the responsibility for managing this customer-company relationship.

The "marketing" of customer programs: customer attitudes about the company, as a whole, and attitudes about the specific products, programs or services available from the company or related to the business of the company, can play a major role in the success or failure of the company's activities. Over the last several years, the types of products, programs, and services available to customers have ranged from conservation and demand-side management programs, to the marketing of specific products like heat pumps. For the Marketing or Conservation Services managers typically involved in executing these programs, it is important to understand how customer attitudes toward the company (as the purveyor of these programs), and toward specific characteristics of the programs, influence the customers interest in and actual behavior toward these programs. Two of the cases

apply to these types of programs.

4. The management of long-range issues affecting the company's ability to do business: Because of the high visibility of electric companies, and the regulated nature of the business, electric companies often engage in long-range legislative, regulatory and governmental affairs strategies to position the companies with regard to broad societal issues like air and water pollution (for example, the national debate on "acid rain") or the construction and operation of nuclear power plants in the United States. The Public Affairs or Governmental Affairs managers have a need to know where "the public" stands on these issues, in terms of attitude and positions they will take, in order to better formulate strategies to be in a position to rally public opinion that supports the companies positions and activities, or change public attitudes that are in conflict with the companies positions or activities.

In essence, virtually every department or division within an electric utility will, from time to time, need to understand how customers (or the general public) view particular policies, programs, products, or services, in order to best formulate communication, service, marketing, or governmental affairs activities, and to evaluate the success or failure of those activities.

The case material presented here focuses on residential customer research where much of the attitude research efforts among electric companies has been conducted. It should be kept in mind, however, that the same principles of attitude and image research discussed in this monograph can also be applied to commercial and industrial customer situations. The central differences in dealing with commercial or industrial customers compared to residential customers will be in the research design and data collection strategies

employed rather than in the logic or content of the questions included in the research that tap attitudes toward the electric company, or its programs and policies.

Case #1
Development and Evaluation of A
Customer Communications Program

Situation and Objectives

Beginning in 1980, an electric company developed a systematic means of analyzing customer attitudes about the company in terms of the general image of the company as well as specific characteristics or attributes of that image (e.g., reliability, friendliness, good management), and attitudes toward how the company's job performance with regard to policies and programs for customers. The original purpose of this measurement was to determine basic attitudes about the company, and to decide whether there was a need for a more regular form of communications to customers than had existed in the past.

Based on the results of a baseline survey in 1980, and a second survey in 1982, the company concluded that there was need for a customer communications program that would:

1. position the company's image to support management policies and decisions regarding energy costs, rates, and customer service; and
2. generally create a more positive public opinion climate that would help alleviate customer pressure on legislative and regulatory officials to consider laws or regulations that would make it more difficult for the company to conduct its business.

The resulting communications program began in June, 1983, and involved a monthly newsletter to all residential customers called "Energy News You Can Use" with supporting radio and newspaper

advertising that focused attention on or featured particular topics included in the newsletter.

Subsequent surveys in 1983 and 1984 were used to continue to measure customer information of and attitudes about the company as well as evaluate the "effectiveness" of the communications program in terms of its impact on these images and attitudes. Further, these "trend" surveys were used to define specific target audiences, and to help guide the communications efforts to these audiences by selecting topics and issues of most interest to or relevance for the targeted groups.

Case #2
Analyzing the Impact of
Customer Service Contacts
in Relation to Customer
Attitudes and Images
about the Company

Situation and Objectives

In 1982, one electric company implemented a regular series of research studies at the request of their Divisional organization to measure customer perceptions and attitudes regarding the company with specific reference to customer-initiated contacts by telephone and in-person in business offices between customers and company representatives. The general purpose of these studies is to provide periodic evaluations of customer representative performance in the company's telephone centers and business offices.

The specific objectives of these surveys are:

1. to measure customer satisfaction with the handling of their contacts along specific attitudinal dimensions of the customer-employee contact relationship;
2. to diagnose "warning signs" or indications from a customer perspective that the contact system is not being responsive to their questions and problems;
3. to measure the impact of changes in company policies or services as they relate to the volume and type of calls made by customers, and each representative's ability to handle those calls; and
4. to measure the relationship between customer contacts with the company and more general attitudes toward the company outside the circumstances and topics of a specific contact.

The company uses these surveys to design special training programs for customer representatives, allocate resources by business office or telephone center, and evaluate the impact of external "events" (e.g., major power outages) and internal changes in the contact system on company-customer relationships. The survey results are also used directly as one means of evaluating the performance of managers and supervisors charged with these customer service responsibilities.

Case #3
The Marketing of
Heat Pumps

Situation and Objectives

An electric company has recently begun developing an extensive heat pump marketing program for the residential heating and cooling market. In order to help design and select the most productive combination of mass media advertising and direct contact sales tools, and to determine the combination of product characteristics and sales incentives of most interest and appeal to potential buyers, the electric company undertook a marketing research project, with the objectives of:

1. defining the level of effort and the type of information required to educate consumers about the heat pump product(s) available in the market;
2. identifying the heat pump product characteristics about which consumers had the most positive (or negative) feelings, in order to highlight particular characteristics in the marketing program; and
3. determining potential "market share" (intentions to or likelihood of purchasing) for heat pumps, and particularly among selected or high potential target markets;
4. evaluating the proper role of the electric company in the marketing program, in terms of credibility the company has as a marketer, and the potential "damage" that might occur to the company-customer relationship if customers did not view it to be proper for the electric company to be promoting particular products.

The context for the last objective is based on the company's concern about the "historical" perception of the company, in the sense that the company had been promoting energy conservation for several

years, and now might be viewed as promoting increased electricity use by selling heat pumps competitively against other fuels and heating/cooling systems.

Case #4
Evaluation of a Residential
Conservation Audit (RCS) Program

Situation and Objectives

An electric company has made a concerted effort over the last several years to promote residential conservation audits, as part of a general program to aid customers in managing their home energy use and costs. The "energy audit" program has received particular impetus from the state regulatory agency which has authorized the gas and electric utilities to recover most of the audit costs over and above the \$10.00 fee paid by consumers for each audit. The energy audit program has included extensive mass media advertising, direct communications with customers (bill inserts, direct mail), and additional promotional gambits including lotteries, whereby those who have received an audit enter a contest to win conservation prizes like complete insulation/weatherization of their home.

The company has used consumer research to both design and evaluate the on-going RCS program, with particular attention to:

1. Awareness and knowledge of the availability of energy audits, and their purpose;
2. Attitudes about home energy use and conservation to identify those who would be likely to be interested in an energy audit;
3. Past home energy conservation behaviors to define those who may be in most need of or could make most use of an audit; and
4. General attitudes about the electric company as a source of "energy expertise" in conducting audits and providing energy management advice to consumers.

The research has helped define the potential total market share for audits, consumer expectations about the value of the audit, and message content for consumer communications to make the audit program as attractive as possible to consumers.

Case #5
Dealing with Major Issues
That Impact on Attitudes
Toward the Electric Company

Situation and Objectives

Over the last several years, many electric companies have had to deal with a controversial and highly visible issue with regard to the construction and operation of a nuclear power plant. Many nuclear power plant construction projects have suffered construction delays and cost increases that have created anxiety and hostility among the general public, regulations, and elected officials. Media coverage of these plants has, overall, been more negative than positive.

Since public opinion may be focused very narrowly on the completion and operation of a specific plant, one electric company decided that the issue of the specific plant under construction should be dealt with directly through a customer communications program. The company had the advantage of an established corporate communications program that emphasized the company's desire to work with customers to help them get the most value from their relationship with the company.

The general corporate communications program had proved to be effective in helping to establish a positive relationship between the company and its customers. At the same time, however, the company continued to face pressure from opinion leaders and public officials, as well as from its own management, to do more to combat

negative media publicity about the nuclear plant under construction and to speak out positively about the need for the plant to assure adequate electricity supplies for the future.

Thus, the essential dilemma the company faced was how to address specific customer attitudes and images about the company as a nuclear power plant builder and operator without doing damage to an increasingly positive company-customer relationship. The company decided to create a separate and distinct communications and public relations effort under the auspices of the co-owners of the plant with a separate theme and messages from the general corporate communications program.

Public opinion research was conducted just prior to, and immediately after, the nuclear power plant communications program to determine:

1. The awareness and knowledge the public held with regard to the reasons why the completion and operation of the plant was necessary and beneficial to the state and to consumers;
2. Feelings regarding the completion and operation of the plant, and positions of support or opposition to the plant;
3. The interrelationships, if any, that existed between other attitudes customers held about the company, and the attitudes held about the nuclear power plant, and
4. The impact, if any, of the corporate communications program about the nuclear power plant on customer attitudes and positions regarding the plant, as well as their other attitudes about the company.

The research was used by senior management to evaluate the effect of this type of public "issue management" effort, and to decide on

future communications about the plant.

CHAPTER TWO: SYNOPSIS OF KEY ATTITUDE THEORY CONCEPTS

A. INTRODUCTION

The discussion of attitude theory and measurement in Chapters Two and Three provides a basic framework for the electric utility manager to understand what it is that we are attempting to measure, and how the measurement can be conducted.

The term attitude, like so many concepts in behavioral sciences, is a word used in everyday conversation (for example, there is always a basketball player somewhere who is benched by the coach because of the player's bad attitude). The term has a more precise meaning within the context of psychology. Thus, to say that someone "has a bad attitude" is not a meaningful use of the term in a scientific (or managerial) sense. The purposes of this chapter are:

1. to clarify the nature of the attitude concept as it is used in consumer research;
2. to show the relationships between attitudes and other important concepts; and
3. to specify the applicability of the attitude concept in a variety of electric utility decision-making contexts.

B. ALTERNATIVE DEFINITIONS OF THE ATTITUDE CONCEPT

It is useful to begin with a general definition of an attitude as a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object. Several aspects of this definition bear further discussion.

We are not born with the attitudes which we hold toward various objects in our environment. Rather, we learn our feelings of

favorability or unfavorability through information about the attitude object (for example, from advertising) or direct experience with the attitude object (for example, looking at the electric bill each month) or some combination of the two. Because attitudes are learned, utility managers can attempt to create or modify attitudes toward their companies and programs through the use of advertising, bill inserts, direct mail, and personal contacts between customers and company representatives. Unfortunately, from the manager's perspective, attitudes can also be learned on the basis of information provided by sources unfavorable to the utility. For instance, many people develop negative attitudes toward nuclear power plants based on information provided by anti-nuclear consumer activist groups.

Attitudes are not something which can be directly observed by some third party (say, a market researcher). They are not overt behaviors but rather covert, or unobservable, internal reactions. No one has ever seen an attitude, and no one ever will. Therefore, an attitude is a hypothetical construct, which is to say that it is something which can never be directly verified. The existence of attitudes is postulated by theorist seeking to explain behavior. To the extent that people behave as if they truly held attitudes, then attitude is a useful theoretical tool. As we shall see in a later section of this chapter, attitude is perhaps the most widely used theoretical construct in the analysis of consumer behaviors.

Thus, while attitudes cannot be directly observed because of their covert nature, they are nevertheless useful because they are assumed

to be precursors of behavior. In other words, attitude theorists believe that an attitude is a predisposition to respond overtly and that this predisposition leads to actual overt behavior. So, if a customer is favorably predisposed toward a particular utility then it is probably more likely that this customer will behave in positive ways toward the company, or toward the company's policies, people, and programs. Attitudes serve as organizing mechanisms for the individual, either positive or negative feelings about some "object." Attitudes may govern a wide array of overt behaviors which the individual may express toward the attitude object. Thus, if one were to observe an individual's behaviors with respect to a particular utility, there should be evidence of a basic consistency in those responses, whether favorable or unfavorable.

As noted above, attitudes are directed toward some object. In this case, "object" is rather broadly construed, so that an "object" can be not only a true object (such as a program or electricity end-use appliance) but also a person, issue, or behavior. For instance, presidential candidates are concerned about the attitudes which voters hold toward them. Similarly, we hold attitudes toward issues, such as nuclear power and acid rain. Specific behaviors can also be the targets of attitudes, such as a consumer's attitude toward reducing electricity consumption by installing better insulation in his home. In Chapter Four, the objects which are pertinent in a utility customer-company relationship are outlined.

To summarize, attitudes represent our covert feelings of favorability or unfavorability toward an object, person, issue, or

behavior. We learn these attitudes over time by being exposed to the object directly (experience) or through receiving information about the object. Our learned attitudes serve as general guides to our overt behavior with respect to the attitude object, giving rise to a consistently favorable or unfavorable pattern of responses.

Historically, two major orientations have emerged in the study of attitudes. The first is often referred to as the tripartite view because it specifies three underlying components of attitude. The second, the unidimensionalist position, treats attitude as a single, affective construct. While these two orientations are regarded as competing viewpoints, they are really not that inconsistent with one another. Each is described in more detail below.

1. The Tripartite View of Attitude

Under the tripartite view, attitude is seen as being made up of three underlying components; cognition, affect, and conation (see Figure 2-1). Briefly, cognition refers to all beliefs which an individual holds with respect to the attitude object (the local utility cares about people in the community). Affect pertains to positive or negative emotional reactions to the object (I like my local utility). Conation encompasses intended and actual behaviors with respect to the attitude object (I pay my utility bill promptly). According to proponents of the tripartite conceptualization, all three components are integral parts of any attitude; that is, every attitude consists of greater or lesser degrees of each component.

INSERT FIGURE 2-1

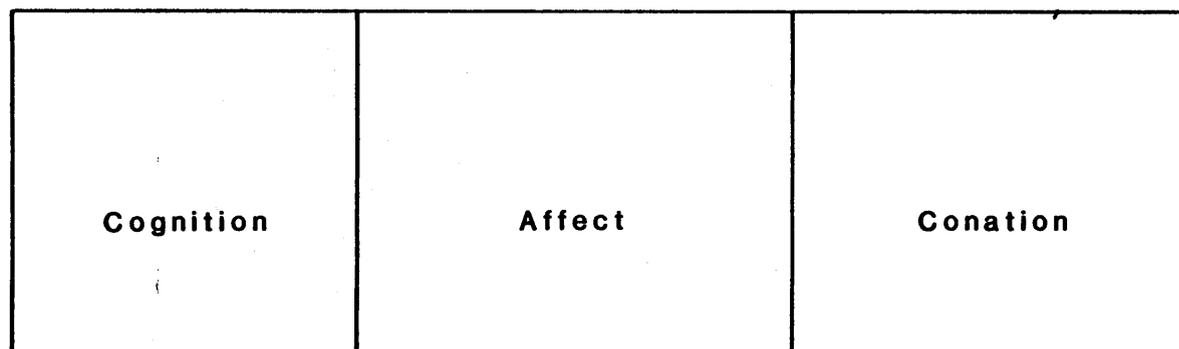
Further, the three components are thought to have "reciprocal" causation -- for example, a change in cognition can impact on positive or negative feelings about an object, or a change in feelings can impact on what beliefs might be held about the object.

Furthermore, the three components are expected to exhibit a basic consistency in terms of favorability or unfavorability toward the attitude object. In other words, if a consumer believes that a utility delivers positive benefits (cognition), then the consumer will also be expected to like the utility (affect) and engage in favorable behaviors toward it (conation).

The tripartite view of attitude, while well established conceptually, has seen very little empirical investigation. In fact, a major criticism of many attitude measurement approaches is that they fail to measure all three components -- cognition, affect, and conation. Most measurement procedures rely on a series of belief-type statements which are combined to yield an overall measure of the affect component. With few limited exceptions, the cognitive and conative components of attitude have not been measured in empirical investigations of attitude. Thus, the tripartite view is not currently a major force in the study of attitude, nor does it provide direct impetus to the application of the attitude in marketing research.

Figure 2-1

THE TRIPARTITE VIEW OF ATTITUDE



2. The Unidimensionalist View of Attitude

The unidimensionalist conception of attitude can perhaps best be regarded as a evolution of the tripartite view. The same basic components of the tripartite attitude appear in the unidimensionalist views, but their conceptual status is altered significantly.

Under the unidimensionalist approach, the cognitive and conative components are "pulled-out" of the definition of an attitude; cognition is relabeled beliefs and conation is relabeled intentions and behaviors. Thus, the unidimensionalist position is that attitude consists of affect only (see Figure 2). That is, attitude is unidimensional, consisting of only one component, affect, which represents the degree of favorability or unfavorability with respect to the attitude object. Other belief and behavioral dimensions are not seen as being components of the attitude concept per se, but rather are viewed as antecedents or consequences of attitude.

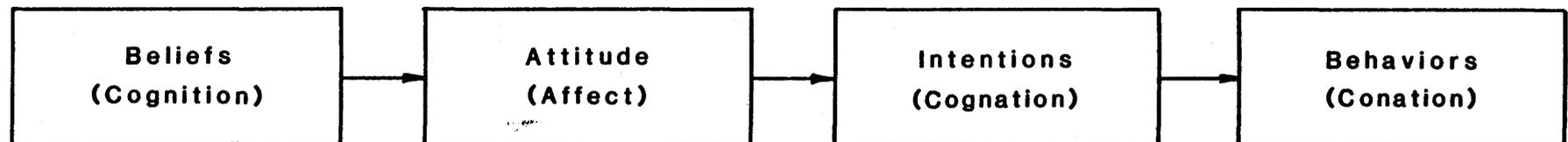
INSERT FIGURE 2-2

There is also an implied direction of "causation" in the unidimensional definition, in terms of, for example, beliefs influencing feelings but not the opposite.

The specification of these relationships among the various concepts

Figure 2-2

THE UNIDIRECTIONALIST VIEW OF ATTITUDE



is an important contribution of the unidimensionalist view. While the tripartite view incorporated the notion of consistency among the components, the unidimensionalist view posits a causal flow through the components to account for this consistency. As shown in Figure 2-2, beliefs are seen as the immediate causal antecedents of attitude, while intentions are the immediate causal consequences, with actual behavioral consequences being one step removed from attitude. What this means is that if a consumer learns a new fact about a utility this fact can be incorporated in the consumer's belief structure which then gives rise to an attitude, (positive or negative affect) about the fact.

The unidimensionalist perspective, then goes beyond the tripartite view in specifying causal linkages among various theoretical constructs related to attitude. The resultant theoretical network contains a series of relationships which have both theoretical and practical merit. Thus, the unidimensionalist view of attitude is the underpinning of much current attitude research.

C. ATTITUDE FORMATION AND CHANGE

In this section we will examine attitude formation and change - that is, origins of attitudes and ways of modifying already-existing attitudes. Both attitude formation and attitude change are important to utility managers. Utilities introducing new programs are concerned with creating marketing efforts designed to engender favorable attitudes toward these programs, while marketing efforts for existing programs focus on strategies designed to modify attitudes in a favorable direction.

One theoretical orientation for this analysis was first proposed by Fishbein. His theory has had perhaps the greatest influence on consumer attitude research over the past decade and has given rise to an entire class of attitude models which are generally labeled multiattribute models of attitude. (See Appendix A -- Selected Readings for this and other citations in the monograph). The term multiattribute is used to indicate that attitude is seen as resting on multiple beliefs about attributes of the attitude object. Structurally, the multiattribute attitude model is represented by the following equation:

$$\begin{array}{c} +-----+ \\ | \text{Attitude} = f(\sum^n B_i I_i), \quad \text{where:} | \\ +-----+ \end{array}$$

Attitude is an independent measure of affect for or against the attitude object; for example, like/dislike of the local utility;

B_i is the strength of the belief (expressed as a subjective likelihood) that the attitude object possesses the *i*th attribute (for example, the likelihood that the local utility is socially responsible);

I_i is the importance weight associated with the attribute (for example, how important is it to the customer that the utility is responsible

n is the number of salient attributes of the attitude object;

f stands for "is a function of," meaning that attitude is somehow related to the formula inside the parentheses;

∑ represents the summation of all B_i and I_i combinations.

