

THE IMPACT OF ADVERTISING THEMES
ON BRAND CHOICE OF COLOR TELEVISION
SETS: AN EXPLORATORY SURVEY OF THE
LANSING MAJOR METROPOLITAN MARKET

Dissertation for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
KARL A. BOEDECKER
1974

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ABSTRACT

THE IMPACT OF ADVERTISING THEMES ON BRAND CHOICE OF COLOR TELEVISION SETS: AN EXPLORATORY SURVEY OF THE LANSING MAJOR METROPOLITAN MARKET

By

Karl A. Boedecker

Purpose of the Study

This study assesses the impact of color television manufacturers' advertising themes upon the brand choice decisions of the consumer. Since any exploration of the considerations which lead an individual to purchase one brand of a product over another must include more than a single aspect of the consumer's decision problem, the research also examines the added influences of store loyalty, previous ownership experience with the product, word-of-mouth information, the use of consumer-product rating services, product price, and in-store personal selling.

Frame of Reference

Numerous buyer behavior studies have been completed involving purchasers of other consumer durable goods, such as automobiles and refrigerators, but none has devoted itself exclusively to color television. The unusual combination of factors surrounding the marketing of color televisions provide a unique setting in which to gauge the relative influences of various elements in the consumer's brand choice problem.

Previous research on the television set industry provides valuable information about manufacturers' marketing practices in general. None, however, focuses upon the advertising theme issue and its role in the brand choice of the consumer.

Although these earlier efforts did not pertain directly to this investigation, they nonetheless furnished guidance in the formulation of the research design and, in particular, offered assistance with the construction of the measurement instrument.

Collection of Data

The sample was drawn from individuals who purchased color television sets in the Lansing, Michigan, area over an eight week period from February 1, 1974, through March 26, 1974. Ten cooperating retailers provided names, addresses, and additional information about color television receiver sales made during the survey period.

The study encompasses eight domestic brands of color television receivers: RCA, Zenith, Magnavox, Sears, Motorola, Sylvania, Admiral, and Philco. The selection of these brands was predicated on a desire to obtain the broadest possible cross-section of customer motivations by surveying purchasers of a variety of different makes. The relative market strength of manufacturers, their historical roles within the industry, the distinctiveness of their advertising themes and the distribution strategies they employed were key considerations governing the choice of producers for the study.

The measurement instrument consisted of a questionnaire with 31 numbered items, 30 of which were multiple choice. The multiple choice

Previous research on the television set industry provided no valuable information about manufacturers' marketing practices in general. Now, however, focuses upon the advertising theme issue and its relation to the brand choice of the consumer.

Although these earlier efforts did not pertain directly to this investigation, they nonetheless furnished guidance in the identification of key variables in the study and a number of variables offered evidence with them.

questions covered seven factors related to the consumer's brand choice decision: store loyalty, the influence of in-store personal selling, the role of consumer-product rating services, store shopping behavior, the extent of reliance upon word-of-mouth information, the degree of sensitivity to price differences, and previous ownership experience with the product. The final question asked for a brief statement about the most important factors in the respondent's decision concerning which brand of color television set to purchase.

Area retailers supplied a total of 327 customer names during the survey period. Mailings to these people elicited a total of 142 replies. Since seven of the mailings were returned unopened, the response rate from those who may be assumed to have received questionnaires was 44 percent. Eighteen of the replies were discarded as unusable. An additional 21 responses were eliminated from the sample because the purchasers had bought their color televisions during January 1974, an atypical sales period with a disproportionate volume of "price selling."

Major Findings

The research findings indicate that the majority of color television set purchasers establish a brand preference before they enter a retail store. The data also show that few changes occur in these initial predispositions, despite the fact that the average buyer confers with retail sales personnel at three different stores.

The extent to which customers appear to be presold would seem to suggest that manufacturer advertising plays a major role in the brand choice decisions of consumers. However, a closer examination of the

questions covered seven factors related to the consumer's purchase decision: store loyalty, the influence of in-store personnel, the role of consumer-product rating services, store shopping behavior, the extent of reliance upon word-of-mouth information, the degree of sensitivity to price differences, and previous ownership experience.

With the product the firm, question asked for a brief statement about the firm's position in the market, the respondent's decision concerning which

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data concerning the advertising efforts of color television producers and the abilities of respondents to identify such advertising themes clouds the issue. Both the data pertaining to the memorability of advertising themes and that concerning a consumer's ability to recognize trademarked product attributes produced the same results. The overall recognized rates on these items were quite low. The same pattern held for the test of the consumer's ability to associate the underlying messages of advertising campaigns with the appropriate manufacturer.

Thus, the research findings indicate that the attempts of manufacturers to achieve a differential advantage through the promulgation of their advertising copy platforms do not appear to register with the consumer in ways that this study has been able to measure.

Respondents consistently emphasized the importance of product price in their purchase decisions. Both in the section concerning sensitivity to price differentials and on the items related to store loyalty factors, the consumer ranked the prices quoted by retailers as the most important consideration.

To the extent that they were consulted, consumer-product rating services proved to be an important source of information to the shopper in his effort to select a brand of color television set.

Previous ownership experience with the product, word-of-mouth information and in-store personal selling did not appear as important influences. The data also eliminated store loyalty from consideration as a vital preshopping influence.

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COLOR TELEVISION SETS: AN EXPLORATORY SURVEY
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By

Karl A. Boedecker

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1974

THE EFFECT OF ADVERTISING ON BRAND CHOICE OF

COLOR TELEVISION SETS - AN EXPERIMENTAL SURVEY

OF THE LANSING MAJOR METROPOLITAN MARKET

IV

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The advice and cooperation of many individuals from both the business and the academic communities proved essential to the design and execution of this project.

The willingness of numerous Lansing area retailers to participate in the study made this research possible. In particular, Mr. James R. Fox of Hager-Fox, Inc., provided substantial aid in enlisting the cooperation of area businessmen and furnished useful background information about the nature of the market for color television receivers. Such interactions between academia and the business world are essential if the efforts of Marketing academicians are to remain relevant to the problems of Marketing practitioners.

Dr. W. J. E. Crissy, who served as Chairman of the dissertation committee, merits special mention for his unflagging optimism and encouragement throughout this research. His willingness to assist doctoral students with the fulfillment of their program requirements offers an outstanding example for them to follow in their own academic careers.

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Dr. Stoakley W. Swanson was instrumental in the initial development of this research topic. His assistance in the delineation of the problem and his suggestions for the research design made the execution of this study possible. In addition to his contributions as a member of the dissertation committee, Dr. Swanson consistently offered insightful advice and counsel during my time in the doctoral program.

Finally, I would like to thank my mother, brother, and sister for their continual encouragement and support throughout my educational endeavors.

STUDY OBJECTIVES

The purpose of this study was to determine the effect of the following factors on the rate of change in the serum concentration of theophylline in patients with chronic obstructive pulmonary disease (COPD):

1. The effect of theophylline dose on the rate of change in theophylline concentration.
2. The effect of theophylline dose on the rate of change in theophylline concentration in patients with COPD.

The following hypotheses were tested: (1) the rate of change in theophylline concentration is directly proportional to theophylline dose; (2) the rate of change in theophylline concentration is directly proportional to theophylline dose in patients with COPD.

The following hypotheses were also tested: (3) the rate of change in theophylline concentration is directly proportional to theophylline dose in patients with COPD; (4) the rate of change in theophylline concentration is directly proportional to theophylline dose in patients with COPD.

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The following hypotheses were also tested: (13) the rate of change in theophylline concentration is directly proportional to theophylline dose in patients with COPD; (14) the rate of change in theophylline concentration is directly proportional to theophylline dose in patients with COPD.

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The following hypotheses were also tested: (17) the rate of change in theophylline concentration is directly proportional to theophylline dose in patients with COPD; (18) the rate of change in theophylline concentration is directly proportional to theophylline dose in patients with COPD.

The following hypotheses were also tested: (19) the rate of change in theophylline concentration is directly proportional to theophylline dose in patients with COPD; (20) the rate of change in theophylline concentration is directly proportional to theophylline dose in patients with COPD.

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CHAPTER I

INTRODUCTION

The firm's primary marketing mission in a competitive environment consists of the achievement of a differential advantage. According to Alderson, this helps to insure the long-run survival of the enterprise through the establishment of a unique position for itself in the marketplace.¹

Successful product differentiation occurs when the identity of the producing firm becomes a positive factor in the consumer's brand choice decision. Having established a uniquely favorable position in the eyes of the consumers, through whatever means prove effective in setting its offering apart from that of the competition, the enterprise is said to have attained a differential advantage.

The importance of maintaining an effective differential advantage increases as the product advances to the later stages of its life cycle. After the early development and market acceptance phases, some form of product differentiation may prove to be the difference between survival and failure. Differential advantage is especially important to manufacturers of many consumer durable goods, since they operate in mature markets with slowing growth rates and the persistent threat of being "shaken out" as the market becomes increasingly saturated.



A firm may employ a variety of devices in its pursuit of a unique identity for its product line. However, virtually all such efforts involve extensive use of advertising and promotion, either to promulgate those special features of its offerings which distinguish them from those of their competitors, or perhaps even as the primary basis for its product differentiation.

Successful achievement of a differential advantage through the use of advertising copy platforms results in presold customers, i.e., purchasers who have determined which brand they will buy before entering a retail store. However, there exists considerable uncertainty as to whether durable goods manufacturers' advertising themes do, in fact, presell their products. While research sponsored by advertising media indicates purchasers of durable goods are presold, other studies suggest that the brand choice decision is not made before shopping.²

One test of the effectiveness of advertising copy themes at pre-selling durable goods lies in consumers' abilities to recognize espoused differences among competing brands of the same product. If purchasers cannot do so, then this may be an indication that manufacturers are misallocating substantial resources in their struggle for differential advantage.

