3. PSYCHOLOGICAL & COMMUNICATIONS RESEARCH

Page

Communications research focuses on understanding the issues that motivate decisions. This includes both seeking the cognitive "hard" quantitative information and the "softer" knowledge. The previous section as well as other sections will focus on the quantification of cognitive "hard" information. This chapter of these notes deals with methods and approaches for seeking-out "soft" information. It covers communications research but also the whole field of qualitative methods. It should be noted, however, that these methods are used not only to identify the emotional nature of the buying process but also to uncover cognitive information that will be later used within quantitative studies.

The purpose of qualitative research is to determine the “What” of market intelligence. It covers a broad range of activities often referred to as the "Voice of the Customer" in that it allows in-depth feedback from the customers and other respondents to the firm. Quantitative research as noted in the section Introduction section to these notes focuses on the “How Much”. This requires a deep understanding of what could be going on in marketplace.

3.1 INTRODUCTION

Over half of all marketing research expenditures are directed toward "qualitative" research. These studies are intended to uncover information and give a "picture" of what the market thinks about offerings, brands, and the uses of the products. The scope of this information covers the emotional issues as well as the rational. Before exploring the nature of qualitative research and research into the emotional issues, we need to examine its applications.

3.1.1 PRODUCT DEVELOPMENT

Early qualitative research is critical but often missing in the new product development process. Most "Stage Gate" development processes identify the need for this type of early intervention in directing the development of new products. Along with other qualitative research programs, this type of activity is often referred to as "The Voice of the Customer" studies. The objective is to test out ideas (or even obtain new ones) of what is desired in the marketplace in new products.

3.1.2 COMMUNICATIONS AND PROMOTION RESEARCH

Because communications research focuses on the gathering of new and creative market information (the "what" of the world) qualitative approaches are often employed. Traditionally creative qualitative research is the main market input in the creation of market communications. Quantitative survey research is also employed but is more often used for testing, tracking and the measurement of impact and results rather than in the creation of the materials.

3.1.2.1 Advertising and Commercial Development

There is a fairly large industry dedicated to assist in the development and testing of commercial and mass advertising. Firms specialize by type of market, media, and research methods. The objective here is the development of the copy based on the product position and market segments. It should be noted, however, that this research work is almost exclusively qualitative and the identification of product position and segments may be subjective.

3.1.2.2 Product Naming and Position Statement

Words are important, particularly as it pertains to the positioning of products and services. Here semantics can be critical. Qualitative studies are usually needed to explore these issues. Product naming is a specialty unto itself. Naming may be done with little market input or a lot. Typically, however, there is some qualitative testing of product names.

3.1.3 DEVELOPING BRANDING STRATEGIES

As discussed in the Introduction to these notes, the concept of "Branding" is unique to marketing. It consists of powerful tools to help promote the business. It is a concept by which a name provides value to the customer and the client. It is a concept in the mind of the customer. Marketing and particularly, communications strategies surround changing, modifying and promoting the concept of the brand. The survey method for understanding these issues are both qualitative (subjective) and quantitative (analytical) in nature.

The brand itself is not simply the product name or that of the product supplier but infers a collection of non-cognitive properties. As discussed in the introduction, there may be separate brands for products, groups of products and the firms delivering them. Branding strategies covers the range of activities to create, develop, maintain and exploit the non-cognitive attributes. However, unlike the case of product and business strategy, multiple branding strategies may be undertaken simultaneously.

3.2 QUALITATIVE APPROACHES

Quantitative survey research methods have been discussed in detail in the other sections of these notes. These methods rely heavily on analytical approaches where potential responses and options are specified. These responses are by necessity mutually exclusion and all inclusive. Constructing these surveys rely on extensive understanding of the "What" of the market obtain through Qualitative research.

Qualitative techniques are intended to provide a broadest range of information. Usually subjective methods are used to capture individual ideas and opinions. In this section, we discuss these methods for delving into the drivers in decision making. Here we wish to gain insight into the fundamental reasoning for decision making. These approaches are based on either interviews or group sessions. The purposes of which are usually targeted at obtaining some specific information such as options about a product or a description of the buying process or for identifying specific potential opportunities. However, a broader objective is to explore thoughts, issues and language of the participants.

3.2.1 DEVELOPMENT OF QUANTITATIVE STUDIES

Qualitative research seeks to find out the "what" of the decision process. It is a probe of the nature of the information. In this regard, qualitative research is distinguished from quantitative studies by the lack of intent to describe the distribution of values in the market. Quantitative studies, on the other hand, are intended to provide a numerical picture of the market. They use almost exclusively analytical methods as discussed in the other sections of these notes. As such, these studies require consistency and uniformity in survey execution. These analytical methods follow a "behaviorist" or phenomenological approach of relating response to stimulus.

3.2.1.1 The Design of Surveys

Qualitative research is usually undertaken as a preliminary effort or phase for the design of extensive quantitative surveys. In this function, the qualitative study is intended to uncover the issues that survey studies will subsequently quantify. The purpose of this qualitative research phase is to confirm the issues that need to be explored and to verify the language that is needed to formulate questions and options. This is particularly critical in cases involving new markets or applications where the clients will be unfamiliar with the characteristics of the potential buyers. This is also important in cases involving new products where clients may not know the sources of value of the new products.

3.2.1.2 Interpretation

There has been increased use of qualitative research in order to help interpret the results of quantitative surveys. This is particularly the case with studies with value assessment, pricing, positioning, and segmentation objectives. In these cases, there is a need to further relate the analysis results with their potential market impact. Market interviews are often insightful for putting a "human face" on to the results.

3.2.2 "PERSONAL" INTERVIEWS

One-on-one interviews have been the mainstay of qualitative research. They focus on the knowledge and the experience of individuals. The focus on individuals allows for the exploration the variation of participants in the market and the purchase process. As such, personal interviews can be highly speculative allowing the exploration of influencers and segments that would not be otherwise utilized.

Making arrangements for these interviews is always problematic. These problems focus on qualification of appropriate respondents, reaching them and arranging the interviews. Because the process is iterative, in that later discussions and interviews are built upon the knowledge gained from proceeding ones, the timing of interviews can be critical. This adds additional complexity to the arrangements.

It is not unusual to have new respondents suggested by former ones. Because the objective of the research is typically not quantification of the market, this type of daisy-chained groups of respondents are considered acceptable and in some cases using experts preferred. However, it should be noted that due to the non-reproducibility and the potentially biased sample procedures, there may be significant doubt as to the generality of the results of this type of research.

3.2.2.1 Telephone Interviews

The least expensive mode for conducting interviews is, of course, by telephone. With experts and professionals such as buyers and engineers, this mode seems to work adequately. The major problem with this mode is the inability to either show materials or to have the respondent describe physical processes and examples. A final problem is the lack of non-verbal communications. This can be a particular weakness when the respondent is describing emotional concerns and issues.

3.2.2.2 On-site

On-site personal interviews are usually very expensive not only because of arrangements but because of the need for a well trained professional interviewer. However, particularly for industrial application studies, there is no other way to understand the use of products and the need for services without seeing the application. Furthermore, the on-site personal approach can provide a far greater depth of information. It is not unusual in these cases, to interview several people involved in the buying process and thereby get a better understanding of the situation.

3.2.2.3 (Mall) Intercepts

Mall and more recently airport intercepts are used both for personal execution of quantitative studies and for recruitment for short personal interviews. Mall intercepts are used extensively with consumer product businesses. Here respondents are interviewed about they buying behavior as well as concept testing. Airport intercepts had begun to become widely used before the terrorist (9/11) attacks. However, this mode has become increasingly difficult due to security concerns. The major problem with this type of recruitment is that it is inherently prone to bias. Though this is less of a problem with qualitative research, it still needs to be addressed.

3.2.2.4 Discussion Outlines

As is typical with discussion based research methods, outlines are usually used as a guide. However, with personal interviews, the scope and structure of the discussions tend to change during the course of the study. New issues and topics arise which need clarification. As such the discussion outlines are rarely fixed.

3.2.3 GROUP PROCESS

As previously noted, personal interviews focus on the individual responses in isolation. Because of the nature of these interviews the results tend to focus on the existing situation. Typically there is little "feedback" which could generate speculative and creative thinking. Groups, however, are useful to expand the discussion of key issues and topics. They are used to both to explore group decision making and as a means to stimulate discussion of "inner mind" issues.

3.2.3.1 Industrial and Consumer Workshops

The simplest of the group sessions are *the Industrial and Consumer Workshops*. These may be held either at a specially arranged location or in conjunction with professional and market meetings. There is often a desire to combine these research activities with product and program presentations. However, this is ill-advised since it will tend to confound results[1]. These types of activities have been properly promoted as "The Voice of the Customer" sessions.

3.2.3.2 Focus Groups

”Focus groups" have become a widely used phrase describing a wide range of group sessions. Typically, these sessions involve eight to sixteen participants and focuses on a specific set of issues. These groups are encouraged to interact in their discussions in order to obtain insight into more basic causes of actions. While focus groups can be somewhat speculative, typically they are tightly focused. It is therefore useful to separate-out processes that are intended for creative searches for ideas from the traditional focus group.

The use of focus groups has tended to desire of management to observe sessions. Though it is almost always ill-advised to have the members of the management team participate in focus groups, it is almost always useful to have them observe. Recently the

[1] There is also an ethical issue here of combining sales with marketing research. This is usually viewed as highly unethical. But in this case, particularly, when the focus of the research is on new products being presented, it may be inevitable.

advent of the Internet has allowed for televised sessions in real time and should expand the ability of the management teams to observe these sessions.

3.2.3.2.1 Arrangements

Arrangements for Focus Groups including recruitment and facilitation are usually done by specialized marketing research firms. This has become a major industry including high degrees of specialization. Firms exist that specialize by industry, cohort (age) groups, minorities, and geography as well as by techniques and problem issues.

3.2.3.2.2 The Process and the Role of the Facilitator

The facilitator in Focus Groups plays two roles, that of the client with the problem and the leader of the process. As such, the facilitator poses as the individual with the problem and is asking for help. Usually, at the beginning of the session, the facilitator indicates that he/she is working for a client, but rapidly takes on the client role for the session. The facilitator is also responsible for the conduct of the process. The group must be given permission to be "truthful" and sometimes speculative.

Interaction among the participants is typically sought. As such, it is important to protect participants' egos and to encourage participation. This is a key function of the facilitator. However, since the objective of the focus group is narrowly defined, such control is rarely overwhelming. This is not the case with creative problem solving workshops discussed below.

Finally, it is the responsibility of the facilitator to summarize the results. Typically this summary is combined with transcripts or tapes of the sessions.

3.2.3.2.3 The Discussion Outline

Focus groups, unlike most personal interviews tend to be a consistent process. It is not unusual to have several dozen such groups on a single topic. The discussion outlines for these sessions will all be consistent with the intention that all of the subjects will be covered. However, it should be noted that the order of the coverage may differ depending on the flow of the sessions. Because of the standardization of these outlines, different facilitators can be used, particularly, if focus groups are to be held globally. Language differences as well as logistics may make this necessary.

3.2.3.2.4 Tools and Exercises

Specialized tools have been created for various types of focus groups. Exercises including visualization are often used to put the group into the purchase or use situation. However, in many cases, the focus group may seem follow an informal discussion structure[2]. Analytical Tools such as perceived value measurement (conjoint) or rating forms can be used within the focus group environment either as a means of stimulating discussion or to collect opinions[3].

3.2.3.3 Creative Problem Solving Workshops[4]

Creative Problem Solving Workshops or sessions are a series of widely used procedures designed to generate new ideas or solutions to problems. They are used both internally for new product and program development and with customers to explore possibilities.

3.2.3.3.1 The Nature of Creativity

A philosophical assumption of most group creative processes is that "everyone" can be creative. This is probably an over simplification. While everyone can be creative, some people find it much more difficult to "think outside the box." People have different "creative styles," seeking solutions in different ways. In the context of creative problem solving workshop processes, the definition of idea creativity is fairly constrained. It is the effort to identify new solutions to existing problems.

3.2.3.3.1.1 Making Mental Connections

Creativity is often associated with the merger of multiple thoughts and experiences. It comes from having a new vision of the problem or coming from a different "place". Creative solutions often come from the boundary between disciplines and experiences. As such, the quality of the group creative process is often determined by the diversity of the people involved as well as their ability to be creative.

3.2.3.3.1.2 Giving Permission

Group creativity is a personal process. It is a sharing of inner thoughts with others. While there may be some great brilliant geniuses whose minds can envision new solutions fully formed without error and distortion, most of us, even the most creative, need to think out the ideas. They need to let the ideas grow. This requires a permissive and supportive environment. We need license to propose the outlandish in order to reveal new ideas.

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[2] We have found that most effective focus groups take on an open discussion format. This reflects the appropriate selection of participants and the meaningfulness of the subject.

[3] Some forecasting techniques such as "The Delphi Method" has been executed in a Focus Group environment. In this case, the iterative technique consists of a number of estimates of the timing of future events followed by discussion regarding the reasoning behind the option.

[4] Uses of creative problem solving working in the planning process is discussed in the section on Planning Methods.

3.2.3.3.1.3 Competitive and Supportive Processes

Some creative processes try to enhance the idea generation activities by developing competition. Subgroups are formed that compete to generate ideas and solutions. The trick here is to give competitive activities within a supportive environment. This is difficult to accomplish and is usually suitable for only particular kinds of problems.

3.2.3.3.2 Creative Problems Solving Process

There are several established creative problem solving processes that are available. Most of these are variants of a few basic procedures, which mainly differ in their use of competition in finding solutions. However, almost all contain the following elements.

3.2.3.3.2.1 The Facilitator and the Client

Because of the requirements for interaction, the interpersonal issues can be come very intense. As such, it is critical that the facilitator for these sessions is able to provide full attention of the process. He needs to be highly process-focused. As such, there is typically a separation of the facilitation function from clientship[5].

The function of the client in these sessions is to approve of the results of the process. He is an active participant in the process. The client in these sessions is often the senior manager with the actual problem. This can create difficulties in participation, even when "permission" has been given. Under some conditions, an alternative client is sought that would not intimidate the participants. Alternatively, participants are sought outside of the key organization to help establish permission for a free flow of ideas.

3.2.3.3.2.2 Establishing a Creative Environment

As previously noted, creativity requires a "protected" place, where outlandish ideas can be brought forth without immediate criticism. This is what we refer to as an permissive environment. A key role of the facilitator is to maintain this environment, which is not always easy.

3.2.3.3.2.3 Finding the Creative Problem

Often the difficulty in finding new solutions is in the nature of how the problem is viewed. Seeking the creative solution is often expedited by finding a creative alternative problem. This provides license in seeking solutions and helps breakout of the "old" thinking[6].

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[5] Many of the developers of these methodologies have indicated that knowledge of the subject is less important than proficiency in the process for the facilitator. However, we have found that this is not correct. Effectiveness of the sessions tends to require a knowledgeable facilitator in the subject being discussed.

[6] The old thinking ideas is thought of being defined by the organizational existing organizational paradigm. After you been thinking about the problem long enough, it always looks the same!

3.2.3.3.2.4 Idea Generation

Good ideas tend to be stimulated by the quantity of ideas. While quantity of ideas is not a substitute for quality, it does a basis for finding them. The idea generation usually involves these four elements:

- **Provide license for new ideas** -- This requires protecting ideas (even those that seem outlandish). By protecting the ideas, you protect the participants and encourage further exploration.
- **Seeking a large number of alternatives** -- "Brain-storming" and "Brain-writing" procedures are well known. These are mainly linguistic processes where ideas are written down as words. Other processes focusing on images and diagrams can also be used and can produce different results.
- **Use "excursions" to simulate connective thinking and visualization** -- These techniques are design to pull the participants away from conventional thinking. They are intended to put the group into an alternative "place" where creative thinking is expected. These excursions include various "games" to stimulate ideas.
- **Merge different ideas to grow concepts** -- Ideas are usually not independent. They are often part of a "whole" solution. The process of growing concepts is the merging of ideas. Sometimes an idea as thought by the originating participant is not the idea that the other participants think it is. But with the growing of concepts, the valuable elements of each of these views are merged producing even more creative solutions.

3.2.3.3.2.5 Refocusing and Obtaining Results

While a large number of ideas are nice, it doesn't provide a useful solution. The ideas need to be filtered and developed.

