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ABSTRACT

A METHOD TO PREDICT PROMOTIONAL STRATEGY

By

David Charles Lehmkuhl

Nearly all of the marketing mix models designed to date have relied on qualitative information as the base for the determination of the optimal promotional mix. The purpose of this thesis is to ascertain a technique of scoring whereby information which has historically been expressed in qualitative form may be expressed quantitatively so that it will be useful to predict the nature of the promotional mix.

The framework of this thesis is based on an analysis of nine product characteristics which are common to all products and whose relationship in the product "bundle of goods" can be analyzed to determine the most advantageous marketing/promotional mix. This "study of goods theory" was first put forth by Leo V. Aspinwall and was further refined by Gordon E. Miracle. It was Miracle who specified the nine product characteristics and defined how they work in relationship to one another.

This thesis attempts to carry this analysis a step further by assigning numerical points to each product characteristic under consideration. The total score of all nine characteristic subtotals positions the product on the continuum in relationship to other products. This can then inform the marketer of the value of his product and how the product can best be promoted to the consuming public.

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Within each product characteristic a number of variables have been determined which affect that particular characteristic. In some instances these variables had already been analyzed by earlier scholars. However, in most cases there was no earlier history to use as a guideline and it was left to the author's judgement as to how these variables interrelated with one another.

Each of these variables has been assigned a range of scoring points and the analyst is to select the score which best reflects his particular product. The total of all the variable scores within the product characteristic thus yields a net score for each characteristic. The composite score of all nine characteristics then positions the product on the promotional mix continuum.

In order to test the usefulness of the proposed scoring technique ten products were selected for test purposes. Each product was taken characteristic-by-characteristic through the product analysis and "earned" scores according to the summation of its total points. From these earned scores each product was positioned on the promotional continuum. These product positionings were then compared to base/known data (from the Miracle model) for accuracy in estimating the promotional mix.

It was found that the scores from the product analysis proposed in the thesis ranked the products in the same way in which the base/known data had ranked the products; thus indicating that the method proposed in the thesis provides accurate and useful data. Thus, the qualitative information had been effectively translated into a quantitative scoring system and did provide accurate results. The method proposed in the thesis can therefore serve as a useful tool in the marketing system.

A METHOD TO PREDICT
PROMOTIONAL STRATEGY

By

David Charles Lehmkuhl

A THESIS

Submitted to

Michigan State University

in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Department of Advertising

1974

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Thank you both.

ACKNOWLEDGMENTS

In addition to my own hard work and part-time dedication, two other people were instrumental in seeing this project through to completion.

First, I would like to thank Dr. Gordon E. Miracle for his patience, his understanding, his good humor and his unending criticisms during the many, many months which this project consumed. Without the inspiration of Dr. Miracle this undertaking would have been immensely more difficult.

I would also like to say thank you to a second very important person. But she already knows who she is and why I don't have to say anything else.

Thank you both.

David C. Lehmkuhl

ACKNOWLEDGEMENT

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PART I

INTRODUCTION

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I. PURPOSE AND SCOPE

The purpose of this thesis is to express qualitative information in quantitative form so that it will be useful to predict the nature of the promotional mix.

The theoretical framework for this thesis is taken from the article by Gordon E. Miracle entitled "Product Characteristics and Marketing Strategy."¹ In this report Miracle describes nine characteristics common to all products. He presents these product characteristics in a framework which he suggests is suitable to predict approximately the most appropriate marketing mix.

This thesis will carry this kind of work further, concentrating on prediction of the promotional strategy component of the marketing mix.

In addition, "A Two-Phase Interaction Process for Marketing Model Construction"² by Lipson, Darling and Reynolds will provide a supplemental framework. This article begins to quantify the process of determining the optimal marketing mix by offering the Miracle Product Analysis in matrix form based on a continuum of 0-100. This will provide the basic quantitative framework.

The analysis of a product will be based on the 0-100 continuum. By determining the number of points "earned" by a product the marketing manager will be able to quantitatively position his product on the continuum.

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Points accumulated for each product characteristic will be a direct result of the analysis for each characteristic. Each characteristic is an independent variable from the standpoint of its relationship to promotional strategy. Upon completion of this study it should be possible to assign quantitative scores to each product characteristic and total the scores to obtain an overall net score which will permit prediction of the appropriate promotional mix.

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II. HYPOTHESIS AND METHODOLOGY FOR TESTING

This thesis is a methodological thesis, ie. an attempt to suggest a method which can determine the optimum promotional mix. As such, this thesis will not test hypotheses but rather will test the predictive ability of the proposed method.

Hypothesis: The proposed quantitative scoring technique predicts accurately the relationship between all of the nine product characteristics of the Miracle model and "promotional strategy."

To test this predictive ability, ten products have been selected for detailed analyses. These analyses will consist of (1) a characteristic-by-characteristic evaluation of each product based on the proposals in this thesis and (2) a grouping of the products based on the categories formulated by the Miracle typology. The following ten products will be analyzed:

1. Heinz Ketchup
2. Oldsmobile Cutlass
3. Zenith Color Television
4. IBM 360 Computer
5. Polaroid Camera
6. Salem Cigarettes
7. Memorex Magnetic Tape
8. Timex Watch
9. Goodrich Radial Tires
10. Hush Puppies Shoes

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The predicted optimal promotional mix ascertained from the characteristic-by-characteristic analysis will be compared with the known information (ie. the continuum categorization based on the Miracle methodology). These comparisons will yield one of the following conclusions:

1. the method predicts accurately and therefore is a useful method.
2. the method predicts some promotional mixes accurately but not others and therefore needs some additional study.
3. the method does not predict accurately and therefore is not a useful method.

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III. REVIEW OF THE LITERATURE

"A model is a representation of a system, designed to incorporate those features that are deemed essential for one or more specific purposes."³

In other words--a representation of the real world.

Since models do represent the real world, it is not surprising that they have become an important tool in the marketing process. "Since about 1950 there has been a growing interest among marketing executives in the possibilities of using mathematical models as aids to decision making."⁴ In today's highly sophisticated marketing arena, model building is of even greater importance as marketing executives are interested in better models to serve as "devices for exercising control over future events affecting their firms."⁵

Much of the interest in marketing models has been in the area of determining the marketing mix. "The construction of models to represent marketing systems and to study the relationships among various components of the 'marketing mix' promises to be of significant value to marketing management."⁶

In an attempt to provide meaningful models for marketing decision making, scholars have formulated and refined different concepts. Before continuing with this thesis, the current state of these earlier marketing mix models will be analyzed for the scope, the limitations and the benefits of each model.

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A. Consumer/Industrial Goods

The consumer/industrial goods categorization is the most basic of all the proposed marketing mix models. In this dichotomy products are classified according to the following criteria:

1. consumer goods: goods which can be used by individuals or households without further processing.
2. industrial goods: goods which will be used by other companies to produce other goods or other services.

The reason for this distinction is that "industrial buyers differ somewhat in their buying motives, habits and skills from consumer buyers."⁷ However, this consumer/industrial goods concept is not valid according to Jerome Kernan: "Unfortunately, products can't be partitioned cleanly into consumer or industrial goods. Intrinsically, a product is neither; its classification is a function of the buyer's intention in using it. It follows, then, that consumer-goods strategies or industrial-goods strategies are at best approximations of the marketing efforts that tend to be appropriate for the respective goods categories."⁸

B. Durable/Nondurable Goods

A second dichotomy which has been proposed is the durable/nondurable goods theory. In this, goods are categorized according to the rapidity at which they are consumed. This proposal seems to have a great deal of validity since products which are consumed rapidly (nondurable) would most likely have a different marketing mix than those products

which last over a number of years or a number of uses.

However, "as with the consumer-industrial goods scheme, the durable-nondurable dichotomy tends to break down in practice. A durable good is not ipso facto perceived by a buyer differently than a nondurable good. Accordingly a priori strategies are at best only guides to propriety."⁹

C. Convenience, Shopping and Specialty Goods--Copeland

In 1923 Melvin T. Copeland presented his theory that a marketing mix can be constructed according to the amount of time a consumer is willing to spend in buying a product.¹⁰ The Copeland proposition was that all products can be positioned in one of the following categories:

1. convenience goods: goods that are usually purchased frequently, immediately and with a minimum of effort.
2. shopping goods: goods that are purchased only after a comparison on the basis of suitability, quality, price or style.
3. specialty goods: goods that are of such uniqueness that a consumer insists upon and will take considerable effort and time to purchase.¹¹

The value of the Copeland trichotomy "lies in its ability to prescribe (in broad strokes because it does yield some anomalies) the distribution and promotional strategies--and implicitly the pricing strategy--¹² appropriate to each of the three types of goods." Convenience goods, for instance, are heavily advertised, available in numerous outlets, and competitively priced. Shopping goods, meanwhile, usually entail

more personal selling, a more selective distribution program and priced according to quality. Specialty goods are more restrictive in promotion, price and distribution.

D. Aspinwall's Typology

Much of the problem with the preceeding marketing mix models is their inability to consider enough product characteristics. A marketing mix is not determined accurately by considering only how often a product must be replaced (durable/nondurable goods theory) or by considering only how much time and effort a consumer will put forth before buying a product (Copeland's theory). Instead, the optimal marketing mix can only be determined accurately by considering many factors operating in the marketing arena. In 1958 Leo V. Aspinwall began this process with his "Characteristics of Goods and Parallel Systems Theories."¹³

In this report Aspinwall states that there are five product characteristics which should be considered by the marketer. The five are:

1. replacement rate: the rate at which a good is purchased and consumed by users in order to provide the satisfaction a consumer expects from the product.
2. gross margin: the money sum which is the difference between the laid-in cost and the final realized sales price.
3. adjustment: services applied to goods in order to meet the exact needs of the consumer.
4. time of consumption: the measured time of consumption during which the good gives up the utility desired.
5. searching time: the measure of average time and distance from

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Based on these five product characteristics, Aspinwall used a system of colors to define his categories of goods.

The idea that goods with similar characteristics are similar to each other lends itself to the establishment of three large classes of goods that can be named in such a manner as to convey the idea of an array of goods. The choice of color names may be inept in some respects, but the idea of an array of goods, based upon the sum of relative values of characteristics of goods, is important.¹⁵

The following chart represents Aspinwall's color concept:

	<u>Red Goods</u>	<u>Orange Goods</u>	<u>Yellow Goods</u>
Replacement Rate	High	Medium	Low
Gross Margin	Low	Medium	High
Adjustment	Low	Medium	High
Time of Consumption	Low	Medium	High
Search Time	Low	Medium	High

Aspinwall further suggested that a system of scoring could be devised so that any product could be rated on a scale from zero to one hundred dependent upon the weight assigned to each product characteristic.

Thus, according to Aspinwall, products fall on a continuum rather than "pigeon-holed" into two or three restrictive categories. Where the particular product under consideration falls on the continuum determines the optimal distribution and promotion policies.

E. Miracle's Typology

In 1965 Gordon E. Miracle extended Aspinwall's characteristics of goods
¹⁶
 theory. Instead of five characteristics common and key to every product (as proposed by Aspinwall) Miracle specified nine product characteristics. Instead of three product categories (red, yellow and orange) Miracle theorized five product groups. And, rather than offering direction only in the areas of distribution and promotion, Miracle also included product and pricing policies.

The following nine product characteristics were designated in the Miracle theory:

1. Unit value
2. Significance of each individual purchase to the consumer
3. Time and effort spent purchasing by the consumer
4. Rate of technological change (including fashion changes)
5. Technical complexity
6. Consumer need for service (before, during or after the sale)
7. Frequency of purchase
8. Rapidity of consumption
9. Extent of usage (number and variety of consumers and variety
¹⁷
 of ways in which the product provides utility)

Through an analysis of these nine characteristics it is possible to categorize a product into one of five groups. The following chart shows the variation in product characteristics for each group:

Product Characteristics (see list)	GROUP NUMBER				
	I	II	III	IV	V
1	Very Low	Low	Med-Hi	High	Very High
2	Very Low	Low	Med	High	Very High
3	Very Low	Low	Med	High	Very High
4	Very Low	Low	Med	High	Very High
5	Very Low	Low	Med-Hi	High	Very High
6	Very Low	Low	Med	High	Very High
7	Very High	Med-Hi	Low	Low	Very Low
8	Very High	Med-Hi	Low	Low	Very Low
9	Very High	High	Med-Hi	Low-Med	Very Low

For each of the five groups there is a recommended policy for product, distribution, promotion and pricing. At the one extreme--Group I--the following marketing mix is recommended by the Miracle model:

1. Little effort on product development.
2. Intensive distribution.
3. Heavy advertising.
4. Little effort to control pricing.

At the other extreme, products which fall into Group V would have the following marketing mix:

1. Custom built.
2. Sold directly from manufacturer to user.
3. Sold primarily by salesmen.
4. Individually negotiated price.

IV. INTRODUCTION TO SCORING TECHNIQUE

The models discussed in the previous section provide a basic foundation to the use of models in determining the marketing mix. However, both Miracle and Aspinwall have commented as to the limitations of these models.

Miracle: "It is, of course, an artificiality to classify products by groups; and it would be more accurate to place products on a continuum, or within a spectrum ranging from one extreme to another."¹⁸

Aspinwall: "Finally, if precise weights or values could be assigned to each characteristic, their combination would determine the unique position of a product on the marketing scale."¹⁹ "The problem of weights or values being assigned to these individual characteristics has been one of the real difficulties in giving the theory a mathematical setting. So far that objective has not been fully achieved. We have been obliged to deal with relative values which might be considered as an intermediary stage in the theory's development."²⁰

This, then, leads to the precise purpose of this thesis. That is, to establish a method of scoring whereby information that has historically been expressed in a qualitative form can be translated into quantitative form.

As previously indicated, the basis for this thesis is taken from the

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model described by Gordon E. Miracle. However, rather than restricting the analysis to only five groups and a subjective high-medium-low range, a continuum of 0-100 will be proposed. By determining the number of points "earned" by a product, the marketing manager will be able to quantitatively position his product on the continuum.

Seven of the nine product characteristics defined by Miracle (unit value; significance of each purchase; time and effort spent purchasing; rate of technological change; technical complexity; customer need for service; and extent of usage) will be considered as equally important and will each be assigned a scoring range of 0-12 points. Frequency of purchase and rapidity of consumption usually have a strong inter-relationship. As such, they will be considered as a combination and assigned a net scoring range of 0-16 points. (Note: it is difficult to ascertain how much more important these two characteristics, in combination, are compared to the other seven factors. For purposes of this thesis it will be considered as one-third more important.) This then provides the 0-100 scoring scale.