Simply stated, the multiattribute model asserts that an attitude toward an object is based upon what are believed about the

attributes of the object itself. For example, consider the beliefs customers might hold about nuclear power:

Nuclear power is dangerous
Nuclear power is inexpensive
Nuclear power reduces dependence on foreign oil

As the customer learns these attributes of nuclear power through the communications from a utility and/or other sources each attribute become "connected" to nuclear power to a greater or lesser degree; this is the belief strength (B_i) component in the multiattribute equation. Associated with each attribute is an importance weight (I_i). That is, different customers attach different degrees of importance to the various attitudes of nuclear power. This is true for all salient attributes of nuclear power. Thus the overall attitude toward nuclear power is derived from the multiplicative, summative formula shown in Equation 1. This captures the essence of how beliefs about attributes lead to attitude. Furthermore it is apparent that attitudes can be changed by altering the customers underlying beliefs, or importance weights, or both.

Having clarified the theoretical underpinning of the attitude concept, we now turn our attention to a more directly applicable system of attitude and image measurement. It has been said that "there is nothing as practical as a good theory," and we hope to demonstrate that attitude theory is a very practical framework for organizing and guiding management's use of attitude and image information.

INSERT FIGURE 2-3

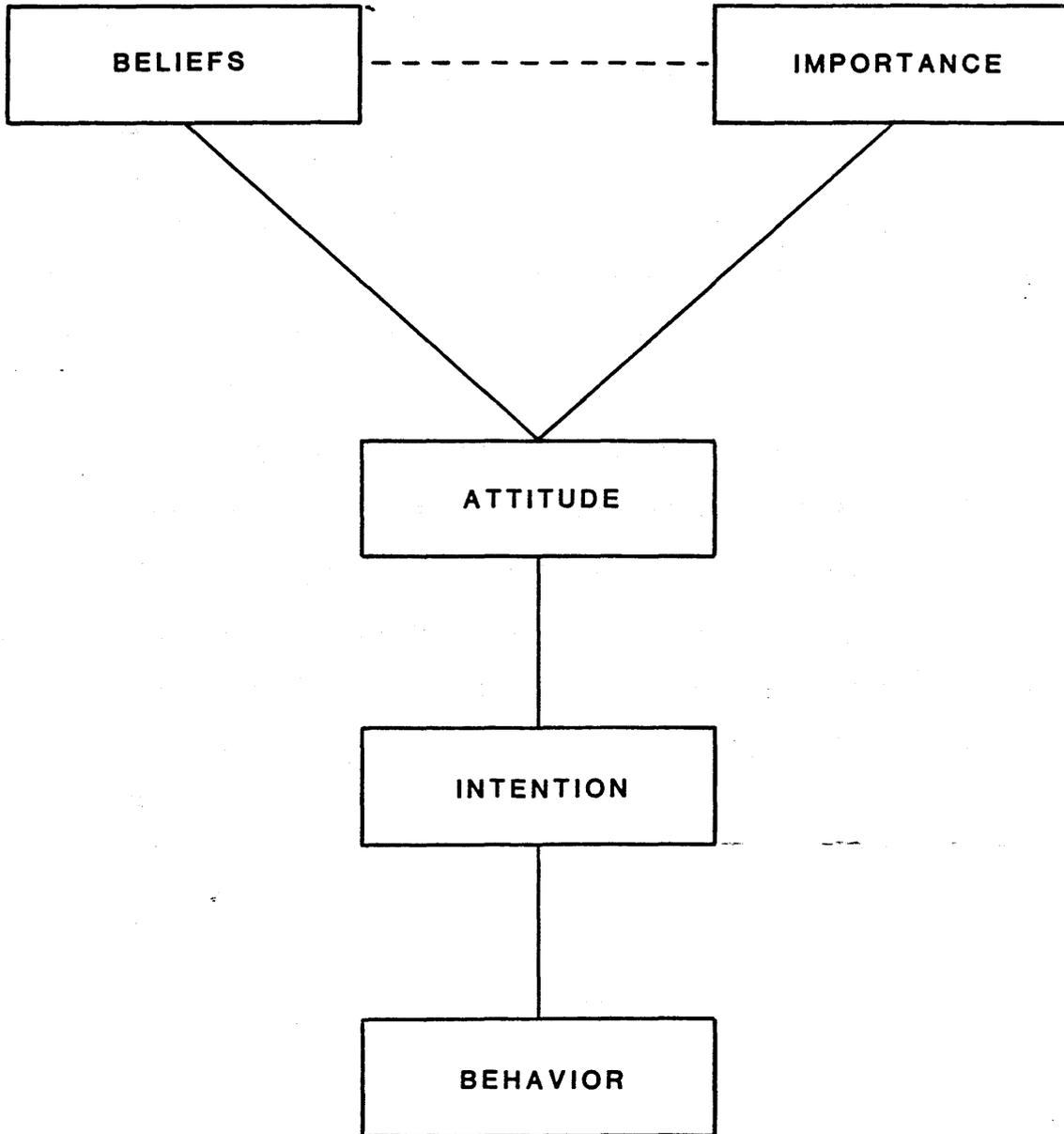
As shown in Figure 2-3, the proposed measurement system consists of five interrelated components: beliefs, importance weights, attitude, intention and behavior. The first three components have been described previously (see Equation 1). Intention and behavior are reasonably self explanatory. Intention refers to a customer's stated plans to engage in a particular behavior of interest. Thus, in some instances, questionnaires measuring intentions to participate in a particular program are used to predict eventual customer response to the program if it is implemented. Numerous studies in the marketing literature have documented the fact that intentions are reasonably accurate predictors of actual behavior. Behavior refers to actual overt behavior on the part of customers (e.g., metered electricity consumption, purchase of a heat pump).

As mentioned in the opening chapter, utilities engage in attitude and image research when they are desirous of predicting customer behavior or understanding the basis for customer attitudes toward the company or an energy related issue. The measurement system depicted in Figure 3 is especially useful at the early stages of a research effort in that it assists in framing the research problem more precisely.

For example, rather than engaging in research with the rather vague goal of "measuring company image," the attitude measurement system encourages us to ask questions of ourselves like "What is it that we

Figure 2-3

MEASUREMENT SYSTEM



are really concerned about? Are we interested eventually in influencing a particular behavior (e.g., response to a load management program), an attitude (e.g., overall satisfaction with the utility), or a specific belief dimension (e.g., the cost effectiveness of nuclear power)?" Sharpening our conceptual focus enables a similar sharpening of the measures to be employed and, importantly, help to eliminate measures which are either tangential or irrelevant to the research objective.

A central thesis of the measurement system presented in Figure 3 is that attitude and image research must always be guided by managerial considerations. For attitude and image research to be relevant and useful, it must be actionable in the sense that it provides information directly pertinent to some policy, program, or communication decision which is being contemplated by management or has already been implemented. Hence, the managerial objective, whether it is behavior change, attitude change, or belief change, is the guiding focus of the research design. This point is perhaps best illustrated by reference to the five cases introduced at the end of the first chapter.

**Case 1
Development and Evaluation
of
A Customer Communication Program**

A Measurement System

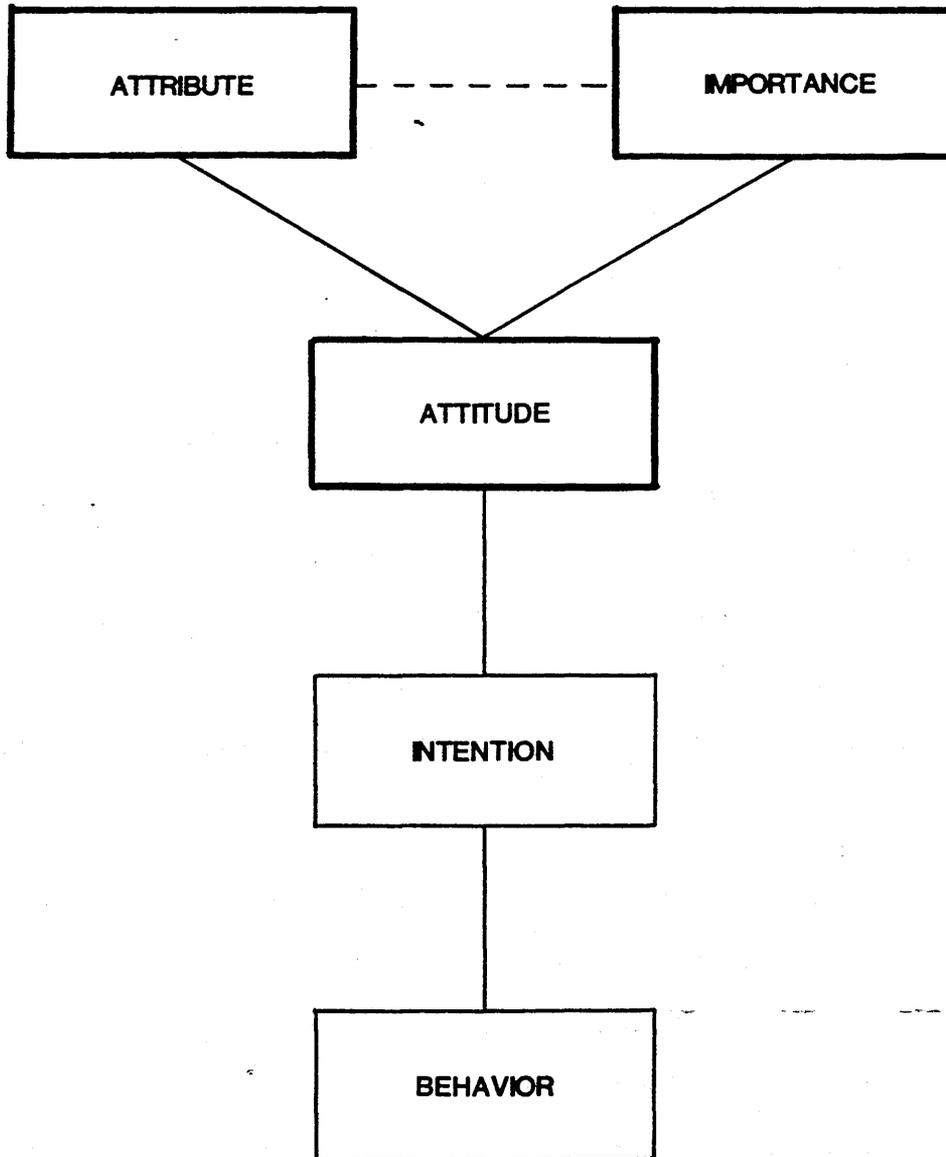
The general purpose of this research was to assess and understand overall the "image" of the utility. The importance of this effort was to determine if the image needed to be shored up in order to prevent potential detrimental legislation. The assumption was that legislators and other regulators would be less inclined to interfere if the utility's customers generally regarded it favorably.

Referring to the system in Figure 3, it can be seen that intention and behavior were not of immediate interest in this case; rather, the central objective was describe how favorably the company was regarded by its customers (i.e., attitude). Also of interest for the purpose of designing a communication program, was the diagnosis of the reasons for this overall attitude (i.e., beliefs about the company). Four general clusters of beliefs were identified through preliminary research: quality of service, the price/value of electricity, the company as a business, and the company as a communicator. Within each of these clusters, a number of specific attributes, were measured, as will be seen later. To complete the analysis the important weight for each attribute was of interest. This would permit the utility to assess which attributes were most instrumental in governing attitudes which would be extremely helpful in designing a communications program intended to create more

favorable attitudes toward the company.

In summary, then, this case illustrates a research design in which attitude and its underlying determinants are the necessary focus. The accompanying figure highlights, via the heavy lined boxes, the concepts of interest.

CASE #1
Figure 1



**Diagnosis of Underlying
Attribute Beliefs about
the Company**

**Measurement (description)
of Overall "Image" of
the Company**

Case 2
Analyzing the Impact of Customer
Service Contacts in Relation to
Customer Attitudes and Images about the Company

A Measurement System

The purpose of this research was to provide information regarding the quality of service being provided by the utility's customer service representatives. The importance of this effort was in providing an ongoing assessment of the quality of the service, as well as ideas about how to improve the service contacts.

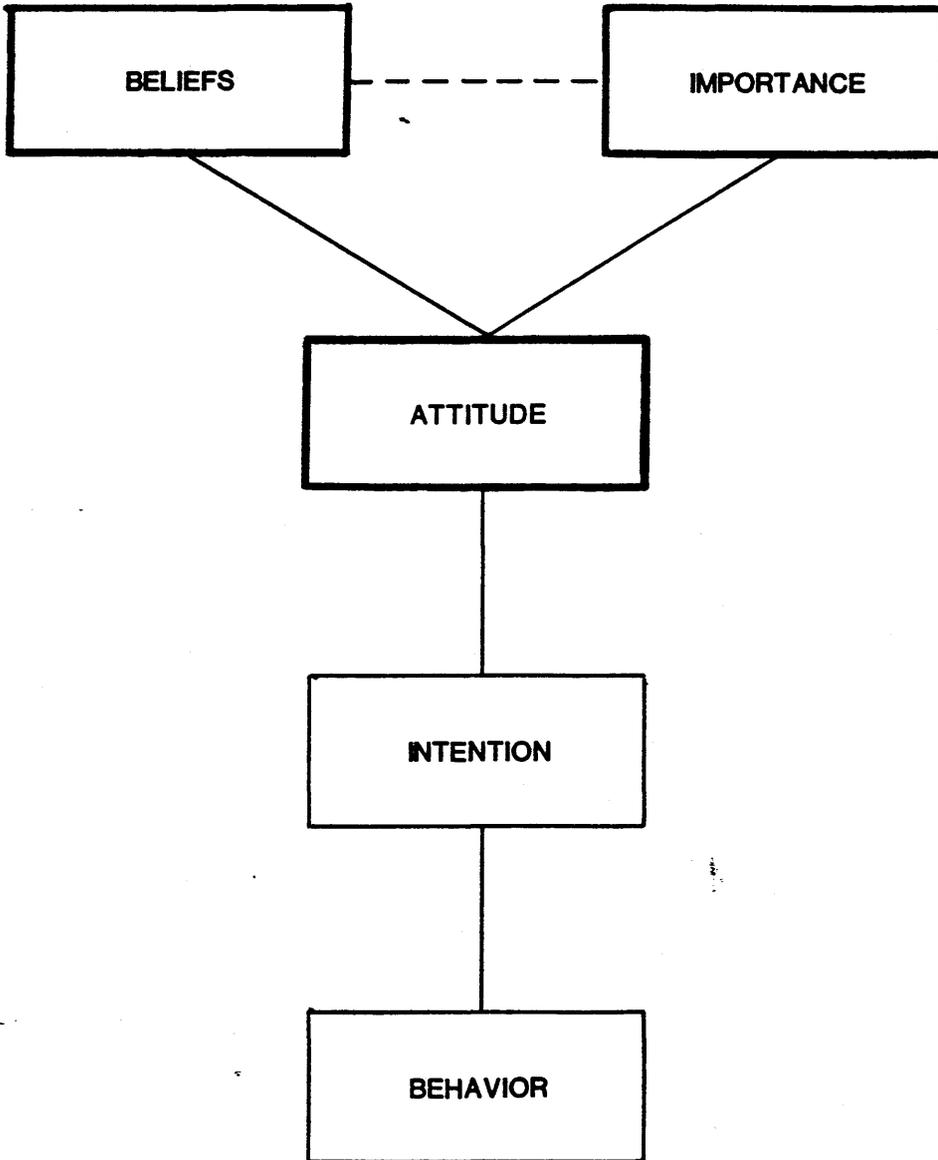
Utilizing the proposed system in this case, it can once again be determined that the primary research objectives is to measure customer service satisfaction, which is a specific type of attitude, as opposed to the overall attitude toward the company (i.e., company image) of interest in the first case. However, it is clear that customer service satisfaction will have some impact on overall company image.

Of additional interest in this case are the reasons for customers' satisfaction (or lack thereof) with service contacts. Hence, the diagnostic capabilities of attribute beliefs and importance weights once again come into play. Knowledge of customer perceptions of the nature of the service contact would be great value in providing more adequate training to service personnel.

In sum, the accompanying figure parallels the research focus which was evident in the first case, but at much more specific level. It

is important to note that the belief, importance and attitude measures are matched in terms of level of specificity in both cases. In the first case, beliefs and attitude were measured with respect to the company as a whole. In the present case, all measures are specific to the customer service contact. This matching of measure specificity is one benefit of the measurement system.

CASE #2
Figure 1



**Diagnosis of Underlying
Attribute Belief about
the Service Call**

**Measurement (description)
of satisfaction with
Customer Service Call**

Case 3
The Marketing of Heat Pumps

A Measurement System

The purpose of this research was to forecast demand for a heat pump to be marketed by the utility; that is, a customer behavior (heat pump purchase) was the primary concern. A secondary concern was the potential impact of a heat pump marketing program on the overall image of the company.