Statement of the Problem

The domestic color television set industry offers an opportunity to explore the situation described above. The product is in the maturity stage of the life cycle. The years of rapid rates of increase in

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them from those of their competitors, or perhaps even as the primary
basis for its product differentiation.

It is important to recognize that the advertising and promotion
efforts of a firm are not necessarily aimed at creating a unique
identity for its product line. In many cases, the advertising and
promotion efforts are aimed at creating a unique identity for the
firm itself, rather than for its product line. This is often the
case with large, well-known firms, which may have a strong brand
name that is associated with the firm, rather than with a specific
product line. In such cases, the advertising and promotion efforts
are aimed at creating a unique identity for the firm, rather than
for its product line.

sales volume have passed and the majority of purchasers in today's market have previously owned color television sets. Meanwhile, the number of domestic producers continues to decline. Emerson, DuMont, Westinghouse, and, most recently, Motorola, are but a few of the more familiar brands which have departed the market.

Advertising and promotion serve as the primary basis for the product differentiation attempts by color television set producers. Participation in the Electronic Industries Association (EIA), a trade group, assures equal access by all firms to technological advances. This industry-wide patent pool arrangement precludes the possibility of any one producer catching his rivals by surprise through the incorporation into his product line of a dramatic breakthrough in the state-of-the-art before his competitors have an equal chance to match it.

With new physical product developments equally available to all domestic manufacturers, advertising themes and the use of distinctive terminology for product attributes common to most, if not all, brands are seized upon by producers in their attempts to achieve a differential advantage.

Oxenfeldt underscores the importance of this practice to the manufacturers in his study of marketing practices in the television set industry:

The selection of themes represents one of the most crucial steps in the advertising function. In the television set industry, as in other industries which have a distinct model year, the copy platform is intended to dictate specific advertising actions for a long period--usually a full model year. The need or urge to prepare

sales volume have passed and the majority of purchasers in today's market have previously owned color television sets. Nevertheless, the number of domestic producers continues to decline. Emerson, National, Westinghouse, and, until recently, Motorola, are but a few of the more familiar brands which have departed the market.

Advertisement and promotion have also been the primary cause of the product's failure. The product was not properly marketed and the company failed to build a strong brand name. The product was not properly marketed and the company failed to build a strong brand name.

a new advertising theme stems from the newness of the merchandise. The manufacturer usually wants to inform customers of changes that were made and to convince them that they represent major improvements.³

A consumer faced with the prospect of making a brand choice decision must therefore sort out Chromacolor II from XL-100, distinguish between an ordinary black matrix picture tube and the Super Black Matrix Picture Tube, and learn to appreciate the uniqueness of GT-Matic, Videomatic Color, Quasar and a myriad of other, equally exotically named product attributes.

Such competitive rivalries within the color television receiver industry have triggered some classic advertising confrontations. One of the most notable among these involved Zenith and RCA, long-time rivals from the days of radio and black-and-white television. RCA pioneered printed circuitry, while Zenith continued to use hand wiring in the construction of its chassis. RCA's advertisements touted its "circuits with space-age precision . . . the latest advance over old-fashioned 'hand wiring,'" while Zenith ads responded, "When a machine makes a mistake, it makes a mistake, mistake, mistake, mistake. . . ."⁴

The makers of color television receivers devote substantial sums of money to such advertising campaigns. Zenith spent five million dollars in 1970 to promote its "Chromacolor" picture tube,⁵ while RCA pumped nearly ten million dollars into measured media to advertise its color television receiver line throughout that same year.⁶ Admiral spent three million dollars on network television and printed media to tout its warranty policy during 17 weeks of 1973.⁷

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merchants. The manufacturer usually wants to inform
customers of changes that were made and to convince
them that they represent major improvements.

A consumer faced with the prospect of making a brand choice

must therefore sort out Chromcolor II from K-L-G, distinguish
between an ordinary black and white picture tube and the Super Black Tube.

Picture Tubes are made in many different sizes and shapes and

Video Tubes are made in many different sizes and shapes and

and I hope to see you in the future.

and I hope to see you in the future.

and I hope to see you in the future.

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Obviously, the industry regards advertising as a key competitive weapon. In an effort to regain its previous position of third in total sales behind Zenith and RCA, Magnavox nearly doubled its advertising budget for the 1974 model year, raising it to nine million dollars from the previous year's \$4,700,000.⁸

Despite such elaborate efforts by producers to differentiate their product offerings, the consumer's brand choice decision involves more than a simple evaluation of competing advertising claims. Indeed, the significance of these advertising messages to the consumer may be far less than color television manufacturers, and their advertising agencies, believe.

Before there can be an assessment of the impact of manufacturers' advertising themes upon consumers' brand choices, there should be a consideration of the many additional elements which enter into that decision. Any exploration of what leads an individual to purchase one brand of a product over another must include more than a single aspect of the consumer's decision problem. One must consider the added influences of store loyalty, previous ownership experience with the product, word-of-mouth information, the use of consumer-product rating services, product price and in-store personal selling.

Thus, the purpose of this study is to assess the impact of color television manufacturers' advertising themes upon consumers' brand choice decisions, relative to the other factors listed above.

Obviously, the industry regards advertising as a key competitive weapon. In an attempt to regain its previous position of third in total sales behind Radio and RCA, Westinghouse nearly doubled its advertising budget for the 1975 model year, raising it to nine million dollars

from the previous year's \$4,700,000.

Despite such elaborate efforts by producers to differentiate their products, the market is still a very close one. The industry's total sales for the first nine months of 1974 were \$1.1 billion, a 10% increase over the same period in 1973. The industry's total sales for the first nine months of 1975 were \$1.2 billion, a 10% increase over the same period in 1974.

Scope of the Study

The research encompasses color television purchases in the Lansing, Michigan, market over an eight week period running from February of 1974 through March of the same year. Customers from a dozen retail stores in and around the city were included in the sample.

While a scientifically structured sample from the entire United States population would have been clearly preferable to the one employed, practical considerations of time and money confined the effort to the local area. However, the Lansing Standard Metropolitan Statistical Area does offer a mixture of manufacturing, service, retail, government and academic employees in its total population of 378,423.⁹ Also included in the respondents are 24 residents of the suburban and rural towns of 18,000 or less in the surrounding area. Therefore, although not scientifically stratified, the sample is nonetheless sufficiently diverse to justify conducting the study in the chosen locale.

Likewise there exists a cross-section of retail store types from which the sample was drawn. Two national discount department stores, a nationwide department store chain and a leading regional department store chain were represented, along with two local furniture stores, a member of a regional chain of appliance stores, a local discount store, two small television sales-and-service outlets and one of a regional chain of specialty stores. In addition to comprising a diverse group of retail operations, these stores represent a variety of locations in and around the city of Lansing.

Such a selection of stores enables comparisons of shopping patterns, feelings of store loyalty, and purchase motivations which exemplify the behavior of several different categories of consumers.

The participating stores provided 327 names and addresses of recent purchasers of color television sets. A total of 142 people from this group responded to the mail survey questionnaire sent to them; 103 of these responses were used in the analysis.

While personal interviews would have been a better means of data collection, financial constraints precluded the use of what would have otherwise been a preferred data gathering technique.

Frame of Reference

A recent study conducted at the behest of the Federal Trade Commission (FTC) examined the advertising claims of color television set manufacturers. Of 59 ads considered, manufacturers were able to submit sufficient data to substantiate 18. The Commission further noted that 14 of these implied a product uniqueness which did not exist. For example, Sears' "extraordinary Chromix," Zenith's "exclusive Chromatic Brain," and Philco's "exclusive Picture Pilot" not only amounted to the same thing, but were also found on competitive sets of comparable quality.¹⁰

While the FTC research examined at length the question of whether actual physical product differences justified manufacturers' claims of uniqueness for their products, it did not consider the impact of such advertising upon color television set purchasers and its role in their brand choice decisions.

Such a selection of stores enables comparisons to be made of patterns, feelings of store loyalty, and purchase intentions which exemplify the behavior of several different categories of purchasers.

The participating stores provided 357 names and addresses of recent purchasers of color television sets. A total of 145 purchasers from this group responded to the mail survey questionnaire and 100 completed the questionnaire.

The questionnaire was mailed to the respondents in a pre-paid envelope. The questionnaire was designed to be completed in about 15 minutes. The questionnaire was mailed to the respondents in a pre-paid envelope. The questionnaire was designed to be completed in about 15 minutes.

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There are numerous buyer behavior studies involving purchasers of other consumer durable goods, such as automobiles and refrigerators, but none has devoted itself exclusively to color television. Nonetheless, the unusual combination of factors surrounding the marketing of this product provide a unique setting in which to gauge the relative influence of various elements in the consumer's brand choice problem. Color television set production follows a model-year cycle similar to that of the automobile industry, yet distribution takes place through a wide variety of retail outlets. While other types of appliances match its diversity of retail distribution, none of them possesses the distinctive advertising themes employed in the marketing of color television sets. Nor do the manufacturers of other appliances rely so heavily upon advertising and promotional themes to create and to maintain product differentiation.