- **Force decisions** -- This is usually a process of selection, evaluating and building. The process usually involves identifying criteria for selection, selecting a number of alternatives and evaluating them in terms of what is good about each and where there may be problems.
- **Building-in feasibility** -- No idea is perfect. All have flaws. The issue is to identify the problems and develop creative approaches to overcome them.
- **Requiring future action** -- As is true in almost all organizations, it is necessary to press forward to get anything done. It is, therefore,

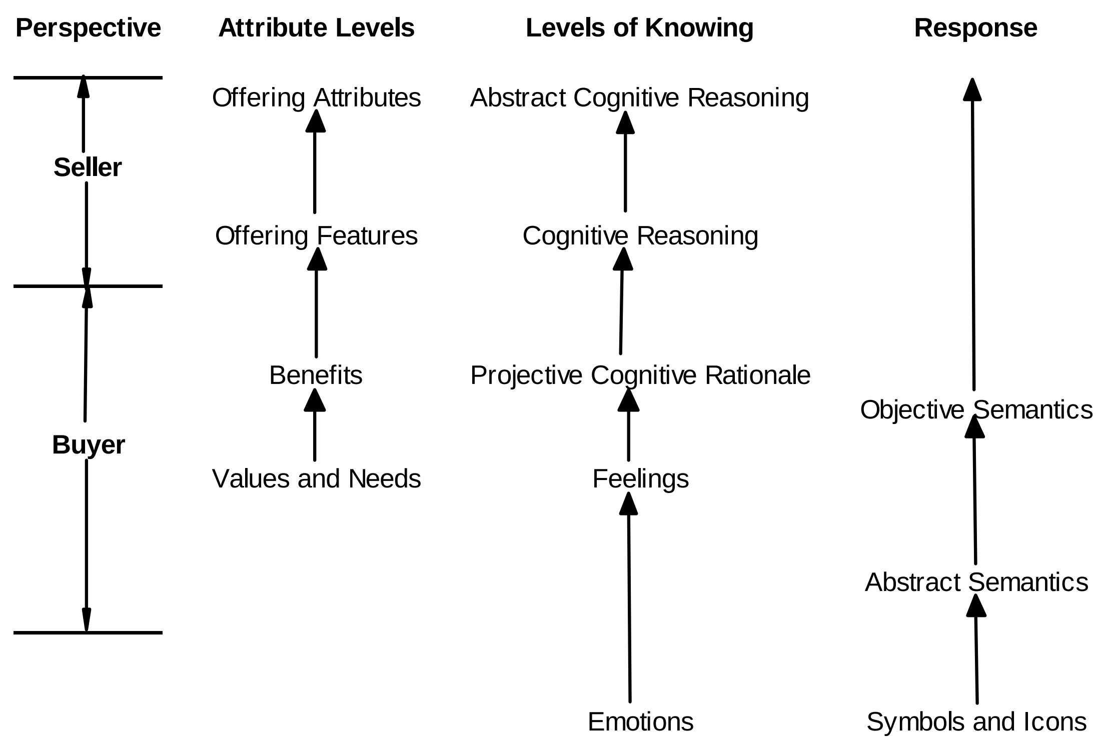
critical to provide the required "next steps.[7]".

3.3 THE INNER MIND

Perception can be considered to exist in multiple psychological levels. Motivations can take place both through very conscious and define values or through the action of subconscious drivers. Marketing research tools can be roughly divided by the level of consciousness that they are used to probe. Most value and pricing research focus on recognized features while communications research focus on the deeper motivations. All of marketing research to some extent tries to capture what is going on in the mind of the customer. Most of the methods focus on outcomes. Business communications focus on both explicit messages and the more subtle aspects that influence option and actions. The attention to these "non-cognitive" issues is not necessarily intended to deceive but mainly to aid in communications by gaining attention and to increasing the impact.

In this section we consider socio-psychological positioning, value and life-style research, linguistic and semantic analysis, advertising research and socio-psychological methods. Let us start by exploring the uses of these tools.

There is any number of various descriptions of value/need recognition by customers. Below are four types of structures important to marketing research. Each of these four structures are important in the choice of “inner-mind” research procedures.



[7] Some processes go further in requiring individual assessments of responsibility.

3.3.1 Attribute and Perspective Levels

We start by focusing on the nature of the perception of the product. Here we deal with both the seller and the buyer.

3.3.1.1 Offering Attributes - Seller

From the perspective of the seller, he provides an offering that consists of a number of attributes. These are measurable and often countable. These attributes are the basis of claims of product superiority. For the most part, they consist of laboratory measures of product performance.

3.3.1.2 Offering Features - Seller & Buyer

These attributes become features when viewed from the buyers' perspective. In many cases the attributes and features tend to get merged. For example, engineers as customers and as sellers may view features and attribute identically. However, in some cases, they can be very different. Features also include the product source as well as implied characteristics often not associated as a product attribute.

3.3.1.3 Benefits - Buyer

Product benefits are associated exclusively with the buyers and users of the product. It is not what the product is but what it does for the user.

3.3.1.4 Values and Needs - Buyer

Values and needs go deeper into the fundamental feelings and emotions. These are the underlying sources of satisfaction. They consist of the feeling of ease and comfort with the purchase.

3.3.2 Levels of Knowing

It is useful to think of the mental processes as taken place in levels. The higher cognitive levels cover those sources of reasoning, which are explicit while feelings and emotions operate on a lower subconscious level.

3.3.2.1 Abstract Cognitive Reasoning

The highest level is abstract cognitive reasoning where strategic issues are often presented in terms of the value of a product.

3.3.2.2 Cognitive Reasoning

Cognitive reasoning reflects direct experience and is the rationale for using a product. This is usually where value for the money comes in.

3.3.2.3 Projective Cognitive Rationale

The last of these cognitive levels is projective cognitive rationale, which explains feelings in terms of other reasons. Terms like confidence in the supplier, or relying on past experience are used to justify subjective responses.

3.3.2.4 Emotions and Feelings

Emotions are a very fundamental subjective response. These are often not understood by the respondent. They are the “reptilian” reaction to a product or situation. These are usually difficult to get at and difficult to alter. Feelings are an intermediate subjective response usually associated with some set of reasons behind them. By understanding the sources of feelings, they can be changed.

3.3.3 RESPONSE

The vast majority of marketing research is done with language. Language is used to describe products and respondents explain their decisions and actions through language. This is a limitation to most marketing research methodologies.

3.3.3.1 Objective Semantics

Objective language consists of explicit and usually well defined terms and descriptions. Single words and phrases connote specific concepts. Almost all of the features and benefits can be describe this way. However, these terms typically convey little emotion.

3.3.3.2 Abstract Semantics

Abstract language carries a level of vagueness but also emotion. This is a transitional communications tool where feeling and emotions are expressed.

3.3.3.3 Symbols and Icons

Finally there is a level of mental processing which is assumed to be symbolic. Ideas and images here merge and are often imprecisely expressed by any language system.

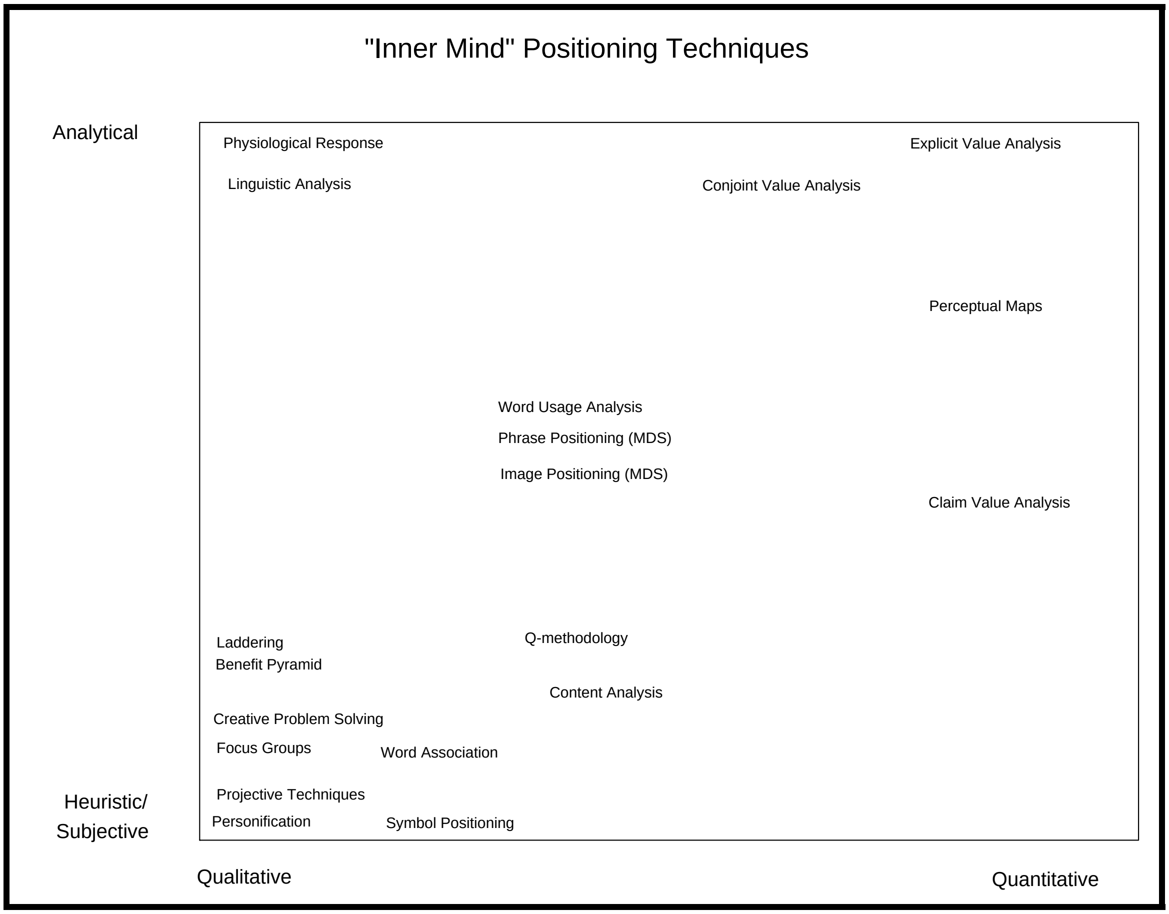
3.4 OVERVIEW OF METHODS AND PROCEDURES

As previously noted there are a wide variety of techniques used to probe for "inner mind" needs and product position. These techniques overlap those used for advertising and communications research.

3.4.1 APPROACHES AND ANALYSIS

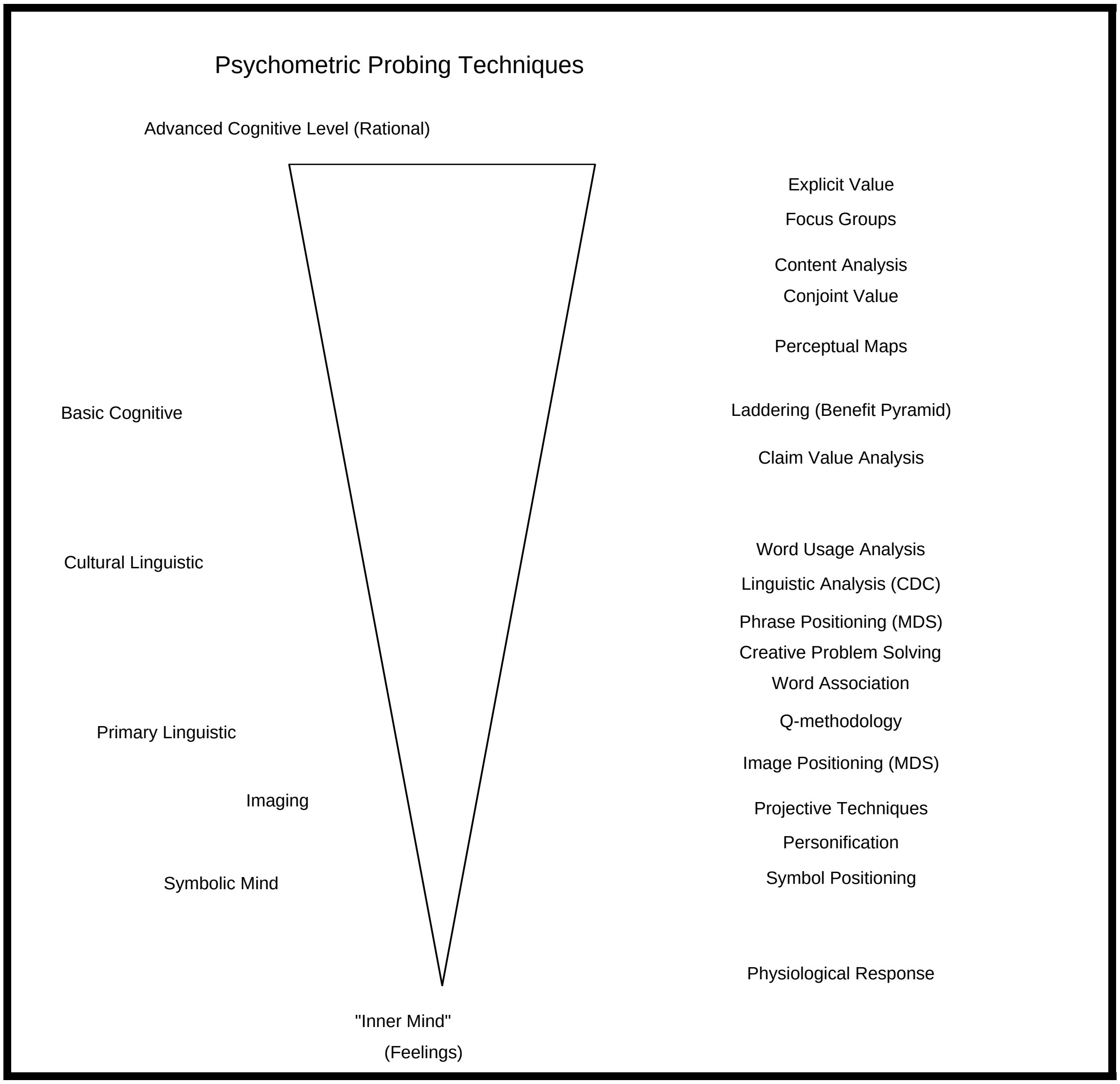
They differ strongly on the degree by which they provide insight into the range of possibilities (qualitative research) and those that provide an analytical assessment of the market (quantitative research). Qualitative methods focus on the range of possibilities rather than the universality or "importance" of the attributes. It should be noted that determining the universality by quantitative studies requires standardized opinions. Typically, qualitative and quantitative approaches are called for.

Furthermore, these techniques vary in the use of analytical versus subjective or heuristic tools for assessment. Tools and methods are necessary to extract from the responses the underlying issues and information. These tools can be divided into those based statistical or analytical methods. These require some time of selection or measure by the respondents. Subjective or heuristic approaches rely on language and physical actions to provide the information. These methods rely on interpretation of responses. In the following charts are most of the methods discussed in the chapter positioned rough on the methods of analysis and the quantitative/qualitative nature of the studies. Please note that a good many studies fall in a vague intermediate category where they have some characteristics of each.



3.4.2 DEPTH OF EXPLORATION

The techniques also differ in the depths of exploration. Some techniques focus only the cognitive values of the respondents and customers while other try to probe into the subtleties psychological underpinnings of value. The following chart is an attempt at positioning the technique on by the depth of analysis.


Psychometric Probing Techniques
Advanced Cognitive Level (Rational)
Explicit Value
Focus Groups
Content Analysis
Conjoint Value
Perceptual Maps
Basic Cognitive
Laddering (Benefit Pyramid)
Claim Value Analysis
Word Usage Analysis
Cultural Linguistic
Linguistic Analysis (CDC)
Phrase Positioning (MDS)
Creative Problem Solving
Word Association
Q-methodology
Primary Linguistic
Image Positioning (MDS)
Imaging
Projective Techniques
Personification
Symbol Positioning
Symbolic Mind
Physiological Response
"Inner Mind"
(Feelings)

3.5 SUBJECTIVE POSITIONING

Subjective positioning focuses on concepts and general associations of products with underlying intangible attributes that gives rise to feelings in specific groups of customers. The objective of this process is to examine sources of advantage and the identification of communication messages that will be effective in motivating customers. This type of research is usually done as "qualitative" research with small "non-representative" groups. Focus groups are typically used for these activities. A key underlying assumption is that the fundamental "feelings" of the market are held in common. Examining, in-depth, the opinions of a few customers will reveal generally held deep seated beliefs.

3.5.1 FUNDAMENTAL BENEFIT ANALYSIS

The basis of subjective positioning is the identity of fundamental benefits or values that are derived from using or purchasing an offering. These fundamental benefits are assumed are on a subconscious level associated with feelings and basic satisfaction.

Psychology provides marketing research with a structure for examining these needs and values in the form of Maslow's "Hierarchy of Needs." This is a statement that people have a ranking of needs and wants starting with the fundamental biological needs and proceeding to "self actualization."

3.5.1.1 Maslow's Hierarchy of Needs[8]

- Physiological Needs including biological needs.
- Safety and Security
- Love, Affection and Belonging
- Esteem.
- Self-actualization

3.5.1.2 Laddering

One method of searching out these fundamental values follows the "Japanese Quality Five Why's" by which the interview probes deeper and deeper into the reasons why a purchase is made and benefits obtained. Typically this starts with the cognitive benefits and proceeds down the hierarchy of needs to identify a set of key needs being satisfied. This is referred to as "Laddering" in that one proceeds down or up (depending on one's point of view) into more inner sources of value.