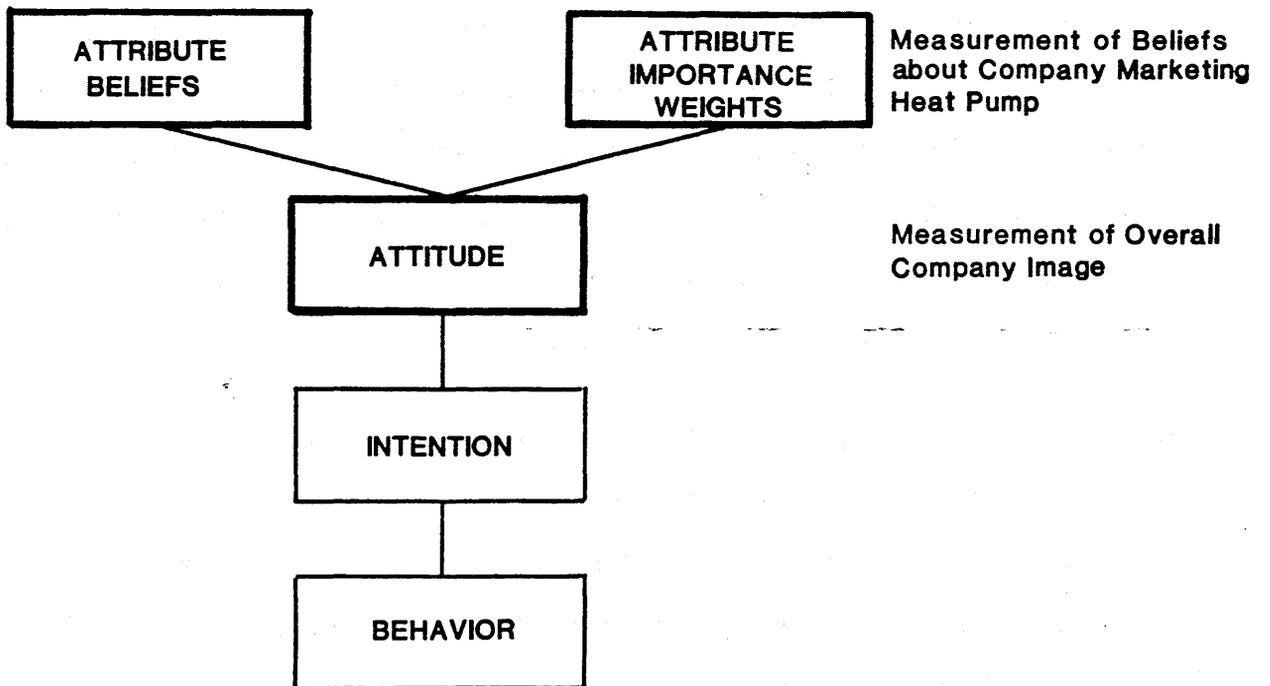
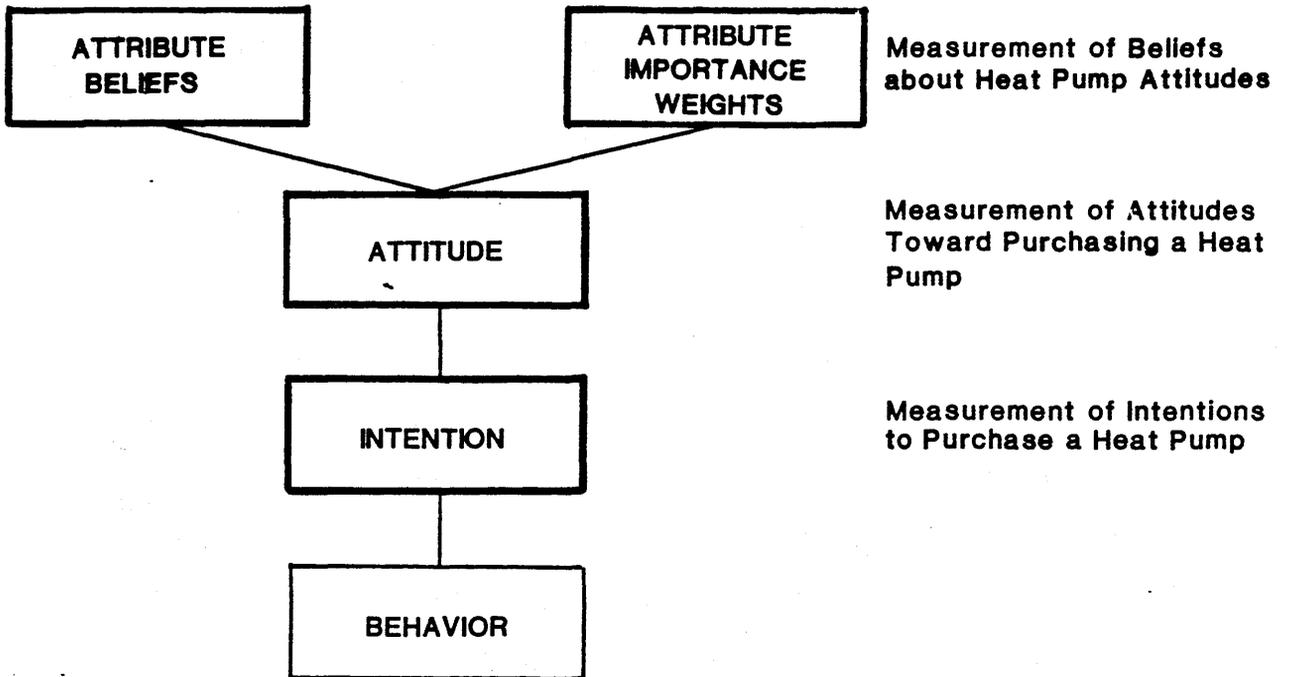
Turning first to the primary focus, it can be seen that the company needed to assess the likelihood that sufficient numbers of customers would actually purchase the heat pump. However, since this assessment had to be made prior to the actual marketing program, intention to purchase, rather than actual purchase of the heat pump, became the key measure of interest. Beyond the attempt to forecast demand based on an intention measure, the utility was also interested in understanding the beliefs and attitudes underlying customer intentions. This would be vital in the consideration of advertising and other promotional appeals aimed at persuading customers to purchase a heat pump. For instance, advertising which could overcome a customer misperception about, say, the reliability of heat pump, would exert its effect not only on that belief but also on attitudes toward and intentions to buy a heat pump (recall the flow of effects outlined in Figure 2).

In sum, the upper portion of the accompanying Figure shows that intention to purchase a heat pump is the ultimate measure of

interest. The additional information about beliefs, importance weights and attitudes would be useful in strategy formulation to influence those intentions.

The lower portion of the Figure summarizes the secondary research focus. In comparison to Case #1, Case #3 can be viewed as addressing the question of what occurs when new attribute dimensions are introduced. That is, the very fact the company undertakes a marketing effort aimed at selling heat pumps becomes a possible attribute of the overall company image. Assessing in advance whether the effect on the company image is positive or negative is an important managerial task.

CASE #3
Figure 1



Case 4
The Evaluation of a Residential Conservation Audit
(RCS) Program

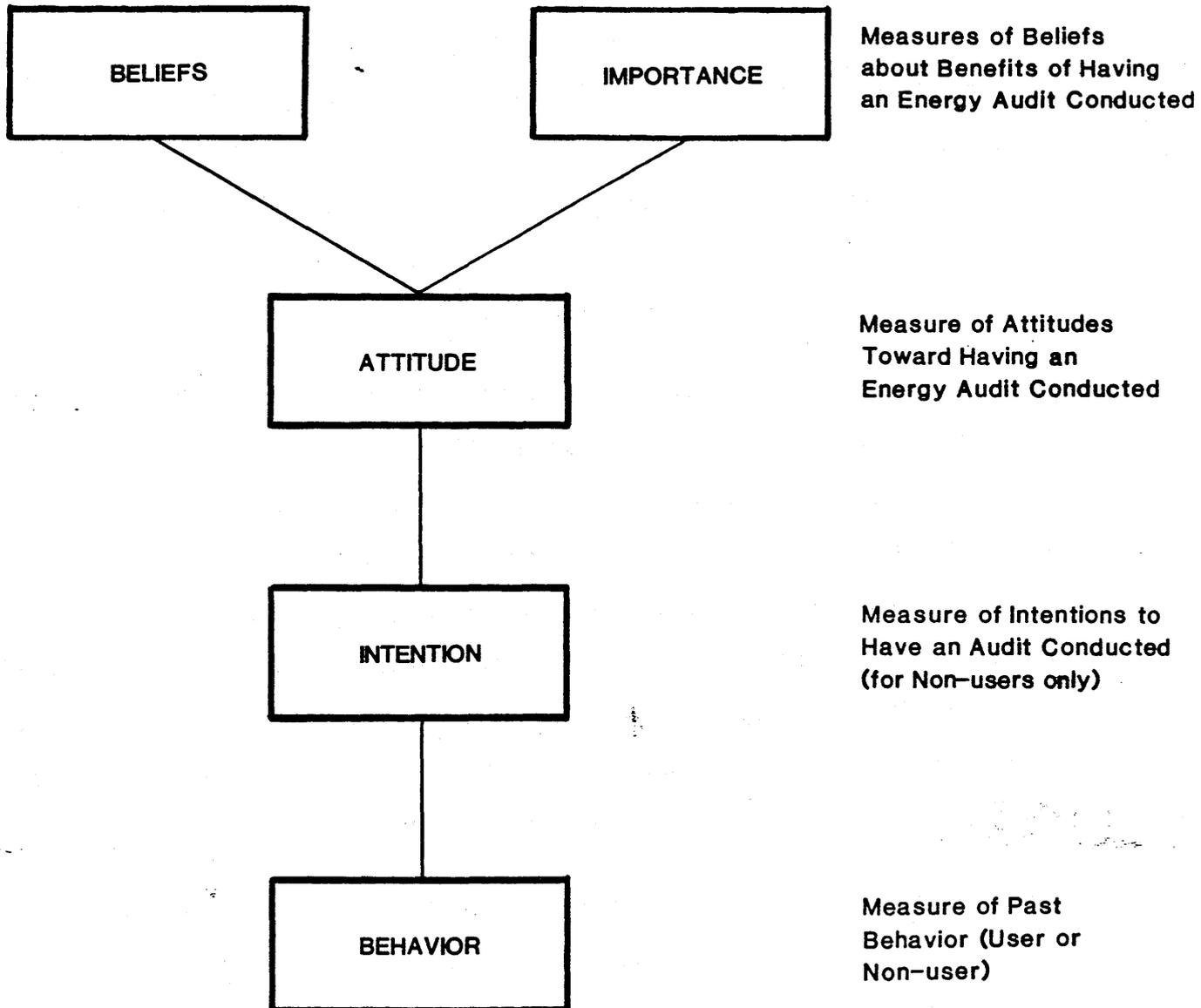
A Measurement System

The research effort here represents a two-fold objective: (1) evaluating the past "success" of the RCS program and (2) gaining insights as to how to promote the program effectively to further customer segments. The ultimate managerial objective is to have more customers sign up for an energy audit. Since it represented an ongoing program, it was possible to compare customers who had already had an audit conducted with those who had not, thus yielding interesting contrasts in beliefs and attitudes.

Of particular interest would be those attribute beliefs which discriminate between the two groups (i.e., users vs. non-users) for the purposes of identifying which aspect of the program to emphasize in promotional activity in order to convince some of the non-users to sign up for an audit. This case represents a different challenge than the heat pump case in that customers may have strongly held beliefs and attitudes about their home conservation activities, and a history of conservation behavior.

As the accompanying Figure depicts, then, the entire belief-attitude-intention-behavior system was invoked in this research effort. Identifying key attribute beliefs which were held by users but non-users would be quite important in designing an informational campaign whose effects would be felt on signup behavior.

CASE #4
Figure 1



Case 5
Dealing with Major Issues That
Impact on Attitudes Toward
The Electric Company

A Measurement System

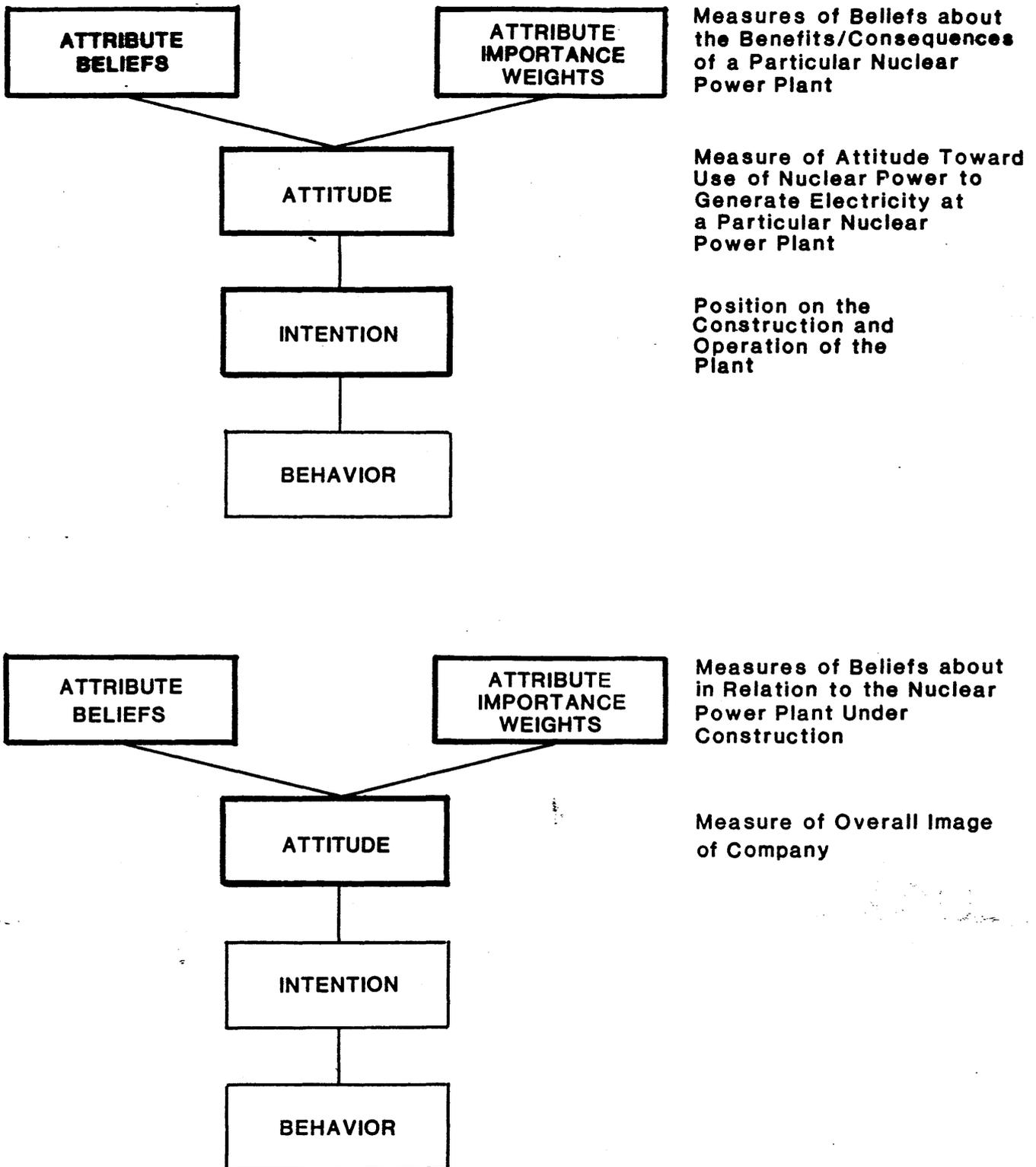
The management issue faced in this situation was with respect to the construction of a nuclear power plant and the possible negative impact that might have on the overall company image. In this case, the more specific problem was clearly linked to the more general issue of nuclear power as a source of electricity. Accordingly, the research adapted a two-fold focus, on a nuclear power in general and one on the particular power plant under construction.

As the accompanying Figure illustrates, two distinct sets of beliefs and attitudes were of interest in this situation. The upper portion of the Figure depicts management's interest in attitudes toward the use of nuclear power to generate electricity, with focus on the construction of a particular nuclear power plant, as well as the diagnosis of the reasons (beliefs) underlying these attitudes. A communications campaign regarding the construction and operation of a particular nuclear power plant might therefore entail specific information about the benefits of the plant.

The lower portion of the Figure illustrates the research designed to tap the impact of the nuclear plant on the overall company image. Including these new belief dimensions in a battery of items designed to reveal the reasons for overall image would allow assessment of the degree to which the construction of the plant was having a favorable or detrimental effect on overall image.

CASE #5

Figure 1



CHAPTER THREE: TECHNIQUES FOR MEASURING ATTITUDES

The purpose of this chapter is to review and illustrate, with sample items drawn from actual applications, various approaches that have been developed to measure attitudes, image, and related concepts. The chapter is organized around the concepts which comprise the "unified" measurement system" presented in Chapter 2: attribute beliefs, attribute importance weights, attitude, intention and behavior. Wherever possible, the illustrative items are drawn from the five cases which have been discussed in previous chapters. Unlike the other chapters, however, the case materials are incorporated directly into the chapter rather than being presented separately at the end of the chapter in order to facilitate the illustration of each measurement technique. This discussion of measurement approaches is in no way intended to be comprehensive in its coverage; highly technical issues and debates over measurement theory are omitted in favor of a more pragmatic treatment of alternative approaches that have been used and proven useful to the utility researcher.

A. MEASURING ATTRIBUTE BELIEFS

An overriding point that the researcher must always bear in mind when measuring beliefs is that beliefs refer to customers' perceptions of some aspect of the world. In many cases, customer beliefs (say, for example, about the pollution level of a power plant) may be in error from an objective standpoint. However, the

objective truth is not what governs the customers' attitudes and behaviors; rather how they see the world is all that matters to them. This can be quite frustrating to the utility manager, particularly when large numbers of customers perceive a situation erroneously. Nevertheless, it is far better to document these "misperceptions" (relative to the facts of the matter) and then take steps to alleviate them rather than to simply assume them away.

In other circumstances, the attribute beliefs of interest may not be characterized by an easily identified objective "truth" (e.g., the long term consequences of acid rain). In such cases, the term "misperception" is less relevant than simply "different points of view". Again, the challenge facing the researcher is to document those differing viewpoints so that management might make communications decisions armed with a better knowledge about the views of customers on a particular topic.

From the discussion in Chapter 2 it should be apparent that beliefs about a program, product, or issue are the foundations of attitudes and behaviors. That is, it is critical to understand the customers' underlying beliefs in virtually any management decision-making situation. For example, all five cases discussed at the end of Chapter 2 included an assessment of beliefs and their allied importance weights. We do not always incorporate a measure of behavior or even behavioral intentions. If, for instance, creating a more favorable overall image among our customers is the goal, then no specific behavior is implied. Likewise, in some situations (albeit less frequently) overall attitude is not of particular

interest. For example, we may have as a goal persuading more customers to simply believe that electricity is fairly priced. No behavior is implied as a result of this belief change, nor would overall attitude toward the company necessarily be more favorable; instead, the focus is on modifying that one attribute belief dimension of price.

In short, it is difficult to conceive of a truly meaningful research project which does not incorporate some type of belief measurements. Hence, belief measurement is the fundamental aspect of a unified measurement system approach, as outlined earlier.

1. The Elicitation of Salient Beliefs

Any belief measurement effort begins with attempting to identify which beliefs should be measured. Attitude researchers have sometimes referred to this task as one of determining attribute salience. By salience we mean a belief about some aspect of the product or company which is at the "top of mind" when customers are asked to think about the attitude object. For example, salient beliefs about customer service personnel might include such things as courteousness, knowledgeability, friendliness, patience, and so on.

Often researchers and other utility company personnel will get together in a "brainstorming" session to decide on which attribute beliefs to include in a questionnaire. While this practice is useful, particularly in its ability to represent the expertise of employees who may have worked in the industry for many years, it is

not complete in its portrayal of what is salient to the customer. What is more generally appropriate is some form of exploratory research designed to elicit salient beliefs directly from customers.

An extremely important factor to keep in mind when identifying salient beliefs is that the beliefs pertain to the precise behavior or attitude object of interest to the researcher (and, of course, to management). For example, if belief measurement is to be undertaken for input to a communications program promoting energy conservation, customers should be probed for their beliefs about conserving energy themselves and not their beliefs about conserving energy in general.

One useful rule of thumb to ensure proper salient belief elicitation is to work backward from the ultimate managerial objective. This will ensure specificity in the probes used to identify underlying beliefs. For instance, in Case #1, the managerial goal was to enhance the overall image of the company (i.e., attitude toward the company). One possible approach to eliciting salient beliefs about the company would be to ask a customer: "What three things do you like most about Company X? What three things do you like least?" Responses to these two questions should be in the form of the customers perceptions of (i.e., beliefs about) the company. In contrast, Case #2 dealt with customer service contact situations. The most appropriate level of belief elicitation, then, should focus on the specific service contact situations and not the overall image of the company. Customers who recently had contact with a service representative could be asked: "How satisfied were you with the service call? What were the most satisfactory aspects of the

service? Which aspects of the service are most in need of improvement?" The essential message, in summary, is that the quality of the belief elicitation technique hinges strongly on the degree to which the customer is being asked to respond to a question of direct relevance to the ultimate managerial objective.