Furthermore, retailers themselves seem to feel considerable uncertainty about consumer motivations in the color television purchase decision process. One Lansing retailer, who sold color television sets from the pioneering days of the late 1950's until March 1974, offered the following observation:

Color television has always been a crazy market. I can recall the very first color set in the Lansing area, the long period before [the product] caught on, the subsequent boom in sales and, finally, the saturation of the local market. There were times when we made a lot of money in it, but I never really felt that I was able to understand it and feel comfortable about it the way I could with, say, refrigerators or washers. It's a funny market. I'm glad we got out when we did.¹¹

Previous research on the television set industry provides valuable information about manufacturers' marketing practices in general. None, however, focuses upon the advertising theme issue and its role in the brand choices of consumers.

Oxenfeldt's study, Marketing Practices in the TV Set Industry, gives a thorough, comprehensive view of the industry.¹² The chapter on distribution activities of manufacturers stresses the significance attached to the choice of a copy platform, i.e., the theme which runs through all the advertisements for a particular brand during the model year. However, he makes no mention of any attempts to assess the relative impact of the television producers' advertising upon consumers. And, since it was published in 1964, that portion of the analysis devoted to color television is no longer relevant to the present market situation.

Datta's work on "Competitive Strategy and Performance of Firms in the U.S. Television Set Industry: 1950-1960" also serves as useful background material for the present effort.¹³ He cites advertising policy as a key element of television producers' marketing strategy and concludes that it was a factor which played a significant role in contributing to the failure of non-survivors in the industry. However, his effort was of a theoretical, model-building nature and made no attempt to test advertising impact upon consumers. Furthermore, as the time span specified in the title makes clear, it deals with the black-and-white television market rather than color.

LeGrande's research, titled A Study of Consumer Buying Behavior in the Purchase of New Television Sets, offered several useful insights into consumer purchase motivations.¹⁴ His effort concentrated upon the analysis of shopping patterns and the utilization of information sources about the intended purchase. However, color television purchasers constituted less than 20 percent of his sample and he considered only a few of the many factors which influenced purchasers' brand choice decisions.

Gorman's study, which compared households buying color television sets for the first time with those making a second purchase, was a useful reference in the construction of the demographic data portion of the survey instrument.¹⁵ However, the thrust of his research concerned the identification and definition of categories of adopters of a product innovation, rather than the consumer's brand choice problem.

Since this present effort confines itself to an exploratory and descriptive exercise, it will not be necessary to examine sources related to quantitative methodology in buyer behavior studies.

Significance of the Study

This study represents an attempt to evaluate the use of advertising themes as a technique for achieving a differential advantage. Despite the fact that many manufacturers of consumer durable goods allocate substantial resources to their advertising and sales promotion efforts, the impact of such activities upon the consumer's brand choice decision remains unclear. Thus the results will carry implications

about the efficiency with which color television manufacturers employ their resources as they battle for differential advantage. Furthermore, the outcome will yield some observations about the potential for establishing a differential advantage through advertising and sales promotion when there is an absence of unique and readily recognizable differences in the product itself.

It would be presumptuous to claim that the results of this study will provide an assessment of the advertising effectiveness of color television manufacturers. Yet, the exploration may offer useful insights into what further research, with sufficient time and financial resources to construct a better sample, might uncover about the brand choice decision process of color television purchasers. In particular, the present effort may serve to suggest some promising leads to pursue regarding the significance of manufacturers' advertising themes relative to other factors in the consumer's choice concerning which brand of color television set to purchase.

This research may also help the participating Lansing area retailers to understand more about both the local market for color television sets and the customers who purchase these items in their stores.

Limitations of the Study

The sample consists of Lansing area residents who purchased color television sets in one of a dozen selected stores during a given period of time. There is no claim to scientific stratification, nor is there any pretense of randomness in the composition of the sample.

Several participating retail stores specified that there be no telephone contacts with the customers whose names they released, and financial constraints precluded the possibility of a second mailing. Thus, the sample is flawed by non-respondent bias.

The survey took place during a single season of the color television set model year. It did not encompass the heavy selling season of the fall, the pre-Christmas rush, the post-Christmas-pre-inventory, sales or the summer doldrums. Subsequent investigations of consumer purchase motivations during these other times might demonstrate the existence of seasonal variations.

The research confines itself to purchasers of domestic brands of color television sets. Expanding the scope to include foreign brands would have entailed lengthening an already too long questionnaire, particularly the sections which dealt with the recognition of advertising themes and product attributes. The research design thereby eliminates a segment which comprises roughly 15 percent of the total market, although there is nothing to suggest a priori that the advertising themes of foreign manufacturers have a different impact upon consumers than do those of domestic producers.

These flaws in the nature of the sample limit the analysis to that of descriptive statistics, and, in turn, combine to prevent generalization of the results beyond the statements about this particular group of people at the time they made their brand choice decisions.

Furthermore, it is important to note that this study tests the impact of color television manufacturers' advertising themes upon consumers' brand choice decisions only to the extent that aided recall and association tests can assess this phenomenon.

Organization

Given that there is no literature on quantitative methodology to consider, and in light of the unique nature of the color television set industry, Chapter II will review the history of the industry and then proceed to set the stage for an account of the present competitive situation in the color television set market. Chapter III describes the survey design and execution. Chapter IV presents the research findings, while Chapter V provides concluding comments and suggestions for additional research in the area.

Furthermore, it is important to note that the impact of color is not limited to the visual field. The color of the environment can also affect the mood and behavior of the people who are in it. For example, a study by Koolhaas and his colleagues found that the color of the walls in a hospital ward can affect the recovery time of patients. Patients in a room with blue walls recovered faster than those in a room with white walls. This suggests that the color of the environment can have a significant impact on the health and well-being of people.

Notes--Chapter I

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CHAPTER II

DEVELOPMENT OF THE COLOR TELEVISION RECEIVER MARKET IN THE UNITED STATES

Introduction

Commercial production and marketing of color television receivers conforms to the product life cycle concept.¹ Thus far the color television set industry has evolved from the pioneering stage through a period of rapid growth and into its present status as a mature product.

This account of the background and development of the color television receiver industry in the United States will unfold according to the product's life cycle chronology. The initial period of pioneering runs from the commercial debut of color television sets in 1954 through 1961. The ensuing market acceptance phase, a time of extraordinarily rapid sales growth, took place from 1962 through 1965. The expansion tapered off by 1966 as the industry settled into the maturity stage of its life cycle, where it presently rests.

The growth and development of color picture tube production, the evolution of color programming by the television networks and the advent of Japanese color receiver imports all had a significant impact upon the development of the domestic color television set industry. Their roles in the history of the industry will also be considered.

The Pioneering Phase, 1954-1961

The Federal Communications Commission first granted its approval for a color television broadcasting system to CBS-Hytron, a division of the Columbia Broadcasting System, for one which they developed in 1950. The CBS scheme suffered from the problem of "non-compatibility," i.e., the color telecasts it transmitted could not be received on black-and-white sets.

Such a color television system held little potential for wide-spread development. Who would be willing to sponsor a color telecast over a non-compatible system when the vast majority of American households did not possess equipment capable of receiving the program? On the other hand, while a color telecast via a compatible system might not be seen in color by any sizeable portion of the viewing audience, at least it could be received by everyone who owned a television set.

The Radio Corporation of America, under the leadership of David Sarnoff, had offered an alternative to the CBS-Hytron color television system for FCC approval. However, RCA had not fully developed its color broadcasting schemes prior to its presentation before the Commission. As Sarnoff later described it, "The monkeys were green, the bananas were blue, and everyone had a good laugh."² The CBS picture, by comparison, was much superior.

The television receiver industry, appalled at the prospect of non-compatible color broadcasting, subsequently formed the National Television System Committee (NTSC), comprised of representatives from the leading manufacturers of black-and-white television sets. Dr. W.

R. G. Baker, a Vice-President of General Electric, headed the committee, which set out to develop a workable system of compatible color broadcasting.

The NTSC refined the compatible color broadcasting concept to the point where the FCC granted its approval in January, 1954. RCA promptly began to take credit for the newly adopted system. This evoked cries of protest from other manufacturers, particularly Zenith and Philco, who hastened to point out that every firm within the industry had contributed to the development of compatible color broadcasting.³

The industry furor over the future of color television, and its attendant publicity, was blamed for a sluggish sales showing by black-and-white receivers in 1954. One industry observer claimed that "the imminence of color TV killed a good many black-and-white sales toward the end of the year."⁴ He further noted that several manufacturers, wary of color television's potential impact upon the black-and-white market, emphasized that early production of color sets would be limited, screen sizes would be small, and prices would run in the \$700-to-\$1,000 range.

Despite the initial sound and fury over color television in early 1954, by April of that year Westinghouse had the only set actually on the market, having sold approximately 30 of them since early March.⁵ Their marketing strategy called for a city-by-city approach, rather than simultaneous national distribution. Thus, these first color sets were available only in New York, Boston, Philadelphia, Newark, Cleveland,

W. B. Baker, a Vice-President of the Board of Directors of the

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and Chicago. In an early effort to boost sales, they cut the price from \$1,295 to \$1,110.⁶

The trade publication Electrical Merchandising estimated that 5,000 sets were produced during the first half of 1954, although it noted that other sources placed the figure as high as 8,300.⁷ Of the total early production, few sets found their way into the hands of the general public. Most went to television studios, advertising agencies, service training centers, and to distributors for display and promotion purposes. Electrical Merchandising claimed that by mid-July, sales to private households came to a mere 200 sets.⁸

Confusion over the standardization of materials and components used in the production process, including the picture tube, added to the early uncertainty about the future of color television. Dr. Baker, former head of the NTSC, the group which devised the compatible color system, observed in April, 1954, that five separate types of color picture tubes were available, two of them entirely different from the other three, which in turn were not fully interchangeable.⁹ This situation greatly increased the already substantial risks associated with early color television production, since the picture tube which a manufacturer selected might suddenly become obsolete due to the development of one of the alternatives. The incompatibilities of the available tubes meant, of course, that adoption of the wrong one would eventually necessitate redesigning the entire receiver. Dr. Baker cited this situation as evidence that the industry had outrun its own technology and was "... trapped by expediciencies and pressures into

and Chicago, in an early edition of the book.