Because the product characteristics have been assigned an equal weighting (with the exception of frequency of purchase/rapidity of consumption) it does not necessarily follow that all of the characteristics are of equal weight. And, because one characteristic was assigned a one-third greater weight, it does not necessarily mean that it is always of greater importance. Instead, the "earned" scores are relative scores and can be weighted for each individual product.

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For example, for a certain product some of the product characteristics may be of little or no importance. Meanwhile, some of the other product characteristics may be of considerably greater importance. The weighting of these factors can drastically alter the optimal promotional mix. (This weighting is possible as long as the total weight does not exceed eight--ie. one weighting point for each product characteristic.) The following example should demonstrate this:

	<u>Earned Points</u>	<u>Weight</u>	<u>Total Unwgt'd</u>	<u>Weight</u>	<u>Wgt'd Total</u>
Unit Value	8	1.0	8.0	2.0	16.0
Significance	6	1.0	6.0	.5	3.0
Time Spent	5	1.0	5.0	.5	2.5
Tech. Change	10	1.0	10.0	2.0	20.0
Complexity	8	1.0	8.0	2.0	16.0
Service	4	1.0	4.0	0.0	0.0
Freq. Pur./Rapidty	3	1.0	3.0	.8	2.4
Usage	4	<u>1.0</u>	<u>4.0</u>	<u>.2</u>	<u>.8</u>
TOTAL		8.0	48.0	8.0	60.7

As this example indicates, the weighted total points far exceeds the unweighted. It is therefore the responsibility of the marketing executive to determine which of the product characteristics are of greatest importance to his product and to assign weights accordingly.

After the product has been analyzed a total score for the entire evaluation will be obtained. This total score then positions the product on the 0-100 continuum and allows the marketer to rank his product against other products.

PART II

PRODUCT CHARACTERISTICS

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V. UNIT VALUE

Unit value is the first element to be considered in the product analysis. In many instances it is the primary element since unit value is actually the price of a product.

Any good that has the capacity to satisfy a human want is said to possess utility. The power of such utility or of the good possessing it to command other goods in normal and regular exchange is its value. Such value, expressed in monetary terms, is the price of the good. Thus, price is the money value of a commodity or service which emerges in a market transaction.²¹

Depending on the price of an item, a person will require more or less information and service at the point of sale. A candy bar, for instance, is inexpensive and when purchasing a candy bar one rarely questions a sales person as to advantages, disadvantages or operation. The consumer has sufficient prior knowledge from advertising, experience or other sources so that he is willing to make the purchase without further information. And if the purchase decision is faulty the consumer has only invested 10¢ in the product.

However, when the price of a good is greater and an outlay of more money is at stake the consumer will take more time to shop to make certain he is obtaining sufficient information to make the proper selection. For example, when purchasing a color television the potential buyer will discuss with the sales person advantages and disadvantages of each model; will demand a demonstration; will consult his acquaintances; and will probably refer to a guide, such as Consumer Reports, for expert guidance. In other words, the prior knowledge

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which the customer possesses is normally not sufficient for him to make an immediate decision.

The need for personal contact at the point of sale increases as the price goes higher--say in the case of an automobile or a house. Thus, when it is accepted that there is a direct relationship between the price of a product and the amount of information required (as well as the means by which such information is obtained) it is understandable how unit value can affect the optimal promotional mix.

However, price is not the only factor which will affect the level of advertising and personal selling. Within each competitive market there is a certain price range which the majority of consumers are willing to pay. "Since consumers are often unaware of the exact prices for many products it may be that in many instances there is a range of acceptable prices. So long as the price of a product falls within the acceptable zone, price may not be a criterion."²² Thus, the positioning of the product on the price continuum scale within each industry is the second consideration. Those products which are above or below an industry "range of acceptable prices" would most likely have a different promotional mix than the average product in the industry.

This situation can be exemplified by the automotive market. In this industry there is a certain price which the average consumer is willing to pay for transportation. This is what accounts for the massive sales figures for "The Big Three"--Chevrolet, Ford and Plymouth--and the steadily increasing interest in economy cars. Other automobile

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models which offer more conveniences such as power windows, air conditioning, bigger engine, etc. cost the consumer more money and fewer people are willing to pay for these added comforts.

When the price of an item exceeds what is considered normal for the industry, there is less of a potential market. Hence, the seller of the product which sells for more than the "acceptable " price range will probably need a promotional mix with slightly more personal selling than would a product which sells at or below what is considered an "acceptable" price range.

SCORING

Two independent variables affect the concept of unit value. They are (1) price and (2) relationship of price to competing products. In order to ascertain a total score for unit value it is necessary to assign scores to the variables which affect unit value. When these scores are combined an overall score for unit value can be determined.

(1) Price

The price that a consumer must pay for an item is the major factor in this consideration. As indicated, the more a product costs a consumer the greater the risk of buying and the more personal selling will be required at the point of purchase.

In order to give price a total consideration a seven point scale will be used. This will provide a wide scope which can include a large range of prices. But rather than stating the price in dollars and cents it shall be expressed as a per cent of the median per capita

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national income. In this way the proposed model will be universal (i.e., applicable in any nation) and will be operable despite changes in income levels, severe inflation or depression.

The following scoring scale will be used:

<u>Points</u>	<u>Percent of Median Per Capita Income</u>
0	Below .10%
1	.10% - .49%
2	.50% - .99%
3	1.00% - 1.99%
4	2.00% - 9.99%
5	10.00% - 24.99%
6	25.00% and over

(2) Relationship of Price to Competing Products

If a product costs more than the normal perceived price, a mass marketing campaign is usually not plausible. As the cost becomes more unaligned with the normal price the more unfeasible a mass campaign (i.e., advertising) becomes.

The following scoring scale will reflect this aspect of the analysis:

<u>Points</u>	
1	50% or more <u>below</u> the "accepted" price
2	49.9% below to 49.9% above "accepted price
3	50% or more <u>above</u> the "accepted" price

When these two factors are considered in combination, the total scope of unit value can be considered. For example, assume that the median

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per capita income in the United States is \$5,000. The product to be considered is a man's wrist watch which costs \$300 to the consumer. This is 6% of the per capita income. This converts to 4 points on the scoring scale (2.00% - 9.99% = 4 points).

Assume further that the generally accepted price of a man's wrist watch is \$100. The watch under consideration in this product analysis is three times the normal price. Therefore, 3 points are assigned to this portion of the unit value scoring.

But these two factors must be combined in order to provide an overall consideration. This can be accomplished by relating the total number of points accumulated by multiplying price points (in this case, 4) by relationship points (in this case, 3) and converting the points as follows:

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<u>Raw Score</u>	<u>Points Assigned</u>
0	0
1	1
2	2
3	3
4	4
5	5
6	6
8	7
9	8
10	9
12	10
15	11
18	12

Thus, in the example used above, the man's wrist watch would accumulate a total of 12 points ($4 \times 3 = 12$). Converting this raw score on the above chart means that the man's watch is assigned 10 points for the total "Unit Value" analysis.

VI. SIGNIFICANCE

Webster's definition

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VI. SIGNIFICANCE OF EACH INDIVIDUAL PURCHASE

Webster's defines significant as "important, momentous." Therefore, "significance of purchase" can also be considered as "importance of purchase."

Importance of each individual purchase is a contributing factor in the determination of the promotional mix. In most cases the more important a purchase is, the more important personal selling becomes and, conversely, the less important a purchase the more important advertising is to the promotional mix. "Importance of purchase refers to differential degrees of ego-involvement in or commitment to different product classes. It is therefore an entity which must be carefully examined in inter-product studies. Importance of purchase will influence the size of the evoked set and the magnitude of the search for information. For example, the more important the product class, the larger is the evoked set."

Two factors are pertinent in analyzing significance of purchase-- (1) the importance of the need and (2) the perceived risk of purchasing a particular product. A separate discussion of each of these factors shows their relevance.

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(1) Importance of the Need

Needs can be stratified, according to A.H. Maslow, into five basic categories depending on the importance of the need to the consumer. These categories are, in order of importance: physiological, safety, love, esteem and self-actualization.

These basic goals are related to each other, being arranged in a hierarchy of prepotency. This means that the most prepotent goal will monopolize consciousness and will tend of itself to organize the recruitment of the various capacities of the organism. The less prepotent needs are minimized, even forgotten or denied. But when a need is fairly well satisfied, the next prepotent ("higher") need emerges, in turn to dominate the conscious life and to serve as the center of organization of behavior, since gratified needs are not active motivators.²⁴

At the lowest level on the hierarchy of prepotency, but of utmost importance when they are thwarted, are man's physiological needs. These needs, basically, are the needs required to sustain life. Such items as food, rest, exercise and shelter can be included at this level. "Undoubtedly these physiological needs are the most pre-potent of all needs. What this means specifically is, that in the human being who is missing everything in life in an extreme fashion, it is most likely that the major motivation would be the physiological needs rather than any others. A person who is lacking food, safety, love, and esteem would most probably hunger for food more strongly than for anything else."²⁵

When the physiological needs of an individual are reasonably gratified other (and "higher") needs dominate. This higher level in the hierarchy of prepotency is the need for safety; ie. protection against danger. "Other broader aspects of the attempt to seek safety and

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stability in the world are seen in the very common preference for familiar rather than unfamiliar things, or for the known rather than the unknown."²⁶ Thus, safety needs can be strong motivators to individuals.

If both the physiological and the safety needs are fairly well gratified, then there will emerge the love and affection and belongingness needs, and the whole cycle already described will repeat itself with this new center. Now the person will feel keenly, as never before, the absence of friends, or a sweetheart, or a wife, or children. He will hunger for affectionate relations with people in general, namely, for a place in his group, and he will strive with great intensity to achieve this goal.²⁷

The fourth level on the hierarchy of needs is the esteem needs.

"All people in our society (with a few pathological exceptions) have a need or desire for a stable, firmly based, (usually) high evaluation of themselves, for self-respect, or self-esteem, and for the esteem of others."²⁸ Esteem needs, according to Maslow, include the desire for reputation, prestige, recognition, attention and importance.

Finally, at the pinnacle of the hierarchy of needs, and the need which is least often satiated, is the need for self actualization. This refers to "the desire for self-fulfillment, namely, to the tendency for one to become actualized in what he is potentially. This tendency might be phrased as the desire to become more and more what one is, to become everything that one is capable of becoming."²⁹

There seems to be a relationship between the level of need on the hierarchy (as proposed by Maslow) and the type of promotion which should be accorded the greatest amount of emphasis by the marketer. As one ascends the hierarchy chain moving from physiological needs to

self-actualization needs the need for advertising seems to decrease while the need for personal selling seems to increase. The reason for this occurrence is probably due to the consumer being almost constantly aware of the gratification of physiological and safety needs and, therefore, possessing sufficient prior knowledge to make a purchase decision with little shopping. Conversely, at the higher extremes of needs (esteem and self-actualization) one is not often exposed to the gratification of these needs and therefore lacks adequate prior knowledge. The consumer is more likely to spend additional time and effort to secure this knowledge before making his purchase decision.

This view is supported by Albert Wesley Frey:

In general the opportunity for profitable primary advertising appears stronger when the wants to be satisfied by the product are not trivial. A product that deals with a basic or strong consumer need may lend itself better to primary advertising than does a product designed to satisfy a trivial or a secondary need.³⁰

While one may dispute the wording of Frey's proposal or the need for judgement (re. the word "trivial") his basic premise does seem sound and is applicable in this situation.

(2) Perceived Risk

The second factor influencing the significance of a purchase is the perceived risk of purchasing a product.

Consumer behavior involves risk in the sense that any action of a consumer will produce consequences which he cannot anticipate with anything approximating certainty, and some of which at least are likely to be unpleasant.³¹

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because it adds a dimension not covered by Maslow's hierarchy of needs.

"The perception of risk in a purchase situation is a function of the possible consequences and the uncertainty involved. Consequences can be thought of as the costs if a given event occurs, and may range from simple monetary loss and disappointment if a new food item does not live up to expectations, to food poisoning. The uncertainty element could be phrased in terms of probabilities that given consequences will occur."³²

In order to reduce the risk of a purchase decision, the consumer seeks information.

Each purchase decision path will strike him [the consumer] as having some risk attached. The amount of risk perceived by a consumer depends on the amount at stake and the degree of subjective certainty that he will do well. People try to reduce the perceived risk by seeking information. The final selection of a path by the consumer will reflect his balancing of expected rewards, costs, and risks.³³

As the risk involved in a purchase is greater, the more emphasis will be placed on personal selling. As the perceived risk declines, advertising will become more and more important to the promotional mix.

In toto, the more important or more momentous a purchasing decision is, the more important personal selling becomes to the promotional mix. At the far extreme of "insignificance" is an established food item which adequate information is known; e.g., Heinz Ketchup. At the opposite extreme, a product whose purchase is "very significant" to the consumer would be a newly introduced automobile which requires a large investment and may meet with family or peer group disdain.

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SCORING

In order to ascertain a total score for significance of purchase, the two variables discussed above must be scored separately. When these analyses are combined a net overall score can be determined.

(1) Importance of the Need

As previously mentioned, the more important the need the more important advertising becomes to the promotional mix. At one extreme necessary food items require no personal selling because the consumer usually requires no additional information at the point of purchase. On the other hand, a product which is higher on Maslow's hierarchy of needs (a new stereo unit) would not require as much advertising but would demand more personal selling.

It should be noted that not every product means the same to all individuals. For example consider seat belts for automobiles. For one group of consumers this product may be perceived as a safety need as it represents protection against danger and reduces the possibility of death. But a second group might consider seat belts a love need. This would be the case if the seat belts were installed to gain acceptance or love from one's family and/or peer group. To a third group seat belts might represent a self-actualization need if it helps a man better realize his role as a father and a family protectorate.

The level of need will therefore depend on how the manufacturer decides to position his particular product. The seat belt manufacturer can

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position his product in the way in which he believes is most beneficial to his sales. Depending upon the positioning of the product, the promotional mix may vary widely.

When the product has been positioned in the market place the manufacturer can assign scoring points as follows:

<u>Points</u>	<u>Type of Need</u>
1	Physiological Need
2	Safety Need
3	Love & Belonging Need
4	Esteem Need
5	Self-Actualization Need

(2) Perceived Risk

"It might be hypothesized, for example, that the more important the purchase is and the less experienced the person is in making such purchases (higher perceived risk), the more likely is information seeking. This may take the form of using marketer-controlled information sources (advertising and personal selling) and/or using non-marketer-controlled information sources (fellow consumers, and such 'objective' sources as Consumer Reports)."³⁴ However as the perceived risk becomes greater it seems reasonable that the emphasis of the promotional mix should be placed on personal selling.

Perceived risk can be divided into two forms--functional risk and psychosocial risk.