One commonly used procedure for identifying salient beliefs is the maintenance and monitoring of a customer complaint file. Phone calls or letters are recorded and classified into categories, so that a pattern can be detected.

The customer complaint file approach has some rather severe limitations however. First, it tends to generate only negative beliefs about the company and not positive ones. While it is important to identify negative aspects of the company image, it nevertheless is not a complete picture of what customers believe about the company.

Second, the complaint file will be useful only for certain target objects and issues, most commonly related to service programs and personnel, and issues having to do with the electric bill the customer receives. Since the procedure relies on the customer to initiate the contact, beliefs about certain issues of interest to management may simply not be represented. Third, the customers who actually take the time to call or write a letter are, for most utilities, a minority representation of all customers. They may be so different from the customer population as a whole that beliefs held by the "complainers" are not useful in a larger sense. On the other hand, in some cases they may be "distant early warning

signals" of more widespread customer discontent.

There are several more proactive approaches to eliciting salient belief including in-depth, one on one interviews, focused group discussions (or commonly called "focus groups), and the use of "open-end" questions in surveys. One important methodological issue is the identification of those customers who can be expected to have already developed some beliefs about the object in question. Customers who have little interest in or information about the object will, presumably, be hard pressed to offer much in the way of beliefs about the object. Thus, the selection of participants for the in-depth interview or focus group discussions becomes a matter of targeted recruiting of interested or informed customers who are selected to hopefully represent the broadest possible spectrum of beliefs about the object.

In-depth, one-on-one interviews for belief "elicitation" should be as unstructured as possible and would solicit customer inputs in as non-leading fashion. For instance, if the target issue is the purchase of a heat pump, the researcher might ask, "Consider the purchase and use of a heat pump for your home. What comes to mind?" Note that the question is extremely general and permits the customer to mention literally anything that is salient.

Because of their individual focus, one-on-one interviews are a fairly costly means of generating salient beliefs. Accordingly, a more widely used approach is the focus group. A focus group is an unstructured group discussion, typically among 8-10 customers, under the leadership of a professional group moderator. The goals and

philosophy of a focus group are much the same as an individual interview: the elicitation of salient beliefs about an issue through a relatively unstructured discussion that permits any and all reactions on the part of the participants. One advantage of a focus group is that it is more efficient than individual interviews in generating responses from a larger number of individuals. For example, it is not unusual to conduct four groups of 8 or 10 people each yielding 30-40 sets of responses in just a couple of days. In comparison to 30-40 individual interviews, focus groups are generally less expensive and time consuming.

The focus group also has the advantage of capturing the interpersonal interaction among several discussion participants. The goal is to generate ideas for further research, and ideas expressed in a group setting often feed one another, thus leading to further ideas and insights. This advantage can be a double-edged sword, however, in that a dominant individual can sway the group in one direction or another and create a false consensus. Professional focus group moderators are trained to deal with this problem and minimize its potentially detrimental effects. For example, in Case #4 dealing with Residential Conservation Audits (RCS), a focus group participant who has had an RCS could easily dominate the remaining group members who have no direct experience. One way of dealing with this problem is to anticipate it and have separate groups for those who have had an RCS and those who have not.

A final belief elicitation technique to be considered here is the use of open end questions on customer surveys which are being

conducted for another purpose. For example, say a utility was conducting a company image survey but was also looking ahead to a marketing program for heat pumps. The following open end questions (i.e., requiring the respondent to write in a response) might be included for elicitation of beliefs about heat pumps:

- "What are some of the advantages of a heat pump over the heating and cooling systems? What are the disadvantages?"
- "What are the three most important characteristics of a heating system you would look for if you were purchasing a new heating system?"

A questionnaire-based elicitation procedure will often not be as successful as more direct contact, because many respondents will fail to answer the questions or will not give them a great deal of thought. Also, there is normally less opportunity for probing by an interviewer as to underlying reasons for the initial responses, under the assumption that the survey is being conducted primarily for other purposes.

Whichever of the elicitation procedures is used to generate a total "pool" of belief dimensions for subsequent quantification, the next task facing the researcher is to organize and trim the list of elicited beliefs to a manageable set. Conceptually, this requires some type of "content analysis" of the individual responses to place similar statements into the same category.

It may be possible to also develop a simple frequency count of how often various categories are mentioned, which provides an assessment of which beliefs are most likely to be salient across a group of

customers. The idea is to measure "modal" salient beliefs and eliminate those which are more idiosyncratic to one or only a very few individuals. Many researchers and managers over the years have made the mistake of being overly influenced by a comment made by one person in a focus group, falsely generalizing that reaction to an entire customer segment. This illustrates the critical aspect of any qualitative belief elicitation procedure: it is an exploratory device used to generate ideas for subsequent quantitative research and should never be generalized to the customer population in the absence of a more representative sampling of the population of interest.

2. Attribute Belief Measurement

Having identified a modal set of salient beliefs, the next task is to design a questionnaire that will permit adequate quantification of the degree to which customers hold those various beliefs. This entails the construction of a measurement scale.

Three basic issues must be considered in the construction of belief measurement scales: (1) the content of the item, (2) the format of the scale, and (3) the length of the scale. We shall consider each issue in turn.

Scale Content. By content of the scale, we refer to the nature of the actual statement to which customers are asked to respond. A key factor is whether the ultimate criterion of interest is an attitude object or a behavior. In the former case, the content of belief scales will be properties of the attitude object, while in the

latter case the content may well be the perceived consequences of the behavior. Some examples will help to clarify this distinction. Table 3-1 shows sample belief measures for each of the five cases we have been considering. Note that the first two cases deal with an attitude object (i.e., the company as a whole, service personnel) and that the belief content reflects this in terms of its focus on the properties (characteristics) of the company and its personnel. In contrast, Cases 3-5 deal with behaviors, either on the part of the customer (Cases 3 and 4) or on the part of utilities (whether collectively or individually). In these three cases, the belief items reflect customer perceptions of consequences to him or her of this behavior (e.g., higher cost, environmental protection). Thus, the content issue will be largely resolved by careful attention to nature of the ultimate attitude or behavior of interest.

TABLE 3-1

EXAMPLES OF BELIEF MEASURE CONTENT

Case #1 - Evaluating Company Image

Company X does what it can to help protect the environment.
Company X does a good job of telling customers how to use electricity safely.

Case #2 - Evaluating Customer Service Contacts

Company X employees are generally courteous.
Company X employees are patient in their dealings with me.

Case #3 - Purchasing a Heat Pump

A heat pump costs more to operate than other heating/cooling systems.
A heat pump is a good investment.

Case #4 - Signing up for an Energy Audit

An energy audit will help me lower my electricity bill.
Advice from the electric company on how to reduce my bill will be misleading.

Case #5 - Evaluating Use of Nuclear Power

a) Use of nuclear power in general

The use of nuclear power protects the environment.
The use of nuclear power means less dependence on foreign oil.

b) Construction of nuclear power plant

The new nuclear power plant will provide adequate electricity supplies for the next 20 years.
The new nuclear power plant will increase my electricity bill.

Scale Format. Regarding the format of the scale, two basic approaches have evolved, the "agree-disagree" and the "poor-to-excellent" formats. Table 3-2 illustrates these two alternative approaches, using items from Cases 2 and 3. As shown, there are two variations on the agree-disagree format, one which uses verbal labels for every response category and one which labels only the endpoints and midpoint. In the past, the verbal labels were used more frequently under the assumption that customers could respond more meaningfully to specific labels for each scale point. However, people interpret words in different ways, which is a serious drawback to verbal label scales; what is "strongly" to one person may be only "somewhat" to the next. This problem with verbal labels is also exacerbated with larger scales (say 11-point instead of 5-point), as it is difficult to come up with appropriate labels with clear distinctions. Therefore, verbal label scales are typically constrained to only a few response categories.

Thermometer scales (sometimes referred to as Boderek scales in honor of Bo Derek's "rating" in the movie "10") alleviate the problem of deciding on scale labels for all response categories. Recent research has tended to evolve to the use of more numerical scales such as the ones shown in Table 3-2. Respondents seem to have little difficulty in providing responses in this format and do not appear to cluster around the end-points or the middle numerical value. A significant advantage of this approach is that it allows longer scales, and hence finer gradations, of belief to be constructed.

TABLE 3-2

EXAMPLES OF BELIEF SCALE FORMAT

"Agree-Disagree" Format

(a) Verbal Labels

Company X employees use understandable words (Case #2).

Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree
-------------------	-------------------	-------------------------------------	----------------------	----------------------

(b) Thermometer (Boderek) Scale

Heat pumps are more reliable than other heating/
cooling systems (Case #3).

Totally Disagree			Neither Agree Nor Disagree				Totally Agree			
0	1	2	3	4	5	6	7	8	9	10

"Poor-to-Excellent" Format

Rate Company X employees on their helpfulness (Case #2).

Poor			Neither Poor Nor Excellent				Excellent			
0	1	2	3	4	5	6	7	8	9	10

Rate heat pumps on their reliability (Case #3).

Poor			Neither Poor Nor Excellent				Excellent			
0	1	2	3	4	5	6	7	8	9	10

Scale Length. The final issue to be addressed in the construction of belief measurement scales is that of scale length - i.e., the number of response categories. Scales are never shorter than 3-point (agree-neutral-disagree) and generally are not too useful when they are longer than 11-point (i.e., the 0-10 "thermometer"). The length to use in any particular situation will depend in part on the scale format (i.e., a verbal label scale will tend to be shorter) and on the degree to which relatively small differences in belief strength are hypothesized to be important. Studies have shown no clearcut pattern in terms of response reliability, so the choice of scale length can be made without too much concern over that issue.

Embedded in the scale length decision is another decision which is in some ways even more important than scale length - i.e., the use of an odd or even number of response categories. As shown in Table 3-3, scales with an even number of scale points do not allow a mid-point or "neutral" response, while odd scales include a neutral point. The verbal label of "Neither Agree Nor Disagree" for the mid-scale response differentiates the two. In the thermometer format, the 0-10 scale incorporates a neutral point, while a 1-10 format does not. It is largely a matter of the researcher's preference as to whether or not to "force" a non-neutral response by using an even scale. The risk in using an even number of scale points is that respondents with truly neutral beliefs are portrayed otherwise, perhaps as a non-response ("don't know"). The risk in using an odd number of scale points is that respondents can enter into a "neutral" response set because they are unwilling to express

an opinion.

TABLE 3-3
EXAMPLES OF ODD/EVEN SCALES

Construction of a nuclear power plant will help to attract new business to the area:

EVEN:	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	
ODD:	Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree

Perhaps the most important point to keep in mind in belief scale measurement (and really all the forms of scale construction typically used in survey measurement situations) is that a consistent format be adopted for use in studies at more than one point in time. A critical feature of attitude and image measurement is that it allows comparisons across studies, so that progress (or lack there of) can be tracked. Hence, the researcher should decide on the best scaling approach to use and then stick with it unless it proves to be unreliable or otherwise inadequate. This consistency in measurement approach pays large dividends in terms of the ability to accumulate information over time on a systematic basis.

B. MEASURING ATTRIBUTE IMPORTANCE WEIGHTS

Recalling the unified measurement model presented in Chapter 2, the second concept or component in the model is that of attribute importance weights. The central idea is that each salient belief a customer may hold with respect to a particular attitude object issue or behavior has associated with it some degree of importance to the customer. For instance, the belief that nuclear power will reduce electricity bills may be far less (or far more) important to the customer than the belief that nuclear power is unsafe. Thus, it becomes important to ascertain the degree of importance attached to various beliefs. These weights will tell the researcher which belief dimensions are most instrumental in shaping customer attitudes, which, in turn, allows the research to translate the research findings into recommendations to management that take into

account both what is of greatest importance to customers and of most importance to the utility. Two basic approaches to the measurement of importance weights are the direct and indirect measurement approaches.

1. Direct Measurement of Importance Weights

Direct measurement, as the term implies, is an approach which simply asks respondents to self-report the degree of importance of each of a series of beliefs. This is done through the use of measurement scales corresponding to ones used to measure attribute beliefs. In fact, the most important aspect of a direct scale measure of importance is that it be equivalent to the associated belief measure in terms of content format and length. This equivalence in the nature of the measure helps prevent confusion on the part of the respondent and also assists in the interpretation of results.

Table 3-4 portrays some sample importance weight measures corresponding to belief measures in Tables 3-2 and 3-3. cursory inspection of the tables shows that the belief and importance measures are quite similar; "unimportant - important" replaces "disagree - agree".

One issue to consider is the nature of the low endpoint of the scale. Some researchers prefer to use "unimportant" while others like to use "not at all important". The former approach seems best suited to an even, verbal label scale because it allows easily constructed symmetric labels for the "important" and "unimportant" sides of the scale (see Table 3-4). The latter approach tends to be

most associated with the 0-10 thermometer format, as the term "not at all important" seems to be captured nicely by the zero at the low end of the scale. Once again, the choices of scale length and format are largely governed by the choices that were made for the belief measures.

Direct measurement of importance weights is a reasonably widespread procedure. It is easy for respondents to understand, and, as noted above, yields readily interpretable, managerially useful information. Most significantly, it yields a set of importance weights for each individual respondents, these can later be used to identify clusters or segments within the customer population.

Direct measurement is not without its drawbacks, however. One serious problem is the extent to which respondents actually have access to their own thought processes in accurate enough fashion that they can report the true importance of various belief dimensions. Numerous studies have documented the fact that people tend to report less than actual importance for some beliefs and more than actual for others, even when they are trying to be as accurate as possible. Another problem with direct measurement is the tendency some respondents have to say that everything is very important. This results in little or no variance in importance weights, which is of little practical use for decision-making. This problem is sometimes circumvented by forcing the respondent to rate the least important belief a zero and the highest a ten, with the instruction that all other beliefs must be rated somewhere between these two extremes. A third problem with direct measurement of

importance weights is that of "socially desirable" responses. In other words, the respondent may deliberately give responses to the question that present the respondent in the best light. For example, it is socially desirable to place higher importance on environmental safety than on reducing one's own electric bill; therefore, direct measurement may reflect that socially desirable pattern even though the respondent really feels the opposite. Finally, eliciting both a "belief" response (e.g., agree/disagree) and "importance" response (important/unimportant) for each attribute measured can become a lengthy task for respondents with a large number of belief statements and corresponding importance items within the same survey. In response to these various direct measurement problems, an indirect approach to assessing importance weights is used in many cases.

2. Indirect Measurement of Importance Weights

Indirect measurement of attribute importance weights is used in situations where the researcher simply does not trust self-reported weights. It should be noted at the outset that in any research which measures importance weights directly, an indirect approach can also be employed and the results of the two compared. The reverse is clearly not true, however. If one decides to measure importance indirectly and does not include the direct measures on the questionnaire, the possibility of comparing the two approaches is lost.

One of the most common techniques for deriving importance weights indirectly would be some form of linear multiple regression. In brief, the criterion variable of interest, say overall company image (i.e., attitude) is used as the dependent variable in the equation, while the independent variables are the measures of beliefs underlying the overall image.

For example, in Case #1, the twenty items shown in Table 3-5 were used to measure the belief components of company image, using the scale shown in part (a) of the Table. Part (b) of the Table shows how the associated importance weights could have been measured directly. Instead, an indirect approach was used, wherein responses to the twenty belief items were used in a multiple regression to predict overall company attitudes. Equation 2 shows this model:

Equation 2

$$\text{Att} = a + b_1 B_1 + b_2 B_2 + \dots + b_n B_n \quad (\text{Eqn. 2})$$

Where Att is overall attitude toward the company;

a is a constant term;

B_i ($i=1$ to 20) represents the belief measure for belief dimension i ;

and b_i ($i=1$ to 20) is the standardized regression coefficient for belief i .

Thus, the standardized regression coefficients become the estimates of belief importance, the higher the absolute value of the coefficient the greater the importance of the belief dimension. Research has shown that importance weights estimated in this fashion are better predictors of future behavior than are self-reported weights. Thus, this approach generally yields more accurate measures of attribute importance weights (keeping in mind the general cautions inherent in interpreting linear multiple regression statistical analyses such as the potential problem of multicollinearity).

Aside from the normal problems and cautions in using multivariate statistical analysis techniques, there is at least one other major drawback to the indirect measurement approach, however. Indirect measurement yields only one set of importance weights for the entire sample, since all respondents data are used to estimate the regression coefficients. With very large samples, the same regression analysis might be conducted on predetermined subsamples, but this is often infeasible. As a result, indirect measurement

does not yield the insights into individual patterns of response that are possible to attain using direct measurement.

The example in Table 3-5 also points to another important issue of belief measurement. The broader the object of measurement (e.g., the company image; the use of nuclear power to generate electricity), the more likely it is that multiple beliefs need to be measured, and summarized in some form, particularly in relation to the importance weights. In general, multiple measures will have greater reliability and validity (discussed later in this Chapter) than single measures of beliefs about a particular object, but will also represent an investment in interview length and cost for collecting the information.

As a final note, it is worth mentioning that many other statistical analysis techniques are available to refine multiple belief measurements into "a smaller set of underlying dimensions" (e.g., factor analysis) or to translate individual responses to belief statements into individual-level importance weights (e.g., conjoint analysis). We have made no attempt in this monograph to recommend a particular statistical approach, since the analysis choices will often depend on the goals of the research. We do recommend consultation with a statistician at the beginning of the research so that the measurement decisions (e.g., choices of scales) coincide with later choices among analysis techniques.

TABLE 3-5

COMPANY IMAGE BELIEFS - CASE #1

a) Belief measurement scale for all items:

Totally Disagree		Neither Agree Nor Disagree						Totally Agree		
0	1	2	3	4	5	6	7	8	9	10

Company X . . .

1. Does a good job of planning for future energy needs.
2. Does what it can to keep cost of energy as low as possible.
3. Does what it can to protect the environment.
4. Does what it can to explain reasons for rate changes.
5. Keeps customers reformed about conservation and energy issues.
6. Helps needy customers who have problems paying.
7. Has employees who involve themselves in the community.
8. Tells customers how to use energy safely.
9. Is friendly.
10. Is concerned for the average customer.
11. Has reliable service.
12. Is trustworthy.
13. Is prepared for the future.
14. Has efficient management.
15. Has hard working employees.
16. Is honest.
17. Is believable.
18. Is cost conscious.
19. Has good communications to customers.
20. Is safe.

b) Importance measurement scale for all items:

Not At All Important										Extremely Important	
0	1	2	3	4	5	6	7	8	9	10	

How important is it to you that your electric utility . . .

C. MEASURING ATTITUDES

As seen in the preceding sections, beliefs and level of importance attached to beliefs can be complex, multidimensional concepts that can be defined through a variety of measurement approaches. In contrast, the measurement of attitudes is relatively straightforward. It will be recalled from Chapter 2 that we have adopted the unidimensional view of attitude; i.e., attitude is a single affective dimension representing the favorability/unfavorability of response to an object, issue, or behavior, etc.