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announcing a service and promising immediacy before it was technically in a position to fulfill the promise."¹⁰

Nonetheless, several manufacturers plunged into the market during the first half of 1954, starting production around March. Westinghouse offered the first sets to reach the market, which carried a retail price of \$1,295, although the firm claimed that did not cover all of the production costs. General Electric established a list price of \$1,000 on its first color receiver, a console model with a 15-inch screen, the only size available from any manufacturer on the first sets produced. The price included a 90-day warranty on the picture tube and parts. RCA's early color television sets also retailed for \$1,000. The initial list of manufacturers included Admiral, Philco, and Emerson as well.

Benjamin Abrams, President of Emerson Electric Company, announced a rental plan for his company's first color television sets, citing a company study which indicated the public would not pay \$700 to \$1,200 for a color television set while networks offered a mere two hours per week of color programs.¹¹ He did not, however, disclose the proposed rental fee.

Although several companies participated in the initial scramble for the color television set market, RCA was clearly the prime mover behind the industry's development. The firm considered itself the leader in the consumer electronics field, and corporation chairman David Sarnoff took up the introduction and development of color television as a personal crusade.

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In August, 1954, RCA announced a price cut on color television sets, from \$1,000 to \$495. The company noted that customers who had earlier purchased sets for \$1,000 would receive refunds of \$505. The stated rationale for the price reduction was to clear 15-inch sets from inventories before the introduction of 21-inch sets in September.¹² However, a conventional wisdom had developed within the industry which held that color television prices must come down to \$500 before a mass market would emerge. Thus, the desire to broaden the market and to establish itself more firmly as the market leader would seem to provide a more plausible explanation for the 50 percent price reduction. RCA had made a similar move with respect to black-and-white television prices in 1939.

Other early producers did not share RCA's determination to hasten mass market acceptance of color TV. By December, 1954, Emerson had ceased to make color sets. The firm declared its intention to resume production within two months after satisfactory 21-inch color picture tubes could be delivered.¹³

Additional manufacturers entered into color television production as 21-inch picture tubes became commercially available in 1955. Stromberg-Carlson's set carried a price tag of \$995. Du Mont brought out a 21-inch set as a "standby" model to help dealers who felt it necessary to have a color set in their television lines. Magnavox also added its name to the list of color television makers.

However, RCA continued to be the only firm producing color sets in any significant quantity, some 10,000 units per year by one estimate.¹⁴

In August, 1954, PCA conducted a survey of color television sets, from 11,000 to 12,000. The survey noted that color sets were being sold at a rate of 100,000 per month. This was a significant increase from the 10,000 sets sold in the same month of 1953. The survey also noted that the majority of color sets were being sold in the Northeast and Midwest regions. The survey was conducted by the PCA and the results were reported to the FCC. The FCC then issued a report on the color television market, which was published in the Federal Register. The report noted that the color television market was growing rapidly and that the FCC was monitoring the market closely. The report also noted that the FCC was considering the possibility of regulating the color television market. The report was published in the Federal Register on September 1, 1954.

Their 21-inch console model listed at \$795, with another \$100 to \$140 per year for a service contract. No other manufacturers had a commitment to volume production. General Electric and Sylvania suspended earlier plans for mass output of color picture tubes. RCA stood alone with its aim of working to shorten the transition from black-and-white to color television. The other firms' efforts were of a more casual nature, in many instances undertaken only to satisfy dealer demands for color television sets that would enhance showroom displays or to add prestige to the manufacturer's image.

An early barrier to mass marketing occurred in the form of a sales-programming paradox. As one trade source put it, "you can't demonstrate color without a color show and you can't sell many people on buying a color set which will show only monochrome about 98 percent of the time."¹⁵

Nonetheless, RCA remained undaunted in its optimism. Frank M. Folsom, President, forecasted annual sales of 1,780,000 units in 1956, 3,000,000 units during 1957, and 5,000,000 units for 1958.¹⁶ Electrical Merchandising predicted that the United States would have 92 million television sets in operation by 1975, 90 percent of which would be color.¹⁷

Actual sales did not measure up to these forecasts. The industry sold 85,000 units in 1957, 80,000 units in 1958, and 90,000 units during 1959, as Table 1 indicates. Sales for 1958 fell 4,920,000 sets short of Folsom's forecast.

Table 1. Total U.S. sales of color television receivers,
1954-1971

Year	Units (1,000's)	Dollars (1,000's)
1954	5	2,000
1955	20	10,000
1956	100	46,000
1957	85	37,000
1958	80	34,000
1959	90	37,000
1960	120	47,000
1961	147	56,000
1962	438	154,000
1963	747	258,000
1964	1,404	488,000
1965	2,694	959,000
1966	5,012	1,861,000
1967	5,563	2,015,000
1968	5,972	2,047,000
1969	5,744	1,961,000
1970	4,729	1,592,000
1971	6,349	2,152,000
1972	7,908	2,595,000

Source: Television Factbook, No. 23, 1973-74 edition
(Washington, D.C.: Television Digest, 1974),
p. 77a.

A lack of aggressive promotion by manufacturers other than RCA, high prices, lukewarm dealer support, and a dearth of color programs available for viewing provided more formidable barriers to the mass market acceptance of color television than RCA originally anticipated.

As the owner of a major television network, the National Broadcasting Company, RCA was in a unique position to attack the color programming barrier. During the first year of commercial color

Table 1. Total U.S. sales of foreign-owned companies, 1961-1967

Year	Sales (in millions of dollars)	
	1961	1967
1961	1,000	1,000
1962	1,000	1,000
1963	1,000	1,000
1964	1,000	1,000
1965	1,000	1,000
1966	1,000	1,000
1967	1,000	1,000

television, 125 stations reaching 75 percent of all homes in the United States could transmit color signals received from the networks. During this period, NBC, the broadcasting industry leader in color telecasting, offered three color programs per week.¹⁸

The first significant increase in color television programming and broadcast facilities occurred in 1955, when NBC put into operation the first television studio designed and built for color at a cost of \$3,716,400.¹⁹ In November of that year, WNBQ, a Chicago television station owned by NBC, announced that it would become the first to originate all live broadcasts in color. The five-month-long conversion process, costing \$1,250,000, constituted one phase of \$12 million program to expand NBC's color television facilities. The plan also upped the network's color programming to more than 80 hours per month, compared to the ten hours monthly offered by CBS.²⁰

Dealers proceeded to perform their role in the new product launch by aiming early promotions of color television sets at bars, restaurants, and clubs. Their objective was to provide maximum public exposure of the product. Another common promotional technique was to run newspaper ads touting the evening's color programs. Electrical Merchandising even attempted to raise appliance dealer's color consciousness through the publication of network schedules of color telecasts beginning with its November 1955 issue.

RCA's commitment to the development of color television proved a costly one. The company reported record sales of \$1.1 billion in 1956, the largest annual volume in its history, yet it showed the

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During this period, the station will be in a state of

lowest profits since the reconversion year of 1946.²¹ The most generally cited explanation was the firm's drive to gain widespread acceptance for color TV. This caused RCA to incur a loss of \$14 million before taxes in 1956, on top of an estimated \$100 million already invested in the product's development.²²

Industry critics did not hesitate to deride RCA's efforts on behalf of color television. They claimed that the company moved too quickly to market the product and that it should have waited until 21-inch screens were feasible. They also held that the pricing was wrong and that a price reduction from \$1,000 to \$495 in 27 months was too much, especially since the \$495 price did not yield any profits. Furthermore, observers noted that RCA could not put across color television by itself; it would need the assistance of the entire industry, which thus far did not share Sarnoff's enthusiasm for the new product.²³

RCA responded forcefully to these charges. They pointed out that the first receivers sold worked properly, that no new product ever comes into the market fully developed and they defended their pricing policy on the grounds that they needed to reach the mass market to generate sufficient production economies in order to lower costs. Finally, the company agreed wholeheartedly with the contention that they needed widespread industry support for their campaign and challenged their rival firms to make a serious effort at selling color television.²⁴

To this end, RCA made their technological knowledge about color television available to anyone who cared to share it. Blue prints and

lowest profits since the recovery of 1926. The fact that
generally clear evidence was not found to show a downward
movement in the price of the stock of the company
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mass production details were opened to outside inspection in an effort to boost total industry output of color television receivers. All company secrets were made available on a licensing basis. Corporate President Frank M. Folsom, in making this announcement, declared, "Our color television manufacturing facilities are open to your inspection."²⁵ The company had taken similar action in 1947 during its campaign to introduce black-and-white television.

RCA also cut the price of color picture tubes they sold to other manufacturers from \$100 to \$85.²⁶

Color telecasting capacity began to experience some further increases as more local stations geared up for color. By early 1956, 253 television stations were equipped to transmit the color shows sent to them by the networks, 74 could broadcast color slide and film programs from their own studios, and 43 were able to originate live, color telecasts.²⁷

RCA continued to tout the imminence of mass color television set sales. Officials predicted that color sets would account for the bulk of their dollar sales in 1957 and hinted that unit sales of color for that year might even exceed those of black-and-white.²⁸ However, they did not achieve either of these benchmarks.

The company did not stand alone in their optimistic position that while the industry was still in its developmental stage, rapid market growth would occur. Despite the fact that other firms declined to commit resources to color television set production, Business Week reported "surprising unanimity" within the industry over sales

Two production details were reported in the 1950s.