3.5.1.3 The Benefit Pyramid

The Laddering procedure is a linear process of assuming that each cognitive benefit is derived from a fundamental need. The benefit pyramid is a similar procedure but assumes that the benefits are interactive and are derived from a common set of values.

[8] http://www.connect.net/georgen/20maslow.htm

The pyramid is actually inverted where many benefits have a common source. The fundamental process, however, is similar in that they share a common objective of identifying basic values being satisfied and influenced by the use and purchase of the product. Conversely, they both endeavor to identify the fundamental needs that influence the desirability of products and suppliers.

3.5.2 Emotion Mining

One could consider all buying decisions to be made emotionally. This can be taken as a truism; defining an equivalence of actions, decisions and emotions. In the case of industrial markets we tend to sublimate emotions to "rational" decision making. However, even here there can be a substantial emotional influence. It is the study of influence of emotions with purchase behavior which makes the greatest intersection between psychological and marketing research. Emotions do not have the same algebraic nature as does other value analyses. Emotions are unique, non-cognitive and often not fully describable semantically. There are two major approaches to understanding emotions and their impact on branding and transactions. These are based on the concept of "dimensions" and "basic emotion profiling" [9].

3.5.2.1 Emotion Dimensions[10]

One of the most useful principles from emotion research has been the identification that all emotions can be classified on three dimensions. These classically are identified as Pleasure, Arousal and Dominance[11], PAD in short. While these specific dimensions are useful in psychological research, we have found it useful to identify other sets which can be viewed as rotations from these basic concepts. Note that these dimensions are not necessarily independent (orthogonal). As we will see in our discussion of branding (see 3.8.6) research they can be interdependent.

3.5.2.2 Basic Emotion Profiles[12]

There are a broad range of emotional responses to products and concepts which are semantically identified in words. These represent the emotional evaluation, profiles and positions. These "emotions" cover a range of fundamental reactions to more complex almost cognitive reactions. Note that these are not independent reactions but can be highly correlated. Positioning using emotions are often done similar to other "Inner-

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[9] Poels K., S. Dewitte, "*How to capture the heart? Reviewing 20 years of emotion measurement in advertising*", White Paper, Department of Marketing and Organization Studies, Catholic University of Leuven (MO0605)

[10] Mehrabian, A. and J. A. Russell, *An approach to environmental psychology*, Cambridge, MA, The MIT Pricess (1974)

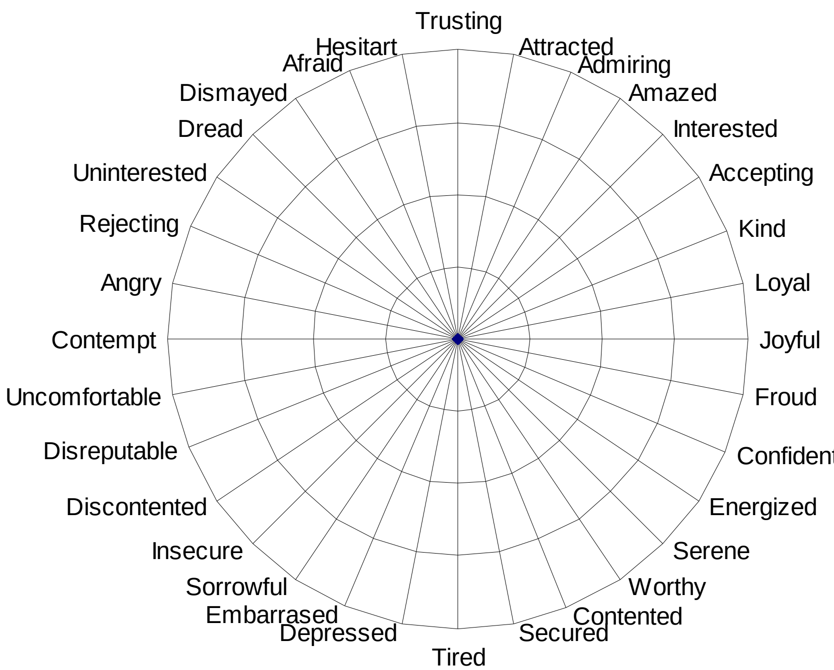
[11] Several people have noted that these specific dimensions have a strong Freudian influence.

[12] Pluctchik, R. Emotion – *a psychoevolutionary s*ynthesis, New York: Harper and Row (1980) --- Izard, C.E. *Human Emotions*, New York, Plenum (1977)

Mind" positioning techniques discussed below in section 3.5.3

3.5.2.2.1 Positioning Basic Emotion [13]

Because emotions are believed to be intercorrelated on a reduced number of dimensions, positioning using a radial map has been found useful such as that shown below. This tool is used understanding relation emotional position of product statements and concepts.



3.5.3 "INNER MIND" POSITIONING

As we have previously mentioned, respondents may not know what motivates them. The cognitive level of thought not only is used to rationale feelings but also tends to hind them. In addition, some respondents are uncomfortable expressing unpleasant feelings. As such, techniques have been borrowed from psychometrics to probe into these "inner-mind" issues. It should be noted that most of these techniques were developed for clinical psychoanalysis use. Here the procedures are modified to explore the perception of products and competitors in the mind of the potential customers.

3.5.3.1 Projective Techniques

Projective techniques are designed to remove the stigma of the identity of the purchaser.

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[13] This specific approach is marketed by ***Emotion Mining Company, Inc.*** for marketing research focusing on subconscious/conscious influences and is referred to as ***SONARGRAMS***™

Rather than asking a respondent what he will buy, we ask the respondent to focus on who would buy or what specific types of people would buy. The underlying concept is that by understanding who the respondent thinks will buy the product; we capture his perception of the product position. Interpretation of the results from these techniques may be enhanced by using semantic and linguistic research procedures discussed in the next section.

3.5.3.1.1 Describing the Owner, User and Purchaser

The simplest method is to request who would buy, own or use the product? That is usually followed up by asking why in he would be buy or use the product and why this product and not the alternatives.

3.5.3.1.2 Identifying Other People's Purchases

An alternative approach and one that looks for more detailed information on the perceived uses of the product is to explore the buying behavior of other potential purchasers. These might include:

3.5.3.1.2.1 Parent or Child

For consumer products, parents', children's, neighbors', or even grandchildren's buying behavior are often explored. The objective is to differentiate existing behavior and "idealized" behavior. What should you purchase rather than what you do purchase?

3.5.3.1.2.2 "Innovative" User

For high technology products or those that carry significant user risk, identifying the perceived buying behavior of "innovative" users can be useful. It should be noted that this exercise does not capture the behavior of the innovators only the perception of what the community of respondents thinks innovators should do.

3.5.3.1.2.3 Other Buyers

Identifying what other groups of buyers do, allow one to both reflect on the self-image of the respondent and how he views the "other" groups of buyers. This is a power tool that goes beyond product evaluation. The "they and we" dyadic conveys value judgments as to what features and benefits are viewed as valuable or "honorable."

3.5.3.1.3 Story Telling

Story telling is another classic projective technique where the respondent is asked to create a story or describe a fictional event. While not widely used for standard marketing research, it is used as a preferred projective technique by product[14] and organizational

[14] Stan Gross of Stan Gross Associates (SGA) uses story telling as a major projective research technique for product evaluation and development. http://www.stangross.com/prod.html

development consultants. The trick of the procedure is to provide a framework for which the story can be analyzed in terms of the attributes of the concept being examined or the benefits being derived from it.

3.5.3.1.3.1 Obituary

Respondents are asked to construct an obituary for a product, firm, concept, or the image or symbol of it. The objective is to identify the emotional attributes of the concept.

3.5.3.1.3.2 A Journey or an Event

Alternatively, the respondent may construct a story of a journey from, through, or with a thing or place. Similarly, a story can be solicited on an event that is associated with when and how a product is used or the consequence of how it was used. Once again the objective is to link the emotional or primal issues with the concept.

3.5.3.1.3.3 An Image

Images can be used as a stepping off point for story telling procedures. Images are used to identifying underlying symbols and icons associated with the concept. The words to describe those symbols can be probed projectively by having the respondent embellish the image with a story.

3.5.3.2 Word Association

Word association is a traditional semantic method to identify psychological key drivers. In particular, it can be useful in conjunction with a "laddering" process to identify underlying motivations. Unfortunately, it is not widely used in qualitative (subjective) marketing research let alone as part of analytical techniques. It is often viewed as manipulative or a "psychological" clinical tool rather than a marketing research approach. The process, however, is used more extensively in linguistic research as part of Latent Semantic Analysis. This is discussed later.

The traditional process involves collecting first response (free association) words to trigger words. In marketing research, it is typically used with a product name or function rather than as a probe of motivating principles. The objective is to group associations. Fixed word association can also be used where the similarity between word can be estimated[15]. Here the objectives are to match key descriptive words with underlying associated feelings and concepts.

3.5.3.3 Imaging

As noted in the introduction, words are more closely associated with cognitive

[15] Analysis of this data involves developing maps using *MDS* on associated occurrences as well as cluster of terms.

psychological processes rather than the underlying “inner-mind” emotional reactions. These are often thoughts to be expressed in icons and symbols. While the belief that there are universal symbols and icons is not critical for image research to have value, it is a continuous theme. Images can be used to convey these feeling in marketing communications. Similar to word association, imaging has grown out of clinical psychological testing. While clinical testing are searching for psychological pathologies, marketing researches use of these tools is to identify commonly held and difficult to express feelings.

There are general two purposes for imaging research: (1) development of advertising communications and (2) product positioning. These two purposes usually coincide since the objective of advertising is to convey a favorable product position. The advertising use, however, is more pragmatic and tends to direct the research toward conventional images.

3.5.3.3.1 Image Association

The simplest form of imaging research is the association of a brand, service, product, or organization with an image. Typically, the images are selected to convey some set of preconceived basic emotions or to express some symbolic association with primal needs. It should be noted that the choice of the images to be used can effect the outcomes. These methods should not be viewed as fully objective. The design can greatly influence the outcome.

3.5.3.3.2 Image-Semantic Expressions

A key object of imaging research is to connect emotional reaction to semantic expression. At least three methods are typically used: (1) explanation, (2) word-image association, and (3) story telling.

The simplest is explanation that involves asking the repeated “Why”. Why does the product remind you of ..... Why does ..... remind you of the product? It is critical that the specific words and phrases used by the respondent be captured.

Word-image association involves both associating word to images that were previously selected as well as associating words to images. Usually word-image association is need to calibrate the imaging exercises. Story telling is not heavily used for marketing research with images.

3.5.3.3.3 Image Sets

While there are many different images that can be used for this research five general sets of images are used. However, all images contain a wealth of hidden and usually unintended cues. The number, posture, activity, setting, and coloring all can contribute to the emotional reaction. As such, choice of the images is not straightforward. Few image sets have been adequately tested to provide a clear controlled stimuli set. Images are usually selected by “standard procedures”, the likely candidates for advertising, or items deemed "interesting." Unfortunately, the image choice sets tend to be fluid and only used for a few studies[16].

In addition to the consistency of emotional responses is the problem of over-reaction. Respondents can hold very strong feeling to images. We wish to understand how he reacts to a product or firm which is likely to be weak. The trick here is to provide the emotional cue without overwhelming the respondent.

3.5.3.3.3.1 Animals

The most classic image set is animals, which convey emotional and symbolic qualities. Both pictorial and stylistic images have been used. Typically standard well recognized, archetypal, single animal images are used. However, groups can also be used. However, it is critical to keep the settings of the images as similar as possible.

3.5.3.3.3.2 People and Activities

Emotions are often tied to people and activities. Old people, young people, active, inactive, sports, etc., all solicit emotional responses. The key problem using these images is the hidden meanings that could be unintentionally conveyed. People hold extremely strong and often inconsistent emotional reactions to images. These can greatly overwhelm the more subtle reactions that we wish to measure.

3.5.3.3.3.3 Situations

Situations can be useful for internal organizational research, in considering some service products, and for identifying emotions around decision processes. However, images depicting these situations are difficult to obtain which are consistent and do not contain a host of unintended cues.

3.5.3.3.3.4 Places and Things

Places and things can be used if they convey emotional responses. For example, images of farms in different degrees of repair or with different equipment can be used to convey levels pride by growers. Alternatively, locations that convey strong emotional reaction such as cities, farms, and government, can be used. Because of inconsistencies and the lack of a cultural accepted basis of the emotional responses to places and things we do not tend to use these images unless they are a direct link to the concept being evaluated.

3.5.3.3.3.5 Abstractions

Least useful are abstractions and icons. These tend not to provoke the types of reactions that we seek to identify. However creative use of icons and color has been used. But their interpretation is difficult and not recommended as a marketing research procedure.

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[16] I would like to propose using the image set from *Microsoft* as a standard, if only because they are universally available.

3.5.3.3.4 Designed Set

Usually images are used to set-off the exploration of underlying key driving emotions. The idea is to obtain a linguistic description of the appropriate emotions involved with a concept. Typically, we do not explore the elements of the images. However, it is feasible to develop a set of images, which convey a number of elements to be tested. These would involve creating a statistically designed set of images. This has been done as part of a Conjoint Test of advertising material in which a utility measure of the elements is desired. Conjoint Analysis for advertising research is discussed in a later section. Because of the difficulty in developing a "clear" statistically sound set of images, it is rarely done.

3.6 SEMANTIC AND LINGUISTIC TEXT ANALYSES

Semantic analysis focuses on the way language is used in response to questions. The goal of this analysis is to provide insight into what the respondent means or feels about the issues under consideration.

3.6.1 INTRODUCTION

A large quantity of data exists as text. These are either discourses on subjects or the response to specific questions. Semantic analysis is intended to extract from the text potential meanings that can extend beyond the literal interpretation of the information. In the simplest case, the question of “truthfulness” and “convection” are always at issue. Does the respondent truly believes or is fully committed to his responses. We must recognize that these issues rest in the mind of the respondent. In semantic analysis, we assume that the choice of words and phrases gives clues to the inner mind issues.

3.6.1.1 Objectives

The objective of semantic analysis is to understand what the respondent is “saying.” This goes into the difference of listening to the respondent and hearing what he is saying.

3.6.1.2 Sources of Data

Any textual information source can be used for semantic analysis. However, for marketing and business research purposes there are four general sources.

3.6.1.2.1 Transcription (Interviews)

Transcriptions of personal, telephone and focus group interviews are a broad class of material. The quality of this material varies widely depending both on the quality of the taped interview and the quality of the typist in the preparation of the final document.

3.6.1.2.2 Open Ended Questions

Open-ended questions in surveys are another source of data. With the use of Internet (Web) surveys, this type of data is becoming increasingly available. Unfortunately, these responses are usually extremely short. This greatly limits the range of semantic analysis that is appropriate.

3.6.1.2.3 E-Mail

E-Mail, Chat Rooms, and Bulletin Boards are extensive sources of text materials for analysis, though the responses tend to be very short. They can be combined to provide insight into general attitudes.

3.6.1.2.4 Publications & Speeches

Publications and speeches are among the most often analyzed source of text data. This data may represent either an individual position or that of the organization. As a source of organizational positioning data, it is a unique tool.

3.6.1.3 Difficulties

All analyses have difficulties and limitation. However, semantic analysis is particularly susceptible to interpretation problems and error.

3.6.1.3.1 Language

Semantic analysis is language specific. The analysis therefore, is restricted that within a language. Cross language semantic analysis is strictly speculative. Furthermore, one can readily expect differences in people with differing first (or primary) languages.

3.6.1.3.2 Ideas and Feelings

An inherent danger in this approach is that we may find things that aren't there. In the effort to press the analysis we can "uncover" relationships and issues that really do not exist. The tools available are all limited. Since the goal is to explore ideas and feeling hidden in language, it is important to understand the fundamental limitation. The quote by Freud, "Sometimes a cigar is a cigar" is very appropriate. We have to be careful not to over interpret language.

3.6.1.3.3 Transcription and Interpretation

It is critical for semantic analysis that the words and phrases used come from the respondent. It is often customary in telephone surveys for the interviewer to transcribe answers to questions during the session. This tends to result in an interpretation of what the respondent actually had said. Unfortunately, this produces a merge text document including the language of the respondent and the interviewer and will confound semantic analysis.

3.6.1.3.4 Language and Dialects

Language differs in time, location, and the background of the respondents. Much of the differences in language use may result from these variation rather than any underlying issue or feelings.

3.6.1.3.5 Context

The way a question is phrased may change the response to it. Order effects (or what came first) can greatly affect the attitude toward a subject and the language used to describe it. Furthermore, the consistency in the way the questions are pose can greatly affect the consistency of the semantic analysis results.