As outlined in Chapter 2, the major concern regarding attitude measurement is that the content of attitude being measured is the appropriate one for the ultimate behavior of interest (if any). Referring to the five cases we have been analyzing throughout this monograph, Table 3-6 shows the content of the attitude measures that were used. Notice how the content parallels the analyses of the cases at the end of Chapter 2 and again for the belief measures. Cases 1 and 2 deal with attitude objects, while Cases 3 - 5 deal with behaviors. It is absolutely essential that the focus of the belief and attitude measures be identical in order to avoid built-in discrepancies.

TABLE 3-6
CONTENT OF ATTITUDE MEASURES FOR THE FIVE CASES

Case #1 - Evaluating Company Image

"How favorable or unfavorable do you feel about Company X?"

Case #2 - Evaluating Customer Service Contacts

"Overall, how would you rate the way your call was handled?"

Case #3 - Purchasing a Heat Pump

"How favorable or unfavorable do you feel about purchasing a heat pump?"

Case #4 - Signing up for an Energy Audit

"How favorable or unfavorable do you feel about having an energy audit conducted?"

Case #5 - Evaluating Use of Nuclear Power

- (a) "How favorable/unfavorable do you feel toward the use of nuclear power to generate electricity?"
- (b) "How favorable/unfavorable do you feel toward the construction of the x nuclear power plant?"

More has been written about the measurement of attitude than perhaps any other psychological concept, with the exceptions of IQ and personality. Many of the early approaches to attitude measurement were quite cumbersome and time consuming, but fortunately most of those have fallen into disuse and are rarely seen in any sort of applied research. The reader who is intrigued by the esoterica of attitude measurement may find a text on the subject of some interest. Included in a text of that type would be discussions of the classic Thurstone, Likert, and Guttman scaling procedures which may apply to both belief and attitude measurement. For our purposes, however, we will limit the discussion to two basic types of attitude measurement - the Semantic Differential technique and single-item measurement scales.

Semantic Differential. The Semantic Differential technique was pioneered by Osgood, Suci and Tannenbaum (see selected readings) as a general procedure for the measurement of "meaning". One dimension of meaning, according to Osgood, et al is evaluation or attitude. That is, part of the meaning customers attach to their local utility is their evaluation of it (i.e., their attitude toward it). The Semantic Differential measures attitude on series of bipolar adjective scales, as shown in Table 4-7. The attitude object is listed at the top of the page, and the respondent checks each scale to indicate his or her reaction. The six items shown in the Table are examples of items often used to measure attitudes, but many others can be used as well. Technically speaking, the items used

should be pretested to see if they all correlate with each other highly, but in practice this can be done on a post hoc basis.

The final attitude measure is derived from the Semantic Differential by summing (or averaging) the responses to items. Each item is scored from 1 to 7, with the more favorable end of the item being the higher number. Items are randomly reversed to prevent response bias, and the 7-point version shown in the Table is used most frequently. The resulting attitude measure has high reliability and validity due to its use of multiple items. This represents the primary advantage of the Semantic Differential over single item measures.

TABLE 3-7
EXAMPLES OF A SEMANTIC DIFFERENTIAL

Company X (Case #1)

good	__	__	__	__	__	__	__	bad
unfavorable	__	__	__	__	__	__	__	favorable
satisfying	__	__	__	__	__	__	__	unsatisfying
liked by me	__	__	__	__	__	__	__	disliked by me
pleasant	__	__	__	__	__	__	__	unpleasant
foolish	__	__	__	__	__	__	__	wise

- Case #2 "The service call"
- Case #3 "Purchasing a heat pump"
- Case #4 "Signing up for an energy audit"
- Case #5 a) "Use of nuclear power to generate electricity"
b) "Construction of the x nuclear power plant"

From a purely scientific perspective, any form of single item scale is less satisfactory than a multiple item scale due to the latter's greater reliability and validity. In practice, however, the exigencies of applied research often dictate the use of as few measures as possible. Hence, single item attitude measures have been widely used by market researchers.

Similar to the belief and importance thermometer measures, most single item attitude measures take the form of 0-10 scales. However, the exact endpoints of the scale may differ according to the situation. The most important consideration is that the attitude measure reflect the favorability/unfavorability of the customer's reaction. Table 3-8 illustrates some single item attitude measures pertinent to the cases we have been using as examples.

TABLE 3-8
SAMPLE SINGLE ITEM ATTITUDE MEASURES

"How do you feel about Company X on a 0-10 scale? (Case #1)

Very Unfavorable Feeling												Not Particularly Favorable or Unfavorable											Very Favorable Feeling
	0	1	2	3	4	5	6	7	8	9	10												

"Overall how was the service call handled? (Case #2)

Extremely Poorly												Extremely Well
	0	1	2	3	4	5	6	7	8	9	10	

"How would you rate your idea of purchasing a heat pump?
(Case #3)

Poor												Excellent
	0	1	2	3	4	5	6	7	8	9	10	

"How do you feel about signing up for an energy audit?"
(Case #4)

Very Unfavorable												Very Favorable
	0	1	2	3	4	5	6	7	8	9	10	

"Overall, how satisfied were you with your energy audit?"
(Case #4)

Very Dissatisfied												Very Satisfied
	0	1	2	3	4	5	6	7	8	9	10	

"How do you feel about the use of nuclear power to generate electricity?"

Very
Unfavorable

Very
Favorable

0 1 2 3 4 5 6 7 8 9 10

"Do you favor or oppose the construction of the x nuclear power plant?"

Strongly
Opposed

Strongly
in Favor

0 1 2 3 4 5 6 7 8 9 10

D. MEASURING INTENTIONS

It will be recalled that intentions were defined as an individual's propensity to undertake certain behaviors. They are not directly observable overt behaviors, but are the immediate precursors, i.e., plans to behave in a certain fashion. Paralleling the approaches for attitude measurement, two basic approaches exist for measuring intentions as well, i.e., single-item and multiple-item approaches. Table 3-9 illustrates both of these approaches for the two cases that incorporated an intention measure.

The multiple-item approach has been referred to as the Behavior Differential because of its similarity to the Semantic Differential attitude measure. The items in this are aimed at reflecting a sort of probability that the respondent will engage in the behavior of interest. Responses are summed or averaged across the (in this case, three) items to yield a final intention measure.

The single item approach is based on the individual's assessment of the odds that he or she will engage in the behavior. The scale essentially boils down to the familiar 11-point scale, but in slightly different form. Researchers have had good success predicting behavior with this type scale.

TABLE 3-9
EXAMPLES OF INTENTIONS MEASURES

Multiple-Item Approach (Behavioral Differential)

Case #3 - Heat Pumps

Purchasing a Heat Pump

likely ___:___:___:___:___:___:___ unlikely
improbable ___:___:___:___:___:___:___ probably
possible ___:___:___:___:___:___:___ impossible

Single-Item Approach

Case #4 - Energy Audit

"What are the chances that you will sign up for an energy
audit?"

0/10 1/10 2/10 3/10 4/10 5/10 6/10 7/10 8/10 9/10 10/10

-or-

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

E. MEASURING BEHAVIORS

Measuring actual behavior is one area in which utilities, at least to some degree, have a capability that most companies can only envy, the capability of directly and unobtrusively monitoring actual "purchase behavior" through the data provided by the meter. Of course, these behavioral data are pertinent only to certain types of behaviors, associated with the customers end-use "response" including total energy use, participation in load management programs such as time-of-day pricing and energy conservation activities. Nevertheless, these are among some of the most important customer behaviors, from the utility's perspective, since they relate to day-to-day usage of the basic product being offered by the utility. It is also the case that a utility can accurately track the use of service programs, in that such usage becomes part of the individual customers account record.

Companies in most industries often have to rely on respondent's self-reported purchasing behavior with respect to products and brands. Although this situation is changing gradually due to the new market research systems based on panels of consumers whose purchases are tracked via computer scanners at checkout counters, most companies still must worry a great deal about obtaining reliable and valid behavioral measures.

One important lesson learned about behavioral measurement in general is that it is often more difficult to predict a single specific behavior than it is to predict a general pattern of behavior. For

example, an attempt to predict how customers will actually vote on an issue from a measure of company image would almost certainly be doomed to failure; the attitude (image) is quite general, while the behavior is very specific. For attitudinal prediction of behavior to be successful, the two measures must be matched in terms of their level of specificity. That is the main reason why we advocated working backward from the behavior of interest in determining the appropriate attitudes and beliefs to be measured. Working backward and maintaining the same level of specificity, helps to ensure that the unified measurement system is indeed unified.

For example, in both Cases 3 and 4, a very specific behavior is of interest - i.e., purchase of a heat pump, and signing up for an energy audit. Both behaviors could be identified when the utility is the actual provider of the service, or the behavior is indicated by a change in the customer status (e.g., purchasing a heat pump on a special rate). Under such conditions, it is a relatively simple matter to keep a record of the name and address of the purchaser. Further, as shown previously, some quite specific attitudes and intentions precede these two behaviors. In both cases, then, very specific behaviors were most usefully predicted by very specific attitudes (See Table 4-8) and intentions (Table 4-9).

In contrast, consider how well overall company image would predict these specific behaviors. A customer may have a favorable attitude toward the company but no need for a heat pump since he or she just purchased a new central heating and/or cooling system. However, the generally favorable attitude toward the utility may be useful in

predicting a general pattern of behaviors such as:

- Conserving electricity if asked
- Using more electricity
- Paying one's bill promptly
- Not attempting to steal electricity
- Speaking highly of the company in a social setting
- Not calling or writing to complain
- Paying attention to the company's ads
- Supporting company efforts by contacting appropriate regulators
- Signing up for an energy audit
- Responding to company marketing efforts.

Any one customer may engage in some of these behaviors and not others; the point is that a generally favorable overall company attitude could lead to the prediction that the customer would be more likely to engage in some subset of these behaviors than would a customer with a generally negative company image.

In most cases, the behavior of interest will be specific rather than a general cluster of behaviors. This serves to underscore the need for working backward from the behavior through all the components of the unified measurement system presented in Chapter 2 and elaborated on in this chapter.

F. OTHER ATTITUDE RESEARCH ISSUES

While this monograph is not intended to address general consumer research issues, we wish to summarize the measurement issues addressed in Chapter 3 in two ways. First, it may be useful to classify the research techniques mentioned above in terms of their qualitative or quantitative nature. Secondly, measurement approaches need to be sensitive to the research issues of

reliability and validity.

On the first issue, it is worth re-emphasizing that the in-depth interviews and focus group discussions mentioned earlier are generally considered to be qualitative research techniques and most useful for uncovering, from the customer's viewpoint, the "inventory" of beliefs and attitudes which may pertain to a particular object. Indeed, a variety of "projective" techniques (e.g., word association, sentence or story completion, pictorial techniques) might be used in these qualitative settings to uncover beliefs and feeling that the customer might otherwise have difficulty articulating. Sample survey research through techniques such as mail self-completion questionnaires, mall intercepts, telephone interviews, and in-home personal interviews are used to quantify the existence of beliefs, attitudes, intentions to behavior, and actual behaviors among some population of interest, and represent the most appropriate research settings for the scaling technique described in this Chapter.

On the issues of reliability and validity, while a technical discussion is clearly beyond the scope of this monograph, a brief description of the two is in order. Reliability of a measure refers to the degree to which it yields the same result over different measurement occasions. For example, a respondent's attitude as tapped by a reliable measure might show scores of 9, 9, 8, and 9 on four occasions. An unreliable measure might yield the following results: 9, 6, 4, 5. Thus, consistency of the resultant score is what reliability measures.

Validity cannot exist without high reliability; i.e., reliability is necessary but not sufficient for an attitude measure to be valid. Validity is an assessment of the degree to which a measure is an accurate portrayal of what it is supposed to be measuring. For example, does a "9" on a measurement scale really mean anything in terms of representing a respondent's "true" underlying attitude. The assessment of validity is a complicated and difficult process. But while applied researchers virtually never attempt to assess validity, they rely heavily on the reliability, the multiple item measures are also higher in validity due to their greater stability. Researchers should give this factor serious consideration when designing a questionnaire, and make a conscious tradeoff between length and cost on the one hand and reliability and validity on the other. If the managerial issue is critical enough, it may well be worth the extra dollars to improve attitude measurement through the use of a multiple item measurement approach.

The issues of reliability and validity are similarly present in the measurement of behavioral intentions. If such measures are not valid, they will not be useful as descriptive or predictive devices, which is why the measures were taken in the first place.

Thus even though the assessment of reliability and validity appear to be esoteric, even academic, issues, these two properties are nevertheless underlying assumptions of any attitude measurement venture. Prediction will be more powerful, diagnoses more insightful, and modification attempts more successful when they rest on more reliable and valid measures.

Multiple item scales such as the Semantic Differential yield more reliable and valid measures of attitude than do single item scales, because minor changes in responses to one item, are offset by minor changes in another item. Hence, the resultant scores are more stable (i.e., more reliable). Since measure validity can be no better than measure of attitude are equally important for intention. Suffice it to say that whenever possible the researcher should consider using a multiple-item approach.

Case #1
Development and Evaluation
of A Customer Communications
Program

Selection of Measures

The following attitudinal sets and specific attitude questions illustrate those identified as relevant to the objectives of creating a more positive public opinion climate, and relieving pressure on the company from regulators and legislators. The types of attitudes listed below are examples of the content of the research for this situation.

Service

- perceptions of the reliability of service
- perceptions of hard working employees
- perceptions of level of concern for the average customer
- perceptions on whether company employees were friendly, courteous, helpful
- evaluation of the company's job performance in helping needy customers who have problems paying their utility bills

Price/Value

- evaluation of the job performance of the company in keeping the cost of electricity as low as possible and explaining to customers the reasons for changes in electric rates
- reactions to the statement electricity is a good value for the cost
- positions on the following: the electric company charges a reasonable rate for electricity, or the electric company charges a higher rate than necessary

The Electric Company as a Business

- evaluations of the job performance planning for the future energy needs of its customers
- perceptions of the company as being prepared for the future, and having efficient management

The Electric Company as Communicator

- how much do customers trust what they hear from the electric company
- perceptions of the honesty and believability of the company
- evaluation of the job performance of the company in having good communications to customers

The Overall Evaluation of the Electric Company

- how favorable/unfavorable the company is viewed by the customer

In that the overall purpose of this research was to help design, and eventually evaluate, the company's communication program, it was also important in the evaluation portion of the research to obtain detailed measurement of unaided and aided awareness of company advertising, and the newly instituted company newsletter sent to all customers each month in the bill. The analysis also includes demographic information on the customers.

Case #2
Analyzing the Impact of Customer Service Contacts
in Relation to Customer Attitudes
and Images of the Company

Selection of Measures

The objectives of the customer service contact evaluation research are exclusively oriented to components of the service attitude set. However, the approach taken to measure these service attitudes has two parts--general attitudes about the company's orientation toward customer service and specific attitudes about the performance of service people.

General Service Attitude Measures about the Company

- The electric company only cares about its customers when it is time to send out their bills
- People at the electric company take the attitude that problems are usually the customer's fault, not the company's
- The electric company is willing to work with customers who can't pay their bills
- The electric company does a good job explaining its policies and services to its customers

Specific Service Attitude Measures Relating to the Performance of Service Personnel

- Rate the job performance of the service person dealt with on each of the following attributes:
 - courteous
 - listens carefully to you
 - shows interest in your problem
 - knowledgeable
 - shows respect for you
 - friendly
 - patient
 - uses understandable words
 - handles the call promptly
 - shows concern about question or problem
 - helpful
 - answers all your questions
- Overall evaluation of job performance of service contact

Also included in this type of analysis are a series of factual questions concerning characteristics of the contact (e.g., length of time; type of contact or reason for contact), analysis of whether the problem or question was resolved to the customer's satisfaction, and demographics.

Case #3
The Marketing of Heat Pumps

Selection of Measures

In terms of analyzing consumer attitudes which may relate in interest in and willingness to purchase heat pumps, the types of attitude questions which were relevant to this topic included:

General Awareness and Knowledge of the Product

- level of awareness and self-reported depth of familiarity with the product, its features, expected price, and availability in the market

Attitudes Concerning Product Benefits and Comparisons to Other Products

- the level of "importance" to the consumer, and the perception of whether heat pumps have each attribute compared to other heating/cooling systems was measured for:
 - lack of comfort provided
 - reliability of system
 - cost of operation
 - ability to help conserve energy
 - level of service and warranties available
 - initial cost of the system
 - cost of maintenance on the system
 - safety associated with using the system
 - using one rather than several fuels in the household
 - availability of fuels
 - value of the product as an investment

Attitudes Concerning Promotional Incentives Available with Purchase of Product

- rate incentives
- rebates
- financing
- service contracts

Attitudes Concerning the Electric Company as a "Marketer" of Heat Pumps

- credibility of information, compared to other organizations
- appropriateness of electric company "selling" end use products
- overall favorable-unfavorable relationship with company (which, in turn, could affect perceptions of how product is evaluated if it is being promoted by the electric company)

Demographics, Household Characteristics, and Current Energy Use Behaviors of Consumer

Thus, we have a product, promotion, "producer" (the electric company), consumer measurement system allowing for estimates of potential market shares for the product under different conditions-- the attitudinal environment, consumer needs, and marketing/promotion tactics.

Case #4
The Evaluation of a Residential
Conservation Audit (RCS) Program

Selection of Measures

The RCS research used to help design and evaluate efforts to encourage customers to obtain an energy audit has used several different sets of attitude measures to define the "market" for audits, and help capture market share in terms of audit request.

Awareness and Knowledge about Energy Audits

- Awareness of availability of energy audits
- Familiarity with what the audit is
- Understanding of the end product that will be received from the audit
- Perceptions of "success" of audits for other customers (friends or relatives)

Attitudes toward the Need for a Energy Audit

- attitudes toward home energy conservation; past and current efforts
- perceived need for audit--how will it help me
- anticipated outcomes of audit process
- willingness to make future conservation efforts based on possible "recommendations" that could come from the audit

General Trust in Electric Company as the Source of the Audit

- trust for energy conservation advice
- perceptions of company as energy experts
- level of satisfaction with participants with electric company employees (or audit personnel under contract to the company)

Interest in Incentives to Obtain Audits (e.g., lotteries, games, chance to win prizes)

Demographics, Household Characteristics, and Current Energy Use Behaviors

The measurement system outlined above allows for the assessment of

potential market share estimates for audits, and the identification of the combination of consumer needs and attitudes, and demographic/energy use characteristics that will relate to interest in and actual requests for energy audits.

**Case #5
Dealing With Major Issues
That Impact on Attitudes
Toward the Electric Company**

Selection of Measures

The choice of attitudes to measure with regard to major issues like nuclear power has been made with regard to three related topics: 1) general attitudes and positions about the use of nuclear power to generate electricity in the United States; 2) specific attitudes about the completion and operation of a specific nuclear power plant; and 3) other attitudes about the electric company (or the co-owners of the plant) which could relate to the nuclear power plant issues.