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Functional risk is closely related to product performance, and psychosocial risk is closely related to whether the product will enhance one's sense of well-being or self-concept (Cox, 1967). Cunningham, for example, found headache remedies to be higher in perceived functional risk than fabric softeners or dry spaghetti (1967, p. 87). Robertson (1966) found that a new telephone product was low in perceived functional risk but fairly high in perceived psychosocial risk. There was little concern about the telephone not working (functional risk), but a good amount of expressed concern about what other people would think about the product (psychosocial risk). Some products, such as clothing, are by their very nature high in psychosocial risk; other products, such as drugs, are high in functional risk. Automobiles are perhaps an appropriate example of a product often perceived as both high in functional and psychosocial risks.³⁵

Since functional and psychosocial risks are not necessarily mutually exclusive, in the scoring of this segment both types of risk must be considered separately. Therefore, a range of 0-2 will be accorded to both types of risk. The following scoring chart will be employed:

<u>Functional Risk</u>	<u>Perceived Risk</u>	<u>Psychosocial Risk</u>
0	No Risk	0
1	Light-Moderate	1
2	Moderate-Heavy	2

In the case of an automobile, which is heavy in both functional risk and psychosocial risk, the total score would be 4 ($2 + 2 = 4$). A new clothing item would probably register no functional risk (0 points) and a heavy psychosocial risk (2 points) for a composite score of 2 points ($0 + 2 = 2$).

In order to consider significance of purchase as a total entity it is necessary to combine the scores accumulated in these two separate

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analyses. This can be accomplished by multiplying the two scores together. For example, using the man's wrist watch introduced in the preceding section the following scoring analyses may be performed:

(1) Esteem Need = 4 Points

(2) Perceived Risk

Functional Risk: Moderately Heavy = 2 Points

Psychosocial Risk: Light-Moderate = 1 Point

Total Perceived Risk = 3 Points

Total Significance of Purchase to Consumer = 12 Points ($4 \times 3 = 12$)

At this stage the accumulated points must be translated into a score which can be factored into the overall analysis. The following conversion chart will be used:

<u>Raw Score</u>	<u>Points Assigned</u>
0	0
1	1
2	2
3	3
4	4
5	5
6,8	6
9	7
10	8
12	9
15	10
16	11
20	12

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The man's wrist watch which accumulated a raw score of 12 points, converts to 9 points on the above scale.

Ten points were earned by this product in the "Unit Value" section. The new subtotal after analyzing two product characteristics is now 19 points.

VII. TIME AND EFFORT SPENT PURCHASING BY CONSUMER

The third product characteristic to be considered in this analysis is "time and energy spent purchasing by the consumer." This factor is an important consideration in the formulation of the promotional mix due to its high correlation with the amount of emphasis placed on advertising and on personal selling. Products for which a person is willing to expend very little time and effort purchasing must rely heavily on advertising to presell the product to the consumer. On the other hand, those products which a consumer will take considerable time and effort purchasing, do not require as much preselling but do call for an increased effort in personal selling. Hence, consumer buying habits strongly affect the determination of the promotional mix.

"Typically, consumers will buy at the nearest store unless advantages of product quality, product selection, price or service lead them to go further."³⁶ Products which offer no distinct advantage in quality, price, etc. (e.g. light bulbs) will usually be purchased at the most convenient store with a minimum of shopping time being consumed. However, those products which offer a variety of quality, price, service and selection (e.g. automobiles) usually demand a great amount of shopping on the part of the consumer. The consumer must, therefore determine a balance between the amount of time and energy they are willing to expend shopping and the probable increase in satisfaction they expect to receive from the goods in question.³⁷

Some products (because of their very nature) require a greater amount of shopping than others. Automobiles, computers and a home require considerably more shopping time and effort than does a pack of cigarettes or a pair of shoe strings. This theory was originally conceived by Melvin T. Copeland in his classification of consumer goods according to shopping, convenience and specialty goods. A later refinement by Richard H. Holton provides the definition which will be used in this thesis:

Convenience goods are those goods for which the probable gain from making price and quality comparisons among alternative sellers is thought to be small relative to the consumer's appraisal of the searching costs in terms of time, money and effort. Shopping goods, then, are those goods for which the probable gain from making price and quality comparisons among alternative sellers is thought to be larger relative to the consumer's appraisal of the searching costs in terms of time, money and effort.³⁸

These definitions explain why consumers are willing to spend additional time and effort shopping for certain goods, but are not willing to for others.

While Holton's evaluation of consumer goods is quite useful, it should be noted that he does not provide a definition for the category of specialty goods -- i.e. "those consumer goods on which a significant group of buyers are habitually willing to make a special purchasing effort."³⁹ Holton's theory on specialty goods was as follows:

Therefore, it would seem that the specialty-good classification overlaps both the other groups and cannot be distinguished either from the shopping goods or from convenience goods.⁴⁰

In other words, "a convenience good may or may not be a specialty good; and a shopping good may or may not be a specialty good."⁴¹

For the purposes of this thesis the Holton theory that "the convenience goods-shopping goods distinction is measured in one dimension, the specialty-goods characteristics in another,"⁴² will be accepted.

SCORING

The scoring in this section of the analysis will entail a two-fold process. First, determination of whether the product is a convenience good or a shopping good. Second, determination of whether or not the product is a specialty good.

The analysis of whether a particular product is a convenience good or a shopping good is not a simple dichotomy. Instead, "the goods which might be bought can be crudely arrayed from convenience goods at one end of the spectrum to shopping goods at the other; a neat two-fold classification is not possible. The amount of comparison shopping increases steadily as one moves from shoe strings to neckties to suits to dining room furniture."⁴³

In this thesis the scoring continuum will range from 1-5 with convenience type products worth 1 point and shopping goods worth 5 points. Points will be assigned to the product according to the amount of gain (in lower price, increased quality, etc.) which can be made by shopping.

	<u>Points</u>
<u>No</u> Gain to be Made from Shopping (Light Bulb)	1
<u>Slight</u> Gain to be Made from Shopping (Record Album)	2
<u>Moderate</u> Gain to be Made from Shopping (Man's Suit)	3
<u>Fairly Heavy</u> Gain to be Made from Shopping (Automobile tires)	4
<u>Very Heavy</u> Gain to be Made from Shopping (Automobile)	5

Step two in this analysis considers whether or not the product is a specialty good. The following excerpt from Holton's analysis should be useful in determining this:

It would seem helpful not to define specialty goods from the viewpoint of the individual consumer, but rather to say that specialty goods are those (convenience or shopping) goods which, because of the nature of the distribution costs--are sold only through a restricted number of outlets. Then, whether or not an item is a specialty item depends in part on whether the manufacturer wishes it to be a specialty item.⁴⁴

This phase of the analysis will also be placed on a continuum depending upon the degree to which the number of outlets is restricted by the manufacturer. At one end of the continuum are those products (shopping or convenience) whose number of outlets is unrestricted. At the high extreme are those products (shopping or convenience) whose number of outlets is heavily restricted. This continuum will have a 1-4 scoring range.

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	<u>Points</u>
Distribution <u>Not</u> Limited	1
Distribution <u>Slightly</u> Limited	2
Distribution <u>Moderately</u> Limited	3
Distribution <u>Heavily</u> Limited	4

To determine the gross score for "time and effort spent purchasing," the product analyst should multiply the "gain from shopping" by the "distribution limitation" point count. For example, if there is a "slight gain to be made by the customer by shopping" (2 points) and the distribution is "moderately limited" (3 points) the product would accumulate a gross total of 6 points ($2 \times 3 = 6$).

The gross points accumulated within the step must next be converted to points which can be added to the overall product analysis. The scoring system selected for this section is as follows:

<u>Raw Score</u>	<u>Points Assigned</u>
1	0
2	1
3	2
4	3
5	4
6	5
8	6
9	7
10	8
12	9
15	10
16	11
20	12

The 6 points accumulated in the example above would therefore translate to 5 points in the overall analysis.

Once more, using the example of the man's wrist watch, the analysis of this phase of the product evaluation would be as follows:

The probable gain from shopping for a high priced wrist watch would probably be fairly heavy and, therefore, worth 4 points. Distribution of the product might be moderately limited and worth 3 points. This amounts to a gross score of 12 points ($4 \times 3 = 12$). This 12 points translates to an overall point assignment of 9 points. Adding these 9 points to the already accumulated 19 points, yields a subtotal after three steps of 28 points.

VIII. RATE OF TECHNOLOGICAL CHANGE

"The effect of technological change is to render old products less attractive and less salable."⁴⁵ As new and improved products become available in the marketplace net sales and share of market figures begin to be altered.

Technological change can also have an effect upon the promotional mix of a product. The more often a product changes or is improved the more important personal selling becomes to the promotional mix. This is because the consumer does not usually have sufficient information on the new product and must, therefore, seek out information at the point of and time of purchase. Conversely, those products which rarely change and are fairly standardized for several years will allocate more emphasis to advertising and less to personal selling.

Technological change is defined as follows:

Technology is society's pool of knowledge regarding the industrial arts. It consists of knowledge used by industry regarding the principles of physical and social phenomena (such as the properties of fluids and the laws of motion), knowledge regarding the application of these principles to production (such as the application of genetic theory to the breeding of new plants), and knowledge regarding the day-to-day operations of production (such as the rules-of-thumb of the craftsman). Technological change is the advance of technology, such advance often taking the form of new methods of producing existing products, new designs which enable the production of products with important new characteristics, and new techniques of organization, marketing and management.⁴⁶

In other words, technological change is an advance in knowledge and is not the result of this knowledge. For an example consider transistors. When the concept of the transistor was initially conceived and the realization was made that these minute durable items could replace the bulky and fragile vacuum tubes in radios, televisions and computers; this was a technological change. However, when the transistor was actually used in a radio in place of a vacuum tube, this was a change in technique. Hence, technological change is the change in knowledge and not the actual change itself.

It is also important to distinguish between the diffusion of information and technological change. A new piece of knowledge is considered a technological change when it is first discovered. However, when the knowledge is passed from one person to another it is no longer considered a technological change.⁴⁷

Also, a distinction between scientific advance and technological change should be made. The main difference between the two terms is that technological change quite often occurs as a result of inventions that did not require any scientific breakthrough for its creation. And even when technological change has been connected to a scientific breakthrough, they have not followed these breakthroughs in any simple and direct way; often taking several decades before making the change. However, without these earlier breakthroughs many of the technological changes of today would not have been possible.⁴⁸

Finally, one last term worthy of definition is technological innovation. This is quite similar to change in technique in that it is the application to a particular product of a technological change. Stated

another way, "An invention, when applied for the first time is an innovation."⁴⁹ Hence, a technological innovation is a technological change applied for the first time.

Two factors have the greatest effect on technological change. They are supply and demand. Demand will be considered first.

Demand is an important determinant of the rate of technological change because a technological change may be converted into a reduction in costs for a product or into an improved performance by a product.

"An expansion of demand for a good can be reflected in increased demand for advances which reduce the cost of existing products, for advances which permit higher performance or both."⁵⁰ "A growing demand for a particular product or of a particular industry is usually reflected in an increase in output (usually sales). An expansion of industry output clearly provides stimulus to both cost reducing and quality improving advances."⁵¹ "The larger the overall market, the greater the potential profit a firm can make from an improvement in efficiency which permits it both to cut costs and to shade prices, and the larger the absolute expansion in sales to be expected from any product improvement."⁵²

A technological change can aid an industry, not only through reducing the cost of an existing product or by increasing the usefulness of the product, but also by being converted into a reduction in the cost of production--ie. in the machinery or the process itself.

The relative prices or costs of different factors used by an industry determine the savings it achieves by various kinds of new machines or materials. An increase in the

price of a factor increases the profitability of technological advances which reduce the requirements for that factor relative to others.⁵³

To summarize the effects which demand has on the rate of technological change it can be said that "efforts to advance technology will tend to be drawn toward reducing costs and increasing product performance in industries and classes of products where demand is rising and toward saving on factors whose relative cost is rising."⁵⁴

The second factor affecting the rate of technological change is supply. Supply factors can either permit or restrict certain kinds of technological changes or advances. Supply seems like the obvious second factor affecting technological change for the demand for a particular good or service will never be achieved unless there is supply. But, in order to supply the demand, the industry must first have the capability. The capability to achieve technological advances in a particular field depends on three factors: first, the knowledge needed to invent in that field; second, the stock of materials and components with which these people can work; and third, the stock of knowledge that they can apply.⁵⁵ Changes in these three variables tend to restrict or permit the kinds and quantities of technological changes and advances.

However these three variables are not independent variables for they depend on three rather broad factors. These three factors are (1) industry size and growth; (2) advances in science and education; and (3) the development of a scientific base under the technology of an industry.⁵⁶ In summary, industry size and growth, advances in science and education and the development of a scientific base all influence

the independent variables or the factors which affect the capability of any industry to make technological changes and advances. This capability, in turn, then determines the quality and the rate of technological change.

What has been shown here is that "the output of technological advances is sensitive to the same economic factors that influence the output of more pedestrian products and services--ie. supply and demand."⁵⁷

Although supply and demand are the two major factors affecting the rate of technological change, a third important factor should be considered. This factor is competition. "Technological change is a key element in the competitive struggle among firms. The extent and quality of a firm's research and development program can make it an industry leader or head it for bankruptcy."⁵⁸

Competition is not a separate entity but is, instead, a branch of both supply and demand. For the competitor, through new innovations and through effective promotion, can affect both the supply and demand for a product and, thereby, slice into or even eliminate another firm's share of the market.

Technological change can be broken into four major categories depending on the time and cost (and probability) of commercial adoption.⁵⁹ These four major categories are routine improvements, major advances, technical breakthroughs and "blue sky" projects.

1. Routine improvements are the most common type of technological innovation. These are rather minor engineering

changes in which the technical knowledge for design, implementation, and application are known and predictable. No research or scientific advance is needed and the degree of improvement is only a small percent over current capability.

2. Major advances are substantial changes in which the direction and needs are within the scope of the industry, but have not previously been performed. Necessary technology is identifiable and achievable. Very little new scientific knowledge is required but some engineering development will be needed. The resulting improvement of a product from a major advance will yield a rather large percentage improvement.
3. Technical breakthroughs involve radical change or improvement that requires new scientific knowledge and much basic research. The technological answers seem to be feasible, but are, for the most part, unconformed or unknown. Substantial improvement in the product is promised.
4. "Blue-sky" projects are technological proposals in which the means of accomplishment and the end result are largely unknown. Substantial new scientific knowledge and engineering knowledge are required. Much basic and applied research is also needed. Predictability is low as these projects will provide a multiple of improvements and many of the present devices may be eliminated.⁶⁰

This now adds an additional consideration to the process of determining the optimal promotional mix. Not only must the rate of technological change be examined but the type of technological change must also be considered. It seems reasonable that a minor routine improvement would affect the marketing and promotional mixes differently than a major breakthrough; just as a technological change every two months would most likely affect the mixes differently than a change occurring every five years.