3.6.1.3.6 Anxiety, Fatigue and Personality Reactions

Individual responses are affected by other things than the particular questions asked. The environment and the time of day, as well as the interaction with the interviewer or other people at the interview can affect the response. Anxiety and fatigue can result in changing language during the interview. Furthermore, the general characteristic of increasing familiarity affects the use of language.

3.6.1.4 Preparation

The text material needs to be prepared for analysis and transferred to appropriate forms to be used. Each of the various types of analyses may require different formats. Not all of the material in transcripts should be analyzed. These include both errors and irrelevant material. Text data may take nearly as long to prepare as to analyze.

3.6.1.4.1 Proper Transcription

The text material must be in an acceptable form and in acceptable language. Typically a standard format is used for the transcriptions.

3.6.1.4.2 Cleaning the Data

Most automated tools can not handle symbols and transcribe comments such as "???" for uninterpretable passage. Other codes and comments marks are often found in speech materials and publications. These need to be cleaned from the data before analysis.

3.6.1.4.3 Stripping Questions and Irrelevant Passages

Most transcripts include questions and irrelevant passages that are not intended for semantic analysis. The irrelevant material often appears at the beginning or end of an interview and represents "small talk." These also need to be removed from the transcripts.

3.6.1.4.4 Ordering the Data

Often it is useful to analyze text that corresponds to a single group of questions across respondents. This requires ordering the text data by question. Since multiple analyses are possible it is often useful to form a Text Database using a spreadsheet or a database manager where passages are classified by topic and by respondent characteristics.

3.6.1.4.5 Transferring the Data Files

Many of the analyses are done using special purpose computer packages. Data files need to be transferred into the packages in the appropriate formats usually in ASCII. Not only does the data file need to be transferred appropriately, but the filenames must agree with the programs' conventions.

3.6.1.5 Modes of Analysis

- Content Analysis
- Word Usage
- Readability Analysis
- Word Correlation
- Tone and Structure
- Phrase Extraction

3.6.2 CONTENT ANALYSES

The most widely used general procedures for analyzing text data is "content analysis." These consist of methods to extract out of text consistent themes and ideas that can be subsequently analyzed. Content analysis covers a range of procedures from simple coding and extraction of key words and categories from open-ended questions to the application of dialectic procedures to identify underlying themes.

3.6.2.1 Key Issue Extraction

The simplest form of content analysis is the identification and extraction of concepts from text. In standard open-ended survey questions this is often straightforward. These questions are often an alternative for traditional multiple choice questions with a finite number of expected responses. Questions like what brand of products have you purchased, are easy to code and usually do not provide significant surprises. However, more general questions such as the reason to purchase a product can be more difficult.

3.6.2.1.1 Process

The process of Key Issue Extraction is based on developing a comprehensive list of concepts that will be used in the coding. Typically three routes are used: (1) a review of all texts to identify items, (2) a review of a sample of the texts, (3) evolving the list from text.

3.6.2.1.2 Interpretation

Key Issue Extraction can be a very tedious process. As such, it is often done during tabulation with clerical staff. This may produce potentially unreliable result in regard to subtle issues. This is particularly the case when the list of issues is generated through an evolutionary process. Furthermore, unless the questions are objective and the responses clearly limited, the content analysis may depend on the interpreter as much as the respondent.

3.6.2.2 Summary Statements

For more subtle questions, the problem is identifying underlying themes or issues. This is particularly important with longer explanatory text. Here the respondent is discussing a response to a question. More information, particularly, regarding the importance and limitation of the response is uncovered. Simple coding would not reveal these subtitles.

3.6.2.2.1 Process

The process usually involves two evolutionary steps: (1) identifying ideas, (2) clustering or grouping ideas, and (3) identifying underlying themes. The first stage involves associating ideas and statements with passages from the text. It should be noted that a number of statements may be derived from a single passage. These statements may carry either a specific characteristic or a feeling. The second step is typically to cluster the ideas under common themes. This is a creative process since there are any number of different ways of aggregating the statements. Finally, collective themes are derived from the clusters of ideas.

3.6.2.2.2 Interpretation

The process of Summary Statements should be viewed much as a creative process as an analytical one. It is not unusual that the analysts' feeling and opinions are merged with what they think the respondents indicated. We typically recommend additional semantic analysis and independent review to assure that the conclusions of Summary Statements analysis agrees with the text.

3.6.3 READABILITY ANALYSIS

Measures of readability can be computed from any textual material. These are well structured formulas. Standard definitions appear in Appendix A. While these analyses were design to estimate the difficulty in reading written material, the same procedures can be used to analyze the definitiveness or vagueness of a spoken passage. The assumption is that the simpler the structure, the more definite the statement. Many of the grammar checking programs provide this type of analysis[17].

3.6.3.1 Interpretation

Readability analysis is only a weak measure of the definitiveness of statements. However, it is very inexpensive tools for that evaluation and therefore can be done routinely for all transcribed materials.

3.6.4 WORD USAGE

The objective of word usage analysis is to examine the specific words being used. The underlying idea is that key and prevailing concepts will be capture by consistent use of words. At least, one would expect that concept derived from content analysis should be consistent with the words used. Furthermore, identifying the consistent and common lexicon used by customers provides a means to streamline communications to them.

[17] We have been using *Grammatik IV* (1989) by Reference Software International for both readability analysis and word counts.

The process is designed to give a list of the frequently used non-obvious nouns and verbs (and some adjectives). This is done by first generating a compute word count and then filter out unwanted items.

3.6.4.1 Word Counts

One of the popular grammar and style checking programs *Grammatick IV (Reference Software International)* provide a facility to compute a word frequency table. Almost any size text can be analyzed with this program. This program gives a list of all words (any spellings) and the frequency of appearance in the document. This table is transferred to a *EXCEL* spreadsheet for further analysis[18].

3.6.4.2 Screening and Filtering

The word list consists of all characters sequences separated by spaces in the passages. These include all the pronouns, “to be” verbs, contractions, numbers, etc. Filtering is done using a list of rejected words[19].

3.6.4.3 Plural Nouns and Verb Forms

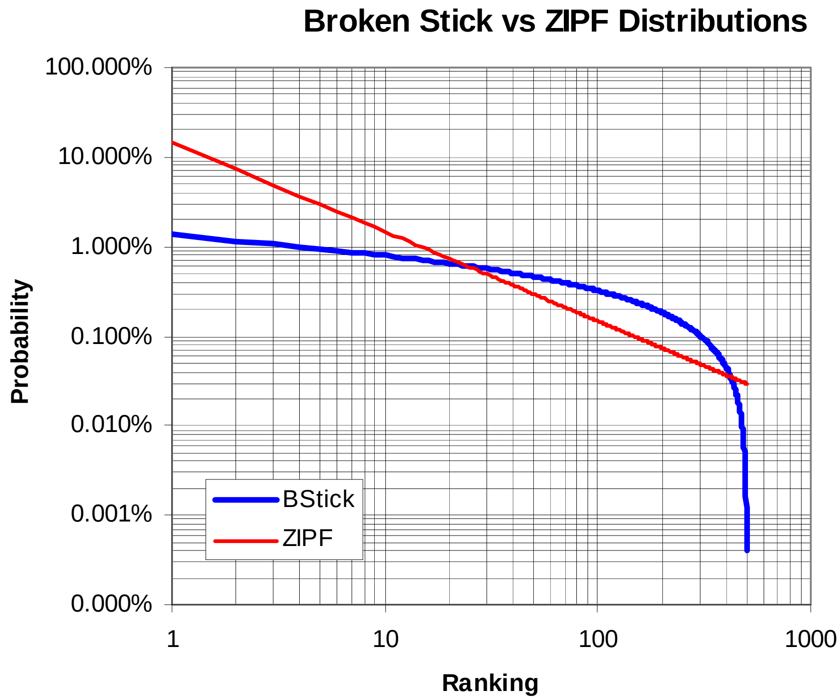
Most regular plural nouns and verb forms are merged. However, some that may carry unique meaning are not. For example mean and means will not be combined.

3.6.4.4 Frequency Analysis

The frequency of the final list is computed and the list sorted by frequency. Typically only words used more than once are considered. The final list is again reviewed to filter irrelevant words and merge missed plurals and verb forms. The word frequencies are expected to follow the *ZIPF* distribution shown in comparison to a standard rank order on the figure below. The *ZIPF* distribution depends on the number of different words and that will depend on the size of the passages being analyzed. While the ratio of independent words to total words depends on the size of the passage, in general, it is approximately 10% for the size passages used in marketing research.

[18] Unfortunately this is not a simple process. *Grammatik IV* is a *DOS* program and the transfer is done using *DOS Sidekick.*

[19] The list of rejected words is flexible. Words that are rejected for some studies are included in others.



3.6.4.5 Interpretation

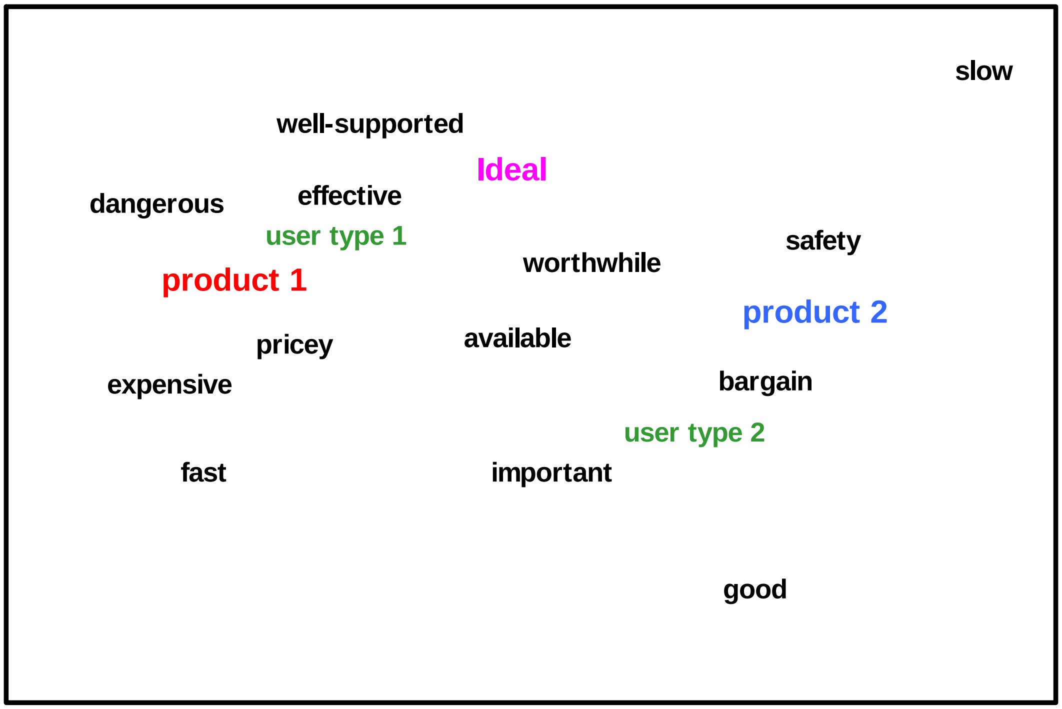
Typically, the interpretation of the words is done subjectively. This is usually done in three steps. First the verbs are examined for "tone" or general characteristics. This is compared with the Tone and Structure analysis to give an overall "feeling" of action. The second step is examining the nouns for major identifiers of products or benefits. And finally a metaphorical or concept analysis is done to synthesize images and sentences that would express position statements based on the word of the respondents.

3.6.5 Word Correlation

The purpose of word correlation is to identify relationships between words and ideas. In particular, it can be useful to understand which words, for example, are associated with the name of a product or firm. Similarly, associated words with product properties and conditions can also be useful.

3.6.5.1 Positioning

The idea of word positioning is developing maps indicating the association of words, products and users. The distance between words is a measure of their association. Typically Multiple Dimensional Scaling (MDS) is used to construct the maps. It should be noted that data is often collected and segregated by users and by product. It is useful this application to restrict analysis of the description of products or the ideal[20]. The figure below illustrates this type of map.



3.6.5.2 Passage Word Counts

The simplest source of data for Word Correlation Analysis is passage word counts. These are word frequencies in passages usually associated with the description of products, services or issues. While the passages should be consistent in regards to the issues being addressed, that is not critical[21].

3.6.5.3 Clustering

With sufficient data, clustering both on respondents and on words can be done to form segments and to associate words. This can be a powerful means of identifying groups[22].

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[20] Several methods exist to form this type of map. If we consider the distances between words to be metric then *MDS Unfolding* is usually preferred. However, *Non-metric MDS* and various types of *Correspondence Analysis* is also used.

[21] The *SPSS* module *TextSmart* is designed to extract passage word counts and perform positioning and clustering analysis.

[22] I am unaware of anyone using *Q-Factors* to form soft clusters and identify archtypical word groups. However, it is feasible with this data.

3.6.5.4 Interpretation

It should be noted that word frequencies and there by distances can be expected to be fairly independent. Collapsing these multiple dimensional data into a flat projection can not be expected to capture a large fraction of the variation. There will be a large "error" in both word-positioning and clustering. As such, this type of analysis must be considered exploratory but not predictive. Apparent relationships that do not really exist may appear, and major relationships may not be apparent.

Typical use of Word Correlation is done with tightly specifically designed interview protocols. These procedures are designed to provide sufficient long passages for analysis on specific issues. Due to the care necessary in conducting these interviews and the extensive analysis required, this procedure is fairly expensive and only recommended for critical issues.

3.6.6 SEMANTIC AND TONE ANALYSIS

Semantic and tone analysis is based on the assumption that groups of words convey underlying feelings and meanings. It appears to be based on the research of Phil Stone done during the 1950's and 1960's using factor analysis of passage word frequencies. Those results indicated that word usage can be reduced to a few consistent factors associated with underlying emotions. These were compiled into dictionaries that can be applied to subsequent documents. Semantic and tone analysis goes beyond this work to produce a fairly large number of dimensions.

3.6.6.1 Dictionaries of Meanings and Categories

This type of semantic analysis associates the tone of a text passage (500 words) based on the word usage and the sentence structure. This is a direct computation. The available software *(Diction 4.0)* [23] allows for compilation of results from a fairly large set of passages, which allows for subsequent statistical analysis. Specific word groups are merged to form boarder tonal characteristics referred to as categories. Listing of the word groups and categories with definitions are located in Appendix B of this chapter.

3.6.6.2 Subsequent Analysis

Typically we are interested in tests of significance in the differences among passages and the change in tone over the interview. It should be noted that, word group and category values are only meaningful in terms of normal expected responses. Norms are available in the output of the package. However, for marketing research applications involving specialized languages, unique norms may need to be developed.

[23] *Diction 4.0* (distributed by *SAGE*) is an effective inexpensive program for this type of analysis.

3.6.6.3 Interpretation

Interpretation of the analysis results will depend on the research needs. Measures of confidence and reliability are extremely useful in refinement of the content analysis. In many cases, the value of the analysis comes from surprising and unexpected results. Since this is a fairly inexpensive analysis it can be conducted whenever transcripts are available.

3.6.7 PHRASE EXTRACTION

Phrase or word extraction involves identifying and compiling passages (usually sentences and clauses) from a large passage that meet specified linguistic criteria. That criteria would be specific words (or word roots), phrases, and conditions. These are referred to as filters. The packages[24]extract the sentences at meet that criteria. It should be noted that fair complex filter structures are feasible. Both negative and positive forms can be used. The manner in which the phrase appears can also be specified.

3.6.7.1 Interpretations

The flexibility of this procedure provides a brought ability to monitor textual information or to test hypotheses. Because of the need to specify the filter, these procedures are viewed as confirmatory not exploratory. However, coupled with contain and word frequency analysis, it provides a means to "flesh-out" concepts and provide stronger support than using more subjective methods.

3.6.8 LATENT SEMANTIC ANALYSIS

Latent semantic analysis refers to a group of procedures originally designed for the development of indices (thesaurus) for text searches. However, it is potentially useful for any text analysis. It involves using word associations that are independently gathered to produce a distance measure among words that then can drive filters and search engines. It can be considered a merger of word frequency analysis and phrase extraction. While it is not widely used in marketing research, it is the basis of Semiotic Analysis that is used by specialty firms.

3.6.9 SEMIOTICS[25]

Semiotics refers to a group of text analysis procedures focusing on "ideas" rather than just "words." From this perspective there are three levels of analysis that are needed:

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[24]There are a number of software packages designed for what is referred to as "qualitative research tools" designed to provide phrase extraction and analysis. *Nud-ist* (I think distributed by *SAGE*) despite name is among the best reported packages.

[25] A number of proprietary procedures are available from suppliers among them are *Communications Development Corporation (CDC)* also known as *Quester Research*.

3.6.9.1 Idea Based Semantic Analysis

This combines latent semantic analysis tools with word counts and phrase extraction to identify underlying ideas in the passages. A library or dictionary of ideas is used in this extraction process[26]. The latent semantic dictionary is used to reduce the redundancies.