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projections of 200,000 sets for 1956, 500,000 to 1,000,000 sets in 1957, and more than 5,000,000 units in 1958. Subsequent years would then see the sale of only color televisions, black-and-white having been entirely supplanted.²⁹

The market did not develop that quickly. Final losses to RCA on color television receiver production totalled \$6,900,000 during 1956. Chairman Sarnoff, in reporting that figure, stated, "This is certainly a reasonable expenditure to lay the foundation for a business that promises substantial profits in the near future."³⁰

RCA continued as the only manufacturer pushing to gain mass market acceptance for the product as it launched color television's first intensive sales and promotional effort in Milwaukee during the spring of 1957. The company called it ". . . the first carefully engineered color set promotion attempted by RCA in which all media will be used on a substantial basis."³¹

The five week campaign boosted sales volume by 783 percent, from a weekly average of 12 sets sold up to 106 per week during the special promotion which included newspaper, radio, and television advertising; telephone and door-to-door solicitations; and home demonstrations. Local television stations cooperated by airing an average of seven and one-half hours per week of color programs, more than ever previously presented over a comparable period.³²

Although RCA continued to offer its bottom-of-the-line "black box" model for \$495, 70 percent of those who purchased during the Milwaukee promotion bought higher-priced sets ranging up to \$850.

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While dealers gave some discounts off the list-price, RCA claimed they were less than those granted before the campaign.³³

However, the rest of the television receiver manufacturers remained unimpressed by the potential for color television. Westinghouse was the only other producer which displayed any of RCA's enthusiasm, as evidenced by their move to boost both production and promotion of color sets in early 1958. They hinted that aggressive pricing might be the best means to achieve their market share objective of 10 percent, noting that several of their dealers in New York sold sets that listed at \$495 for \$395, and discounted \$850 models down to \$600 "with excellent results."³⁴

Following a two year absence from the market, Magnavox introduced two models with 24-inch screens which retailed for \$800 and \$850. Frank Frieman, Magnavox President, summed up the prevailing attitude of most television manufacturers toward color television when he stated that the sets were brought out for prestige purposes and that the new products would not account for any significant difference in company sales.³⁵

Admiral resumed its color television receiver output in 1959, having ceased production one year earlier. Ross D. Siragusa, company President, stated that the strong sales showing since December of the previous year prompted the Admiral move, and concluded that "the time is ripe for entry."³⁶ Most of Admiral's competitors did not share this view.

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Meanwhile, Herbert Riegleman, General Manager of the Television Receiver Department at General Electric, summed up the dominant sentiment within the industry:

Even with drastic price cutting and top heavy promotion, color TV is not off the ground. As far as GE is concerned, color TV's potential at its present level of development is of such questionable consequence and of such great risk to our distributor and dealer organization that we do not feel justified in jeopardizing our monochrome position simply to be able to say that we are in the color television business.³⁷

Following five years of intensive market cultivation, RCA showed its first profit from color television production in 1959.³⁸ The firm's investment in color television up to 1960 was nearly \$100,000,000.³⁹ Chairman Sarnoff proclaimed that the company would earn at least \$1,000,000 in profits from color TV during 1960 while it doubled the previous year's sales.⁴⁰

Other developments helped to brighten the outlook for color television in the 1960's. NBC increased its schedule of color programming to 1,000 hours for 1959-1960. However, CBS made no plans to expand upon the six hours of color programming it had offered during the previous season. ABC had yet to originate its first color telecast, although nearly 350 of the nation's more than 500 television stations were capable of retransmitting color broadcasts from the national networks.⁴¹ Meanwhile, color broadcasting technology took a significant step forward with General Electric's development of a new tube for color cameras that greatly reduced the amount of light required for color broadcasting.

Memorandum for the President, dated 10/10/54, subject: [illegible]

Re: [illegible]

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3. [illegible]

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By 1961, industry sales and profit figures signaled the close of color television's pioneering stage. General Electric responded by returning to color set production after a five year absence. Sylvania also joined the color parade, introducing a color television receiver for the first time.

The entry of Zenith Radio Corporation, long the major nemesis of RCA in the black-and-white market, furnished the strongest evidence that color receiver sales would soon enter a mass market phase. Only one year earlier, Joseph Wright, Zenith's President, had said, "[Color television] isn't business yet. When it is, we'll be in it in a big way."⁴² The first ten Zenith models ranged in price from \$600 to \$1,050, with another \$150 annual charge for a service contract. The firm cited bars and high income homes as launching points for its new product.

Subsequent sales figures showed color television edging closer to mass market acceptance as the black-and-white market became saturated. RCA reported its dollar volume of color set sales for November 1961 to be greater than that of black-and-white sales, the first time this had ever happened.⁴³ Color sales for RCA during January, 1962, ran 165 percent of the same month's total for 1961, while the firm's orders from distributors during February exceeded its production capacity.⁴⁴ Both Admiral and Zenith reported frequent sell-outs and back-ordering during 1961.

RCA also scored a significant breakthrough in color picture tube technology during 1961. The only company manufacturing color

By 1957, industry sales had reached \$100 million.

of color television sets, and a number of other

returning to color television sets, and a number of other

also joined the industry, and a number of other

for the year.

picture tubes on a commercial basis, RCA devised a tube using improved phosphors that resulted in a 50 percent brighter picture with improved sharpness and contrast. The company pointed out that this would permit enjoyment of color TV in many public places where viewing conditions were previously hampered due to high room lighting.⁴⁵ Zenith was among the many manufacturers who said they would use the new tube.

Motorola announced the development of a 23-inch rectangular color picture tube a few months later. Although not then ready for commercial production, the new tube was shallower than existing round models, which would eventually enable a more streamlined cabinet design.

For the most part, RCA pioneered color television on its own. The Wall Street Journal estimated that RCA had 95 percent of the market in 1961,⁴⁶ a strong indication that other manufacturers' involvement up to that time amounted to very little. The company had invested \$130 million in color before showing its first returns. The first full year of profit on color television, 1961, yielded earnings "in seven figures," according to Chairman Sarnoff.⁴⁷

Although color television did not achieve mass market acceptance as rapidly as some industry optimists forecasted in the mid-1950's, the pioneering stage was not exceptionally long, given the nature of the product. Color TV is perhaps the most complex consumer product ever attempted. Like many new products, people initially regarded it as a novelty, something still in the experimental stage and not yet perfected. Besides, they already had a picture with black-and-white receivers; color was only a refinement. High prices also deterred

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would-be customers. Although most manufacturers offered sets at \$500, they were not, in dealer parlance, "anything that you would want to put in your living room." The most popular models sold in the \$750-to-\$800 range, with another \$150 per year for a service contract. Widespread rumors of imminent technological breakthroughs that would mean cheaper color sets also hampered sales. The lack of network programming in color further retarded early acceptance. While NBC gamely increased its hours of color telecasting every year, neither CBS nor ABC had any regularly scheduled color shows as late as January of 1962.

Having surmounted these early barriers, by 1962 color television was ready to move into a period of extremely rapid consumer acceptance, with booming sales and buoyant profits for manufacturers and dealers alike.

Market Acceptance, 1962-1965

The ripening market in the United States for color television receivers attracted foreign attention as well as that of domestic producers. The first Japanese-made sets imported into the United States arrived in Chicago during January 1962. Sold by Delmonico International, the 21-inch models came in a console combination with stereophonic record player and AM-FM radio for \$599.95, several hundred dollars less than comparable American-made units. They included an RCA picture tube as the only non-Japanese component.⁴⁸

By April of 1962, the Electronic Industries Association, a trade group, had begun to sound the alarm. Speaking for the EIA before

1998

the House Ways and Means Committee, Robert C. Sprague contended that "trade intelligence" indicated Japanese color television receivers would be on the market in the United States within three to four years, priced 33 percent less than American sets.⁴⁹

Although RCA still stood virtually alone in the market during 1959, by 1963 many additional firms had expressed interest or re-entered, including Admiral, Zenith, Motorola, Philco, Sylvania, Muntz TV, Trav-Ler Industries, Emerson Radio and Phonograph, Magnavox, and the Wells-Gardner Electronics Corporation. RCA remained the sole supplier of color picture tubes, but National Video had made a few pilot runs. Television dealers and distributors were eager to plunge ahead with color television in an effort to escape the increasingly intense price competition that accompanied saturation of the black-and-white market, and to counter declining sales revenue that resulted from the shift of consumers' purchases of console models to lower-priced portable sets. They noted with relish the 1962 EIA figures showing that while color sets yielded only 6.5 percent of the unit volume from home TV sales, they provided 17 percent of the total revenues.⁵⁰

Significant improvements in picture quality through both broadcasting and receiver refinements, increased hours of color programming by NBC, improved service capabilities and more aggressive promotion combined to spur color set sales to new heights. By November of 1962, 1.5 million American households had color television. During that same month, RCA's Chairman Sarnoff stated:

The House was and being...
"Trade Intelligence"...
would be...
prices as...

By...
1891...
...

There has been over the years a misconception with some financial people as to the role of the leader and that of the follower. Sometimes the follower gets on the bandwagon late and makes money but I can tell you that in color television we are now earning more dollars in profit from color than on black-and-white, even though black-and-white sales are well up over last year's level.⁵¹

NBC continued its lonely crusade for more hours of network color telecasting. It ran 41 percent of its programming in color during the 1960-1961 season, 51 percent in 1961-1962, and 74 percent throughout 1962-1963. CBS, which had broadcast 76 hours of color shows in 1956, did not offer any color telecasts during 1962. The network cited a lack of advertiser interest.⁵² ABC ran three hours of color shows per week over this time.