SCORING

"Also, when the rate of technological change is low, few varieties tend to be offered; manufacturers are able to develop a product that remains suitable to consumers for an extended period of time."⁶¹ It would then follow that with very minor changes in an industry, fewer varieties would be offered and a manufacturer would be better able to develop a product that remains suitable to consumers for an extended period of time. Therefore, the ultimate in a low score in technological change would be a product that has very few changes and, when changes do occur, are of a very minor nature.

Since all four types of changes can occur in any one given product (for example, an automobile has annual minor changes with an occasional major advance and/or technical breakthrough) all four aspects must be considered for each product. Hence, the rate of technological change must be analyzed for all four types of technological change--routine improvements; major advances; technical breakthroughs and "blue-sky" projects.

The rate of technological change will be scored on a 0-3 scale with "never" representing the lowest point and "often" representing the high extreme.

<u>Rate of Technological Change</u>	<u>Points</u>
Never	0
Seldom (less than once every ten years)	1
Occasionally (every 1-5 years)	2
Often (at least once a year)	3

By determining the rate of change for each type of technological change and adding the four-point factors together, a total score for this particular analysis may be obtained.

For example, consider a computer.

<u>Type of Tech. Change</u>	<u>Rate of Tech. Change</u>	<u>Points</u>
Routine Improvements	Often	3
Major Advances	Often	3
Technical Breakthroughs	Occasionally	2
Blue-Sky Projects	Occasionally	<u>2</u>
Total Points		10

The total raw score for technological change (in the above example, 10 points) will be incorporated into the complete evaluation of product characteristics by the following scoring chart:

<u>Raw Score</u>	<u>Points Assigned</u>
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12

This chart indicates that the 10 points accumulated in the analysis of technological change translates to 10 points in the overall analysis.

Continuing the example of the man's wrist watch (which has been carried through the first three factors), the following scoring will probably occur:

<u>Type of Tech. Change</u>	<u>Rate of Tech. Change</u>	<u>Points</u>
Routine Improvements	Occasionally	2
Major Advances	Seldom	1
Technical Breakthroughs	Seldom	1
"Blue-Sky" Projects	Never	<u>0</u>
Total Points		4

The total "technological change" score of 4 translates to 4 points in the overall product analysis. This 4 points, when added to the already accumulated subtotal of 28 points yields a new total, after four product characteristics, of 32 points.

IX. TECHNICAL COMPLEXITY

Technical complexity is the fifth factor which this product analysis will consider. It seems that a product which is technically complex (e.g., an automobile) would require a promotional mix quite different than a product which is not complex (e.g., a yo-yo).

The main reason for this difference in promotional mixes is due to the inherent limitations of advertising. Limited time, limited space, one-way communication and often low attentiveness usually make mass advertising of technically complex products impractical. However, "personal selling is typically more effective than advertising in producing 'conviction,' especially if the product is costly and/or technically complex."⁶² Face-to-face confrontation, two-way communication and virtually unlimited time permits the salesman to go into great depth concerning the product and allows him to "discuss the specific problems they [the clients] face, and show how the product or service is adaptable to each particular situation."⁶³ In other words, "The ad cannot go into much detail; the salesman can."⁶⁴ Thus a highly complex product is most receptive to personal selling.

Various characteristics possessed by a product determine whether or not the good can be categorized as technically complex. After exhausting all available sources, it must be concluded that there is no research which will describe these factors. It is therefore necessary in this thesis to formulate criteria for judging the factors which determine

whether or not a product can be considered as technically complex.

For the purposes of this thesis, the following two characteristics will be considered as the variables affecting technical complexity:

1. number of interrelated parts.
2. stage in product life cycle.

(1) Interrelated Parts

Webster's defines complex as: "consisting of two or more related parts."⁶⁵ Extending this, it can be concluded that the greater the number of interrelated (or component) parts possessed, the more technically complex a product must be. For example: an automobile has numerous interrelated parts--a steering system, a cooling system, a transmission linkage, etc. A wooden lead pencil, on the other hand, has no interrelated parts. Hence, because the automobile requires the proper interaction of all of its related parts in order to produce a successful product, the automobile is more complex than the pencil.

(2) Stage in Product Life Cycle

The reason why this factor is included in the analysis, is that as a product progresses in the product life cycle (ie. has been on the market longer) it becomes better understood by the masses. And, while a product's characteristics do not necessarily change, people's understanding of the product does, thus making the product seem less complex to the consumer.

This concept can be exemplified by quadrasonic sound in record players. Quadrasonic sound is an advancement over stereophonic sound in that it

breaks the music into four parts rather than the two in stereo. When quadrasonic was first introduced it was unknown and therefore a high level of personal selling was necessary. However, as the product moved out of the introduction phase and into the growth stage, word-of-mouth, magazine reports, etc. allowed people to begin to understand the product and how it operates. Hence, the quadrasonic product itself did not change technically, but the understanding of the public did change.

SCORING

The above analysis shows that two factors--interrelated parts and stage in the product life cycle--determine the technical complexity of a product. In order to establish an overall score for technical complexity, a scoring scale must be devised for each of the two determining factors.

(1) Interrelated Parts

Number of interrelated parts which a product contains is the primary consideration in this analysis. Since this can range from none (in a product like a shoe string) to very many (in a product like a computer), a 1-2 scoring scale is therefore not satisfactory. Instead, a scoring range must be employed which can take into account these differences. In this thesis, a 1-4 scoring range will be used. Those products with no or very few related parts will be placed at the low end of the scoring scale. Those products with many related parts will appear at the high end.

Points

1	No Interrelated Parts		(Shoe String)
2	Very Few Interrelated Parts	(2-3)	(Safety Razor)
3	Several Interrelated Parts	(4-5)	(Watch)
4	Many Interrelated Parts	(over 5)	(Automobile)

(2) Stage in Product Life Cycle

The second factor to be considered in this scoring is the stage in the product life cycle. Basically the product life cycle can be divided into five stages--introduction, growth, maturity, saturation and decline.

Kotler defines these stages as follows:

Introduction. The product is put on the market; awareness and acceptance are minimal.

Growth. The product begins to make rapid sales gains because of the cumulative effects of introductory promotion, distribution, and word-of-mouth influence.

Maturity. Sales growth continues but at a declining rate because of the diminishing number of potential customers who remain unaware of the product or who have taken no action.

Saturation. Sales reach and remain on a plateau marked by the level of replacement demand.

Decline. Sales begin to diminish absolutely as the product is gradually edged out by better products or substitutes.⁶⁶

Scoring for this factor will be in inverted order; that is, the decline stage being assigned a low point value (high advertising) and introduction being assigned a high point value (low advertising). The following scoring scale will be used:

Points

1	Decline
2	Saturation
3	Maturity
4	Growth
5	Introduction

To calculate the overall score for "technical complexity" the score obtained for each factor should be multiplied together. For example, a product with a few interrelated parts (2 points) and is in the growth stage (4 points), would tally a total of 8 points for technical complexity.

This gross score must be converted into an overall score for the entire product analysis. As in the other product characteristics, this will be based on the following 0-12 scale:

<u>Raw Score</u>	<u>Points Assigned</u>
1	0
2	1
3	2
4	3
5	4
6	5
8	6
9	7
10	8
12	9
15	10
16	11
20	12

In the example above, the 8 points accumulated by the hypothetical product would convert to 6 points in the overall evaluation.

Considering the man's wrist watch again (which has been used throughout), the following scoring process would probably be used:

Interrelated Parts	(Several)	3 points
Stage in Life Cycle	(Maturity)	3 points

The gross score for the man's wrist watch is, therefore, 9 points ($3 \times 3 = 9$). This will convert to 7 points in the overall analysis. Thus, adding these 7 points to the subtotal of 32 accumulated to this point yields a new subtotal of 39 points.

X. CUSTOMER'S NEED FOR SERVICE

Factor number six in the product evaluation process is the "customer's need for service." This is an important aspect for most manufacturers because "customer service is one of the keys to survival and profit."⁶⁷ "Materials, workmanship, manufacturing techniques, and design are unimportant if the user of a product fails to obtain satisfaction from its possession. Service helps to keep merchandise 'sold'. It [service] builds goodwill and helps to promote repeat sales. . . . Some products have no utility for the buyer without accompanying service. Without the service there would be no sale."⁶⁸

Since customer service is such an important concept a concise definition of the term should be established. In this evaluation service will be defined as follows: "Service on the part of the manufacturer refers solely to those activities that are carried on in an attempt to see that the product gives satisfactory performance to its users."⁶⁹

Thus, any activity which makes the product more exactly what the customer wants can be categorized as a service. This point can be exemplified by a pane of window glass. In this instance three services are required of the glass retailer before the product has any value to the customer. After taking the order he [the glass retailer] must first, cut the glass to the proper size; second, deliver the glass to the customer via a specially equipped truck; and third, properly install the glass in the window. These three services do not make the pane of glass, itself,

any better, but they do make certain that the product is yielding satisfactory performance for its users.

Customer service can be an important ingredient in the determination of the optimal promotional mix. The more service required by a product the more individualized the product becomes. Therefore, a manufacturer of an individualized product (i.e., one that requires a great deal of service) can not enjoy the economies of scale nor is he likely desirous to reach a very broad audience.

In other words, if a great deal of service is necessary it would probably be found that the manufacturer is investing the bulk of his promotional dollars in personal selling. Conversely, a product demanding very little manufacturer/retailer service would undoubtedly be geared to a much broader audience and would, therefore, concentrate heavily in advertising.

Service can take four different forms in the channel of distribution.

These four principal forms are:

1. Education: how to use and maintain it
2. Installation
3. Inspection
4. Repair or Replacement⁷⁰

Some products require all four of these services while others require none or very few. In order to determine the best promotional mix, all four types of services should be analyzed with regard to each particular product. In most cases a product requiring all four types of services would call for a different promotional mix than a product which needs

only one or two service types.

Service takes time. And, not all services require the same amount of time. Therefore, in the evaluation of a product and in determining the optimal promotional mix, the amount of time to service the product must also be considered. A product which can be serviced in a matter of minutes would most likely have different marketing and distribution policies than one which takes a great deal of time to service.

SCORING

This analysis of customer's need for service has indicated that there are basically two dependent variables which affect the positioning of service in the determination of the optimal promotional mix--types of service required and length of time to provide the service.

Length of time to service a product varies according to technical complexity, stage in life cycle, etc. The amount of time required for servicing is an important factor and should, therefore, be assigned a score according to the amount of service required. For the purposes of this thesis, time will be broken into four categories ranging from "no service required" to "extensive service required." The rating scale will be as follows:

<u>Amount of Service Required</u>	<u>Points</u>
None	0
Slight (less than 1 hour)	1
Moderate (1 hour - 1 day)	2
Extensive (More than 1 day)	3

As previously stated, services may appear in any or all of four forms-- education, installation, inspection, and repair or replacement. Each type of customer service may require different amounts of time depending on the product being examined. Therefore, in order to best evaluate the service aspect of a product, the extent of service required for all four types of services must be analyzed and scored. Each type of service should be weighed equally thus making the scores for each a simple addition process.

For example let us consider the service aspect with regard to an electric can opener and a washing machine:

Electric Can Opener

<u>Type of Service</u>	<u>Extent of Service</u>	<u>Points</u>
Education	None	0
Installation	None	0
Inspection	None	0
Repair or Replacement	Slight	<u>1</u>
	Total	1

Washing Machine

<u>Type of Service</u>	<u>Extent of Service</u>	<u>Points</u>
Education	Slight	1
Installation	Moderate	2
Inspection	None	0
Repair or Replacement	Moderate	<u>2</u>
	Total	5

This total must now be incorporated into the entire analysis of the product. This can be done by relating the total number of points accumulated in this step to the following chart:

<u>Raw Score</u>	<u>Points Assigned</u>
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12

In the above examples of the electric can opener and the washing machine, 1 and 5 points, respectively, would be added to the analyses of these two products.

Now consider the man's wrist watch which has been evaluated throughout this thesis.

<u>Type of Service</u>	<u>Extent of Service</u>	<u>Points</u>
Education	None	0
Installation	None	0
Inspection	Slight	1
Repair and Replacement	Extensive	<u>3</u>
	Total	4

Converting this on the above chart the 4 points raw score is worth 4 points in the overall analysis. This 4 points is then added to the subtotal of 39 already accumulated to give a new subtotal of 43 points.

XI. FREQUENCY OF PURCHASE/RAPIDITY OF CONSUMPTION

The more quickly a good is consumed the more frequently it will be repurchased. A pack of cigarettes, which is usually consumed in less than one day, would most likely be repurchased more frequently than a refrigerator which is not consumed for many years. Since there is such a close relationship between frequency of purchase and rapidity of consumption these two factors will be considered in combination rather than individually as proposed by Miracle.⁷¹

Both factors--frequency of purchase and rapidity of consumption--are affected by sundry things occurring in the consumer environment. However, rapidity of consumption is one of the criteria which affects the frequency of purchase. Therefore, before frequency of purchase can be analyzed, rapidity of consumption must first be considered.

Rapidity of Consumption

According to Aspinwall, rapidity of consumption is "the measured time of consumption during which the good gives up the utility desired."⁷² The rate at which the good gives up the utility desired is most likely a major determinant of the overall sales promotion strategy.

A product which is consumed quickly would require a great deal of advertising because those in the audience are potential consumers much more often and should, therefore, have more exposure to promotion.

Conversely, a product which is consumed at a much slower rate would not require the high volume of advertising but would require information when ready to buy. These two extremes can be exemplified by the pack of cigarettes and the refrigerator cited earlier.

Because a pack of cigarettes is consumed rapidly (often in less than one day) the cigarette manufacturer must keep a constant promotion since the consumer is a buyer nearly every day. Thus, the marketing mix includes much advertising and little or no personal selling to the consumer. A refrigerator, however, which is purchased perhaps every five or ten years, does not need constant promotion but most certainly requires a well-trained sales force when the consumer begins his search for a new refrigerator. Hence, the marketing mix includes relatively little advertising and much personal selling.

There seems to be two factors which affect the rate of consumption of any product--(1) the durability of a product and (2) the extent of consumption.

(1) Durability

"Durable goods are durable in the sense that they are not 'used up' in a single act of consumption. An automobile, for example, 'lasts' a reasonably long time. Nondurable goods, on the other hand, are used up relatively quickly."⁷³ Thus, those products which are consumed relatively quickly (nondurable products) "are likely to be made available in many locations, command a small margin, and develop strong brand loyalty. Durable products, on the other hand, are likely to be shopping or specialty goods, need more personal selling, command a higher margin, and require more seller guarantees."⁷⁴

(2) Extent of Consumption

Regardless of the durability built into a product it is not always employed for the full number of years for which it was designed. It is often sold or discarded before it has been fully consumed. For example, an automobile is rarely kept for the full term of its existence. Even though it is designed to last many years, the car is often disposed of in a few years. Hence, here is a highly durable product being consumed in a relatively short time. But the product is only consumed partly as in most cases it can be resold as a used car.