3.6.9.2 Syntactic Analysis

The power or conviction of a statement is assumed to be carried by the syntactic of sentences. This is similar to the tone and readability indices discussed above. However, it is applied to the specific sentences rather than the passage as a whole. The intent is to capture the "motivations" behind the text.

3.6.9.3 Context Analysis or Pragmatics

Context in this case refers to the social and cultural background of the speaker. It provides new "norms" as discussed in the section of Tone Analysis. However, in this case those norms are assumed to be consistent only within the context of the passages.

3.6.9.4 Interpretations

This is a fairly involved and expensive process and is recommended when semantic analysis is the principal objective of the research.

3.6.10 LOGIC ANALYSIS (NOT WIDELY USED)

Text can be considered a series of statements that can be analyzed by mathematical logic. These are rule of consistency and reasonability. While this type of analysis has be typically used with political speeches and documents, it is rarely used in the analysis of interview data. It tends to be extremely expensive and only has a narrow interpretation. Things may be mathematically inconsistent by linguistically reasonable.

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[26] These procedures appear to have evolved from the original "General Inquirer" system by Phil Stone at Harvard.

3.7 NON-COGNITIVE POSITIONING AND SEGMENTATION

Subjective positioning provides a psychological and qualitative picture of how the product, concepts, or organization are viewed in the mind of the customers and respondents. However, they do not tell the full story. Neither is relative competitive position nor the “how much” included. These are the tasks of the quantitative positioning and segmentation. The procedures based on product (offering) attribute data are covered in that section in these notes. The discussion here focuses on the other psychometric measures.

3.7.1 MAPPING

Many of the general mapping procedures used on this data is the same as those mentioned in the Attribute Evaluation Chapter. However, those methods assumed that the data can be handled as being truly metric and that distance measures are usually Euclidean[27]. With individual psychological data, this is not always the case and we often need other procedures.

3.7.1.1 Multiple Dimensional Scaling

While factor mapping is the standard procedure for rating data, it does not provide the best description of point to point relationships. The objective of *Multiple Dimensional Scaling* (*MDS*) is to preserve distances while reducing the number of visual dimensions of data. Data for this analysis typically comes in three forms: (1) attribute evaluation data, (2) similarity (dissimilarity) data, and (3) point distance data. A discussion of using attribute evaluation data, as previously mentioned, is covered in another Chapter.

3.7.1.1.1 Similarity Data

Similarity data consists of comparisons among objects. These can be pairwise comparison in which the respondents are asked which they prefer or to give a comparative rating. An alternative approach would be a ranking of objects for which a preference can be inferred. In all these cases a data matrix is obtained indicating the relative preference between objects.

3.7.1.1.2 Distance Measures

As previously noted, *Multiple Dimensional Scaling* is intended to preserve distances between points. As such, a distance measure needs to be defined. With similarity data, that distance is taken as the similarity among objects. However, any other form of

[27] Euclidean distances is defined as the square root of the sum of the square differences in position. In many applications such as in multilinear regression, however, a simple sum of square distances is used.

distance measure can be used[28]. It should be noted, that because *MDS* assumes symmetric distances. The distance from A to B is assumed equal to B to A. The distance data matrix is, therefore, triangular consisting of either the lower or upper triangle of distances with the diagonal being zero.

3.7.1.1.3 Metric and Non-metric

MDS seeks the "best" fit between the actual distances and the computed distances for the reduced dimensional map. The remaining error is referred to as the stress and is defined by the "Loss function." The fitting is an iterative process where dimensional weights are estimated. Several procedures allow for this fitting including linear and monotonic regression. The monotonic regression seeks the best fit maintaining a ranking of distances. This is referred to as non-metric fitting and is used with rank ordered distances. It should be noted, that the resulting dimensions from *non-metric MDS*, have metric characteristics and as such can be used for subsequent clustering.

3.7.1.1.4 Number of Dimensions

A key purpose of mapping is to identify the number of dimensions necessary to describe the data. *MDS* has traditionally been used to identify the number of dimensions needed to describe the positioning of products identified by distances. In this application other measures need to be used to associate these dimensions with characteristics. Both *MDS* and *Factor Analysis* procedures display the variance explained or the stress as a function of the number of dimensions or factors.

3.7.1.1.5 Point to Point Maps

The standard MDS maps display the relative position of objects. If these are generated from attributes then it is often desirable to display both the attribute contributions and the objects on a single map. Several methods exist to do this including: (1) *MDS Unfolding* and (2) *Fixed Objects*. Both are discussed in the Attribute Evaluation section.

3.7.1.2 Factor Analysis

Factor Analysis is a preferred method for mapping metric data and is the basis of most "perceptual mapping" procedures. The use of *Factor Analysis* is discussed in the Attribute Evaluation Chapter for rating scaled data. It is also used heavily with perceived value (monetarily valued) data.

3.7.1.2.1 Correspondence Analysis

Correspondence Analysis is a form of statistical factor analysis that allows mapping of

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[28] With rating or importance data, Euclidean or quadratic distances are used. Most *MDS* packages include the ability to set an exponent "R" to range from less than 1 to any higher value. This allows for emphasis on short or long range errors.

categorical data. As mentioned in the *Attribute Evaluation Section*, it is a heroic method in that non-testable assumptions are make regarding the nature of distance and relationships. However, it is among the only methods available to provide mapping from tabular data.

3.7.1.2.2 Q-Factors

Q-Factors involve performing Factor Analysis on the transpose of the data. This allows the identification of "archetype" object characteristics. This is discussed below in more detail.

3.7.2 Cognitive and Non-Cognitive Positioning

What should we do to change our message? This is a major marketing issue on a product, company, or organizational basis. To answer the question rationally we need to know what the market thinks about us in words that can be retransmitted. This is the process of restructuring the corporate identity and the image that conveys it. This is the goal of cognitive positioning.

3.7.2.1 Introduction

This problem is similar to positioning using customer satisfaction data. However, usually customer satisfaction focuses on offering features and attributes rather than benefits, values and company images. The objectives of cognitive positioning are: (1) to produce a picture displaying the relative position of a product or firm compared to its competitors and (2) to identify the desired or ideal position.

3.7.2.2 Measurement

Estimates are based on measurement of similarity, agreement or distances associated image statements and competitors. Measuring similarity is usually technically preferred but much more difficult to field. In general, we use a rating system similar to that used in customer satisfaction. The major difficulty is that similarity among image statements is based on correlation of those statements with competitors. This can be greatly affected by various biases including order of the competitors.

3.7.2.2.1 Scales

Both mono-directional (agreement or degree) scales and bi-directional (semantic differentials) are used. Because of the calibration problems with semantic differentials we have tended to use only the mono-directional scales. To verify results, both possible statements and negative equivalents are sometimes used. However, this also increases the size of the task which is usually fairly extensive.

3.7.2.2.2 Individual and Segment Evaluations

Because not all respondents will be familiar with all competitors it is useful to aggregate results into segments. However, this will tend to lose the diversity of opinion in the market. Typically analysis is done for competitors on a segment basis but distribution information on the opinions regarding the firm against the best competitor are also compiled.

3.7.2.2.3 The Constrained Desired or Ideal

Data is also collected on the “ideal” competitor or product. Because the scales are usually monotonic in value, the true ideal is likely to be the highest value on all positive items and lowest possible value on the negative ones. Generally, the exercise consists of forcing a distribution such as one third high, one third medium and one third low values. This gives ideals that are within range of existing competitors but indicating preference in image statements.

3.7.2.2.4 Statement List

The following is a sample list of image statements that could be used for a manufacturing firm. These short statements would be rated based on the respondent’s agreement as applied to a set of competing firms.

- Produces Safe Products
- Produces the Most Effective Products
- Products Always Performs
- Works with the Customer
- Works for the Dealer
- Stands Behind their Products
- Gives the Best Deals
- Will Always be Around
- They are Rich
- Understands the Market
- Product Performs too Well
- Products are Expensive
- We are their Beta Testers
- It’s An American Company
- Provides the Best Technology
- Provides the Newest Technology
- They think all solutions are out of a bottle
- They are the Reliable
- My kind of company
- They do not understand me

3.7.2.2.5 Semantic Differentials

An alternative approach would be to position the competitors between extreme values. The following are possible sets of dimensions[29]:

- Compatible goals and desires..................Incompatible goals and desires
- Friendly...Hostile
- Unfair...Fair
- Selfish..Altruistic
- Equal power...Unequal power
- Cooperative..Competitive
- Social-oriented...Work-oriented
- Formal..Informal
- Clashing...Harmonious
- Emotional...Intellectual
- Close..Distant
- Similar roles..Different Roles
- Superficial..Intense
- Easy to leave...Difficult to break contact
- Discrete transaction.................................Longer term relationship
- Lot of trust..Requires little trust
- High risk...Low risk/uncertainty
- History of relationship is important.........History not important

3.7.3 LIFE-STYLES & SOCIO-PSYCHOGRAPHIC POSITIONING

If potential purchasers could be grouped and positioned based on general decision characteristics, unique products and marketing programs can be directed toward them. This is the basis for traditional consumer value positioning. These methods focus on values, social-economic and psychographic characteristics for the population. While the principles are applicable to any purchasing situation, usually they are exclusively used for consumer products and political polling.

3.7.3.1 Value Profiles and Inventories

Psychological position is normally done using a standardize inventory of values or beliefs from which groups of customers or respondents can be identified. Unfortunately few of these standard inventories are designed particularly for organizational classification or for

[29] D. Iacobucci, A. Ostrom, *International Journal of Research in Marketing*, 13 (1995) 53-72.

industrial marketing research[30].

3.7.3.1.1 Social-Political Inventories

These inventories cover political beliefs and expectations of government action. *General Social Survey*[31] is a multiyear survey covering a broad range of social, value and political opinions. It is in the public domain and is fully accessible. The major problem is annual consistency. Topics covered track public interest and do not give a longitudinal reference.

3.7.3.1.2 Corporate Culture Inventories

There a number of proprietary surveys available to track traits that are believed to be dysfunctional to an effective corporate culture. However, there are few that track specific corporate cultural characteristics that impact the buying process[32].

3.7.3.1.3 Personal Value Inventories

Personal value inventories are ethics and preference choice surveys. They focus on specific underlying values. There are several standardize instruments mainly developed for academic testing of students. The major goal of these is to track the impact of the university education on changes in student values.

3.7.3.1.4 Myers-Briggs Personality Inventory[33]

The Myers Briggs is the classic personality temperament (Jungian) measurement instrument. While it is a highly useful tool for organizational development, it is not particularly useful for predicting purchase behavior.

3.7.3.2 Life-Style Segments

There are several proprietary syndicated life-style segmentation programs available. These are almost exclusively targeted to consumer products and intended to serve promotional and communications segmentation schemes.

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[30] Almost all psychological/value inventories have been designed for: (1) clinical application, (2) organizational development, (3) political policy research, and (4) academic studies. Few have direct application to industrial marketing. Most of these existing value profile tools are designed to track changes and trends. It is usually beyond the scope of industrial marketing or most organizational development programs to change those values.

[31] On-line site for analysis and data: http://www.icpsr.umich.edu/gss/

[32] Bob Cooper of McMasters University has developed a business development score card (inventory) for measuring the effectiveness of corporate culture (policies) on the new product development process. However, I know of no similar score cards on the purchase side.

[33] Site describing personality types and segments: http://vps.iskcon.net/VPS/types.html, On-line Myers Briggs Personality Temperament Inventory: http://www.keirsey.com/cgi-bin/keirsey/newkts.cgi

3.7.3.2.1 Yankelovich Monitor®[34]

Yankelovich what has become a classic resource for life-style segmentation since 1971. Many of the generally accepted consumer classifications are from the on-going Yankelovich Monitor program. These concepts included generational marketing segments i.e. Generation X .

3.7.3.2.2 VALS™ Segmentation[35]

VALS™ (Values and Lifestyles) categorizes U.S.[36] adult consumers into mutually exclusive groups based on their psychology and several key demographics. The eight segment structure of these classification resembles Jungian (Myers-Briggs) topology, assigning consumers to general behavioral categories, such as: achievers, strivers, strugglers, etc.

3.7.3.3 Methods of Analysis

The rating or selection scales are typically used for value and opinion research. Analysis of this type of data is covered in the Attitude Evaluation Chapter. However, value analysis of this type tends to have some unique characteristics which suggests some additional analysis tools.

3.7.3.3.1 Building Inventories

The major issue in developing inventories is in keeping the number of elements as small as possible. The objective in the design is to provide sufficient redundancy to assure consistent results with a minimum number of items to be tested. A procedure referred to as Statistical Test Item Analysis[37] provides a means to determine the consistency of each test item against “latent” variables which are assumed to provide the value structure.

3.7.3.3.2 Clustering

Both soft and hard clustering is used to group variables together. These are standard statistical procedures and are discussed in the Attribute Evaluation Chapter.

3.7.3.3.3 Q-Factors Position

Q-Factors is a type of soft clustering that has been used specifically with softer data including semantics, distance and rating measures. Q-factors consists of performing

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[34] Yankelovich Partners ---- http://www.yankelovich.com/Monitor/index.htm --- Note there are several Yankelovich firms in marketing and polling research.

[35] SRI Consulting --- http://future.sri.com/vals/valsindex.html

[36] There is also a Japanese version of VAL™.

[37] The procedure is available in *SYSTAT*.

factor analysis on the transpose data matrix. This transpose matrix typically has a large number of "new" variables that are the original data cases.

3.7.3.3.3.1 Archetypes

The factor analysis generates sets of factors or dimensions whose characteristics weighed averages of cases[38]. These are thought of as archetypal respondents. In this context, each respondent is thought of consisting of linear combinations of these archetypes. The archetypes themselves are defined by the factor scores of the original variables.

3.7.3.3.3.2 The Q-Methodology

The *Q-Methodology* is a combination of several specific procedures including *Q-Factors* to define the psychological dimensions of respondents. The traditional procedure involves the sorting of a large number of statements or their rating. A "*Q-Sort*" procedure is used in this process to order the statements[39].

3.7.4 DECISION-INFLUENCE POSITIONING

What drives the customers buying decision process? This is an issue of buying style. What are the overall motivating influences? In general, we divided them three overall influences: (1) price, (2) risk reduction through branding, and (3) product performance. The objective of this research is to position customers into respect to these issues. Our goals are to identify the groups of customers and to determine a strategy to satisfy the needs for those groups of customers that we elect to serve.

3.7.4.1 Inside versus Outside Focus

The process of understanding markets can be handled either from an internal focus or from the customers' perspective. For Decision Influence Positioning, we often use the sales force, management and consultants as experts on the market. In this regard, we are asking them to project what they believe drives the customers' decision process. Alternatively, we can use direct marketing research with customers. The problem arises, as to who knows best. It is not straight forward that customers actually know their own influences. Measurement of perceived value, particularly from an organizational perspective is a complex task. Therefore, we often rely on internal sources.

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[38] Similar to other forms of *Factor Analysis*, these dimensions can be rotated. This is done in *Q-Factors* to maximize the loadings by groups of respondents.

[39] A web site that discusses the *Q-Methodology* is:
http://www.rz.unibw-muenchen.de/~p41bsmk/qmethod/
I am uncertain why forms of *Factor Analysis* is used for this application. I would believe that *non-metric MDS* would be more appropriate.

3.7.4.2 Relative Sensitivities

It must be noted that this type of positioning is relative to both the possible modes of influence and the range of responses. The objective is to find the relative position of market segments and of the individual in respect to the importance of pricing, brand, and performance.

3.7.4.2.1 Within Bounds

Potential for risk reduction and product performance improvement is set by reasonable expectations. This is from both an historical and from the client perspective. We are only interested in what is feasible to deliver. The value of a risk free environment or a super product is not the goal of this research. Only what is the likely response to changes that are within the range of those things doable.

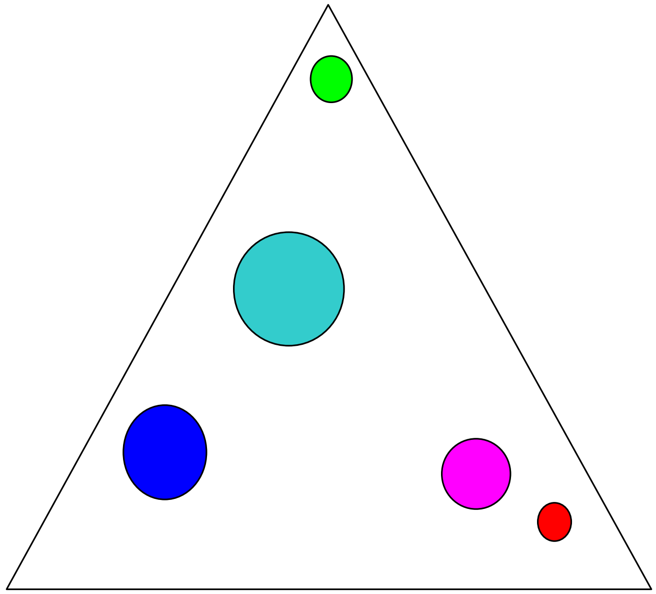
3.7.4.2.2 Standardized Results

The results are often standardized to differentiate among customers and segments. Both standardized or difference emphasized results and non-normalized results are usually shown.