Frequent and substantial price reductions contributed further to the color television sales boom. Admiral, the firm which would consistently serve as price leader for the industry, cut the list price on its cheapest model by \$85 to \$399.95 in May, 1963.⁵³ General Electric, noting volume increases sufficient to allow production economies, trimmed \$45 from the price of its cheapest set the following August. During the same period, Zenith took \$50 off the list price of its least expensive model, while Sears also introduced a color set which sold for under \$400.⁵⁴

Within months, virtually every major manufacturer offered a model for less than \$400, including Admiral, Sylvania, RCA, General Electric, and Motorola. Sears kept the heat on the industry by periodically featuring special sales events during which they sold a 21-inch model for \$319.

In real terms, the price cuts were even greater than the dollar figures indicated. Many technological advances, previously available as extra cost options, became standard features. For example, degaussers and VHF tuners originally added as much as \$150 to the price of a new set. By 1964, they had become standard items at no extra cost on many models. The stepped-up price competition came sooner than most industry people had anticipated. The Wall Street Journal quoted an unnamed firm's president as saying:

Holy cats, they've knocked the gravy off the industry just as it got started. We figured we would have two more good years before the real price shading got started.⁵⁵

At one point the price jockeying became so hectic that Sears listed a 21-inch color set at \$348.88, 12 cents less than one of its 16-inch models.⁵⁶

Magnavox stood alone among domestic color television manufacturers in its resistance to the price cutting. However, as company President Frank Freimann pointed out, 80 percent of their dollar volume was in sets priced over \$500. Their cheapest model was \$479.50.⁵⁷ Maxnavox could afford to resist the price cutting, since its strategy consisted of carving out a niche for itself in the higher priced, top-of-the-line segment of the market.

The number of models available proliferated, increasing to an estimated 249 offered by more than 19 manufacturers at the end of 1964.⁵⁸ Most of the additions came at the bottom end of product lines, i.e., lower-priced portable and table models.

In that event, the entire amount of the \$100,000.00

should be paid to the Government of the United States

and the balance of the \$100,000.00 should be paid to the

Government of the United States

and the balance of the \$100,000.00 should be paid to the

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Government of the United States

The rapid rise in sales of color television sets placed a severe strain upon RCA's color picture tube production capabilities, since it was the sole supplier to the industry. By 1962 the company had opened a second tube manufacturing facility at Marion, Indiana. Sylvania, which had manufactured color picture tubes from 1953 to 1957, resumed output in 1963. National Video and Zenith, through the Rauland Company subsidiary, also started producing them during the same year.

The picture tube shortage became more acute in 1964, despite frantic efforts to boost output. RCA forecasted production of 1.3 million tubes for itself and an additional 1.7 million for the rest of the industry, which it claimed would have to be allocated since total demand would not be met.⁵⁹ The more than 25 producers to whom RCA sold color television picture tubes could only grumble about inadequate supplies. Zenith, Sylvania, and National Video were not yet producing on a significant scale. Zenith utilized all of its own production, in addition to what it purchased from RCA, while Sylvania sold almost all of its color picture tubes to the Warwick Electric Company, which in turn made color TV sets for Sears.

Sylvania registered an important breakthrough in color television technology with the development of a new picture tube, christened "Color Bright 85." Using rare-earth phosphors such as europium and yttrium, it provided a 40 percent brighter picture than conventional tubes, and offered sharper contrast with truer reds. It also decreased the required voltage at which color sets operated, thereby allowing the

The rapid rise in cases of *Salmonella* infection in the United States during the summer of 1965, which was associated with the consumption of raw milk, has been well documented. Since it was the only source of infection in the majority of cases, it was concluded that the source of the infection was raw milk. The source of the infection was traced to a single source, a small farm in the state of California, which had supplied raw milk to a number of restaurants in the area. The source of the infection was traced to a single source, a small farm in the state of California, which had supplied raw milk to a number of restaurants in the area.

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use of lower voltage, lower priced components and increasing performance reliability. This later turned out to be a safety factor.

Several manufacturers also were working on the development of rectangular picture tubes as alternatives to the standard 21-inch round model. National Video supplied Motorola with a small quantity of 23-inch rectangular tubes, while RCA made pilot runs of 19-inch and 25-inch versions.

Admiral Corporation declared its intention to join the ranks of color picture tube producers in 1964, coupling its announcement with a blast at RCA. Ross D. Siragusa, President, contended that RCA received an abnormal profit margin on its sales of color picture tubes to other manufacturers, and, despite substantial decreases in production costs, the firm charged virtually the same price in 1964 that it had 10 years earlier. RCA replied that their profits were not abnormal when measured against development costs.⁶⁰

Color television sales began to soar in 1965, nearly doubling the 1964 total of 1,404,000 units. Shortages of color picture tubes, other component parts, and many models of color sets characterized the industry as demand far outstripped supply.

David Sarnoff reported at the RCA's annual stockholders meeting that:

This is the year of fulfillment for RCA's long struggle to establish color TV as a service to the public. Today the question is not whether color has taken hold, but how soon supply can catch up with demand.⁶¹

B. S. Durant, President of RCA Sales Corporation, subsequently noted:

use of lower voltage, lower resistance, and lower resistance.

Reliability: This test should be used to determine the

reliability of the

reliability of the

reliability of the

reliability of the

reliability of the

We're backordered. . . . Our inventory is too small at the factory and at wholesale for the amount of business we're doing. . . . We're living too much off the end of the assembly line.⁶²

Merchandising Week, an appliance industry trade publication, added:

From November until late next spring, distributors retailers and the public will have to buy color as it comes off the assembly line. There just will not be enough sets to satisfy demand.⁶³

A 10 percent reduction in the excise tax on color television sets provided an additional stimulus to demand. All major manufacturers responded by passing the savings on to consumers, thereby continuing the downward trend of prices. With steadily declining prices during the period when color TV was moving into the mass market stage, it should not have been surprising that manufacturers had to allocate sets to retailers and that consumers often faced waiting periods of up to one month on certain models. Estimates by industry sources of lost sales due to the scarcity of picture tubes ran from 400,000 sets to 1,000,000 sets for 1965. Some manufacturers exploited the situation by forcing package deals upon their retailers, requiring them to purchase radios, stereos, and black-and-white televisions in order to obtain the color sets they desired.

Demand for color sets continued unabated into 1966. Indeed, sales nearly doubled the previous year's total once again. Dr. Harper Q. North, President of the Electronics Industries Association, reported to its annual convention that, "color television has confounded the forecasters even after they have raised their estimate several times."⁶⁴

We've backordered... the factory and at wholesale...
 we're doing... the assembly line...
 the assembly line...

Assembly line

about

the...
 the...
 the...

Other mid-year assessments of the market noted the continued declines in distributors' inventories of the more than 350 models available from over 21 manufacturers at precisely the time when stocks should have been accumulating for the fall sales surge. Nonetheless, Motorola, Zenith, and Admiral all announced further price reductions in an effort to "get in line with RCA."⁵⁵

As 1966 drew to a close, it became apparent that the dizzying market expansion of the previous two years would not continue. Retailers noticed growing customer selectivity. Stock market analysts labeled the demand for color sets "fantastic," yet not entirely up to expectations as stock prices of color television set producers leveled off.

The new models planned for 1967 reflected the industry's awareness of this situation. Cheaper sets, aimed at "the bread and butter market" of middle and lower middle income families indicated a concurrence with Admiral's view that the sophisticated market of higher income, early adopters had been satisfied.⁶⁶

The sales boom of color receivers during 1965 and 1966 had reverberated throughout the color picture tube industry. In the face of 1965's critical shortage, RCA called upon other receiver manufacturers to look to other sources for picture tubes. Zenith was by then self-sufficient in color picture tube production, with Sylvania, National Video, Admiral, and Philco either producing color picture tubes or moving rapidly to do so.

Total production capacity throughout all phases of the industry increased rapidly as every existing manufacturer expanded his facilities,

while new ones entered. RCA laid out \$36.4 million to double its color picture tube production over the coming three years, and an additional \$13.3 million to do the same for its color receiver capacity in the next two years. The company's market share of picture tube sales declined from 90 percent in 1963 to 56 percent in 1966, reflecting the entry of new firms.⁶⁷ During the same period, Motorola sank three million dollars into new plant capacity for color receiver production, increasing its output capability by 250 percent. Sylvania's 1965 color picture tube sales were triple its 1964 total, leading the company to add sufficient capacity to double that output in 1966. Such outlays were representative of the rest of the industry. By January 1966, the color picture tube industry included RCA, Zenith, National Video, Sylvania, Admiral, Motorola, General Electric, Philco, and Westinghouse. Some color receiver manufacturers also purchased picture tubes from Japan.

The scramble for the scarce tubes induced several manufacturers to enter into multi-year contracts with suppliers. Magnavox had three year contracts with both Sylvania and National Video. Admiral, General Electric, and Motorola all had five year contracts with National Video.

Motorola had developed the rectangular picture tube during the early 1960's and provided National Video with an estimated six to seven million dollars to put it into production.⁶⁸ National Video was turning it out by 1964; RCA and several others followed the next year. The number of picture tube sizes proliferated shortly thereafter, with 11-inch, 15-inch, 19-inch, 21-inch, 22-inch, and 25-inch screens

While new ones entered, RCA sold out 350 a month in 1967.

available during 1966, in addition to the standard 21-inch round version.