Consumer behavior studies support this idea.

Surveys revealed, as expected, that very few people reported at any time that their refrigerator was in bad condition. The majority said without qualification that their refrigerator was in good condition, and most others that it was in fair or quite satisfactory condition. This was true both of those who in the following eighteen months replaced their refrigerator with a new one and of those who kept their old one. Among those who made a replacement purchase, close to one-half had owned a relatively new refrigerator (less than ten years old), of which the owner had said prior to the purchase period that it was in good condition.⁷⁵

Similar findings were obtained for television sets, stoves and automobiles.⁷⁶

The importance of this consideration is that when a product is not completely consumed, the consumer has the time and the flexibility to shop, compare prices and even postpone his final decision. Thus, a product which is fully consumed would require a greater emphasis on advertising in its promotional mix while a product which is only partly consumed would probably need more personal selling.

Frequency of Purchase

The rate at which a product is consumed is a major factor pertaining to the frequency of purchase. In most cases goods which are durable are purchased far less frequently than nondurable goods simply because they are consumed much more slowly. Therefore, it seems reasonable to assume that in many instances rate of consumption and frequency of purchase have a direct correlation (deodorant, gasoline, etc.). However this is not always true.

Consumers do not always repurchase a good once it has been used up. Candy bars, restaurant dinners, books, etc. are not usually repurchased immediately after they have been consumed. Instead, there is usually some span of time between consumption and repurchase. Thus, even though a product may be consumed rapidly it is not always purchased at as rapid a rate.

Similarly, some products are repurchased before the existing product is fully consumed. Such may be the case when more than one of the product under consideration can be used during the same period of time. Most articles of apparel would fall into this classification.

Therefore, in addition to rapidity of consumption, the second factor affecting frequency of purchase is "replacement rate."

Aspinwall defines replacement rate as: "The rate at which a good is purchased and consumed by users in order to provide the satisfaction a consumer expects from the product. . . . It asks [for example] how often the consumer buys shoes--once each month, once each six months,

or once each year? It does not ask whether or not the shoes have been consumed, but only how often the market must be ready to make shoes available for consumers."⁷⁷

This is an important consideration in the determination of a promotional mix for it determines the rapidity at which a product must be repurchased. Those products which have a high replacement rate (e.g., once every day) require a heavy emphasis on advertising since the consumer is in the market place so often. A product with a low replacement rate requires a high level of personal selling.

SCORING

Frequency of purchase is affected by two factors--rapidity of consumption and replacement. In order to ascertain an overall score for frequency of purchase, it is necessary to first determine scores for these two factors.

Rapidity of Consumption

One of the factors affecting rapidity of consumption is the durability of a product--i.e., the length of time a good will last. This is not a clear yes-or-no concept. Instead there is a continuum of durability ranging from those products which are used up in one act of consumption to those products which will endure many uses and provide many years of service.

The following definitions will provide the basis for this scoring system:

Durable Goods. Generally, any producers' or consumers' goods whose continuous serviceability is likely to exceed three years. (Such as machinery, trucks, passenger cars, homes, furniture, refrigerators, etc.).⁷⁸

Nondurable Goods. Producers' and consumers' goods whose serviceability is generally limited to a period of less than three years. This category includes "perishable" and "semi-durable" goods.⁷⁹

Semidurable Goods. Goods ordinarily employed in their ultimate use from six months to three years (clothing, tires, shoes, etc.).⁸⁰

For purposes of this thesis alterations in the above definitions will be made in order to create a more meaningful continuum. In this thesis durability will be scored on a 1-5 continuum with those products which are highly nondurable at the low end of the scale and those products which are highly durable at the high end of the scale. The rating scale will be as follows:

	<u>Points</u>
<u>Perishable</u> --consumed within 2 weeks (fresh vegetables, cigarettes)	1
<u>Nondurable</u> --consumed in 2 weeks to 6 months (light bulbs, deodorant)	2
<u>Semidurable</u> --consumed in 6 months to 1 year (auto insurance, fashionable clothing)	3
<u>Durable</u> --consumed in 1 year to 3 years (tires, shoes)	4
<u>Highly Durable</u> --takes over 3 years to consume (furniture, refrigerators)	5

But the product is not always fully consumed. For various reasons a

product is repurchased before it has completely worn out. In order to factor this consideration into the total evaluation the following scoring scale will be employed:

	<u>Points</u>
Fully Consumed	1
Partly Consumed	2

In order to determine the score for rapidity of consumption the analyst need only multiply the two figures which have been determined to this point. For example, in the case of a product which is semidurable (3 points) and is only partly consumed (2 points) the subtotal thus far is 6 points ($3 \times 2 = 6$).

The raw subtotal determined for "Rapidity of Consumption" will now be converted to value points as follows:

<u>Raw Score</u>	<u>Value Points</u>
1	1
2	2
3	3
4	4
5	5
6	6
8	7
10	8

Frequency of Purchase

To calculate the total score for "Frequency of Purchase" the value points determined in the above analysis must be multiplied by the score assigned to replacement rate. Replacement rate in this thesis will be in relationship to the rapidity of consumption. Three scoring factors will be used.

<u>Points</u>	<u>Criteria</u>
1	Repurchased <u>before</u> old product is consumed
2	Repurchased <u>when</u> old product is consumed
3	Repurchased irregularly <u>after</u> old product is consumed

By multiplying the rapidity of consumption value points achieved earlier by the points earned in the replacement rate section, the product analyst can determine the total points earned for frequency of purchase. For example, if the product example used above (with a value point total of 6 points) is the type of product which is repurchased when the old product is consumed, 2 points will be assigned. The total score for this product, therefore, will be 12 points ($6 \times 2 = 12$).

The raw scores which are achieved in this analysis must now be converted into a score to be incorporated in the overall consideration. This can be accomplished by converting the total number of points accumulated, to the following 0-16 continuum:

<u>Raw Score</u>	<u>Points Assigned</u>
1	0
2	1
3	2
4	3
5	4
6	5
7	6
8	7
9	8
10	9
12	10
14	11
15	12
16	13
18	14
21	15
24	16

The example cited above, which accumulated a total of 12 points, would convert to a net score of 10 points.

Now consider the man's wrist watch which has been analyzed throughout this thesis. Its point accumulation would probably be as follows:

Highly Durable = 5 points

Fully Consumed = 1 point

Subtotal = 5 points

Converts to 5 points (value points)

Repurchased when old product is consumed = 2 points

Total score = 10 points

Converts to 9 points

Thus, 9 points are added to the former subtotal of 43 to arrive at a new subtotal for the man's wrist watch of 52 points.

XII. EXTENT OF USAGE

The final factor to be considered in this product analysis is "extent of usage"--ie. the number and variety of consumers and the variety of ways in which the product provides utility.⁸¹

Products which have many different and a variety of users (mass appeal) will usually incorporate a promotional mix heavily laden with mass communication--advertising--and very little personal contact. When masses of consumers must be reached cheaply, advertising is a very integral part of the promotional mix.⁸² At the other extreme, those products which have a very few users and appeal to a very select audience, will usually have a promotional mix consisting of a large amount of personal selling and very little advertising.

Three factors affect the extent of usage: (1) number of consumers; (2) variety of consumers and (3) variety of ways in which the product provides utility.⁸³ All three of these factors are generally related to the market segmentation/product differentiation which a manufacturer desires. An individual study of each of these three factors should demonstrate this relationship.

(1) Variety of Consumers

In effect, the variety of users of a particular product is a direct result of the degree of market segmentation desired. "Market segmentation . . . involves breaking the total heterogeneous market for a

type of product into a number of homogeneous segments. A separate product, or brand, is developed for each segment and is promoted to appeal specifically to the needs of that segment rather than the generalized needs of the entire market."⁸⁴

In instances where the market is not segmented and the needs of all consumers are satiated by one product and the same promotion; advertising becomes more important than personal selling. This is due to the universality of the product which allows it to be promoted on a mass basis. Conversely, as the market becomes more and more segmented and new and different products are needed to satisfy the demands of the market place, personal selling becomes more important in the promotional mix. Once again, this is due to the fact that the products have become more individualized and the promotional campaign must reflect this individualization.

(2) Number of Users

Advertising will usually dominate the promotional mix when there is a large number of potential users to be reached. In fact, the larger the number of potential users the greater the value of advertising. This is due to the high costs involved for personal selling which severely limits the use of personal contact promotion on a large scale. Advertising, however, offers cost economies due to the mass reach which it can provide.

Thus, not only is variety of users important in the development of a promotional strategy, but the actual number of individuals in the target market is an important consideration. The more total users the promotional mix must reach, the more advertising will be used. And, the

fewer total users to be reached, the more personal selling will be used.

(3) Variety of Uses

"In actuality, the diversity of individual wants and desires with respect to almost all consumer goods creates a basic need for differentiation."⁸⁵ The number of ways in which a product can provide utility is, therefore, directly related to product differentiation. "Product differentiation in the form of minor physical differences or advertising, for example, is frequently used in established markets to distinguish one product from another. In effect, this strategy consists of using one basic product and attempting to convince the customer in the market that the product meets their needs better than any of the other available products."⁸⁶

The more ways in which a product can provide utility, the more important personal selling is to the promotional mix. For those products which have a single use (a candy bar) a mass general campaign can be used. However, for products with a variety of uses (a computer) a mass advertising campaign is usually not plausible. Instead, a more individualized campaign must be created by each of the uses.

SCORING

Scoring for "extent of usage" will be based on a three-factor analysis. The factors to be considered are: (1) variety of users; (2) number of users and (3) variety of uses.

(1) Variety of Users

As was indicated in the above analysis, the variety of users is dependent upon the degree of segmentation desired by the manufacturer. If the product offered no segmentation whatsoever it would attract a great variety of users and could be promoted in a general and all encompassing manner--ie. advertising. If, however, the product is highly segmented appealing to a very select group of individuals, a more specific campaign must be constructed. Thus, a greater emphasis being placed on personal selling.

Three different strategies are available. The firm may put out only one product and try to draw in all buyers with one marketing program. This can be called undifferentiated marketing. Or it may design separate products and/or marketing programs for each segment. This can be called differentiated marketing. Finally, it may concentrate all its efforts in one or a few lucrative segments of the market. This can be called concentrated marketing.⁸⁷

In scoring for the variety of consumers, a 1-3 scale will be used depending on the segmentation strategy used by the manufacturers--undifferentiated, differentiated or concentrated. Since undifferentiated segmentation would require the greatest advertising promotion, it should be placed at the low end of the scale. The following scoring scale will be used:

<u>Points</u>	<u>Strategy</u>
1	Undifferentiated
2	Differentiated
3	Concentrated

(2) Number of Users

Regardless of which segmentation strategy is selected, the sheer number of individuals who are in the target universe is also an important consideration. If the entire universe of people to be reached is 100 a considerably different promotional strategy will probably be used than if the universe is 10 million.

It should be noted that simply because a manufacturer selects an undifferentiated segmentation program does not mean the universe is all people. For example, eye liner is, at best, a product designed for only one-half of the adult population. Similarly, Pampers (paper diapers) attempt to reach only mothers with small children. Hence, while the segmentation policy is undifferentiated, the actual number of people in the universe is considerably less than the total population.

This factor will be combined in the scoring system by a scale of 1-4. Since the amount of advertising used is directly related to the number of individuals to be reached, the greater numbers will be assigned the lower scores.

<u>Points</u>	<u>Percent of Population</u>
1	50% - 100% of total population
2	25% - 49.9% of total population
3	10% - 24.9% of total population
4	Under 10% of total population

(3) Variety of Uses

If a product can be used in only one way the manufacturer can concentrate on selling that particular usage and thus increasing the value of advertising. Conversely, if a manufacturer must tailor a different product for each use of the product, an advertising campaign is usually not practical and personal selling will dominate the promotional mix.

This aspect of the "extent of usage" will be integrated into the scoring scheme via a 1-3 scoring scale. Again, since the fewer number of ways in which a product can be used the more important is advertising, the lower usages will receive the lowest score.

<u>Points</u>	<u>Number of Uses</u>
1	One use (candy bar)
2	Two uses (watch--tell time/ aesthetic jewelry)
3	More than two uses (computer)

At this point the scoring of the three factors must be combined to provide one overall score for this eighth product characteristic analysis. This will be accomplished by multiplying the score earned from "variety of users" by "number of users" by "variety of uses." This provides a net raw score. For example, a product that is undifferentiated (1 point); whose target audience is 20% of the total population (3 points); has three uses (3 points) would achieve a net raw score of 9 points ($1 \times 3 \times 3 = 9$).

This raw score will now be converted to the regular scoring scale by

the following chart:

<u>Raw Score</u>	<u>Points Assigned</u>
1	0
2	1
3	2
4	3
6	4
8	5
9	6
12	7
16	8
18	9
24	10
27	11
36	12

In the example cited above, the raw score of 9 points would convert to 6 points in the overall scoring of the product.

Once again returning to the example of the man's wrist watch which has been used throughout the thesis, the following scoring would probably be used:

Variety of Users:	Undifferentiated	1 point
Number of Users:	Men, \$15,000+ Income = 20%	3 points
Variety of Uses:	Two (time/aesthetic jewelry)	2 points

In the case of the man's wrist watch, a raw score of 6 points is earned.

This will translate to 4 points in the scoring scale conversion chart and total 56 points for the overall score of this product.

PART III

CONCLUSIONS

XIII. TESTING THE HYPOTHESIS

In order to test the validity of the technique set forth in this thesis two product analyses will be undertaken. The first will be a study based on the very high-high-medium-low-very low continuum set forth in the Miracle typology. This will serve as the base or the "known" to which the second analysis will be compared.

The second analysis will be a characteristic-by-characteristic consideration of the thesis proposals. For each product a total point count will be obtained. Based on this point tally the product will then be positioned on the promotional mix continuum and compared to the base results obtained in the analysis described above.

To compare these analyses and to see if the thesis proposal is valid, the model presented by Lipson, Darling and Reynolds will serve as the conversion chart. Appendix A shows the technique used by Lipson, Darling and Reynolds which includes the recommendation for the entire marketing mix. Appendix B shows an enlargement of only the promotional mix section of the entire marketing mix.