3.7.4.3 Mapping

Below is the triangular map used to display this data. Because the percentage of three data points is used, this map captures all of the analyzed data[40]. The size of the circle represents the number of customers or their total potential sales revenue.

[40] This is not an approximation of the positions as is the case using either *Factor Analysis or Multiple Dimensional Scaling.*



3.7.4.4 Direct Measurement

The simplest method is to have the respondents indicate the importance of several key issues that can be classified into one of the categories. For direct measurement, we would use a set of influence statements as listed below. The respondents would be asked to indicate the importance of each item by distributing points among them or to rank them. Six to nine such statements are typically used.

3.7.4.4.1 Ranking

Ranking the statements is often used as a means to obtain measure of importance. Ratio value information is needed for the construction of the maps. As such, some type of distribution is often imposed either linear or a stochastic model such as the "Broken Stick Rule." The problem of using the distribution approach on an individual basis is that it limits the range of possible values. This problem is reduced somewhat with larger numbers of statements. However, it remains a difficulty.

3.7.4.4.2 Constant Sum Scaling

Constant sum scales are typically used. They both eliminate the problem of imposing a distribution and still allows for the ranking methods to be used. Unfortunately, there is a tendency using constant sum scaling to have "regression to the mean." That is a tendency of all statements being given similar values.

3.7.4.4.3 Influence Statements

The key problem in identifying statements is that they should each be in only one category.

- The Price of the Product
- The Recommendation by Dealer/Consultant
- The Credit Terms and Rebate Programs
- The Product Ability to Perform
- Confidence in the Manufacturer
- The Safety of the Product

3.7.4.4.4 Analysis

Analysis of the data is usually by average results. The key problem in selecting the method is to assure that the range of possible results reflect the range expected in the attitudes of the customers and segments.

3.7.4.5 Full Profile Conjoint Measure

Full Profile Conjoint is an alternative tool for this type of measurement. Typically three to five attributes are used on three specific levels. Levels of the attributes are ordinal in that they are in clear order of value. This method is particularly useful if the decision influences are not clearly understood by the respondents. It is also very useful to use *Full Profile Conjoint* with direct measurement as means to determine if the respondents understand their own decision process or if it is inconsistent.

3.7.4.6 Organizational Influence Research

Exploring organizational influences and group decision making is both difficult and problematic. In general, different parts of an organization will have unique biases. Purchasing normally is more sensitive to price while manufacturing is strongly concerned with Quality, for example. The trick is to know how each influences the decision process.

3.7.4.6.1 The Influence Models

Measures of degree of influence are sought as a means to capture the decision process. There are two general influence models that are used: (1) additive influence and (2) collective influence. The additive or trade-off model allows for the value in one influencer to be off-set by that value of another. These are weighted by the specific influence that each has. The collective model requires minimum performance of each influencer to be acceptable. While the collective model is probably more accurate, we tend to use the additive model for ease of measurement.

3.7.4.6.2 Self-evaluation

Self-evaluation of the market is the standard procedure for estimating organizational influence. Unfortunately, it is recognized as unreliable. Individuals generally over estimate their personal influence on decision and understate other organizational influences such as purchasing and consultants.

3.7.4.6.3 Experimental

If sufficient diverse decision data is available, comparisons between individual decisions and the group decision can be examined and a model developed. However, typically this data is not available.

3.7.4.6.4 Simulation

An alternative process is to examine a group decision process as a combination of individual decision by way of simulation. These are a complex and usually synthetic exercises[41]and not recommend without external data to validate results.

[41] I am only aware of academic studies of this type focusing on major capital decisions within family units. However, I suspect that other studies have been conducted.

3.8 MARKETING, BRANDING AND ADVERTISING RESEARCH

Advertising and communications research focuses on identifying the satisfactory (and hopefully optimum) materials that conveys the appropriate message. This type of research is usually coupled with identifying an effective position for the products and the firm. Typically research is undertaken to examine both the means (media) and the message for its ability to convey the product position. The elements of the commercial communications include: statements, claims, product/firm names and logos as well as documents and standard copy.

3.8.1 THE BUYING (FUNNEL) PROCESS

The ultimate objective is to entice customers to do the desired action. Commercially, that is to purchase a product. Unfortunately, it is usually infeasible to connect the communications activities with the actual market action. As such, advertising research tends to measure the impact of the communications on the various steps in the buying process. These steps include:

3.8.1.1 Awareness

The potential customers must be aware of the products and their own needs (desires) for the benefits that the products are intended to deliver. Helping potential customers recognize "latent" needs is a critical function of marketing communications. Awareness of needs is often associated with the existence of a means to satisfy them. Awareness of products is intended to extend the present consideration set to include the new products. If a potential customer is unaware of a product, it doesn't even enter his "radar screen" for consideration.

3.8.1.2 Attention

The marketing communications must be memorable and therefore must grab attention. It must be read, or at least "seen and heard." While research on subliminal messages is interesting, there is no conclusive evidence that messages in the "media noise" produces memorable impact.

3.8.1.3 Interest

Though raising awareness is an active process, it is insufficient to generate action. The energy level (arousal) must be sufficient to drive action. Marketing communications needs to be strong enough to drive interest.

3.8.1.4 Driving to Action

Interest alone is also not sufficient to drive action. The product benefits must be not only recognized but associated as a personal need.

3.8.1.4.1 Desire

The desire for the product must be established. This is the tight association of the product with the benefits and the solution of the latent needs.

3.8.1.4.2 Conviction

Conviction is the final stage before action. In this regard, the solution of the latent need must be uniquely associated with the product.

3.8.1.4.3 Action

The "bottom line" for advertising is the generation of the desired action. Without the action, purchasing the product, all other issues are mute.

3.8.2 MARKETING POSITIONING

A key element in all advertising and communications research is the marketing position. This defines the message and to a great extent the targeted customers. It is the "mental" picture of the products or "offerings" that includes all tangible and intangible characteristics.

3.8.2.1 Solutions to Latent Needs

The position focuses on the solution of latent needs of the potential customers. As such, identifying those needs is key component of the marketing position.

3.8.2.2 Offering Benefits

The latent needs are satisfied by the benefits of the product. The specific emphasized benefits distinguish and differentiate products. As such, the position is statements of what specific benefits the product will deliver.

3.8.2.3 Targeted Positions

The position descriptions have to be extremely short. Customers can focus on only a few concepts (less than 5).

3.8.2.3.1 Market Segments

Because of the need to keep positions statement tight, several positions may be required. This requires positioning to be specific to groups of customers which leads to benefit market segmentation.

3.8.2.3.2 Tag Lines

A method of describing the tight targeted position is by use of a “Tag lines.” These are abbreviated position statements, which captures the essence of the product position but not the details. The inability for formulate clear “tag lines” is a strong indicated that the position is not well defined.

3.8.3 THE VALUE PROPOSITION[42]

3.8.3.1 Statement (Idea) Research

Research on advertising messages focuses on the construction of statements. These may be positioning statements or product descriptions. There are two common approaches to develop statements: (1) testing of copy and (2) building statements based on tested claims. Usually, statements can be considered to be a collection of “claims.” Claims are short sentences or fragments, which convey a specific property of the product, deliver a specific benefit. The statement on the other hand is a larger group of ideas as a full sentence, which includes specific subject, action or benefit, and object. This section reviews the general procedures of dealing with a set of fully developed statements.

3.8.3.2 Developing Statements

Statements are often developed in-house based on discussion with product management and marketing. However, it is often useful to develop them based on in-depth interviews with potential customers. This is usually a shorten version of traditional subjective positioning. These are based on probes of:

3.8.3.2.1 Key Outcomes and Tasks

To understand the value of a product it is critical to capture how it is used or could be used. The value proposition reads on these outcomes. In this regard, we may have to deal with multiple propositions as each may read on a separate set of outcomes or segments.

3.8.3.2.2 Key Benefits and Problems

The process will usually start by probing for unmet needs as well as key new benefits. This may not be straight-forward since product and services may extend to areas previously not thought feasible.

3.8.3.2.3 Defining Value

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[42] This description is based on the procedures of *MP/C™* (multiple promises and claims research procedure). A process developed and implemented by *ARBOR, Inc*. Media, Pennsylvania.

Alternatively, the functional definition of value for the product group can be solicited. In either case, it is critical to extend the discussion beyond the superficial. Usually, this involves probing the value of suppliers as well as the products and services.

3.8.3.2.4 Ideal Products

Customers are then asked describe the ideal product for their needs. This is then probed to identify specific characteristics.

3.8.3.3 Testing Criteria

Words are important! How a statement is presented and describe is critical. What might appear to be extremely similar statements may cause vastly different reactions to the potential customer. Testing usually follows five key criteria:

3.8.3.3.1 Meaning

Does the statement mean what we think it means to the potential customer? Is it in the words that he would use? Does it convey both the explicit and subtle messages that we intend?

3.8.3.3.2 Importance

Is the statement important to the potential customer? Several measure of importance may be needed. Often stated importance may miss the mark. Typically measures of impact as well as importance in the buying decision may be included.

3.8.3.3.3 Believability

Is the statement believable in terms of the product? Creditability is critical. If the statement is not believable is would imply that all other information on the product will be in doubt.

3.8.3.3.3.1 "Truth"

Does the potential customer believe the statement itself? Is it possible? Does it relate to the customers' world?

3.8.3.3.3.2 Association

Is the statement easily associated with the product or with a competitive product?

3.8.3.3.4 Uniqueness

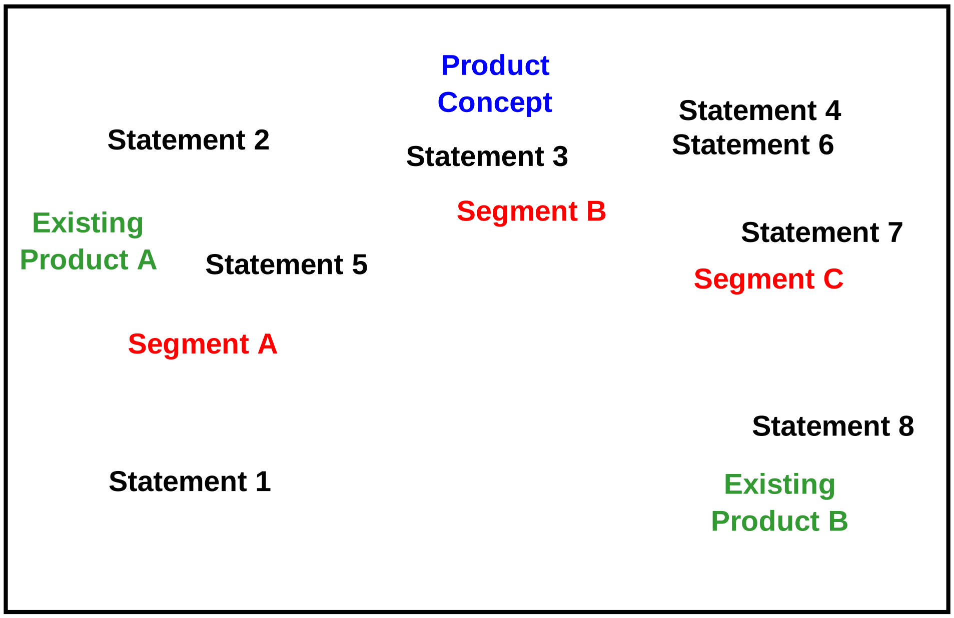
Is the statement unique? Does it provide a differentiation from other products?

3.8.3.3.5 Affect

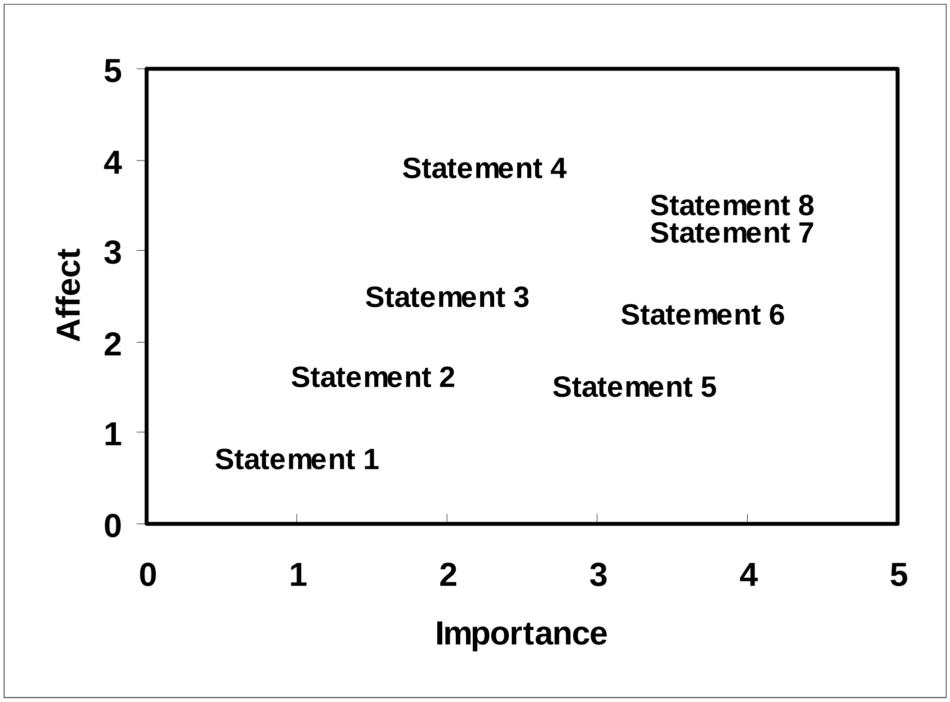
Does the customer "like" the statement? Can he relate to it? Is it a preferred statement?

3.8.3.4 Graphical Positioning

Analytical data can be captured during the testing procedure. These are usually rank order exercises. Graphs can be generated from this non-metric data either using non-metric methods [43] or by weighting factors. In these cases, positioning may be either against specific criteria or positioning against competitive products.



[43] *Non-metric Multiple Dimensional Scaling, Monotonic Regression, Correspondence Analysis* can be used to develop these maps.



3.8.3.5 Communications Segmentation

Most segmentation focuses on benefits and messages rather than on the channels of communications. However, channels of communications often distinguish among potential customers and act as a natural barrier among segments. This is the case in both mass marketing using standard modes of mass communications and for business to business marketing using specialized sources of communications (trade journals). The mode of communications often dictates the segmentation. It most be, therefore, noted that we can be dealing with multiple segmentation schemes which must overlap but may not be coincident.

3.8.3.6 Optimization and Selection

Optimizing the statements focuses on what the statement is intended to do for the product in the targeted market segment. Often multiple statements may be used for different market segments. The major issue here is the problem of overlapping communications and benefit segments. The selection of the optimum statement usually focuses on the benefit segment though the communication channel may extend beyond that target group.

3.8.4 CLAIMS RESEARCH [44]

An alternative method of developing statements is based on claims. In this approach, the position statement or message is considered to consist of a number of claims. Because

[44] This description is based on the procedures of *Conceptor II™* (claims analysis procedure). A process developed and implemented by *ARBOR, Inc.* Media, Pennsylvania.

we are considering a number of claims, final statement may extend beyond a single sentence.

3.8.4.1 Definition

Claims are simple sentences or sentence fragments. However, they generally consist of a subject and benefit or a benefit and object. Identifiers and modifiers are often the key focus of the claims research with the intent of conveying information beyond the simple meaning of the claim.

3.8.4.1.1 Structure

In addition to the statement criteria (meaning, importance, believability, uniqueness) we seek more information as to the inferred "feeling" associated with the claim beyond just "affect." Here again words are critically important. How the product and the suppler is referred to can change the meaning of the claim.

3.8.4.1.2 Derived Position Message

As previously noted the final position statement is likely to be longer than a single sentence and often consists of most of the advertising copy. The message optimally is the merger of the most effective claims.

3.8.4.2 Interactions

With claims, we assume that more than one will appear within the position message. As such, interaction among claims is critical. It is desirable that the claims should work together conveying an overall position of the product.

3.8.4.2.1 Mutually Supportive

Ideally, the claims should be mutually supportive. Not only must they be believable and important independently, but the existence of multiple claims builds further credibility. Each claim should support the previous ones.

3.8.4.2.2 Contradictory

However, in some cases claims may be contradictory. This may be specifically true or by implication. Strong and effective may be viewed as contradictory to safe and mild. While the specifics may be both true, they may be viewed as contradictory in the mind of the customer.