Information, Attitudes, Positions on Using Nuclear Power to Generate Electricity

- Awareness of nuclear power plants in U.S. and familiarity with using nuclear power to generate electricity
- Attitudes about need for using nuclear power to generate electricity; costs and benefits associated with using nuclear power; attitudes toward related issues such as radiation, safety of plants, transportation of radioactive fuel, nuclear wastes
- Position on whether current and future nuclear power plants should be constructed in the United States

Information, Attitudes, and Positions on Specific Plant Under Construction

- Awareness and knowledge about the status or facts concerning the plant
- Favor/oppose completion and operation of plant and reasons for support/opposition
- Level of confidence in electric companies ability to construct and operate plant
- Concerns about any safety issues related specifically to plant
- Believability of reasons why plant should (or should not) be completed and operated
 - jobs and economy dependent on energy

- cost of producing electricity lower in the long run
- reduce dependence on other (foreign) fuel sources
- more environmentally safe than coal

General Attitudes about Electric Company that Could Relate to Nuclear Power Plant Issue

- General favorable/unfavorable perception of company
- Perceptions of current electric rates and potential future increases
- Credibility of company communications on various topics
- Evaluation of company management and planning capabilities
- The general "safety" orientation of the company

Customer Demographics and Household Characteristics

In this measurement scheme, general attitudes toward the company, and general attitudes toward nuclear power are used as two different types of contextual or background information which can be used to relate to the specific issue of a particular nuclear power plant.

CHAPTER FOUR: SPECIFICATION OF ATTITUDINAL DIMENSIONS FOR THE ELECTRIC UTILITY INDUSTRY

A. INTRODUCTION

In order to apply the attitude theory and measurement techniques concepts described in Chapters Two and three, it is now important to attempt to define the basic company-customer relationships that may be of major importance with respect to electric company attitude research issues. Understanding these relationships should help guide the selection of belief and attitude "objects" to be measured in a particular research effort. Before explaining these dimensions of the company-customer relationship, it is also important to re-emphasize our perspective on the difference between the concepts attitude and corporate image, as introduced in Chapter One.

It should now be clear that attitude research really can be expressed in terms of several interrelated components --information or knowledge levels about an object; beliefs and the importance attached to those beliefs; "feelings" or positive/negative reactions which make up the affect attached to the object; and behavioral intentions which correspond to positions that customers may take, or the likelihood that they will be interested in or will perform some specific behavior; and actual behaviors. As discussed in Chapter Two, these components can be summarized in several alternative ways to define "attitudes", or can be treated as linked together in a causal fashion, e.g. beliefs, feelings, and intentions interact with one another, with the feelings components (the positive or negative

valence attached to the object) considered to be the "attitude".

The definition of corporate image can also be viewed as a multi-component construct made up of some combination of attitudes which profile the total relationship between company and customer. For example, the attitudinal dimensions defined in this chapter can be measured, weighted as to their importance to the customer (and the company), and combined by some mathematical formula to derive a single "image" index or profile which is designed to characterize or symbolize the total corporate image of the company. Or, each image component (perhaps representing, in and of themselves, a summary calculation of a combination of several attitude measures) can be analyzed separately.

It is also possible to construct single question measures, which can be described as corporate image measures. For example, when no other referent is provided to the customer than "the electric company" in answering one general question about how the company is viewed, it may be assumed that the response to this question forces the customer to summarize their total reaction to the company's image. Examples of single measure corporate image questions were included in the case material in Chapter Three.

The remainder of the Chapter describes basic attitudinal "sets" which could be used in electric company attitude and image research, depending on the objectives of a particular study. These groupings are described as "sets" of attitudes to emphasize the idea that there is a coherency and logic to the measurement of particular attitude issues, but the components of one or another set may well

be mixed together to achieve the objectives of a particular research effort.

B. FUNDAMENTAL ATTITUDE DIMENSIONS

By reviewing the questionnaires and findings of many electric utility attitude research projects conducted over the last few years, several fundamental attitudinal dimensions can be defined. Perhaps the two most basic have to do with definitions of the concept of service, and the related concepts of price and value.

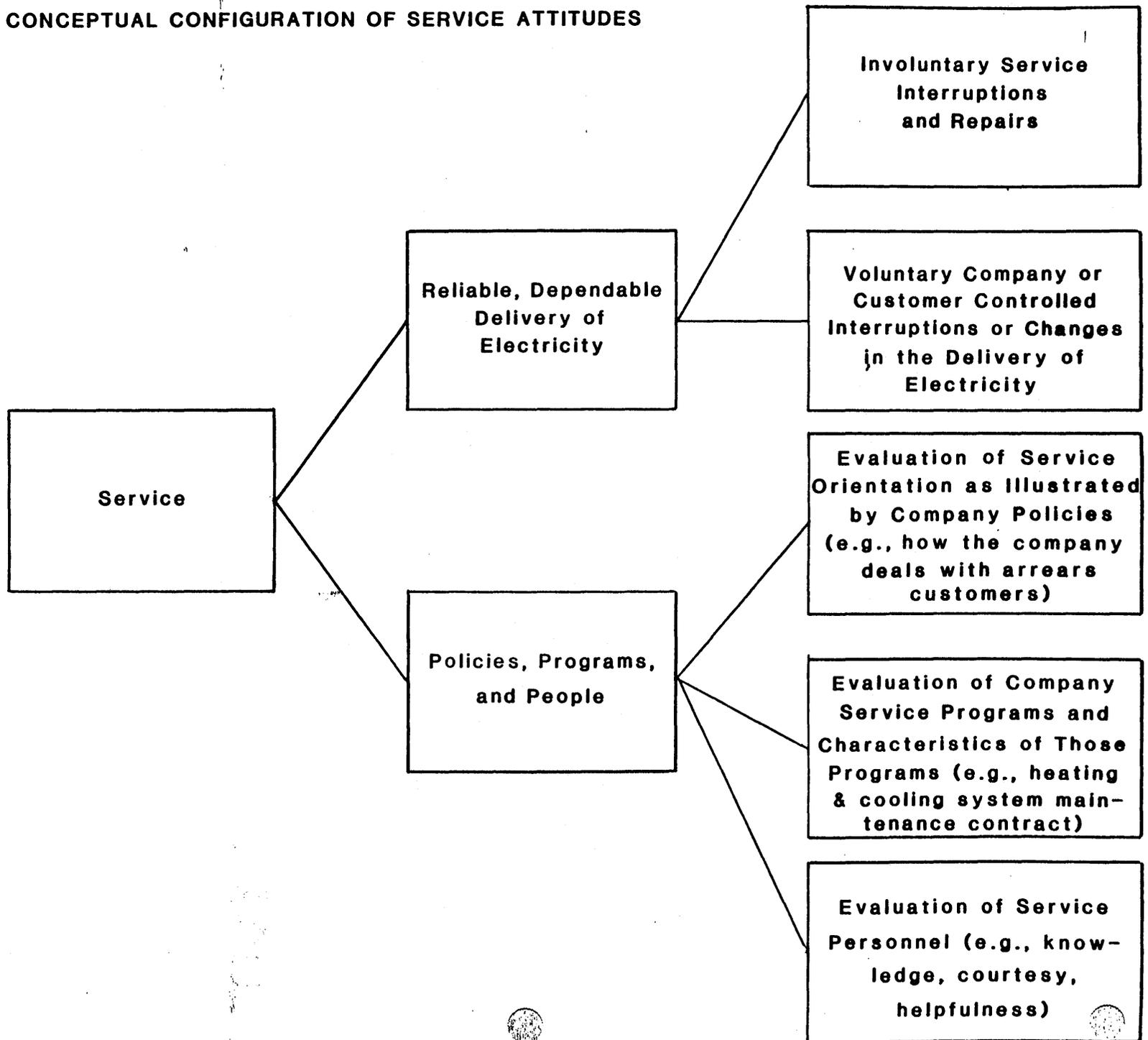
1. Service

The concept of service can be divided into two distinct sets of attitudes, as shown in Figure 4-1, having to do with 1) the delivery of electricity to each and every customer, on demand, in a readily useable "form"; and 2) the policies, programs, and people available to each customer to assure that they are making the best use of the electricity they receive from both the company's and the customer's perspective.

INSERT FIGURE 4-1

Figure 4-1

CONCEPTUAL CONFIGURATION OF SERVICE ATTITUDES



Service attitudes, as shown in Figure 2, can therefore be defined in several different ways depending on the object of the attitude (delivery of electricity, people, programs, policies) and the level of detail necessary for the analysis of a particular attitude object. The reliable or dependable delivery of electricity is often an assumed characteristic of electric companies. However, there are involuntary, event driven conditions (e.g., a power outage) when customer attitudes toward this definition of service are likely to undergo stress and change, albeit often for a short period of time. Moreover, many companies have been trying to persuade customers that there may be benefits to the idea of voluntary interruptions, particularly in terms of price incentives for using less or no electricity for particular end-uses at particular times of the day. This means a different definition of this component of the service concept than "on-demand" by changing on-demand to mean at specified times and places as agreed upon by the company and the customer.

The policy, program, and people components of the service concept can be operationalized to answer the questions:

- How does or should the company treat customers in the company-customer relationship (the policy)?
- What does or should the company do to translate its policy orientation to actionable terms for the customer (the programs)?
- Who will or does the company designate to deliver the chosen programs to the customer (the people)?

2. Price and Value

The second basic concept is the price/value relationship, with the service concepts delineated above inherently part of the value definition. Each consumer will apply greater or lesser weight to the various components of service. Several of the other attitudinal dimensions discussed later also may be considered illustrative of the value concept. However, the price concept, in and of itself, can be sub-divided into several different types of attitudes, as shown in Figure 4-2.

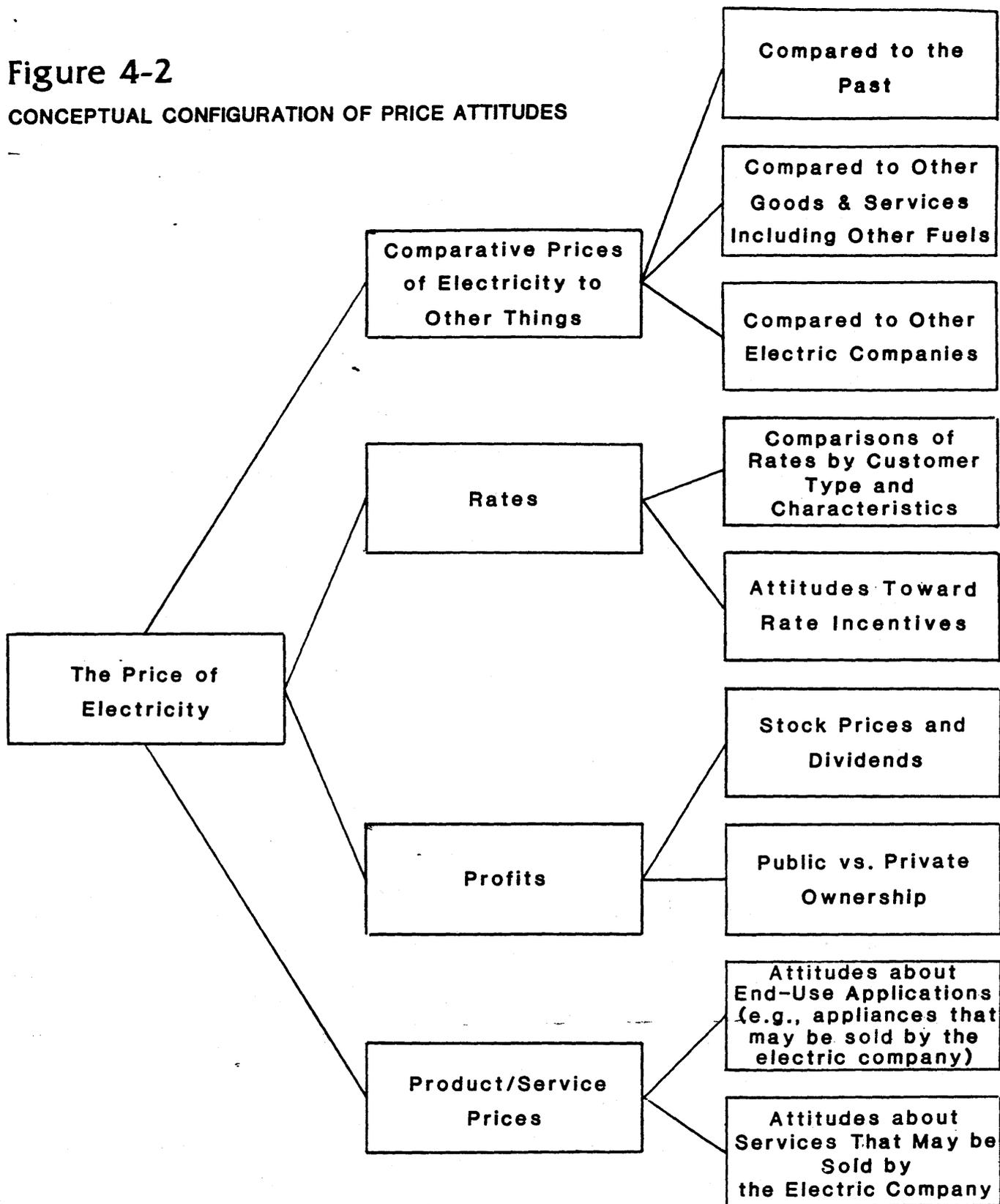
INSERT FIGURE 4-2

As this diagram illustrates, a multi-component analysis of "price" attitudes would be necessary if the objective is to develop a complete understanding of the attitudes customers hold about electricity prices. However, within the scope of a particular attitude research effort, only one or two of these price concepts may be relevant.

The "comparative" definitions of price attitudes, for example, may be most useful in conjunction with the "product/service" price attitudes to define and develop a marketing program for electricity end-uses, particularly in competition with other fuels. In another instance, consumer attitudes regarding rate alternatives might be analyzed in order to determine the optimal combination of rate characteristics to fit a consumer's needs.

Figure 4-2

CONCEPTUAL CONFIGURATION OF PRICE ATTITUDES



The concept of "profits", as inherently a portion of electricity prices, can be defined by the consumers attitudes and behaviors with regard to the electric company as an investment, or more broadly, whether electric companies should be investor owned (and profit making) versus public, not-for-profit agencies.

3. Communications

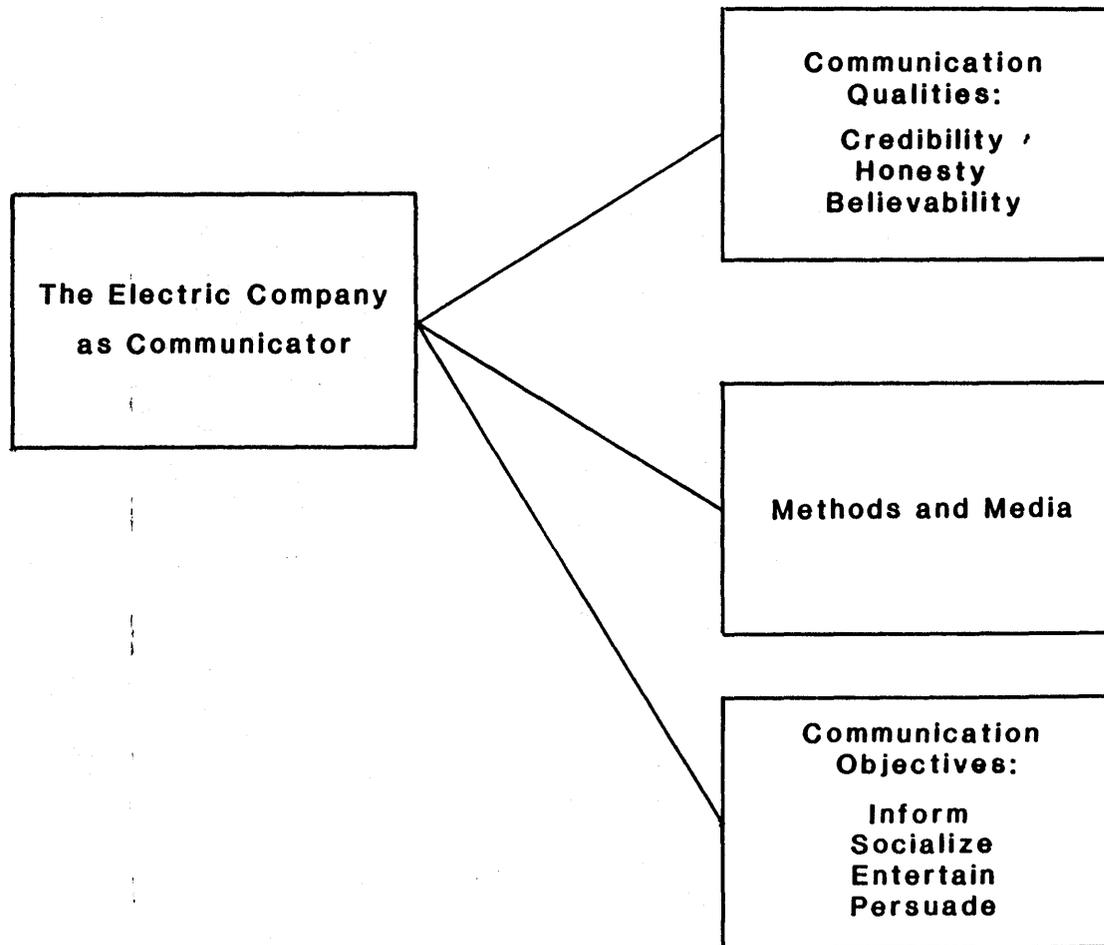
Beyond the service and price concepts are many other attitudinal sets that can play a central role in describing consumers, assessing their needs, and testing and evaluating ways to meet those needs. Another fairly basic set of attitudes customers have about electric companies can be described as characterizing the company as a communicator. Again, the concept of "communication" can also have several parts as shown in Figure 4-3.

INSERT FIGURE 4-3

In analyzing attitudes about the electric company as a communicator, one distinction should be kept in mind between the company as a communicator, versus electric company employees as communicators. Either the company or its employees may be the object of an analysis of customer attitudes about communications, but it needs to be clear to the customer as to which object is being discussed. Indeed, as previously discussed, the explication of the service concept identifies service people as one component of the concept. For most other attitudinal sets, it is important to identify the referent as

Figure 4-3

CONCEPTUAL CONFIGURATION OF COMMUNICATION ATTITUDES



the company or its employees.

Credibility, honesty, believability are all examples of communication qualities that customers will perceive to more or less exist in the source of communications. These qualities all characterize the feelings that the customer will bring to the communication relationship, and relate to the customers intention or willingness to pay attention to communications.

Customers also hold attitudes and preferences with regard to the methods of communication, with strong biases often present in terms of what media or methods are believed to be appropriate for the electric company. For example, customers may hold strong attitudes about the appropriateness of television advertising for an electric company, regardless what the message or content of the advertising is.

It is also possible to determine customer attitude with regard to the perceived "objectives" of electric company communications, by broadly classifying those objectives as follows:

Inform: to communicate factual information to customers which aids them in making decisions about their energy use, and makes them aware of the programs and products available from the electric company.

Socialize: to communicate to customers about the policies and plans of the electric company and other customers, and how those policies or plans are translated into actions that can be taken by individual customers to effect their energy use behavior, or their relationship with the company.

Entertain: to communicate to customers in a manner through which the communications content is interesting and creates attention to the message.

Persuade: to communicate prescriptive or directive

messages that attempts to introduce new attitudes and behaviors or alter current attitudes and behaviors with regard to electric company policies, programs, and products.

4. The Electric Company as a Business

Earlier the concept of profits as part of the price/value attitudinal set was discussed. The concept of profits also overlaps with a general category of electric company attitudes that can be described as "the electric company as a business". The diagram in Figure 4-4 highlights four basic components of the concept of the electric company as a business.