Analysis #1 based upon the Miracle technique will position the product into one of the five major categories which Miracle set forth in his "Product Characteristics and Marketing Strategy" report. This will serve as the "known" or base position of the product. In review, the five categories are as follows:

Product Group

I	Sold almost entirely by advertising/ Personal selling of practically no importance
II	Sold primarily by advertising/ Personal selling of limited importance
III	Advertising of average importance/ Personal selling of average importance
IV	Advertising of limited importance/ Sold primarily by personal selling
V	Advertising of practically no importance/ Sold almost entirely by personal selling

In order for the technique proposed in this thesis to be valid, the total points accumulated in the characteristic-by-characteristic analysis must place the product within the same product group as that obtained through the Miracle product analysis. Conversely, if the point tally does not fall within the Miracle "range of points" the hypothesis is invalid.

Following is the author's analysis of the ten products to be considered in this thesis based on the Miracle model.

	<u>PRODUCT CHARACTERISTICS</u>									<u>Group #</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	
Heinz Ketchup	VL	VL	VL	VL	VL	VL	VH	VH	VH	I
Olds Cutlass	H	H	H	H	VH	H	L	L	L	IV
Zenith Color TV	M	H	M	M	M	M	L	L	M	III
IBM Computer	VH	VH	VH	VH	VH	VH	VL	VL	VL	V
Polaroid Camera	L	M	L	M	L	L	L	L	L	III
Salem Cigarettes	VL	VL	VL	VL	VL	VL	VH	VH	VH	I
Memorex Tapes	VL	L	L	L	L	L	M	M	H	II
Timex Watch	L	L	L	L	L	L	M	M	M	II
Goodrich Tires	M	M	M	M	M	M	L	L	L	III
Hush Puppies	L	L	L	VL	VL	L	M	M	M	II

Product Characteristics

1. Unit value
2. Significance of each individual purchase
3. Time and effort spent purchasing
4. Rate of technological change
5. Technical complexity
6. Consumer need for service
7. Frequency of purchase
8. Rapidity of consumption
9. Extent of usage

Scoring Explanation

- VL = Very Low
- L = Low
- M = Medium
- H = High
- VH = Very High

These groupings now establish the base for comparison. In Appendix C is a detailed characteristic-by-characteristic analysis of each of the ten products based on the model set forth in this thesis. Using the conversion chart of Lipson, Darling and Reynolds (as shown in Appendix B), "earned" points can be converted to Product Groups. For example, (referring to Appendix B) the 2 points "earned" for Heinz Ketchup would place the product into Product Group I. Similarly, for the Oldsmobile Cutlass, finding 77 "Total Points Accumulated" on the x-axis, places the product in Product Group Category IV.

Below is a summary of the "Total Points Accumulated" for the ten products under consideration, and a comparison of product group positioning based on the Lehmkuhl model and on the Miracle model:

<u>Product</u>	<u>Points Accumulated</u>	<u>Group Number</u>	
		<u>Lehmkuhl Model</u>	<u>Miracle Model</u>
Heinz Ketchup	2	I	I
Oldsmobile Cutlass	77	IV	IV
Zenith Color TV	56	III	III
IBM 360 Computer	90	V	V
Polaroid Camera	43	III	III
Salem Cigarettes	1	I	I
Memorex Tapes	26	II	II
Timex Wrist Watch	35	II	II
Goodrich Radial Tires	43	III	III
Hush Puppies Shoes	22	II	II

XIV. SUMMARY AND CONCLUSION

The purpose of this thesis was to develop a quantitative technique which would be useful in predicting the nature of the promotional mix. In the preceeding chapters a technique of assigning points to each of nine product characteristics was presented which, when totaled, would determine the value of advertising and the value of personal selling to the promotional mix.

To test the value of the proposed technique, ten products were analyzed for comparison by the Miracle typology and the method set forth in the thesis. In all ten of the cases studied the two techniques gave identical results.

It can therefore be concluded that the hypothesis set forth in this thesis is valid: i.e., the scoring method proposed in the thesis does predict accurately the relationship between all of the nine characteristics of the Miracle model and "promotional strategy." Thus, the method predicts accurately the promotional mix and therefore is a useful method.

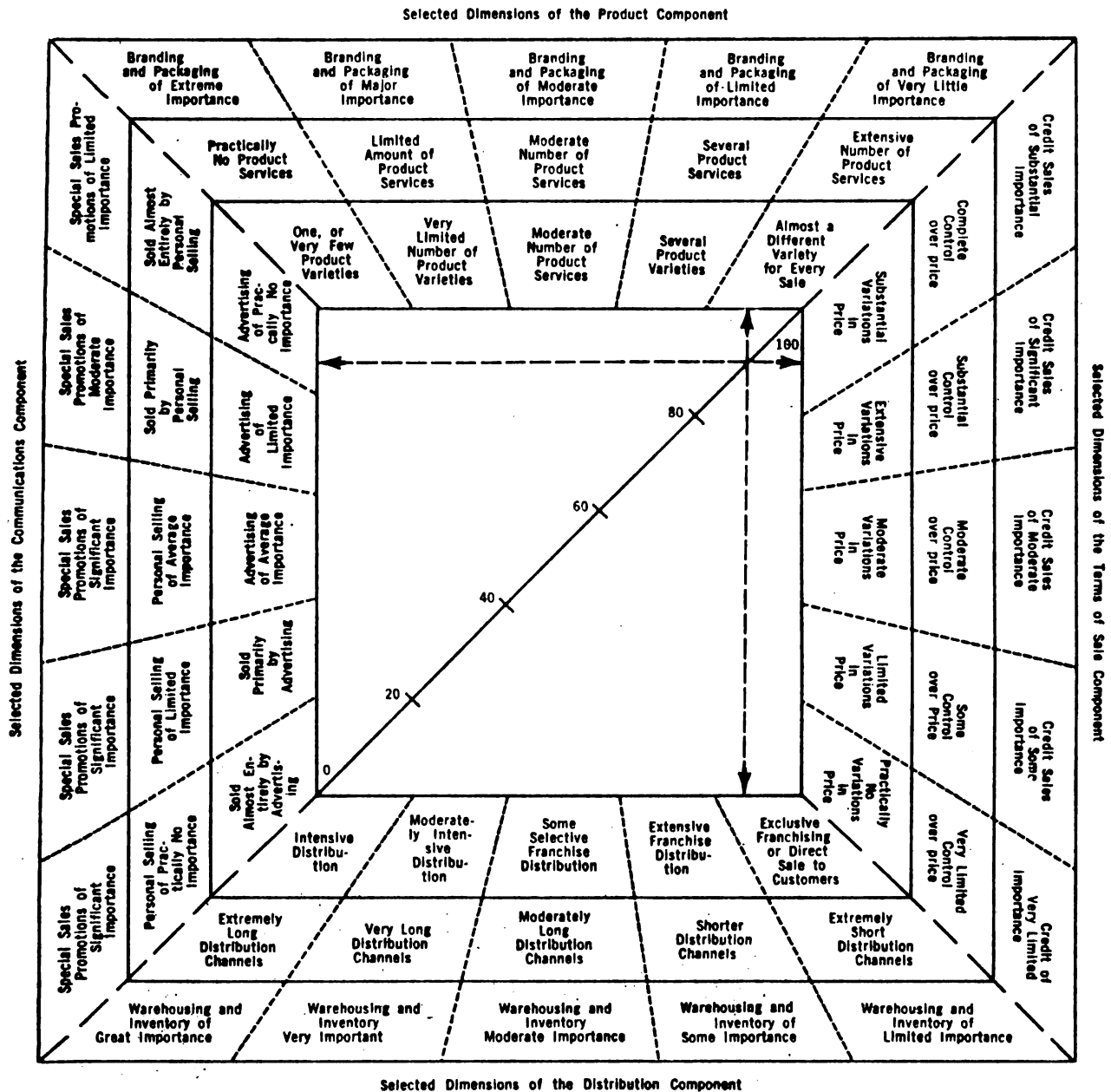
Because original research was not undertaken in this study, no further conclusions other than general groupings of categories along the promotional mix continuum can be drawn. And, although the total point accumulations may approximate the distribution of personal selling, it should not be considered as an actual estimate of this promotional mix.

However, this thesis has hopefully laid the groundwork for future original research in this area. With additional information, actual research findings and a more extensive scoring system, (the scoring scale in this thesis was often limited to a four or five point scale) actual promotional distribution breakouts may be obtainable.

APPENDICIES

APPENDIX A

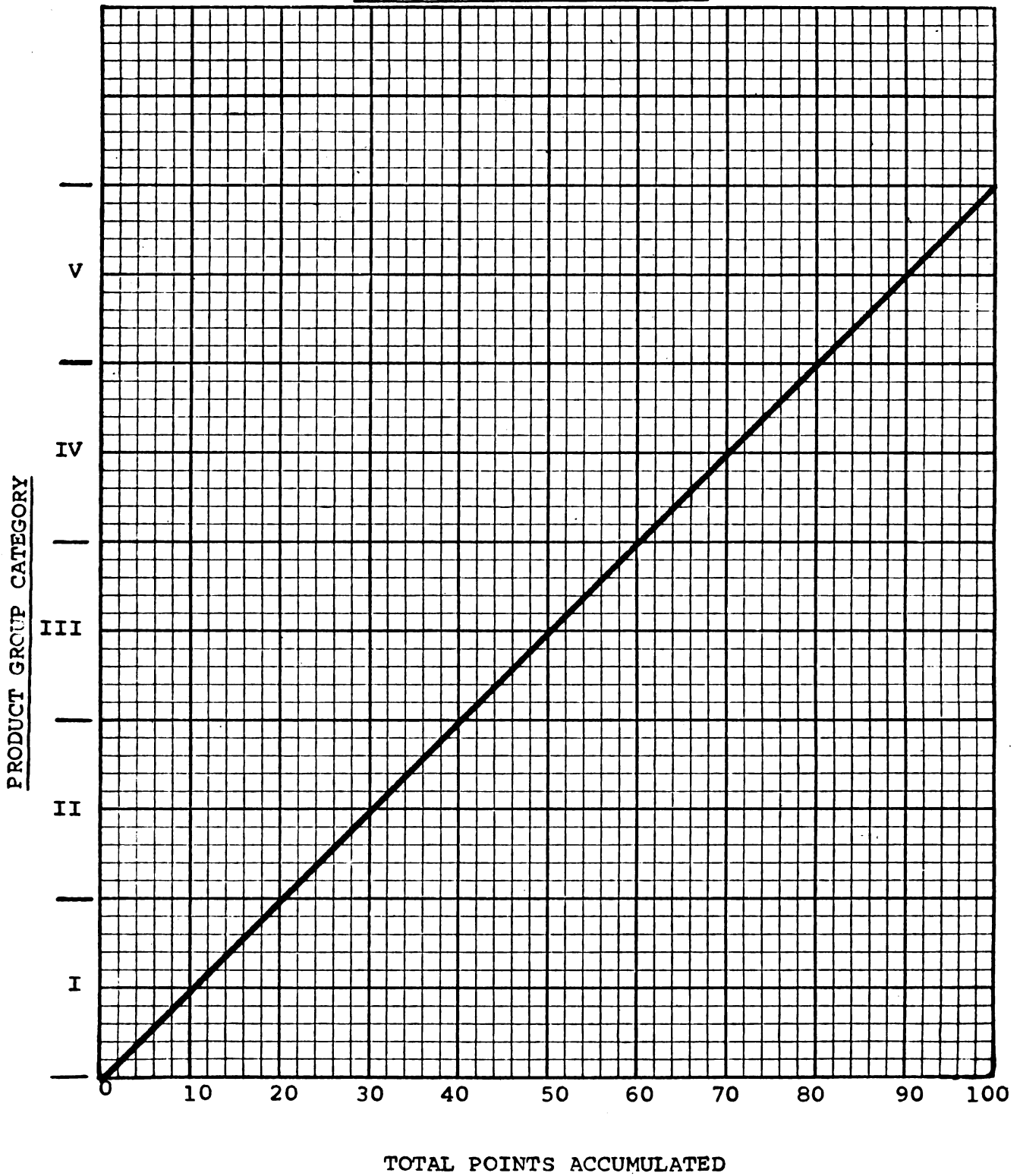
MARKETING MIX CONTINUUM



SOURCE: Harry A. Lipson and John R. Darling, *Introduction to Marketing: An Administrative Approach* (New York: John Wiley and Sons, Inc., 1971).

APPENDIX B

PROMOTIONAL MIX CONTINUUM



APPENDIX C

TEN PRODUCT ANALYSES

- I. Heinz Ketchup
- II. Oldsmobile Cutlass
- III. Zenith Color Television
- IV. IBM Computer
- V. Polaroid "Swinger"
- VI. Salem Cigarettes
- VII. Memorex Magnetic Tapes
- VIII. Timex Wrist Watch
- IX. Goodrich Radial Tires
- X. Hush Puppies Men's Shoes

PRODUCT I: HEINZ KETCHUP

		<u>Scoring Points</u>
1.	<u>UNIT VALUE</u>	
a.	Price 49¢	0
b.	Relationship Even	2
	Raw Score (a x b) = 0	
	<u>Points Assigned:</u>	0
2.	<u>SIGNIFICANCE OF PURCHASE</u>	
a.	Importance Love & Belonging	3
b.	Risk	
	-Functional None	
	-Psychosocial None	
	Total Risk	0
	Raw Score (a x b) = 0	
	<u>Points Assigned:</u>	0
3.	<u>TIME AND EFFORT SPENT PURCHASING</u>	
a.	Potential Gain None	1
b.	Distribution Not Limited	1
	Raw Score (a x b) = 1	
	<u>Points Assigned:</u>	0
4.	<u>RATE OF TECHNOLOGICAL CHANGE</u>	
a.	Routine Improvements Never	0
b.	Major Advances Never	0
c.	Technical Breakthroughs Never	0
d.	Blue-Sky Projects Never	0
	Raw Score (a + b + c + d) = 0	
	<u>Points Assigned:</u>	0

HEINZ KETCHUP (cont.)

		<u>Scoring Points</u>
5.	<u>TECHNICAL COMPLEXITY</u>	
a.	Interrelated parts	None 1
b.	Life Cycle	Saturation 2
	Raw Score (a x b) = 2	
	<u>Points Assigned:</u>	1
6.	<u>NEED FOR SERVICE</u>	
a.	Education	None 0
b.	Installation	None 0
c.	Inspection	None 0
d.	Repair	None 0
	Raw Score (a + b + c + d) = 0	
	<u>Points Assigned:</u>	0
7.	<u>FREQUENCY OF PURCHASE/ RAPIDITY OF CONSUMPTION</u>	
a.	Type Good	Nondurable 2
b.	Consumption	Fully 1
	Rapidity of Consumption (a x b) = 2	
	-Value Points: 2	
c.	Replacement Rate	Before 1
	Raw Score (VP x c) = 2	
	<u>Points Assigned:</u>	1
8.	<u>EXTENT OF USAGE</u>	
a.	Variety of Users	Undifferentiated 1
b.	Number of Users	50% - 100% 1
c.	Variety of Uses	One 1
	Raw Score (a x b x c) = 1	
	<u>Points Assigned:</u>	0

HEINZ KETCHUP (cont.)