3.8.4.2.3 Diminishing

Claims may become repetitive in that several claims may be viewed as the same issue. As such, subsequent claims may be viewed as of decreasing value even though the claim itself may be effective.

3.8.4.3 Measurements

Typically multiple methods are employed to measure value and interaction.

3.8.4.3.1 Meaning and Believability

Meaning and believability of claims are usually explored separately from the testing of value, impact and interaction. This is often part of a qualitative study to set up alternative claims. Only claims that meet minimum believability and meaning are included in the measurement of value and interaction.

3.8.4.3.2 Conjoint[45]

Various conjoint measures can be used to estimate claim value. This usually merges importance and impact.

3.8.4.3.3 Positioning[46]

Almost all conjoint techniques exclude interaction among items. As such, a separate exercise is usually used to capture interaction. Pairwise comparison and trade-off positioning can be used. The general objective is to determine a relative distance between individual claims.

3.8.4.4 Optimization

The end-point in claims research is usually a prioritized list of claims for use in the construction of the advertising copy. A value model is constructed based on claim value modified by interaction.

3.8.5 NAMING RESEARCH

The product or supplier name is often the most valuable asset for the firm. Traditional names such as Coke Cola and Xerox are well recognize and carries significant "consumer franchise." However, choice of a name is not simple and requires significant research to verify its acceptability.

3.8.5.1 Naming

Selection of product/supplier names are intended to ease learning by customers, provide strong product association and easy to protect. This requires a balance between unique "nonsense" names such as Xerox which are easy to protect but difficult to establish in the marketplace and functional names "Stain Master" which is easy to establish but difficult

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[45] Among the tools incorporated into *ARBOR's Conceptor II™* is a unique full profile conjoint design allowing each scenario (card) to contain a constant number of claims.

[46] *Concept II™* also incorporates a number of positioning tools to capture claim interaction.

to protect.

3.8.5.1.1 Generic (Umbrella) and Functional

Particularly for industrial products, there is a tendency to name products based on functionality, Monsanto Type 43 Nylon. This occasionally extends to consumer products such as Dupont No. 7 Car Wax. In recent years, there has been some movement in focusing advertising on the main product name rather than the specific product. This is a product-line strategy promoting the supplier rather than the product. Whether this is advantageous will depend on the expected impact on the business. Business that are solutions orientated with each customer getting a specific “benefit-solution” it may be highly functional. On the other hand, for traditional product businesses, this reduces the effective “shelf space” and reduces exposure.

3.8.5.1.2 Position Naming

To be effective the product name should convey the benefit position of the product in order to make it recognizable. In this way of thinking, the name should read on what the product is expected to do rather than what the product is.

3.8.5.2 Construction Process

The procedure of developing a product is often a multiple stage process involving internal management and potentially several external research projects. Included in these are both creative processes and sequences of testing. Often there are at least three stages:

- Internal Selection
- Creative Qualitative Marketing Research
- Testing Research

Internal selection usually leads to fairly generic names. In most cases, products are viewed internally in terms of what they are and as evolutionary developments. As such, names tend to follow the same evolutionary process. Often development codes and names are associated with product before marketing. Names such as Fiber “B” or NP# 345671 or “Project Worm” become associated with the product. In some cases, these R&D names extend into the market. However, it is usually preferable to rename the product in line with the market. In this respect, it is not unusual to have multiple names for the same product if separate marketing and pricing strategies are expected to be followed.

3.8.5.3 Creative Names

The naming process is often viewed as “purely creative.” In this regard, focus groups involved in naming often do not follow standard consistency requirements. Each group may extend the work of previous groups. Product management may participate in the process as well as the facilitator. Several group creative problem solving procedures have been found highly effective. The procedure referred as “Synectics” seems to be particularly effective in developing product and firm names.

3.8.5.4 Testing Names

Testing is a key element in most product name development procedures. Irrespective of how much management likes the name, the response of potential customer should rule. While an ultimate test is in the purchase that is usually not feasible and indirect criteria are generally used including:

3.8.5.4.1 Appropriate

Is there a unique association of the product with its name? Names may become associated with the product category or may even be associated with a competitive product. The name should infer the specific product.

3.8.5.4.2 Impact

The impact of the name is its performance with customers. Does the customer like the name? Does it give a “positive” ring to the customer? This is often measured by association with other favorable or uncomfortable words or concepts.

3.8.5.4.3 Alignment with Position

Does the name support the product position (value proposition) and its benefits? On the contrary, is it generic or does it provide a counter image to the position?

3.8.5.4.4 Memorability

Is the name memorable? Does the customer take it home with him? Will it last in his memory from the advertisement to the purchase?

3.8.5.4.5 Uniqueness

Is the name unique or is it like other product names within its category? Does it sound like different product or category of products? Will it stand out?

3.8.5.4.6 Draw

Does it draw the customer to the product? Does it enhance the willingness to purchase? Usually “Draw” measure of the joint effectiveness of the name and the products value proposition.

3.8.5.5 Registration

While registration is not required, it is usually desirable. Without registration ™ for Trade Mark or ^{SM} for Service Mark can be used. However, these are not registered and can be challenged.

3.8.6 BRANDING RESEARCH

The objective of branding research is to provide the insight into what builds brand value or equity. We start by understanding what constitutes a brand. It usually connected with a set of names. In the previous section, methods and approaches in identify selecting names was discussed. The concept of brands usually goes beyond that of product names. Brands transcend the specific products of interest. There are typically three types of brands associated with products: (1) the firm that is supplier or sells the product, (2) the category of products or group of products, and (3) the specific product or product name. Each of these can have a vastly different value and attributes.

3.8.6.1 Brand Equity

Brand equity is associated with the value or price premium commanded by the brand above that of either competitors or a generic product. We typically measure brand equity either in terms of the propensity to purchase the product or the measure value of the name. Names in this regard can be considered a product feature whose value can be estimated using a perceived value procedure such as a conjoint or profiling method (see notes on Perceived Value Measurement). However, these measurements tend to be only relative rather than an accurate estimate of brand influence on actual decisions.

Brand equity can be measured using pricing research (see the notes on Pricing Research). In this regard pricing research, tend to be most useful in estimating customer brand loyalty. Competitive pricing experiments allow for the estimation of the complete price-demand model with measures of both price sensitivity and cross-sensitivity. From these model various estimates of the relative power of brands on both existing customers (brand loyalty) and on the potential impact for new customers can be obtained.

3.8.6.2 Brand Attributes

Brand attributes are by they nature non-cognitive. That is they represent customer reaction to the brands rather than product performance measurements. These characteristics can be thought of as emotions and we can use the dimensional approach to find three underlying factors describing the impact of brands. For industrial products we use: (1) Association, (2) Prestige, and (3) Risk Reduction.[47]

3.8.6.2.1 Association

All brands are associated with products and services in some form. These can be very tightly or loosely associated. For example, Eastman Kodak has historically developed the brand “Kodak” to be associated with snap-shot photography while their brand “Eastman” was used for its professional photography products and services. Other company brands,

[47] These three dimensions can be thought of as a rotation of the classic PAD structure. The “Pleasure” dimension could be associated with “Prestige”. The “Arousal” dimension could be then related to “Association”. And finally the “Dominance” dimension can then be associated with “Risk Reduction”.

such as "General Electric", cover a broad range of products and services across products and markets.

The dimension of association includes "awareness" and general comfort or "nostalgia". Here we measure how aware a customer is of a brand as well as what it is associated with. Nostalgia in this regard captures the comfort level with the brand. It can be thought of as an extension of awareness but goes somewhat further.

3.8.6.2.2 Prestige

Brands carry with them esteem, value or prestige in some form. This may be positive or negative. In consumer products in particular, the prestige of the label may be more valuable than the product itself. How much extra is paid for a "Rolls-Royce" car than a "Bentley"? However, it should be noted that prestige is also likely to be carried over into industrial products. A Rolls-Royce commercial jet engine may carry a premium over a General Electric engine.

3.8.6.2.3 Risk Reduction

A key advantage of a brand is its implied excellence and therefore the reduction of risk. Note the old adage "No one gets fired by buying IBM". This is believed in that IBM represents a reduction is any number of sources of risk and problems. This reduction comes from the delivering of any number of attributes including technology, support, affordable pricing, and product. Note here that these are implied benefits not explicit. The brand value by risk reduction goes beyond explicit assurances such as warrantees. It is inherent to the brand.

3.8.6.2.4 Interdependencies

As previously noted these dimensions are clearly not independent. Prestige, for example, often rest on a strong set of risk reduction features. In fact, prestige is often built on the risk reduction activities. Similarly nostalgia which is a part of the association dimension carries with it some elements of prestige and esteem. There is likely to be a strong halo effect where the power of each factor will influence that of the others. Unfortunately, the reverse is likely also to be true in that failure to support one of these may easily result in a decrease in the others.

3.8.6.3 Brand Position

While we recognize the interdependences of brand attributes, we tend to evaluate brand strategies based on the changing performance of brands along these attributes. The same approaches that we use for other non-cognitive positioning we can use for brands.

3.8.7 COMMUNICATIONS TESTING

Advertising and other widely distributed communications are often tested. With the exception of mass media, usually commercials are tested less often than one would expect. In general, only key pieces of advertising material for a campaign are tested.

3.8.7.1 Communications Objectives

The starting point for all communications testing is determining the objectives of the message. These often include:

- "Showing the Flag", presenting the brand name or company name;
- Teaching of merits of a new product of the firm;
- Impressing the product name and
- Informing the customer of a program.

3.8.7.2 Testing Procedures

Testing procedures vary depending on the options available. If multiple versions of the message are available, procedures based on customer selection or modification can be used. Alternatively the test may be monadic, involving a single piece. Communications testing is often done qualitatively without attempt for a representative sample. Furthermore, changes in the communications are often done throughout the testing procedure. Quantitative methods are used only where tracking of awareness is the primary objective of the research program.

3.8.7.2.1 Reasonable and Meaningful

The most critical elements of the testing is the determination if the message is getting through. Does the respondent understand the message and can he relate to it? Often positioning of the key elements has to be changed to assure the delivery of the message.

3.8.7.2.2 Performance

How well does the piece meet its objectives?

3.8.7.2.2.1 Unaided Awareness

Usually marketing communications centers on developing and maintaining the awareness of the brand name. As such, unaided awareness, where the respondent is asked to name products within the targeted category, is used extensively. This is the acid test of recognition.

3.8.7.2.2.2 Aided Awareness

Aided awareness is a procedure where the respondent is given a list of brand names to indicate if they have heard about the product. This is particularly useful with categories of less used products and for the introduction of new product and brand names. However, this is usually a weak measure of awareness. Often non-existing products are added to the list to calibrate responses.

3.8.7.2.2.3 Recall and Lag Time Recall

Recall of message is a key measure of effectiveness of advertising. This is particularly useful if a "live" limited test of the communications is being done. This is often done with commercials and other communications targeted for wide circulation. A limited area exposure is tested for recall. Recall is also used with trade journal advertising using mock journals under laboratory conditions. Here again, the ability of respondents to recall advertising is used a measure of how memorable it is.

It should be noted, however, that recall is a repetitive process. A single exposure is unlikely to have nearly the effect of multiple exposures. Most advertising programs are designed around campaigns that will provide the multiple exposure needed to build recall.

3.8.7.2.2.4 Learnings

Most communications are designed not only to present the brand name but also to convey to customers' information on the value of the product. This involves specific learnings that are intended to be conveys to the respondents. Testing, usually before and after exposure, is done as a measure the ability of the piece to teach the key learnings.

3.8.7.2.2.5 "Bottom Line"

Under some conditions, it is possible to test the sales value of the advertisement. These are usually extremely difficult to set up and expensive. Usually they involve running advertising campaign in controlled areas while excluding the programs in others. Great care has to be taken to assure good controls and to exclude outside influences[48].

3.8.7.2.3 Preference

While customer preference is not usually a criterion for development of material it can be used particularly when involving images as well as messages.

3.8.7.2.3.1 Conjoint Tests

Conjoint testing has been used if the components of the message and image can be separated and if alternatives exist. The procedures follow standard approaches. However, often a highly split sample is used where very few choices are shown to each respondent. In some cases, monadic testing, with only one example shown to each respondent, is used. These tests require very large samples in order to test all variations.

3.8.7.3 Ad Diagnostic Testing

Ad diagnostic testing serves both evaluation and development purposes. The objective is

[48] It is not unusual to find competitors trying to ruin these types of studies.

to determine the impact and value of constitutive parts of advertisements.

3.8.7.3.1 Eye Tracking

Measuring eye position has been one of the classic physiological advertising copy diagnostic tools. The advent of contact lens and laser tracking has made this technique far less intrusive compared to previous technique. Furthermore, it tends to be fairly expensive. The process involves measuring eye position and duration while the respondent is either reading an appropriate journal with the advertising copy embedded or the copy itself in isolation. Since the measurement is physiological rather than self explicated it is believed to be more reliable given the same conditions. However, the method is still restricted to laboratory conditions, which limits its ultimate reliability.

3.8.7.3.2 Flash Recall[49]

This method measures the recalled material and viewing behavior of respondents after being shown advertisements for various short periods of time (.5, 1 and 4 seconds). The respondent is asked to identify the areas within the copy that had been viewed for each time period. Tests of content are used to confirm the perceived regions of viewing.. This type of methodology has been made economic feasible due to the ability of advanced Internet web-site controls[50]. Tests of this type can be conducted remotely over the Internet. This also offers rapid market assessment for copy development.

3.8.7.3.3 Comparative Impact

Most of the diagnostic testing focuses on the advertisement in isolation. Comparative impact analysis requires the respondent to compare a series of ads against a standard set. The goal is to obtain an objective impact in terms of increase awareness and motivating effectiveness of components of the advertisements.

3.8.7.4 Post Measurement[51]

Post testing of the impact of advertising is, unfortunately, not widely used. The goal post testing is to determine if the goals of the advertising in terms of awareness and teaching were met. This process involves:

1. Pre-recruiting respondents who are both within the targeted population of the advertising and who will have seen it;
2. Development of key measures of performance;

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[49] This is a method developed by Ameritest Inc. which is based on a computerized (Internet) version of traditional tachistoscope methodologies.

[50] A scripting language (JavaScript) is a standard extension to the Hyper-Text Markup Language (HTML) which allows precise timing of graphic presentation.

[51] This discussion of post measurement was inspired by the work of Bob Grass at Dupont

3. Consistent execution of the instrument.

In order to get reliable results this type of research must be conducted with the utmost care.

3.8.7.4.1 Problems of Execution

The major problem with this type of measurement is biasing the results. While a full experimental design would be appropriate for this type of measurement, including adequate controls, typically for economic purposes only a single population is used. Furthermore, to assure acceptability of the sample, respondents are asked to read the journal or see the show where the advertising or commercial is to be placed. In some cases, where the respondent has been actually asked to see the commercial, the results are artificially high.

3.8.7.4.2 Measures of Awareness

A key measure of advertising impact is on awareness. Typically for post testing, the level of unaided awareness prior to the advertising needed to measure the impact. This should be considered a designed experimental procedure. A key problem is to make this measurement without overly priming the respondent. Aided awareness would not be appropriate here since it would overly alert the information that will be sought.

If aided awareness is to be used, an independent prior measurement would be needed. Furthermore, the results have to be analyzed only statistically as sub-populations. Only unaided awareness can be used on the respondent basis without biasing results.

3.8.7.4.3 Measures of Learning

The objectives of most advertising campaigns include various learnings as well as simple brand awareness. These learnings usually focus on the product position and specific customer benefits. Typical testing often includes tag-lines, message statements, and benefit statements. In addition, general attitude information can be collected. In all of these measures, however, it is critical that prior data is available for comparison.

3.9 PSYCHO-PHYSIOLOGICAL METHODS

There are two groups of physiological methods of marketing research: (1) sensory research to determine the optimum taste, odor, color or texture of a product, and (2) response methods where physiological responses are used to determine preference or interest. These methods are not widely used and have significant problems, which impact their perceived reliability. We will not be discussing those methods.

3.9.1 SENSORY RESEARCH

Many consumer some industrial products contain elements designed to satisfy the consumers' sensory needs. The development and testing of these elements is often a complex process that will only be briefly reviewed here.

3.9.1.1 Types of Research

Any of a number of sensory issues can be measured including weight and shape as well as the more traditional measures for taste, odor, color and texture. It should be noted that this type of research is often conducted with the technical research function and is viewed as part of the product development process rather than a marketing function.

3.9.1.2 Issues

Because we are dealing with physiological effects many of the more subtle problems in survey research are far more critical here.

3.9.1.2.1 Order Effects

Order effects in this type of research with multiple samples are critical. For example the sweetness of a drink will depend on what was tasted previously. In many cases, this type of research is done as a monadic design, with only one item tested per respondent. This makes sensory research both expensive and involving high imprecision. The effective sample size is low while the actual number of respondents is high.