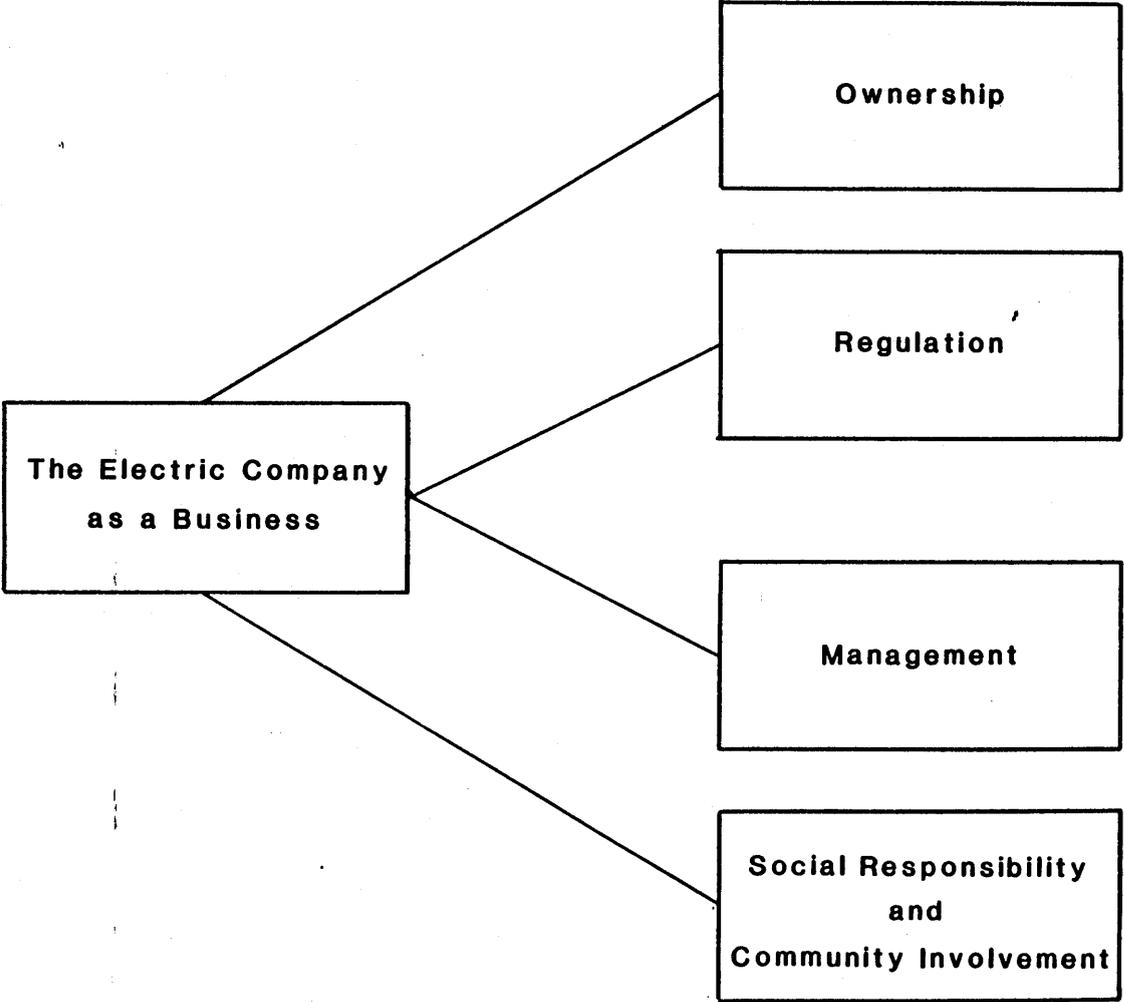
INSERT FIGURE 4-4

The first attitudinal component shown in Figure 5 has to do with how customers view the electric company relative to other businesses. Comparisons can be made between the electric company and other privately or publicly operated businesses (or government agencies) in terms of public knowledge and feelings about the most appropriate ownership structure for the electric company, and the effects particular structures have on the company-customer relationship.

The concept of regulation also impacts on consumer attitudes toward most businesses, and has an obvious and important bearing on the electric companies ability to operate as a business or as a public agency. Broader societal beliefs and feelings about the value and impact of government regulation of businesses can be analyzed and translated into specific perceptions of the most appropriate

Figure 4-4

**CONCEPTUAL CONFIGURATION OF ATTITUDES ABOUT THE ELECTRIC COMPANY
AS A BUSINESS**



regulatory climate for electric companies.

The management of the electric company can also be analyzed in terms of many different attributes which can distinguish companies that are perceived to be well run or badly run by their managements. This component does have to be carefully delineated in terms of characteristics that may apply to the company management as a whole, or to individual managers. The efficiency with which the business is run, the ability to control costs, the ability to plan for the future and execute those plans, or the way the company treats its employees would all be examples of management characteristics about which customers may hold attitudes.

Custom evaluations of the company-customer relationship may also pertain to how the company is viewed as fulfilling its obligations as a corporate citizen. Many electric companies have traditionally included community service or involvement as one of the central goals of the corporation. Contributions of money, personnel, and facilities are made regularly to a variety of community groups, and company executives are often involved as leaders in community organizations. Electric companies also have a major stake in the economic health of the communities they serve, and many are leaders in the area of economic development activities in their states. These efforts can leave an impression on customers of the electric company's standing in the community that may well color or influence other attitudes about the company-customer relationship.

5. Safety and Health Issues

Another basic set of attitudes toward electric companies revolve around issues of safety with regard to the generation, distribution, and end-use of electricity and broader health issues having to do with the effects of generating and distributing electricity. Schematically, health and safety issues can be described as in Figure 4-5.

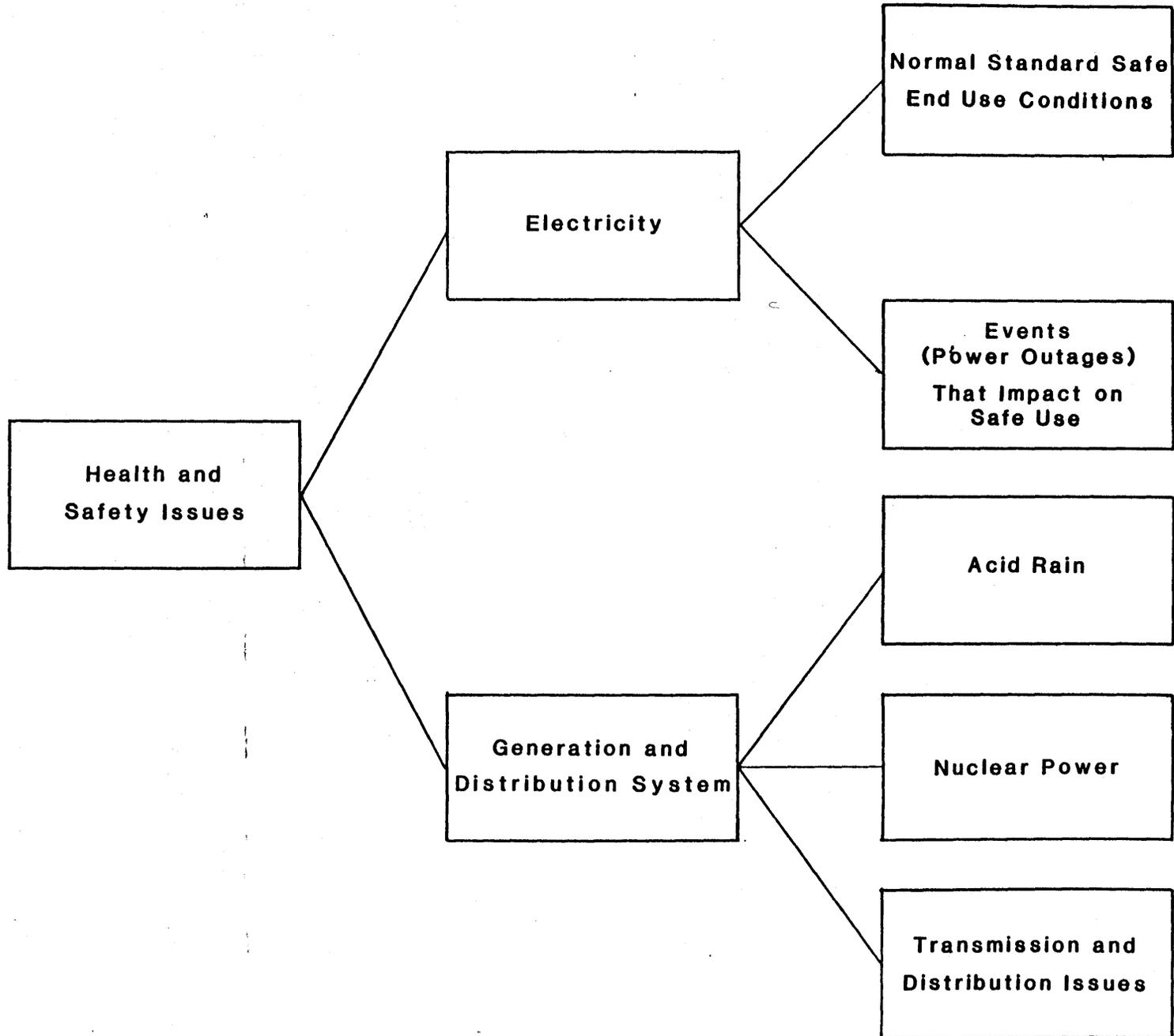
INSERT FIGURE 4-5

Electric companies have traditionally attempted to apprise customers about the appropriate and safe use of electricity under both normal usage conditions, and during times when events have caused an abnormal usage situation. Presumably, customers have developed attitudes about electricity safety, and attitudes toward the electric company's efforts to explain and encourage the safe use of electricity.

In recent years, the safety concept has broadened in terms of customer attitudes regarding the means of generating and distributing electricity that could have health implications for customers. Issues such as the safety of nuclear power plants, sulfur emissions, chemicals used in transformers and capacitors, and the "effects" of the transmission of electricity through high voltage lines are all related to the health and safety attitudes customers may have about the company. Each or all of these health

Figure 4-5

CONCEPTUAL CONFIGURATION OF HEALTH AND SAFETY ATTITUDES



issues can have an impact on the way customers view their electric company, and, in turn, represent issues on which the electric company can be expected to have developed positions, and communicated those positions to its customers.

6. Attitudes and Positions on Issues Facing the Electric Company and Its Customers

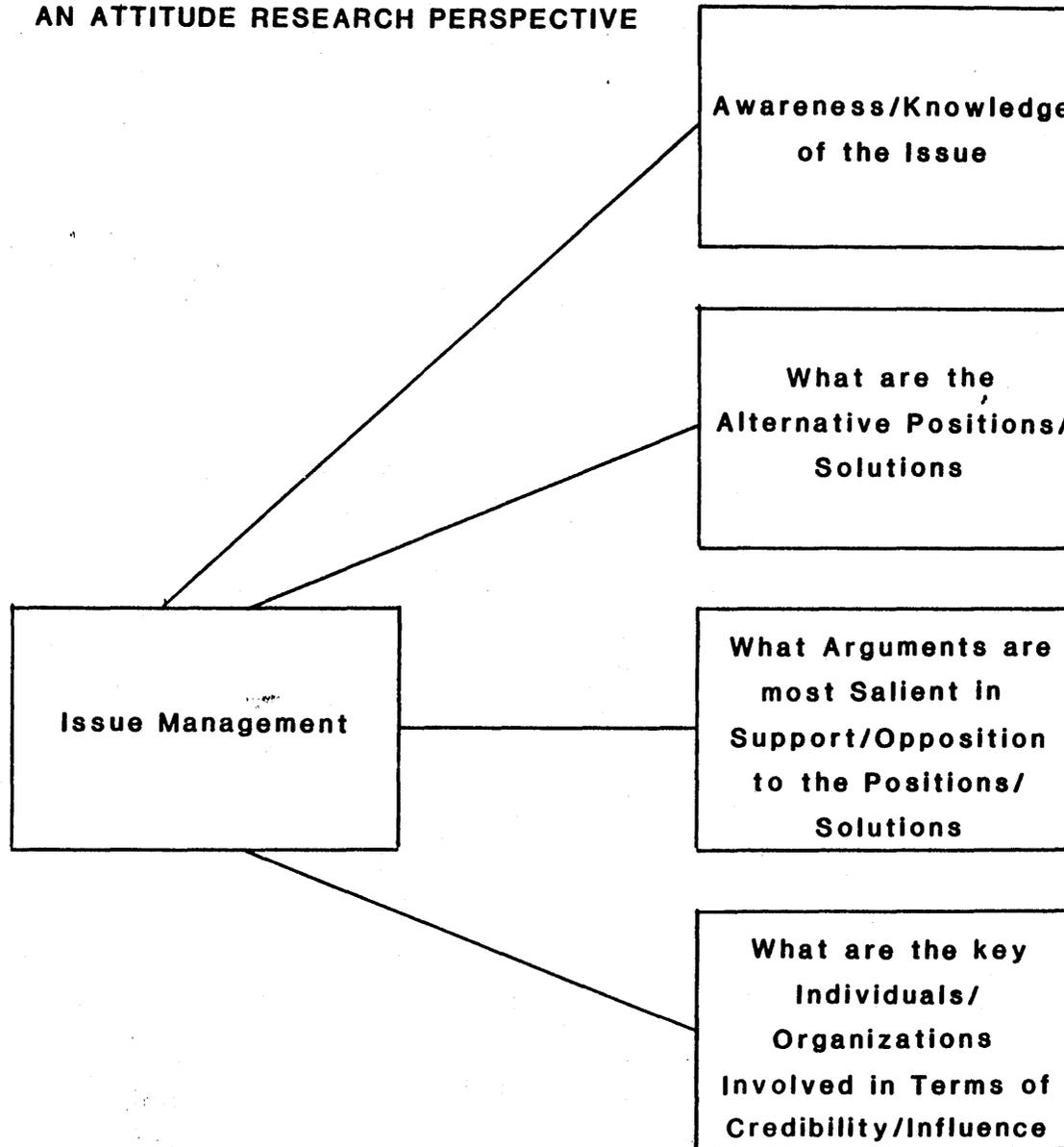
The above discussion leads directly to another general type of attitude analysis having to do with the management of issues affecting the electric company and its customers. As the diagram in Figure 4-6 shows, issue analysis can be viewed as having several attitudinal components which, in combination, can describe the attitude "environment" in which a company must operate.

INSERT FIGURE 4-6

Basically, the issue manager thinks politically in terms of identifying constituency attitudes and positions by first gauging the levels of awareness and knowledge that exist about the issue. It then is important to understand how these constituencies define their positions in their own terms with regard to the issue, and then to determine how they would react to the company's position or proposed solution to the issue. Having identified the positions that are currently held by various constituencies, a further task is often to define those attitudes which are most related to the position held, and to identify arguments which could influence those attitudes in a way that will either solidify or change positions on

Figure 4-6

THE CONCEPT OF ISSUE MANAGEMENT FROM AN ATTITUDE RESEARCH PERSPECTIVE



the issue. Finally, it is often important to identify the credibility or potential influence of key individuals, or organizations which may communicate on the issue. For the electric company, this is a particular context in which to analyze the communications attitudes discussed earlier, in that the company-customer communication relationship in an issue-oriented environment or activity may run parallel to, or be in conflict with, more general attitudes about the company as a regular, perhaps well-defined communicator with its customers.

7. The Electric Company as a Marketing Organization

In a real sense, electric companies, like virtually all business organizations, are constantly "marketing" their products and services to customers, albeit there may be greater or lesser formality and visibility to the marketing process. After all, there is at least a monthly transaction involved by which the electric company tells its customers how much of the product they've used, and at what cost. The customer is aware of the obligation to pay for the product. This transaction, in and of itself, can be viewed as marketing since price and value attitudes, and decisions to purchase more or less of the product, are bound up in the process.

In the past 15 years, many electric companies have made overt attempts to "market" conservation or load management programs, in terms of attempting to find the combinations of beliefs, feelings, and consumer needs, and incentives to encourage particular electricity end-use behaviors. In the last few years, many companies have begun to again promote specific end-use systems and

applications (e.g., heat pumps, process heating) to stimulate increased consumption, to help manage load, or both.

From this attitude research perspective, the electric company or a marketing organization really can be configured as two related sets of attitudes as shown in Figure 4-7.

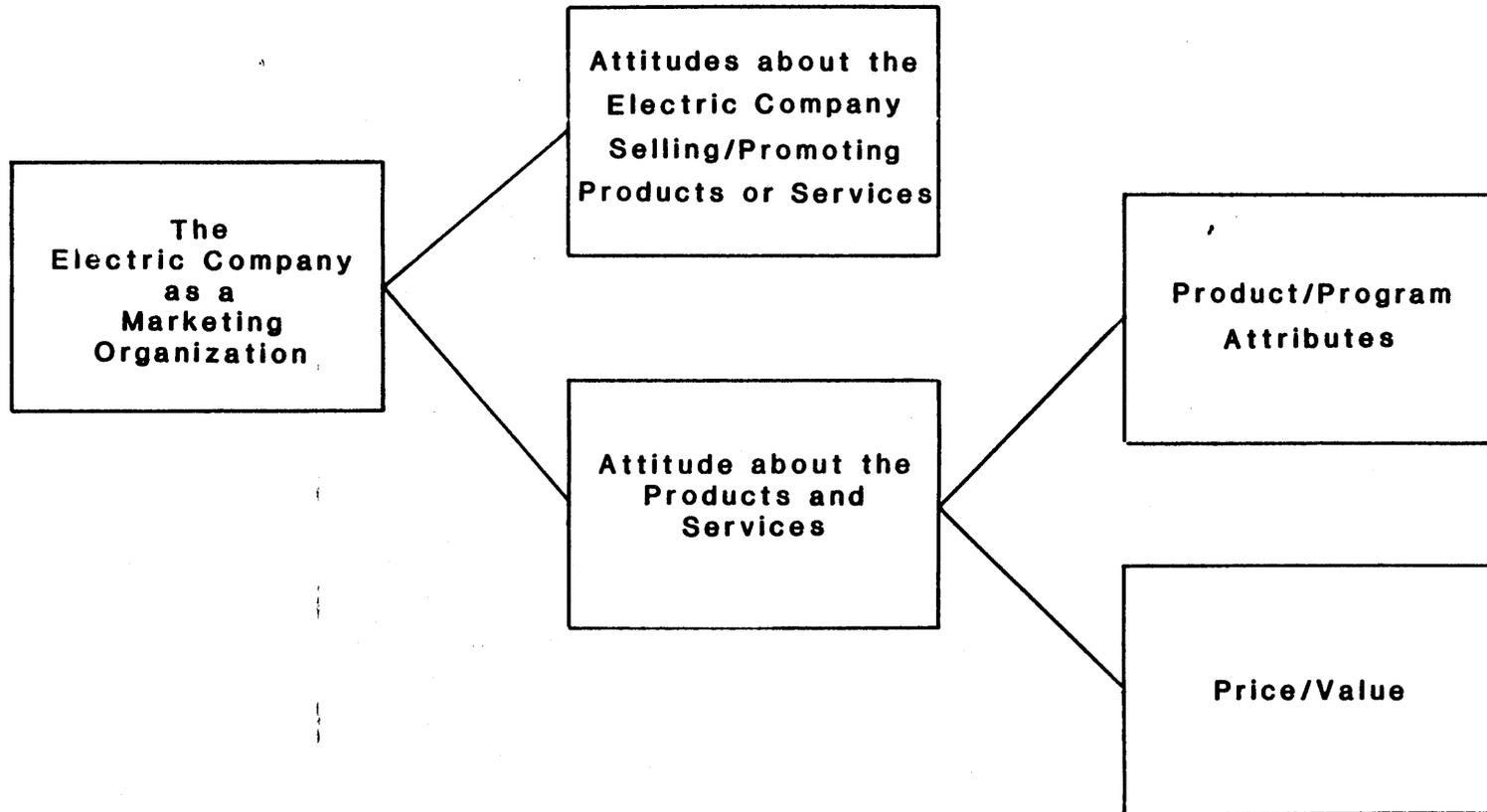
INSERT FIGURE 4-7

The core attitudes may well relate to the specific characteristics or attributes of the product or program being offered, within the context of perceptions of a particular price/value relationship for the consumer. As discussed in Chapter One, the applications of attitude research in terms of description, needs assessment, and concept testing fit directly into the evaluation of particular products or programs.