Meanwhile, Merchandising Week charged that manufacturers were not setting aside sufficient numbers of color picture tubes for replacement purposes, and labeled the situation a "secret shortage." While manufacturers refused to release figures, the trade paper cited a three to four week wait for replacement of a tube. It also quoted retailers who said that dependability of the color picture tubes was a problem.⁶⁹

The boom in color television receiver sales finally forced ABC and CBS into a substantial commitment to color programming. The three major networks sponsored a study by the American Research Bureau during November 1964 which indicated that NBC received a rating advantage for any program which it transmitted in color.⁷⁰ This moved CBS to institute regularly scheduled color programming, thereby toppling another barrier to the growth of color TV. ABC also stepped up its color efforts. By this time, NBC had 96 percent of its prime time shows in color in addition to the Huntley-Brinkley Report, which went to color in the Fall of 1964. CBS managed to get 50 percent of its evening shows into color for the 1965-1966 season, while ABC did 40 percent of theirs in polychrome.⁷¹

The continued rapid expansion of the color television set market proved an opportune time for the Japanese to begin making their presence felt. The Toshiba Electronics Corporation, already producing color sets for Sears, announced plans to sell color televisions under its own name in 1966. Matsushita Electric Company sold 15,000 sets with the

"Panasonic" trademark during that same year and prepared to double that volume in 1967.⁷² Eight of Japan's twelve consumer electronics firms were in the U.S. market by 1966: Toshiba, Nippon Columbia, Matsushita, the Victor Company of Japan, Hayakawa, Sanyo, Hitachi, and Mitsubishi. They addressed themselves primarily to the small-screen segment of the market where American competition was virtually nonexistent, with the exception of General Electric's 11-inch model.

Advertising rivalries blossomed as producers struggled to establish differential advantages in anticipation of market saturation during the latter part of the 1960's. Sylvania's touting of its "43 percent brighter" color picture tube led other manufacturers to emulate its claims. The "brightest picture" theme has been an industry-wide favorite ever since, eventually drawing fire from the FTC, which noted that only one firm could have the "brightest" picture.

Industry sales of color television sets of 1966 totaled 5,012,000 units, an impressive market expansion from the 1961 level of 147,000. Manufacturers committed millions of dollars to raising their plant capacities during these years, while eight firms joined RCA in the production of color picture tubes. Despite these efforts, inventories at all levels of the industry lagged behind demand until the final quarter of 1966. The evolving mass market for color sets continued to attract Japanese firms as well.

At first glance, price behavior during this market acceptance stage appears paradoxical. Why should prices consistently decline in the face of rapidly rising demand and steadily shrinking inventories?

Chronicle, 1940-1941, during the same year, and appeared in the same issue.

Volume 10, 1941, of the same series, appeared in the same issue.

Volume 11, 1942, of the same series, appeared in the same issue.

Volume 12, 1943, of the same series, appeared in the same issue.

Volume 13, 1944, of the same series, appeared in the same issue.

Volume 14, 1945, of the same series, appeared in the same issue.

Volume 15, 1946, of the same series, appeared in the same issue.

Volume 16, 1947, of the same series, appeared in the same issue.

Volume 17, 1948, of the same series, appeared in the same issue.

Volume 18, 1949, of the same series, appeared in the same issue.

Volume 19, 1950, of the same series, appeared in the same issue.

Volume 20, 1951, of the same series, appeared in the same issue.

Volume 21, 1952, of the same series, appeared in the same issue.

Volume 22, 1953, of the same series, appeared in the same issue.

Volume 23, 1954, of the same series, appeared in the same issue.

Volume 24, 1955, of the same series, appeared in the same issue.

Volume 25, 1956, of the same series, appeared in the same issue.

Volume 26, 1957, of the same series, appeared in the same issue.

Volume 27, 1958, of the same series, appeared in the same issue.

Volume 28, 1959, of the same series, appeared in the same issue.

Volume 29, 1960, of the same series, appeared in the same issue.

Volume 30, 1961, of the same series, appeared in the same issue.

Volume 31, 1962, of the same series, appeared in the same issue.

Volume 32, 1963, of the same series, appeared in the same issue.

Volume 33, 1964, of the same series, appeared in the same issue.

Volume 34, 1965, of the same series, appeared in the same issue.

Volume 35, 1966, of the same series, appeared in the same issue.

Volume 36, 1967, of the same series, appeared in the same issue.

S. R. Herkes, Vice-President of Motorola, expressed his befuddlement over RCA's periodic price reductions, stating, "The RCA price moves are the mystery of the century. Why keep cutting prices when every color set made is sold?"⁷³

However, such a phenomenon is not unusual when a product leaves its pioneering stage and moves into market acceptance. Downward pressures on price frequently occur as a result of technological refinements and the exploitation of scale economies as demand increases allow for larger production runs. The entry of new firms, attracted by the growth of the market, also increases competition and works to bring about lower prices. Furthermore, RCA had long taken a special interest in the development of color television. Thus it seized upon every opportunity to function as the industry leader and to hold the public's attention in this area. The company believed that bringing prices down as quickly as possible would stimulate sales even further and thereby hasten public acceptance. The proliferation of cheap color sets throughout the market acceptance phase served as a promotional device, attracting a great deal of attention and interest. Retailers noted, however, that while customers came into the store to see the lowest price models, they generally bought from the middle of the line. RCA maintained that they never expected to sell more than 5 percent of its receivers for under \$500.

While it is not difficult to delineate the close of the market acceptance stage for color television sets in retrospect, Zenith was the only manufacturer to anticipate the leveling of sales that began in 1967. Their policy of strict dealer control and tight inventory

27. R. Harris, Vice-President of International Express Ltd. (London)

are the subject of the following:

Color set made

management made them the best prepared of all color television manufacturers for the coming of market maturity.

Market Maturity, 1966-Present

The onset of market maturity in the color television receiver industry evoked many of the symptoms typically associated with that phase. Inventories began to accumulate as production caught up to and then surpassed demand, the pace of price competition quickened, both producers and retailers instituted more frequent special promotions, and manufacturers stepped up their efforts to achieve a differential advantage through product differentiation.

Over nine million households owned color television sets by January of 1967. This was 16.3 percent of all U.S. households with television receivers⁷⁵ (see Table 2). While this might seem to imply that there remained a large, untapped potential market which encompassed the other 83 percent of American households with television, this latter group would adopt color much more slowly than the first. As one retailer put it, "the status symbol market and those who came to the stores with maids and chauffeurs have been satisfied. We're now dealing with the hard-core middle class."⁷⁶

Subsequent sales figures bore this out. Sales rose 15 percent during the first four months of 1967, a slower rate of increase than over the same period in 1966. April sales for 1967 were 9.5 percent less than those of the previous year.⁷⁷

management made them the best of all the color reference
manufacturers for the color and fastness.

There is a great deal of

the color of the

the color of the

of

the color of the

Table 2. Color television receiver saturation index

Year	Percent of U.S. Television Homes with Color TV
1973	60.1
1972	52.8
1971	45.1
1970	39.2
1969	32.0
1968	24.2
1967	16.3
1966	9.7
1965	5.3
1964	3.1
1963	1.9
1962	1.2
1961	0.9
1960	0.7
1959	0.6
1958	0.4
1957	0.2
1956	0.05
1955	0.02

Source: Television Factbook, No. 43, 1973-1974 ed.
(Washington, D.C.: Television Digest, 1974), p. 77a.

RCA continued to dominate the market, holding a 40 percent share going into the 1967-1968 model year. Zenith was second with 22 percent, while no other single firm accounted for more than 8 percent of total sales (see Table 3).

The failure of color set sales to increase as rapidly as anticipated from the final quarter of 1966 touched off the greatest inventory accumulation of color receivers in the product's 13 year history. Considerable controversy raged over the total inventory size,

Table 5. Color of water and sediment in the Tiber River, Rome, Italy, 1997

Date	Water		Sediment	
	Color	Secchi depth (m)	Color	Secchi depth (m)
1997-01-08	10	1.5	10	1.5
1997-01-15	10	1.5	10	1.5
1997-01-22	10	1.5	10	1.5
1997-01-29	10	1.5	10	1.5
1997-02-05	10	1.5	10	1.5
1997-02-12	10	1.5	10	1.5
1997-02-19	10	1.5	10	1.5
1997-02-26	10	1.5	10	1.5
1997-03-05	10	1.5	10	1.5
1997-03-12	10	1.5	10	1.5
1997-03-19	10	1.5	10	1.5
1997-03-26	10	1.5	10	1.5
1997-04-02	10	1.5	10	1.5
1997-04-09	10	1.5	10	1.5
1997-04-16	10	1.5	10	1.5
1997-04-23	10	1.5	10	1.5
1997-04-30	10	1.5	10	1.5
1997-05-07	10	1.5	10	1.5
1997-05-14	10	1.5	10	1.5
1997-05-21	10	1.5	10	1.5
1997-05-28	10	1.5	10	1.5
1997-06-04	10	1.5	10	1.5
1997-06-11	10	1.5	10	1.5
1997-06-18	10	1.5	10	1.5
1997-06-25	10	1.5	10	1.5
1997-07-02	10	1.5	10	1.5
1997-07-09	10	1.5	10	1.5
1997-07-16	10	1.5	10	1.5
1997-07-23	10	1.5	10	1.5
1997-07-30	10	1.5	10	1.5
1997-08-06	10	1.5	10	1.5
1997-08-13	10	1.5	10	1.5
1997-08-20	10	1.5	10	1.5
1997-08-27	10	1.5	10	1.5
1997-09-03	10	1.5	10	1.5
1997-09-10	10	1.5	10	1.5
1997-09-17	10	1.5	10	1.5
1997-09-24	10	1.5	10	1.5
1997-10-01	10	1.5	10	1.5
1997-10-08	10	1.5	10	1.5
1997-10-15	10	1.5	10	1.5
1997-10-22	10	1.5	10	1.5
1997-10-29	10	1.5	10	1.5
1997-11-05	10	1.5	10	1.5
1997-11-12	10	1.5	10	1.5
1997-11-19	10	1.5	10	1.5
1997-11-26	10	1.5	10	1.5
1997-12-03	10	1.5	10	1.5
1997-12-10	10	1.5	10	1.5
1997-12-17	10	1.5	10	1.5
1997-12-24	10	1.5	10	1.5
1997-12-31	10	1.5	10	1.5