3.9.1.2.2 Bias

Clues to the nature of the sample, both from the design and inadvertently from the interviewer can grossly effects the results.

3.9.1.2.3 Interaction

Sensory perceptions are holistic. They interact. As such, it is not always feasible to merely consider primary effects. It is critical to check that combinations do not conflict.

3.9.1.2.4 Physical Design Constraints

Where multiple characteristics are being manipulated, these are often physically linked. As one increase the other is forced to decrease or increase with it. These physical constraints limit the range of possibilities.

3.9.1.3 Criteria

Because we are dealing with physiological measurements, we need to deal both with preference and sensory perception.

3.9.1.3.1 Desirability

Desirability or choice is always a key measure. Ultimately we wish to select a preferred product design.

3.9.1.3.2 Importance

However, importance also plays a role. A color or odor may be immaterial to an application.

3.9.1.3.3 Thresholds and Distinction

At some level, respondents are unable to recognize a change in a stimulus. It is critical to understand where those thresholds are and what distinguishes the level change.

3.9.1.4 Methods

There are in general two types of testing methods used.

3.9.1.4.1 Concept Testing

Concept testing is the simplest and consists of either a single or pair comparison. It is usually used to test a product prior to launch to assure distinction and preference.

3.9.1.4.2 Conjoint Methods

Conjoint methods for sensory measurement are relatively complex. Design is difficult to capture potential interactions or to assure independence. Execution is also difficult because of the high degree of control that necessary,

3.10 APPENDIX A: READABLITY STATISTIC[52]

3.10.1 FLESCH-KINCAID GRADE LEVEL

Grade Level = 0.39 • (Average Number of Words per Sentence) +

+ 11.8 • (Average Number of syllables per Word) - 15.59

3.10.2 FLESCH READING EASE

Score = 206.835 - 1.015 • (Average Sentence Length)

- 0.846 • (Number of Syllables per 100 Words)

Score	Grade Level
90 - 100	4th Grade
80 - 90	5th Grade
70 - 80	6th Grade
60 - 70	7th - 8th Grade
50 - 60	Some High School
30 - 50	High School - College
0 - 30	College Level and up

3.10.3 GUNNING'S FOG INDEX

Grade Level = 0.4 • {Average Number of Words per Sentence) + (Number of Words of 3 Syllables or More)}

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[52] *Grammatic IV User's Guide (The Fastest way to Improve Your Writing),* Reference Software International

3.11 APPENDIX B: TONE CATEGORIES[53]

The Certainty Score

Certainty is reflected in language indicating resoluteness, inflexibility, and completeness as well as a tendency to speak ex cathedra.

Certainty = (Tenacity + Leveling + Collectives + Insistence) - (Numerical Terms + Ambivalence + Self-Reference + Variety).

Tenacity -- Includes all uses of the verb "to be" (is, *am, will, shall),* three definitive verb forms *(has, must, do)* and their variants, and all associated contractions *(he'll, they've, ain't).* These verbs connote confidence and totality.

Leveling **--** Contains words used to ignore individual differences and to build a sense of completeness and assurance. Includes totalizing terms *(everybody, anyone, each, fully),* adverbs of permanence *(always, completely, inevitably, consistently),* and resolute adjectives *(unconditional, consummate, absolute, open-and-shut).*

Collectives **--** Include singular nouns connoting plurality that function to decrease specificity. These words reflect a dependence on categorical modes of thought. Includes social groupings *(crowd, choir, team, humanity),* task groups *(army, congress, legislature, staff),* and geographical entities *(county, world, kingdom, republic).*

Insistence **--** This is a measure of code restriction and semantic "contentedness." The assumption is that repetition of key terms indicates a preference for a limited, ordered world. In calculating the measure, all words occurring three or more times that function as nouns or noun-derived adjectives are identified (either cybernetic ally or with the user's assistance), and the following calculation performed: (Number of Eligible Words x Sum of Their Occurrences) / 10. For small input files, high-frequency terms used two or more times are used in the calculation.

Numerical Terms **--** Any sum, date, or product specifying the facts in a given case is included. This dictionary treats each isolated integer as a single word and each separate group of integers as a single word. In addition, the dictionary contains common numbers in lexical format *(one, tenfold, hundred, zero)* as well as terms indicating numerical operations *(subtract, divide, multiply, percentage)* and quantitative topics *(digitize, tally, mathematics).* The presumption is that Numerical Terms hyper-specify a claim, thus detracting from its universality.

Ambivalence **--** Contains words expressing hesitation or uncertainty, implying a speaker's inability or unwillingness to commit to the verbalization being made. Includes hedges *(allegedly, perhaps, might),* statements of inexactness *(almost, approximate, vague,*

[53] *Diction 4.0, User's Manual*, Roderick P. Hart , Scolari Sage Publications (1997)

somewhere), and confusion *(baffled, puzzling, hesitate).* Also includes words of restrained possibility *(could, would, he'd)* and mystery *(dilemma, guess, suppose, seems).*

Self-Reference **--** Contains all first-person references (I, *I'd, I'll, I'm, I've, me, mine, my, myself).* Self-references are treated as acts of "indexing" whereby the locus of action appears to reside in the speaker and not in the world at large (thereby implicitly acknowledging the speaker's limited vision).

Variety **--** This measure conforms to Johnson's (1946) Type-Token Ratio, which divides the number of different words in a passage by the passage's total words. A high score indicates a speaker's avoidance of overstatement and a preference for precise molecular statements.

The Optimism Score

An Optimistic Score is language endorsing or highlighting the positive entailments of some person, group, concept, or event.

Optimism = (Praise + Satisfaction + Inspiration) - (Blame + Hardship + Denial)

***Praise* --** Contains affirmations of some person, group, or abstract entity. Includes terms isolating important social qualities *(dear, delightful, witty),* physical qualities *(mighty, handsome, beautiful),* intellectual qualities *(shrewd, bright, vigilant, reasonable),* entrepreneurial qualities *(successful, conscientious, renowned),* and moral qualities *(faithful, good, noble). All* terms in this dictionary are adjectives.

***Satisfaction* --** Includes terms associated with positive affective states *(cheerful, passionate, happiness),* with moments of undiminished *joy (thanks, smile, welcome)* and pleasurable diversion *(excited, fun, lucky),* and with moments of triumph *(celebrating, pride, aus*picious). Also includes words of nurturance *(healing, encourage, secure, relieved).*

***Inspiration* --** Includes abstract virtues deserving of universal respect. Most of the terms in this dictionary are nouns isolating desirable moral qualities *(faith, honesty, self-sacrifice, virtue)* and attractive personal qualities *(courage, dedication, wisdom, mercy).* Social and political ideals are also included *(patriotism, success, education, justice).*

***Blame* --** Terms designating social inappropriateness *(mean, naive, sloppy, stupid)* and downright evil *(fascist, bloodthirsty, repugnant, malicious)* are included. In addition, adjectives describing unfortunate circumstances *(bankrupt, rash, morbid, embarrassing)* and unplanned vicissitudes *(weary, nervous, painful, detrimental)* are included. The dictionary also contains outright denigrations *(cruel, illegitimate, offensive, miserly).*

***Hardship* --** Contains natural disasters *(earthquake, starvation, tornado, pollution),* hostile actions *(killers, bankruptcy, enemies, vices),* and censurable human behavior *(infidelity, despots, betrayal). It* also includes unsavory political outcomes *(injustice, slavery, exploitation, rebellion)* as well as normal human fears *(grief, unemployment, died, apprehension)* and incapacities *(error, cop-outs, weakness).*

***Denial* --** A dictionary consisting of standard negative contractions *(aren't, shouldn't, don't),* negative function words *(nor, not, nay),* and terms designating null sets *(nothing, nobody, none).*

The Activity Score

An Active Score is language featuring movement, change, the implementation of ideas, and the avoidance of inertia.

Activity = (Aggression + Accomplishment + Communication + Motion) • (Cognitive Terms + Passivity + Embellishment).

***Aggression* --** Includes terms embracing human competition and forceful action. Its terms connote physical energy *(blast, crash, explode, collide),* social domination *(conquest, attacking, dictatorships, violation),* and goal directedness *(crusade, commanded, challenging, overcome).* In addition, words associated with personal triumph *(mastered, rambunctious, pushy),* excess human energy *(prod, poke, pound, shove),* disassembly *(dismantle, demolish, overturn, veto),* and resistance *(prevent, reduce, defend, curbed)* are included.

***Accomplishment* --** Contains words expressing task completion *(establish, finish, influence, proceed)* and organized human behavior *(motivated, influence, leader, manage).* Includes capitalistic terms *(buy, produce, employees, selo,* modes of expansion *(grow, increase, generate, construction),* and general functionality *(handling, strengthen, succeed, outputs).* Also included is programmatic language *(agenda, enacted, working, leadership).*

***Communication* --** Includes terms referring to social interaction, both face-to-face *(listen, interview, read, speak)* and mediated *(film, videotape, telephone, e-mail).* The dictionary includes both *modes* of intercourse *(translate, quote, scripts, broadcast)* and *moods of* intercourse *(chat, declare, flatter, demand).* Other terms refer to social actors *(reporter, spokesperson, advocates, preacher)* and a variety of social purposes *(hint, rebuke, respond, persuade).*

***Motion* --** Includes terms connoting human movement *(bustle, job, lurch, leap),* physical processes *(circulate, momentum, revolve, twist),* journeys *(barnstorm, jaunt, wandering, travels),* speed *(lickety-split, nimble, zip, whistle-stop),* and modes of transit *(ride, fly, glide, swim).*

***Cognitive Terms* --** Contains words referring to cerebral processes, both functional and imaginative. Includes modes of discovery *(learn, deliberate, consider, compare)* and domains of study (biol*ogy, psychology, logic, economics).* The dictionary includes mental challenges *(question, forget, reexamine, paradoxes),* institutional learning practices *(graduation, teaching, classrooms),* and three forms of intellection: intuitional *(invent, perceive, speculate, interpret),* rationalistic *(estimate, examine, reasonable, strategies),* and calculative *(diagnose, analyze, software, fact finding).*

***Passivity* --** Contains words ranging from neutrality to inactivity. Includes terms of compliance *(allow, tame, appeasement),* docility *(submit, contented, sluggish),* and cessation *(arrested, capitulate, refrain, yielding). Also* contains tokens of inertness *(backward, immobile, silence, inhibit),* disinterest *(unconcerned, nonchalant,* stoic), and tranquility *(quietly, sleepy, vacation).*

***Embellishment* --** Includes a selective ratio of adjectives to verbs based on B (1940) conception that heavy modification "slows down" a verbal passage by deemphasizing human and material action. Embellishment is calculated according to the following formula: (Praise + Blame + 1) / (Present Concern + Past Concern + 1).

The Realism Score

A Realism Score is language describing tangible, immediate, recognizable matters that affect people's everyday lives.

Realism = (Familiarity + Spatial Awareness + Temporal Awareness + Present Concern + Human Interest + Concreteness) - (Past Concern + Complexity)

***Familiarity* --** Consists of a selected number of Ogden's (1960) "operation" words, which he calculates to be the most common words in the English language. Includes common prepositions (across, *over, through),* demonstrative pronouns *(this, that),* interrogative pronouns *(who, what),* and a variety of particles, conjunctions, and connectives *(a, for, so).*

***Spatial Awareness* --** Contains terms referring to geographical entities, physical distances, and modes of measurement. Includes general geographical terms *(abroad, elbow room, locale, outdoors)* as well as specific ones *(Ceylon, Kuwait, Poland).* Also includes politically defined locations *(county, fatherland, municipality, ward),* points on the compass *(east, southwest)* and the globe *(latitude, coastal, border, snowbelt),* and terms of scale *(kilometer, map, spacious),* quality *(vacant, out of the way, disoriented),* and change *(pilgrimage, migrated, frontier).*

***Temporal Awareness* --** Includes terms that fix a person, idea, or event within a specific time interval, thereby signaling a concern for concrete and practical matters. The dictionary designates literal time *(century, instant, mid-morning)* as well as metaphorical designations *(lingering, seniority, nowadays).* Also includes calendrical terms *(autumn, year-round, weekend),* elliptical terms *(spontaneously, postpone, transitional),* and judgmental terms *(premature, obsolete, punctual).*

***Present Concern* --** Composed of a selective list of present-tense verbs extrapolated from Ogden's (1960) list of "general" and "picturable" terms, all of which occur with great frequency in standard American English. The dictionary is not topic specific but points instead to general physical activity *(cough, taste, sing, take),* social operations *(canvass, touch, govern, meet),* and task performance *(make, cook, print, paint).*

***Human Interest* –** This is an adaptation -of Flagon's (1951) notion that concentrating on people and their activities gives discourse a lifelike quality. Includes standard personal pronouns *(he, his, ourselves, them),* family members and relations *(cousin, wife, grandchild, uncle),* and generic terms *(friend, baby, human, persons).*

***Concreteness* --** A large dictionary possessing no thematic unity other than tangibility and materiality. Includes sociological units *(peasants, African -Americans, Catholics),* occupational groups *(carpenter, manufacturer, policewoman),* and political alignments *(Communists, congressman, Europeans).* Also incorporated are physical structures *(courthouse, temple, store),* forms of diversion *(television, football, CD-ROM),* terms of accountancy *(mortgage, wages, finances),* and modes of transportation *(airplane, ship, bicycle).* In addition, the dictionary includes body parts *(stomach, eyes, lips),* articles of clothing *(slacks, pants, shirt),* household animals *(cat, insects, horse),* foodstuffs *(wine, grain, sugar),* and general elements of nature (oil, silk, *sand).*

Past Concern -- Includes the past tense forms of the verbs contained in the Present Concern dictionary.

Complexity -- A simple measure of the average number of characters per word in a given Input File. This is a Borrows Flagon's (195 1) notion that convoluted phrasings make a text's ideas abstract and its implications unclear.

The Commonality Score

A Commonality Score is language highlighting the agreed-on values of a group and rejecting idiosyncratic modes of engagement.

Commonality = (Centrality + Cooperation + Rapport) - (Diversity + Exclusion + Liberation)

***Centrality* --** Contains terms denoting institutional regularities and/or substantive agreement on core values. Includes indigenous terms *(native, basic, innate)* and designations of legitimacy *(orthodox, decorum, constitutional, ratified),* systematic *(paradigm, bureaucratic, ritualistic),* and typicality *(standardized, matter-of-fact, regularity). Also* includes terms of congruence *(conformity, mandate, unanimous),* predictability *(expected, continuity, reliable),* and universality *(womankind, perennial, landmarks).*

***Cooperation* --** Contains terms designating behavioral interactions among people that often result in a group product. Includes designations of formal work relations *(unions, schoolmates, caucus)* and informal associations *(chum, partner, cronies)* as well as more intimate interactions *(sisterhood, friendship, comrade).* Also includes neutral interactions *(consolidate, mediate, alignment),* job-related tasks *(network, detente, exchange),* personal involvement *(teamwork, sharing, contribute),* and self-denial *(public-spirited, caretaking, self-sacrifice).*

***Rapport* --** Describes attitudinal similarities among groups of people. Includes terms of affinity *(congenial, camaraderie, companion),* assent *(approve, vouched, warrants),* deference *(tolerant, willing, permission),* and identity *(equivalent, resemble, consensus).*

***Diversity* --** Includes words describing individuals or groups of individuals differing from the norm. Such distinctiveness may be .comparatively neutral *(inconsistent, contrasting, nonconformist),* but it also can be positive *(exceptional, unique, individualistic)* or negative *(illegitimate, rabble-rouser, extremist).* Functionally, heterogeneity may be an asset *(far-flung, dispersed, diffuse)* or a liability *(factionalism, deviancy, quirky), as* can its characterizations *(rare vs. odd, variety vs. jumble, distinctive vs. disobedient).*

***Exclusion* --** Describes the sources and effects of social isolation. Such seclusion can be phrased passively *(displaced, sequestered),* but it also can be phrased positively *(self-contained, self-sufficient)* or negatively *(outlaws, repudiated).* Moreover, it can result from voluntary forces *(secede, privacy)* or involuntary forces *(ostracize, forsake, discriminate)* and from either personality factors *(small-mindedness, loneliness) or* political factors *(right-wingers, nihilism).* Exclusion often is a dialectical concept *(hermit vs. derelict, refugee vs. pariah, discard vs. spurn).*

***Liberation* --** Includes terms describing the maximizing of individual choice *(autonomous, open-minded, options)* and the rejection of social conventions *(unencumbered, radical, released).* Liberation is motivated by personality factors *(eccentric, impetuous, flighty)* and political forces *(suffrage, liberty, freedom, emancipation)* and may produce dramatic outcomes *(exodus, riotous, deliverance)* or subdued effects *(loosen, disentangle, outpouring)*. Liberatory terms also admit to rival characterizations *(exemption vs. loophole, elope vs. abscond, uninhibited vs. outlandish).*