The second attitudinal set which has, perhaps, received less attention or evaluation relates to how consumers view the appropriateness of the electric company acting in an overt way to sell particular products or services. Given that a sales relationship with regard to electricity as a product already exists with each customer, the question still arises as to how customers react to the electric company selling other programs or products beyond basic delivery of electricity.

Figure 4-7

**CONCEPTUAL CONFIGURATION OF ATTITUDES ABOUT THE
ELECTRIC COMPANY AS A MARKETING ORGANIZATION**



C. SUMMARY

The objective of this chapter has been to describe many of the fundamental electric company-customer attitudinal relationships, and to provide a logic for determining which sets of attitudes should be incorporated in a particular attitude research effort. This analysis was not intended to be exhaustive of all possible attitudinal relationships that may exist between electric utilities and their customers. However, the use of these attitude sets in the cases described below does provide a fairly broad perspective and rationale for how attitude analysis is featured in various research efforts. It should be kept in mind that the particular choice of types of attitudes to measure included in each case could be modified and, perhaps, improved in each instance. However, it was felt important to use realistic examples of how some companies have actually approached the analysis of the attitudinal sets described in this Chapter.

CHAPTER FIVE: THE RESULTS OF ATTITUDE AND IMAGE RESEARCH

Chapter One of the monograph suggested that attitude and image research could be classified in terms of four types of uses or applications: description, needs assessment, concept testing, and evaluation. These four categories can also be viewed as stages in some decision process whereby the utility managers assess the environment (e.g., description and needs assessment), test alternative decisions (concept testing), implement a decision, and evaluate its effects (evaluation). Depending on the stage one is at in this process, and the answers to the five practical questions outlined in Chapter One and shown in the accompanying Figure 5-1, it should be possible to identify how the results obtained from an attitude research project will be applied to a particular decision.

INSERT FIGURE 5-1

Some practical guidelines are appropriate in communicating and using the attitude research information collected by a utility.

1. Management is Interested in the "Bottom Line"

While we have emphasized in Chapter 4 the need to think carefully through the "technique" used to obtain attitude information, management will typically want easily understood, summary measures which can be incorporated into strategic planning, business decisions, or goals against which a particular activity will be measured. Thus, while a technical case can be made for a multiple

Figure 5-1

HOW THE INFORMATION CAN BE APPLIED TO A PARTICULAR DECISION

	DESCRIPTION	NEEDS ASSESSMENT	CONCEPT TESTING	EVALUATION
<p>Whose attitudes of interest?</p> <p>Where is the population of interest?</p> <p>What are the focal "objects" on which attitude data will be collected?</p> <p>When is the proper time frame?</p> <p>Why are particular attitudes held by consumers?</p>	↓	↓	↓	↓
	=	=	=	=

item measurement approach, it is often the case that multiple items must be summarized into one measure or index of, for example, "favorability" toward the object, or "likelihood of purchase" (e.g., potential market share) estimates. There are many statistical techniques (e.g., factor analysis) as well as simple arithmetic mean method (e.g., mean or additive scores) for reducing complex combinations of measures into single scores. The danger is that single indices or scores may well obscure the variation in the measures that go into producing that single number and the researcher is advised to be precise and consistent in explicating the individual components that make up a single number bottom line.

2. Specifying the Relationship between Measures and Research Objective

Before attitude or image research is actually executed, it is critical to make sure that the measures (questions) to be included in the data collection instrument can be directly related to the objectives set forth for a particular study. There should literally be a direct correspondence between the possible "answers" to one or set of questions, and the "answers" that management is looking for when the decision is made to conduct some type of attitude or image research. In theory, there should be no need to infer the information to answer some objective if care has been taken in choosing the necessary sets of measurements. At the same time, it should be kept in mind that the concepts of attitude and image are, in and of themselves, inferred concepts, not directly observable or verifiable.

We can, however, argue that if some measure or measures work to capture a customer's attitude, then the existence (or lack thereof) of the attitude should relate directly to some decision, issue, or action which led management to set forth specific research objectives

3. Consistency Over Time

Attitude and image measurement will often times exist as part of an on-going design, testing, evaluation process. It is critical from the "baseline" (initial) research effort through the final evaluation survey that there is consistent measurement of the attitudes or images of interest. While measurement modifications are sometimes essential for capturing hypothesized changes in the nature of the objects or issues being analyzed, it is important that users of the information understand and subscribe to the internal coherency and consistency of the measurement process, so that attitude "change" can be diagnosed as having real impact for the utility, and not disregarded as simply "measurement error".

4. Developing a Corporate Image Profile

As noted in Chapter One, the concept of image generally refers to an analysis of combinations of attitudes which can be used to "profile" a company. The monograph has focused on the conceptual underpinnings, categorization and measurement of attitudes, which are the building blocks for development of this profile. The profile should identify the relative strengths and weaknesses of the utility (in terms of the attitudes held by customers), the intensity with which these attitudes are held, and possible relationships

between the profile customers have of the utility and the way they intend to act or actually behave toward the company. Thus, corporate "image" is a fairly amorphous, malleable concept that can include some or all of the dimensions described in Chapter Three.

Perhaps the most useful conclusion to this final chapter is to show examples of the kinds of attitudinal data that were collected and communicated in each of our five cases. However, before turning to the cases, we would like to emphasize some now familiar points in summarizing the use of attitude and image research among utilities:

- "There is nothing as practical as a good theory", and the monograph has attempted to demonstrate a practical approach to incorporating and using attitude measures in utility research, based on sound attitude theory and measurement systems developed for other purposes.
- The dimensions of utility attitude research can be defined and explicated, and should lead directly to the measurement of specific attitudes in relation to specific measurement questions and research objectives; and that
- The measurement of beliefs and attitudes (under the assumption that they are "precursors" to intentions and actual behavior) may well be a standard inclusion in virtually all of the customer research conducted by a utility, once the value and usefulness of such measurement is understood by utility management.

Case #1
Development and Evaluation of A
Customer Communication Program

Presentation of Findings

Since the original purpose or objective of this research was to determine basic attitudes about the company, and to track those attitudes in relation to a customer communications program, one set of findings of great interest to management is change in attitudes over time, and in relation to customer awareness of the company communications. Further, a content analysis of the communication topics suggested hypotheses as to which attitudes should be responsive to both the act of communicating and the content of the communications. Finally, management wanted to determine whether the overall image of the company had become more positive as a result of the communications effort.

The data shows the overall change in a 0-10 point favorability scale, and the relationship of the "favorability" response to awareness of the communications. Similarly, several "adjective descriptors" also measured on a 0-10 scale showed various changes over time, and in relation to awareness of the communications.

The management conclusions were that the communications initiative was successful (over and above what appeared to be an overall positive shift in customer attitudes toward the company), and that subsequent communication programs would be targeted by topic to selected demographic groups, and would emphasize corporate

characteristics which showed relatively less positive movement in the initial communications program.

	<u>Pre-Communication</u>	<u>Post Communication</u>	<u>Post Communication Awareness</u>		
			<u>None</u>	<u>Low-Med</u>	<u>High</u>
<u>Favorability Scale</u>					
Favorable (Scores of 6-10)	46%	59%	53%	61%	65%
Neutral (Score of 5)	25	23	29	20	18
Unfavorable (Scores of 0-4)	26	17	16	17	16
Don't know	2	2	2	2	1
<u>Adjective "Image" Characteristics (Percent Positive Response)</u>					
Honest	57%	68%	62%	68%	82%
Believable	49	62	54	60	78
Efficient Management	50	51	45	51	55
Prepared for the future	58	59	53	60	69

Notice that while communication "effects" appear to exist for all four sample descriptors listed above, other non-communication factors may have impacted on the level of aggregate positive movement on "efficient management" and "prepared for the future".

Case #2
Analyzing the Impact of Customer
Service Contacts in Relation to
Customer Attitudes and Images
of the Company

The first management objective in this research was to determine and summarize the underlying customer-employee contact dimensions on which customer attitudes might vary, and which can generally relate to an overall evaluation of the company. In order to summarize for management the performance of customer representatives on two factors -- "humanistic" or people skills, and "job performance" characteristics relating more to the "mechanics" of answering customer questions -- two separate summary indices of attitudes (feelings about the CR's) were created as shown on the following page:

Total Telephone Contact System			
Percent "Positive" Rating of Customer Representative on: (Scores of 6-10 on 0-10 Rating Scale)			
	<u>Humanistic Skills</u>		<u>Job Performance Skills</u>
Courtesy	87%	Using understandable words	92%
Shows respect for you	86	Handling call promptly	89
Friendliness	85	Listening carefully to you	87
Patience	86	Answering all your questions	83
Helpfulness	84	Knowledgeable	83
Shows interest in your problem	82		
Shows concern about your problem	81		
AVERAGE	84	AVERAGE	88

These summary scores were arrayed by each telephone center and for the total contact system, as well as trended over time to show what changes, if any, resulted from additional training of CR's; changes in procedures; or external events occurring to customers which could prompt a change in call behavior.

**Case #3
The Marketing of
Heat Pumps**

Management clearly was interested in an estimate of "purchase intention" or potential market share for future heat pump sales. Following the unidimensional view of attitude (as affect) linking to purchase intentions, a substantial portion of this type of analysis pertains to providing a reasonable definition of "likelihood of purchase", and correlating that likelihood with attitudes about specific heat pump product characteristics.

The approach chosen for the likelihood estimates was a four point scale, with labeled scale points as shown below, a two year time frame specified in the question, and an opportunity for each individual to respond separately to their perceived heating and cooling needs. The two estimates were correlated and combined into a single measure of the "very likely" or high potential purchasers under either condition. This high potential group was analyzed for their attitudes toward a list of heat pump attributes to identify those attributes on which a potential purchaser was most positive.

How likely are you to purchase a heat pump as a central heating/
central cooling unit for this home in the next two years?

	<u>For Heating</u>	<u>For Cooling</u>
Very likely	4%	10%
Somewhat likely	12	11
Only slightly likely	20	22
Not at all likely	60	55
Don't know	4	2

High Potential (Very Likely) - 11%

<u>Reactions to Heat Pump Attributes on an Excellent, Good, Fair, Poor Scale With Percent Excellent/Good Response</u>	<u>High Potential Reactions to Evaluation of Heat Pump</u>
Reliable	90%
Clean	89
Ability to conserve energy	82
Maintenance and warranties	80
Suitable for this climate	75
Competitive operating cost	70
Competitive Initial Purchase Cost	65

By rank ordering the high potential market's attitudes to heat pump attributes, a marketing strategy featuring the product's strengthes and/or negating the products relative weaknesses can be devised.

Case #4
Evaluation of A Residential
Conservation Audit Program

The analysis of the RCS programs contained measures at all levels of the unidimensional attitude model presented in Chapter Two. On an aggregate basis, the results of the initial market test of this concept (several years ago during the start of this program) are shown in the first column, and the measurement of the same selected questions as shown in the second column after extensive mass media advertising and promotion of the program over a two year time period.

	Initial Survey (A FEW MONTHS AFTER LOW-KEY PROGRAM INTRODUCTION)	Two Year Later Follow-Up Survey
<u>Awareness:</u>		
Are you aware of the availability of an <u>Energy Audit</u> from your electric company? (% yes)	20%	68%
<u>Belief:</u>		
There are still new ways that could be found to conserve energy around my home (% agree)	50%	64%
<u>Importance</u>		
How important is it to you to find new ways to conserve energy around your home? (% very or somewhat important)	70%	62%:

	Initial Survey (A FEW MONTHS AFTER LOW-KEY PROGRAM INTRODUCTION)	Two Year Later Follow-Up Survey
<u>Attitude</u>		
Overall, how do you feel about your efforts to conserve energy around your home? (% positive/% negative)	54%/32%	60%/25%
<u>Intention</u>		
How likely do you feel it is that you will request an energy audit for \$10 from your electric utility in the next six months? Would you say very likely, somewhat likely, only slightly likely, or not at all likely? (% very likely)	19%	7%
<u>Behavior</u>		
Have you had an energy audit conducted by your electric company?	3%	18%

What was clearly demonstrated in the market place was a finite or maximum expected market share for energy audits in the 20% - 25% range which was, indeed, captured (audits were requested) over a two year time span. Over time, the belief structure and attitude toward some energy conservation changed in a mildly positive direction, but the perceived importance of energy conservation actually decreased slightly, perhaps as a result of a lessening of energy conservation concern as a national and local issue (this research was conducted in the 1979-1981 period). Attitudes and attitude change, however, were not particularly strong predictors of behavior, since there apparently existed a confirmed conservation practitioner group that was substantially smaller than those who preached the value of home energy conservation.

Case #5
Dealing with Major Issues that
Impact on Attitudes Toward the
Electric Company

One primary analysis of interest to management was the degree to which overall feelings toward the company were affected by attitudes and "positions" (intentions to support or not support) regarding the completion and operation of the nuclear power plant under construction. While various statistical approaches were used to interpret how various attitudes related to the overall rating of the company, the univariate table shown on the following page illustrates how the attitude information was applied against the position on completing and operating the nuclear power plant to define specific customer segments that could be targeted for either general corporate communications or information about the nuclear plant.

Position on Completion and Operation of <u>Nuclear Power Plant</u>	<u>Total</u>	Overall Evaluative Rating of the Utility on 0-10 Favorability Scale				
		Very Favorable (Ratings of 9-10)	Somewhat Favorable (Ratings of 6-8)	Neutral (Ratings of 5)	Somewhat Unfavorable (Ratings of 2-4)	Very Unfavorable (Ratings of 0-1)
Strongly support	35%	60%	40%	38%	35%	10%
Somewhat support	18	32	24	19	15	9
Undecided	20	5	15	19	23	24
Somewhat oppose	10	2	5	10	11	25
Strongly oppose	17	1	16	14	16	32

Perhaps the most interesting analysis is to identify the attitudes of the circled market segments where there is an apparent "conflict" between their positions toward the nuclear power plant and their attitudes toward the electric company. By combining the groups labeled "A" and "B" in the above diagram, some substantial difference in other attitudes were identified. Listed below are some of the items which differentiated between the two groups:

	<u>Group A</u>	<u>Group B</u>
Percent who agree that the electric company serves its customers well	65%	32%
Percent who feel the electric company is . . .		
Honest	55	38
Doing a good job planning for the future	40	22

In essence, communication strategies could be developed for these groups. The goal with Group A would be to translate their general positive attitude toward the company into support for the completion of the nuclear power plant. The goal for Group B would be to have them transfer their general support for completing the nuclear power plant into more positive perspectives on the company's honesty (perhaps in communicating about the progress of the plant construction) and ability to plan for the future in terms of the planning and execution of a major plant which will assure future electricity supplies.

APPENDIX A
SELECTED READING LIST

Assael, H., Consumer Behavior and Marketing Action, 2nd Edition, Boston: Kent, 1984. A leading consumer behavior text, with chapters devoted to attitude measurement and the use of attitude in designing marketing strategy.

Churchill, G.A., Jr. Marketing Research: Methodological Foundations 2nd Edition. Hillsdale, IL: Dryden, 1979. A good introduction to marketing research techniques, with chapters devoted to attitude measurement (Ch. 8) and to general considerations in attempting to build measurement scales to represent such things as beliefs, attitudes and intentions (Ch. 14).

Engel, J.E., and R.D. Blackwell, Consumer Behavior, 4th Edition, Hinsdale, IL: Dryden, 1982. The long-time leading consumer behavior textbook. Note for a complete and up-to-date cataloging of the consumer behavior literature, it contains extensive treatment of attitude theory and measurement.

Ferber, R., Handbook of Marketing Research, New York: McGraw-Hill, 1974. An excellent sourcebook for the research manager. A number of chapters are pertinent to the present focus. Ch. II.B.6 "Group Interviewing" is an excellent introduction of the use of focus groups. Ch. III.A.2. is a good treatment of belief and attitude measures. Ch. III.A.6. deals with preference measures. Ch. III.A.7. enumerates approaches for measuring purchase behavior. Ch. IV.E.1. is a useful introduction to the measurement of company image.

Fishbein, M., and I. Ajzen, Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research. Reading, MA: Addison-Wesley 1975. An excellent treatment of the attitude theory which provided the basis for the framework developed in this monograph. Particular attention is given to attitude measurement (Chs. 3 and 4), the "building blocks" of beliefs, attitudes, etc. (Ch. 5-8), and application areas such as persuasive campaigns (Ch. 11).

Green, P.E., and D.S. Tull, Research for Marketing Decisions, 4th Edition, Englewood Cliffs, N.J.: Prentice-Hall, 1978. A good overview of marketing research techniques for the individual who is reasonably familiar with statistics. See especially Ch. 14 for more detail on multidimensional scaling and conjoint measurement.

Hawkins, D.I., and Coney, K.A., and R.J. Best, Consumer Behavior: Implications for Marketing Strategy, Dallas: Business Publications, Inc., 1984. A good overview of consumer behavior analysis, with a chapter devoted to attitude (Ch. 13).

Kassarjian, H.H., and T.S. Robertson, Perspectives in Consumer Behavior 3rd Edition, Glenview, IL: Scott, Foresman, 1981. In this edited volume, Chs. 4.1 and 4.2 provide some greater depth in attitude theory it relates to the prediction of behavior.

Nelson, J.E., The Practice of Marketing Research, Boston: Kent, 1982. A very pragmatic treatment of marketing research concepts. Less statistical knowledge is required to successfully glean pertinent information regarding measurement concepts from this source.

Osgood, C.E., Suci, G.J., and P.H. Tannenbaum, The Measurement of Meaning, Urbana, IL: University of Illinois Press, 1957. The book which introduced the Semantic Differential technique for attitude measurement - a classic.

Tull, D.S., and D.I. Hawkins, Marketing Research: Measurement and Method, 3rd Edition, New York: MacMillan, 1984. An excellent introduction to marketing research. All of Section III, which discusses measurement and scaling, questionnaire design, and attitude measures specifically, is pertinent.

Wilkie, W.L., and E.A. Pessemier, "Issues in Marketing's Use of Multiattribute Attitude Models," Journal of Marketing Research, 10 (1973), 428-41. In this classic article (the most frequently cited marketing article during the 1970s), numerous strategic and tactical issues associated with attitude measurement are treated in depth.