	<u>Points</u>
1. Unit Value	0
2. Significance of Purchase	0
3. Time and Effort Spent Purchasing	0
4. Rate of Technological Change	0
5. Technical Complexity	1
6. Need for Service	0
7. Frequency of Purchase/Rapidity of Consumption	1
8. Extent of Usage	<u>0</u>
TOTAL POINTS	2

PRODUCT II: OLDSMOBILE CUTLASS

		<u>Scoring Points</u>
1.	<u>UNIT VALUE</u>	
a.	Price \$4,000	6
b.	Relationship Even	2
	Raw Score (a x b) = 12	
	<u>Points Assigned:</u>	10
2.	<u>SIGNIFICANCE OF PURCHASE</u>	
a.	Importance Esteem Need	4
b.	Risk	
	-Functional 2	
	-Psychosocial 2	
	Total Risk	4
	Raw Score (a x b) = 16	
	<u>Points Assigned:</u>	11
3.	<u>TIME AND EFFORT SPENT PURCHASING</u>	
a.	Potential Gain Very Heavy	5
b.	Distribution Heavily Limited	4
	Raw Score (a x b) = 20	
	<u>Points Assigned:</u>	12
4.	<u>RATE OF TECHNOLOGICAL CHANGE</u>	
a.	Routine Improvements Often	3
b.	Major Advances Occasionally	2
c.	Technical Breakthroughs Occasionally	2
d.	Blue-Sky Projects Seldom	1
	Raw Score (a + b + c + d) = 8	
	<u>Points Assigned:</u>	8

OLDSMOBILE CUTLASS (cont.)

		<u>Scoring Points</u>
5. <u>TECHNICAL COMPLEXITY</u>		
a. Interrelated Parts	Many	4
b. Life Cycle	Maturity	3
Raw Score (a x b) = 12		
<u>Points Assigned:</u>		9
6. <u>NEED FOR SERVICE</u>		
a. Education	Slight	1
b. Installation	Slight	1
c. Inspection	Moderate	2
d. Repair	Extensive	3
Raw Score (a + b + c + d) = 7		
<u>Points Assigned:</u>		7
7. <u>FREQUENCY OF PURCHASE/ RAPIDITY OF CONSUMPTION</u>		
a. Type Good	Highly Durable	5
b. Consumption	Partly	2
Rapidty of Consumption (a x b) = 10		
-Value Points: 8		
c. Replacement Rate	When	2
Raw Score (VP x c) = 16		
<u>Points Assigned:</u>		13
8. <u>EXTENT OF USAGE</u>		
a. Variety of Users	Differentiated	2
b. Number of Users	10% - 25%	3
c. Variety of Uses	Two Uses	2
Raw Score (a x b x c) = 12		
<u>Points Assigned:</u>		7

OLDSMOBILE CUTLASS (cont.)

	<u>Points</u>
1. Unit Value	10
2. Significance of Purchase	11
3. Time and Effort Spent Purchasing	12
4. Rate of Technological Change	8
5. Technical Complexity	9
6. Need for Service	7
7. Frequency of Purchase/Rapidity of Consumption	13
8. Extent of Usage	<u>7</u>
TOTAL POINTS	77

PRODUCT III: ZENITH COLOR TELEVISION

		<u>Scoring Points</u>
1.	<u>UNIT VALUE</u>	
a.	Price \$400	4
b.	Relationship Even	2
	Raw Score (a x b) = 8	
	<u>Points Assigned:</u>	7
2.	<u>SIGNIFICANCE OF PURCHASE</u>	
a.	Importance Esteem Need	4
b.	Risk	
	-Functional 2	
	-Psychosocial 1	
	Total Risk	3
	Raw Score (a x b) = 12	
	<u>Points Assigned:</u>	9
3.	<u>TIME AND EFFORT SPENT PURCHASING</u>	
a.	Potential Gain Moderate	3
b.	Distribution Moderately Limited	3
	Raw Score (a x b) = 9	
	<u>Points Assigned:</u>	7
4.	<u>RATE OF TECHNOLOGICAL CHANGE</u>	
a.	Routine Improvements Often	3
b.	Major Advances Seldom	1
c.	Technical Breakthroughs Seldom	1
d.	Blue-Sky Projects Never	0
	Raw Score (a + b + c + d) = 5	
	<u>Points Assigned:</u>	5

ZENITH COLOR TELEVISION (cont.)

		<u>Scoring Points</u>
5. <u>TECHNICAL COMPLEXITY</u>		
a. Interrelated Parts	Many	4
b. Life Cycle	Growth	4
Raw Score (a x b) = 16		
<u>Points Assigned:</u>		11
6. <u>NEED FOR SERVICE</u>		
a. Education	Slight	1
b. Installation	Moderate	2
c. Inspection	Slight	1
d. Repair	Extensive	3
Raw Score (a + b + c + d) = 7		
<u>Points Assigned:</u>		7
7. <u>FREQUENCY OF PURCHASE/ RAPIDITY OF CONSUMPTION</u>		
a. Type Good	Highly Durable	5
b. Consumption	Partly	2
Rapidty of Consumption (a x b) = 10		
-Value Points: 8		
c. Replacement Rate	Before	1
Raw Score (VP x c) = 8		
<u>Points Assigned:</u>		7
8. <u>EXTENT OF USAGE</u>		
a. Variety of Users	Differentiated	2
b. Number of Users	25% - 50%	2
c. Variety of Uses	One	1
Raw Score (a x b x c) = 4		
<u>Points Assigned:</u>		3

ZENTIH COLOR TELEVISION (cont.)

	<u>Points</u>
1. Unit Value	7
2. Significance of Purchase	9
3. Time and Effort Spent Purchasing	7
4. Rate of Technological Change	5
5. Technical Complexity	11
6. Need for Service	7
7. Frequency of Purchase/Rapidity of Consumption	7
8. Extent of Usage	<u>3</u>
TOTAL POINTS	56

PRODUCT IV: IBM COMPUTER

		<u>Scoring Points</u>
1.	<u>UNIT VALUE</u>	
a.	Price \$100,000+	6
b.	Relationship Even	2
	Raw Score (a x b) = 12	
	<u>Points Assigned:</u>	10
2.	<u>SIGNIFICANCE OF PURCHASE</u>	
a.	Importance Self-actualization	5
b.	Risk	
	-Functional 2	
	-Psychosocial 1	
	Total Risk	3
	Raw Score (a x b) = 15	
	<u>Points Assigned:</u>	10
3.	<u>TIME AND EFFORT SPENT PURCHASING</u>	
a.	Potential Gain Very Heavy	5
b.	Distribution Heavily Limited	4
	Raw Score (a x b) = 20	
	<u>Points Assigned:</u>	12
4.	<u>RATE OF TECHNOLOGICAL CHANGE</u>	
a.	Routine Improvements Often	3
b.	Major Advances Often	3
c.	Technical Breakthroughs Occasionally	2
d.	Blue-Sky Projects Occasionally	2
	Raw Score (a + b + c + d) = 10	
	<u>Points Assigned:</u>	10

IBM COMPUTER (cont.)

		<u>Scoring Points</u>
5.	<u>TECHNICAL COMPLEXITY</u>	
a.	Interrelated Parts	Many 4
b.	Life Cycle	Growth 4
	Raw Score (a x b) = 16	
	<u>Points Assigned:</u>	11
6.	<u>NEED FOR SERVICE</u>	
a.	Education	Extensive 3
b.	Installation	Extensive 3
c.	Inspection	Extensive 3
d.	Repair	Extensive 3
	Raw Score (a + b + c + d) = 12	
	<u>Points Assigned:</u>	12
7.	<u>FREQUENCY OF PURCHASE/ RAPIDITY OF CONSUMPTION</u>	
a.	Type Good	Highly Durable 5
b.	Consumption	Partly 2
	Rapidity of Consumption (a x b) = 10	
	-Value Points: 8	
c.	Replacement Rate	When 2
	Raw Score (VP x c) = 16	
	<u>Points Assigned:</u>	13
8.	<u>EXTENT OF USAGE</u>	
a.	Variety of Users	Concentrated 3
b.	Number of Users	Under 10% 4
c.	Variety of Uses	Over two 3
	Raw Score (a x b x c) = 36	
	<u>Points Assigned:</u>	12

IBM COMPUTER (cont.)

	<u>Points</u>
1. Unit Value	10
2. Significance of Purchase	10
3. Time and Effort Spent Purchasing	12
4. Rate of Technological Change	10
5. Technical Complexity	11
6. Need for Service	12
7. Frequency of Purchase/Rapidity of Consumption	13
8. Extent of Usage	<u>12</u>
 TOTAL POINTS	 90

PRODUCT V: POLAROID "SWINGER"

		<u>Scoring Points</u>
1.	<u>UNIT VALUE</u>	
a.	Price \$25	1
b.	Relationship Below	1
	Raw Score (a x b) = 1	
	<u>Points Assigned:</u>	1
2.	<u>SIGNIFICANCE OF PURCHASE</u>	
a.	Importance Esteem	4
b.	Risk	
	-Functional 1	
	-Psychosocial 1	
	Total Risk	2
	Raw Score (a x b) = 8	
	<u>Points Assigned:</u>	6
3.	<u>TIME AND EFFORT SPENT PURCHASING</u>	
a.	Potential Gain Moderate	3
b.	Distribution Moderately Limited	3
	Raw Score (a x b) = 9	
	<u>Points Assigned:</u>	7
4.	<u>RATE OF TECHNOLOGICAL CHANGE</u>	
a.	Routine Improvements Occasionally	2
b.	Major Advances Seldom	1
c.	Technical Breakthroughs Seldom	1
d.	Blue-Sky Projects None	0
	Raw Score (a + b + c + d) = 4	
	<u>Points Assigned:</u>	4

POLAROID "SWINGER" (cont.)

		<u>Scoring Points</u>
5.	<u>TECHNICAL COMPLEXITY</u>	
a.	Interrelated Parts	Few 2
b.	Life Cycle	Growth 4
	Raw Score (a x b) = 8	
	<u>Points Assigned:</u>	6
6.	<u>NEED FOR SERVICE</u>	
a.	Education	Slight 1
b.	Installation	None 0
c.	Inspection	Moderate 2
d.	Repair	Moderate 2
	Raw Score (a + b + c + d) = 5	
	<u>Points Assigned:</u>	5
7.	<u>FREQUENCY OF PURCHASE/ RAPIDITY OF CONSUMPTION</u>	
a.	Type Good	Durable 4
b.	Consumption	Partly 2
	Rapidity of Consumption (a x b) = 8	
	-Value Points: 7	
c.	Replacement Rate	When 2
	Raw Score (VP x c) = 14	
	<u>Points Assigned:</u>	11
8.	<u>EXTENT OF USAGE</u>	
a.	Variety of Users	Differentiated 2
b.	Number of Users	25% - 50% 2
c.	Variety of Uses	One 1
	Raw Score (a x b x c) = 4	
	<u>Points Assigned:</u>	3

POLAROID "SWINGER" (cont.)

	<u>Points</u>
1. Unit Value	1
2. Significance of Purchase	6
3. Time and Effort Spent Purchasing	7
4. Rate of Technological Change	4
5. Technical Complexity	6
6. Need for Service	5
7. Frequency of Purchase/Rapidity of Consumption	11
8. Extent of Usage	<u>3</u>
TOTAL POINTS	43

PRODUCT VI: SALEM CIGARETTES

		<u>Scoring Points</u>
1.	<u>UNIT VALUE</u>	
a.	Price 50¢	0
b.	Relationship Even	2
	Raw Score (a x b) = 0	
	<u>Points Assigned:</u>	0
2.	<u>SIGNIFICANCE OF PURCHASE</u>	
a.	Importance Esteem	4
b.	Risk	
	-Functional 0	
	-Psychosocial 0	
	Total Risk	0
	Raw Score (a x b) = 0	
	<u>Points Assigned:</u>	0
3.	<u>TIME AND EFFORT SPENT PURCHASING</u>	
a.	Potential Gain None	1
b.	Distribution Not Limited	1
	Raw Score (a x b) = 1	
	<u>Points Assigned:</u>	0
4.	<u>RATE OF TECHNOLOGICAL CHANGE</u>	
a.	Routine Improvements Never	0
b.	Major Advances Never	0
c.	Technical Breakthroughs Never	0
d.	Blue-Sky Projects Never	0
	Raw Score (a + b + c + d) = 0	
	<u>Points Assigned:</u>	0

SALEM CIGARETTES (cont.)

		<u>Scoring Points</u>
5.	<u>TECHNICAL COMPLEXITY</u>	
a.	Interrelated Parts	None 1
b.	Life Cycle	Saturation 2
	Raw Score (a x b) = 2	
	<u>Points Assigned:</u>	1
6.	<u>NEED FOR SERVICE</u>	
a.	Education	None 0
b.	Installation	None 0
c.	Inspection	None 0
d.	Repair	None 0
	Raw Score (a + b + c + d) = 0	
	<u>Points Assigned:</u>	0
7.	<u>FREQUENCY OF PURCHASE/ RAPIDITY OF CONSUMPTION</u>	
a.	Type Good	Perishable 1
b.	Consumption	Fully 1
	Rapidity of Consumption (a x b) = 1	
	-Value Points: 1	
c.	Replacement Rate	Before 1
	Raw Score (VP x c) = 1	
	<u>Points Assigned:</u>	0
8.	<u>EXTENT OF USAGE</u>	
a.	Variety of Users	Undifferentiated 1
b.	Number of Users	50% - 100% 1
c.	Variety of Uses	One 1
	Raw Score (a x b x c) = 1	
	<u>Points Assigned:</u>	0

SALEM CIGARETTES (cont.)

	<u>Points</u>
1. Unit Value	0
2. Significance of Purchase	0
3. Time and Effort Spent Purchasing	0
4. Rate of Technological Change	0
5. Technical Complexity	1
6. Need for Service	0
7. Frequency of Purchase/Rapidity of Consumption	0
8. Extent of Usage	<u>0</u>
 TOTAL POINTS	 1

PRODUCT VII: MEMOREX MAGNETIC TAPES

		<u>Scoring Points</u>
1.	<u>UNIT VALUE</u>	
a.	Price \$5	1
b.	Relationship Above	3
	Raw Score (a x b) = 3	
	<u>Points Assigned:</u>	3
2.	<u>SIGNIFICANCE OF PURCHASE</u>	
a.	Importance Self-Actualization	5
b.	Risk	
	-Functional 1	
	-Psychosocial 0	
	Total Risk	1
	Raw Score (a x b) = 5	
	<u>Points Assigned:</u>	5
3.	<u>TIME AND EFFORT SPENT PURCHASING</u>	
a.	Potential Gain Slight	2
b.	Distribution Not Limited	1
	Raw Score (a x b) = 2	
	<u>Points Assigned:</u>	1
4.	<u>RATE OF TECHNOLOGICAL CHANGE</u>	
a.	Routine Improvements Occasionally	2
b.	Major Advances Seldom	1
c.	Technical Breakthroughs Seldom	1
d.	Blue-Sky Projects Never	0
	Raw Score (a + b + c + d) = 4	
	<u>Points Assigned:</u>	4

MEMOREX MAGNETIC TAPES (cont.)

		<u>Scoring Points</u>
5. <u>TECHNICAL COMPLEXITY</u>		
a. Interrelated Parts	Few	2
b. Life Cycle	Growth	4
Raw Score (a x b) = 8		
<u>Points Assigned:</u>		6
6. <u>NEED FOR SERVICE</u>		
a. Education	Slight	1
b. Installation	None	0
c. Inspection	None	0
d. Repair	None	0
Raw Score (a + b + c + d) = 1		
<u>Points Assigned:</u>		1
7. <u>FREQUENCY OF PURCHASE/ RAPIDITY OF CONSUMPTION</u>		
a. Type Good	Semidurable	3
b. Consumption	Partly	2
Rapidty of Consumption (a x b) = 6		
-Value Points: 6		
c. Replacement Rate	Before	1
Raw Score (VP x c) = 6		
<u>Points Assigned:</u>		5
8. <u>EXTENT OF USAGE</u>		
a. Variety of Users	Undifferentiated	1
b. Number of Users	25% - 50%	2
c. Variety of Uses	One	1
Raw Score (a x b x c) = 2		
<u>Points Assigned:</u>		1

MEMOREX MAGNETIC TAPES (cont.)

	<u>Points</u>
1. Unit Value	3
2. Significance of Purchase	5
3. Time and Effort Spent Purchasing	1
4. Rate of Technological Change	4
5. Technical Complexity	6
6. Need for Service	1
7. Frequency of Purchase/Rapidity of Consumption	5
8. Extent of Usage	<u>1</u>
TOTAL POINTS	26

PRODUCT VIII: TIMEX WRIST WATCH

		<u>Scoring Points</u>
1.	<u>UNIT VALUE</u>	
a.	Price \$25	1
b.	Relationship Below	1
	Raw Score (a x b) = 1	
	<u>Points Assigned:</u>	1
2.	<u>SIGNIFICANCE OF PURCHASE</u>	
a.	Importance Esteem	4
b.	Risk	
	-Functional 1	
	-Psychosocial 1	
	Total Risk	2
	Raw Score (a x b) = 8	
	<u>Points Assigned:</u>	6
3.	<u>TIME AND EFFORT SPENT PURCHASING</u>	
a.	Potential Gain Slight	2
b.	Distribution Slightly	2
	Raw Score (a x b) = 4	
	<u>Points Assigned:</u>	3
4.	<u>RATE OF TECHNOLOGICAL CHANGE</u>	
a.	Routine Improvements Occasionally	2
b.	Major Advances Never	0
c.	Technical Breakthroughs Never	0
d.	Blue-Sky Projects Never	0
	Raw Score (a + b + c + d) = 2	
	<u>Points Assigned:</u>	2

TIMEX WRIST WATCH (cont.)

		<u>Scoring Points</u>
5. <u>TECHNICAL COMPLEXITY</u>		
a. Interrelated Parts	Several	3
b. Life Cycle	Maturity	3
Raw Score (a x b) = 9		
<u>Points Assigned:</u>		7
6. <u>NEED FOR SERVICE</u>		
a. Education	None	0
b. Installation	None	0
c. Inspection	Slight	1
d. Repair	Extensive	3
Raw Score (a + b + c + d) = 4		
<u>Points Assigned:</u>		4
7. <u>FREQUENCY OF PURCHASE/ RAPIDITY OF CONSUMPTION</u>		
a. Type Good	Durable	4
b. Consumption	Partly	2
Rapidity of Consumption (a x b) = 8		
-Value Points: 7		
c. Replacement Rate	When	2
Raw Score (VP x c) = 14		
<u>Points Assigned:</u>		11
8. <u>EXTENT OF USAGE</u>		
a. Variety of Users	Undifferentiated	1
b. Number of Users	50% - 100%	1
c. Variety of Uses	Two	2
Raw Score (a x b x c) = 2		
<u>Points Assigned:</u>		1

TIMEX WRIST WATCH (cont.)

	<u>Points</u>
1. Unit Value	1
2. Significance of Purchase	6
3. Time and Effort Spent Purchasing	3
4. Rate of Technological Change	2
5. Technical Complexity	7
6. Need for Service	4
7. Frequency of Purchase/Rapidity of Consumption	11
8. Extent of Usage	<u>1</u>
TOTAL POINTS	35

PRODUCT IX: GOODRICH RADIAL TIRES

		<u>Scoring Points</u>
1.	<u>UNIT VALUE</u>	
a.	Price \$50	2
b.	Relationship Over	3
	Raw Score (a x b) = 6	
	<u>Points Assigned:</u>	6
2.	<u>SIGNIFICANCE OF PURCHASE</u>	
a.	Importance Safety	2
b.	Risk	
	-Functional 2	
	-Psychosocial 0	
	Total Risk	2
	Raw Score (a x b) = 4	
	<u>Points Assigned:</u>	4
3.	<u>TIME AND EFFORT SPENT PURCHASING</u>	
a.	Potential Gain Fairly Heavy	4
b.	Distribution Heavily Limited	4
	Raw Score (a x b) = 16	
	<u>Points Assigned:</u>	11
4.	<u>RATE OF TECHNOLOGICAL CHANGE</u>	
a.	Routine Improvements Occasionally	2
b.	Major Advances Occasionally	2
c.	Technical Breakthroughs Occasionally	2
d.	Blue-Sky Projects Seldom	1
	Raw Score (a + b + c + d) = 7	
	<u>Points Assigned:</u>	7

GOODRICH RADIAL TIRES (cont.)

		<u>Scoring Points</u>
5. <u>TECHNICAL COMPLEXITY</u>		
a. Interrelated Parts	None	1
b. Life Cycle	Growth	4
Raw Score (a x b) = 4		
<u>Points Assigned:</u>		3
6. <u>NEED FOR SERVICE</u>		
a. Education	None	0
b. Installation	Moderate	2
c. Inspection	Slight	1
d. Repair	Slight	1
Raw Score (a + b + c + d) = 4		
<u>Points Assigned:</u>		4
7. <u>FREQUENCY OF PURCHASE/ RAPIDITY OF CONSUMPTION</u>		
a. Type Good	Durable	4
b. Consumption	Fully	1
Rapidity of Consumption (a x b) = 4		
-Value Points: 4		
c. Replacement Rate	When	2
Raw Score (VP x c) = 8		
<u>Points Assigned:</u>		7
8. <u>EXTENT OF USAGE</u>		
a. Variety of Users	Undifferentiated	1
b. Number of Users	25% - 50%	2
c. Variety of Uses	One	1
Raw Score (a x b x c) = 2		
<u>Points Assigned:</u>		1

GOODRICH RADIAL TIRES (cont.)

	<u>Points</u>
1. Unit Value	6
2. Significance of Purchase	4
3. Time and Effort Spent Purchasing	11
4. Rate of Technological Change	7
5. Technical Complexity	3
6. Need for Service	4
7. Frequency of Purchase/Rapidity of Consumption	7
8. Extent of Usage	<u>1</u>
TOTAL POINTS	43

PRODUCT X: HUSH PUPPIES MEN'S SHOES

		<u>Scoring Points</u>
1. <u>UNIT VALUE</u>		
a. Price	\$12	1
b. Relationship	Below	1
Raw Score (a x b) = 1		
	<u>Points Assigned:</u>	1
2. <u>SIGNIFICANCE OF PURCHASE</u>		
a. Importance	Esteem	4
b. Risk		
-Functional	0	
-Psychosocial	2	
Total Risk		2
Raw Score (a x b) = 8		
	<u>Points Assigned:</u>	6
3. <u>TIME AND EFFORT SPENT PURCHASING</u>		
a. Potential Gain	Slight	2
b. Distribution	Moderately Limited	3
Raw Score (a x b) = 6		
	<u>Points Assigned:</u>	5
4. <u>RATE OF TECHNOLOGICAL CHANGE</u>		
a. Routine Improvements	Occasionally	1
b. Major Advances	Never	0
c. Technical Breakthroughs	Never	0
d. Blue-Sky Projects	Never	0
Raw Score (a + b + c + d) = 1		
	<u>Points Assigned:</u>	1

HUSH PUPPIES MEN'S SHOES

		<u>Scoring Points</u>
5.	<u>TECHNICAL COMPLEXITY</u>	
a.	Interrelated Parts	None 1
b.	Life Cycle	Maturity 3
	Raw Score (a x b) = 3	
	<u>Points Assigned:</u>	2
6.	<u>NEED FOR SERVICE</u>	
a.	Education	None 0
b.	Installation	Slight 1
c.	Inspection	None 0
d.	Repair	None 0
	Raw Score (a + b + c + d) = 1	
	<u>Points Assigned:</u>	1
7.	<u>FREQUENCY OF PURCHASE/ RAPIDITY OF CONSUMPTION</u>	
a.	Type Good	Durable 4
b.	Consumption	Partly 2
	Rapidity of Consumption (a x b) = 8	
	-Value Points: 7	
c.	Replacement Rate	Before 1
	Raw Score (VP x c) = 7	
	<u>Points Assigned:</u>	6
8.	<u>EXTENT OF USAGE</u>	
a.	Variety of Users	Undifferentiated 1
b.	Number of Users	50% - 100% 1
c.	Variety of Uses	One 1
	Raw Score (a x b x c) = 1	
	<u>Points Assigned:</u>	0

HUSH PUPPIES MEN'S SHOES (cont.)

	<u>Points</u>
1. Unit Value	1
2. Significance of Purchase	6
3. Time and Effort Spent Purchasing	5
4. Rate of Technological Change	1
5. Technical Complexity	2
6. Need for Service	1
7. Frequency of Purchase/Rapidity of Consumption	6
8. Extent of Usage	<u>0</u>
 TOTAL POINTS	 22

FOOTNOTES

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⁶*Ibid.*, p. 205.

⁷Philip Kotler, Marketing Management: Analysis, Planning and Control (Englewood Hills, N.J.: Prentice-Hall, Inc., 1967), p. 293.

⁸Frederick D. Sturdivant et al., Managerial Analysis in Marketing (Glenview, Ill.: Scott, Foresman and Company, 1970), p. 341.

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¹³Leo V. Aspinwall, "The Characteristics of Goods Theory and The Parallel Systems Theory," in Managerial Marketing: Perspectives and Viewpoints, ed. Eugene J. Kelley and William Lazer (Homewood, Ill.: Richard D. Irwin, Inc., 1958), pp. 434-450.

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¹⁵*Ibid.*, p. 441.

¹⁶Miracle, pp. 18-24.

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- 18Ibid,
- 19Aspinwall, p. 438.
- 20Ibid., p. 437.
- 21Theodore N. Beckman and William R. Davidson, Marketing (New York: The Ronald Press Company, 1962), p. 679.
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- 24A. H. Maslow, "A Theory of Human Motivation: The Basic Needs," in Perspectives in Consumer Behavior, ed. Harold H. Kassarian and Thomas S. Robertson (Glenview, Ill.: Scott, Foresman and Company, 1968), p. 210.
- 25Ibid., p. 202.
- 26Ibid., p. 206.
- 27Ibid.
- 28Ibid., p. 207.
- 29Ibid., pp. 207-208.
- 30Frey, p. 14.6.
- 31Raymond A. Bauer, "Consumer Behavior as Risk Taking," in Marketing and the Behavioral Sciences: Selected Readings, ed. Perry Bliss (Boston: Allyn and Bacon, Inc., 1968), p. 146.
- 32Sturdivant et al., pp. 169-170.
- 33Kotler, p. 72.
- 34Sturdivant et al., p. 170.
- 35Ibid.
- 36Perry Bliss, "Supply Considerations and Shopping Convenience," Journal of Marketing Vol. 25 (July 1960): 43.
- 37Aspinwall, p. 440.

³⁸Richard H. Holton, "The Distinction Between Convenience Goods, Shopping Goods and Specialty Goods," Journal of Marketing Vol. 3 (July, 1958): 53-54.

³⁹Definitions Committee, American Marketing Association, "Report of the Definitions Committee," Journal of Marketing Vol. 13 (October, 1948): 206.

⁴⁰Holton, "Distinction Between Goods," p. 56.

⁴¹Richard H. Holton, "What is Really Meant by 'Specialty' Goods?," Journal of Marketing Vol. 24 (July 1959): 65.

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⁴³Holton, "Distinction Between Goods," p. 54.

⁴⁴Holton, "Specialty Goods," p. 66.

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⁴⁶Edwin Mansfield, The Economics of Technological Change (New York: W. W. Horton, 1968), p. 10.

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⁵¹Jacob Schmookler, Invention and Economic Growth (Cambridge, Mass: Harvard University Press, 1966), p. 92.

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⁵⁵*Ibid.*, p. 32.

⁵⁶*Ibid.*, p. 30.

⁵⁷*Ibid.*, p. 28.

⁵⁸Mansfield, p. 7.

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- ⁶¹Miracle, p. 21.
- ⁶²Kotler, p. 453.
- ⁶³Frey, p. 9.1.
- ⁶⁴Kotler, p. 453.
- ⁶⁵Webster's New World Dictionary of the American Language, (New York: The World Publishing Co., 1964), p. 299.
- ⁶⁶Kotler, p. 291.
- ⁶⁷Eugene J. Kelley, "Ethics and Science in Marketing," in Managerial Marketing: Perspectives and Viewpoints, ed. Eugene J. Kelley and William Lazer (Homewood, Ill.: Richard D. Irwin, 1967), p. 86.
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- ⁶⁹Ibid.
- ⁷⁰Ibid., p. 7.2.
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- ⁷⁷Aspinwall, pp. 437-438.
- ⁷⁸The Conference Board, A Guide to Consumer Markets - 1970 (New York: The Conference Board, Inc., 1970), p. 212.
- ⁷⁹Ibid., p. 213.
- ⁸⁰Ibid., p. 215.
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⁸⁴Sturdivant et al., p. 55.

⁸⁵Ibid., p. 54.

⁸⁶Ibid., p. 55.

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