Table 3. Market shares of selected U.S. color television set manufacturers

Year	Manufacturer's Market Share						
	RCA (%)	Zenith (%)	Magnavox (%)	Motorola (%)	Admiral (%)	Sylvania (%)	Sears (%)
1973	21.6	22.6	7.0	12.0	--	--	12.0
1971	24.0	23.0	11.0	--	--	--	--
1969	36.0	20.0	8.5	--	--	--	--
1967	40.0	22.0	8.0	8.0	7.0	--	6.0
1964	42.0	14.0	4.0	8.0	7.0	4.0	9.0

Source: Business Week, 16 September 1967, p. 153; Advertising Age, 20 September 1971, p. 83; Advertising Age, 25 January 1971, p. 2; New York Times, 6 January 1969, p. 134; Business Week, 23 January 1973, p. 144; Business Week, 14 April 1973, p. 49; Business Week, 18 August 1973, p. 41; Fortune, 73 (January 1966), p. 144; and Advertising Age, 21 June 1965, p. 68.

but many sources set the figure at one million units in retail outlets alone, with an additional 500,000 in the hands of dealers and factories. Manufacturers strongly disputed this estimate, claiming that retailers held only 500,000 units. The retailers themselves replied that the 500,000 unit assessment was too low.⁷⁸ In any event, the problem did not arise from a sales decline, but from the fact that many dealers anticipated a 100 percent sales rise during 1966 when the actual increase turned out to be 70 percent.⁷⁹

Producers began to offer more promotions to dealers. Record give-aways and package deals, whereby distributors could purchase one black-and-white television set at half price for every three color sets taken, became more common.

Table 3. Market shares of selected firms in the television set market

Firm	1970		1971		1972		1973		1974	
	Share	Rank	Share	Rank	Share	Rank	Share	Rank	Share	Rank
Philips	25.0	1	24.0	1	23.0	1	22.0	1	21.0	1
Grundig	15.0	2	14.0	2	13.0	2	12.0	2	11.0	2
Siemens	10.0	3	9.0	3	8.0	3	7.0	3	6.0	3
Telefunken	8.0	4	7.0	4	6.0	4	5.0	4	4.0	4
Other	42.0		44.0		50.0		54.0		58.0	

Some observers perceived parallels between the evolution of the color television industry and that of black-and-white. A New York Times columnist wrote:

History seems to have repeated itself as set makers rushed last year to develop production facilities only to find they had built too much capacity just as they did in the boom years of black-and-white television.⁸⁰

Overcapacity and overproduction soon made themselves felt at the plant level. By March of 1967, Sylvania, RCA, General Electric, Magnavox, Motorola, and Admiral had all laid off workers engaged in color television production. Many producers expressed surprise at the softening of demand, blaming tight money and the concomitant shrinkage of consumer credit. David Sarnoff, RCA's Chairman, offered a better perception of the situation when he stated:

Until recently, we have been accustomed to a demand for color television sets beyond our capacity to produce them. [But] production capacity is now sufficient to meet demand. We are operating again in a highly competitive environment.⁸¹

Another round of price cuts occurred in the first quarter of 1967, with General Electric breaking the \$200 barrier by introducing a table model which sold for \$199.95. Manufacturers cited reports from the field about widespread selling below list prices by retailers, the need to keep price schedules in line with competition, and general competitive conditions. General Electric did not even bother to post suggested retail prices for their dealers, leaving that decision to their discretion. In announcing this move, the company pointed to the dynamic pricing conditions that prevailed.⁸²

Some observers predicted that the color television industry and that of black-and-white television would be merged into a single industry by 1965.

Color television

History says that color television was first introduced in 1953. It was a big step forward for the industry. The first color television set was sold in 1954. It was a big success. The industry was growing rapidly. It was a big step forward for the industry.

Color television

Color television

Manufacturers subsequently tried to boost prices for the 1968 model year, but were unsuccessful. Large inventories and heavy overhead in the form of substantial plant capacity held prices down.

Color picture tube producers also felt these competitive pressures. Picture tube prices declined approximately 5 percent over 1967 and 1968, with National Video, RCA, Sylvania, and Zenith among those leading the trend. Trade sources pointed to considerable overcapacity, saying the industry could produce seven to ten million picture tubes in 1968, but no more than five million were sold in the previous year.⁸³

Not only did color television retailers have to contend with increasing market saturation, more cost conscious customers, and stiffer price competition, but steady declines in the average retail selling price meant further downward pressures on their total revenues. Merchandising Week speculated that the average price in 1967 may have been as much as \$100 lower than during the previous year.⁸⁴ Buyers were shifting from the high-priced console models to the lower-cost, smaller-screen portables and table models.

Even as prices continued to tumble, product quality appeared to be improving. Westinghouse, RCA, and Sylvania were among the leaders in extending picture tube guarantees to two years. Admiral increased theirs to three. Some manufacturers began to cover labor costs on service during the first 90 days as well.

As continued saturation of the large-screen, console model market caused American producers to turn to the smaller set segment,

Manufacturers subsequently failed to meet the 1970

model year, but were able to meet the 1971

head in the front of cars and trucks.

Other manufacturers, however, were able to

meet the 1970 model year requirements.

1967

1

2

they encountered the Japanese, who were already well entrenched.

American imports of color television receivers totalled 323,961 during 1967 and 733,982 the following year, with more than one-half sold under American trademarks.⁸⁵ For example, Toshiba had been supplying Sears since 1962, Sanyo built sets for Magnavox, and the Victor Company of Japan made sets sold by Delmonico.

By 1968, Sony had refined the Chromatron picture tube, developed in the early 1950's by Paramount Picture Corporation, from whom they obtained a patent license. Introduced as "Trinitron," the one-gun tube eliminated the shadow mask used on conventional tubes, had fewer components, simpler circuits, and sharper, brighter pictures than the conventional three-gun tube. This first commercial use of the Chromatron tube in the United States spurred RCA to the development of its own one-gun color picture tube, the "in-line color system" it presently features in many of its advertisements.

Motorola also scored a significant technological advance with its development of solid-state construction, which it introduced on some of its 1967 models. Although it attracted little attention at first, this design feature later became one of the strongest selling points in the industry under the trademark "Quasar."

Every manufacturer now offers it in at least part of his line. Eventually all color television chassis may be solid state.

To add to the headaches of stiffening competition and increasing market saturation, the color television industry encountered another major problem in May 1967, when General Electric announced it had

discovered excessive radiation emissions in 154,000 of its large-screen color television sets produced between June 1966 and February 1967. Nearly 90,000 of these units had been sold to consumers.⁸⁶ The company hastened to point out that the radiation was directed toward the floor and that it was not of sufficient magnitude to inflict injury upon viewers. GE initiated a recall campaign through its entire dealer and distributor organization in an effort to locate, adjust, and correct the sets involved, at no charge to the customer. The firm offered cash bounties to servicemen and dealers for each verified repair they made and for the return of defective tubes in dealers' stocks. The modification involved replacement of the tube which regulated the set's voltage and an adjustment of the power supply.

The federal government reacted quickly. The House Subcommittee on Health and Public Welfare scheduled hearings to begin in August, while the National Center for Radiological Health, an arm of the U.S. Public Health Service, said it would test color television tubes to determine whether there was any x-ray hazard to viewers.

GE soon found itself on the defensive concerning the public disclosure of its radiation problem, since the company discovered the situation in March but did not release the information until May. Charles H. Lake, corporate counsel, testified before the House Commerce Subcommittee that three outside doctors felt the adverse emotional impact of radiation publicity would exceed any radiation health hazard, that it would have disturbed many people, and that the company would not have been able to keep up with the replacement parts demand. He

discovered excessive redness in the skin of the face and neck.

On 10/10/50, the patient was seen by Dr. J. H. Smith, M.D.

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admitted that servicemen were sent to replace parts without telling owners the reason.⁸⁷

In later testimony before the same House Committee, Dr. James G. Terrill, Director of NCRH, denied a GE contention that there had been a tacit agreement on the company's intention not to publicize the radiation danger.⁸⁸

Terrill subsequently declared that radiation leaks in color televisions were not confined to GE sets. The EIA responded that the GE case was merely an isolated incident. Surgeon General William H. Stewart of the Public Health Service called for a federal law to set government controls over radiation emissions from television sets and other products.⁸⁹

GE was able to locate all but 1,000 of the faulty sets by the end of September 1967 according to James Young, a corporate vice-president.⁹⁰

However, the issue did not die there. A follow-up survey by the U.S. Public Health Service of 131 modified color televisions in Pinellas County, Florida, showed that 38 still leaked radiation. The PHS then declared that the radiation problem was likely to be industry-wide.⁹¹ The December 1967, issue of Consumer Reports stated that Admiral and Packard-Bell color sets also emitted radiation. Both firms denied the contention.

The PHS pursued the issue through a check of color television receivers volunteered by their own employees in the Washington, D.C., metropolitan area. Of 1,124 sets, they discovered some x-ray emissions

admitted that some of the things that he had said were not true.

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by 268, and excessive radiation from 66, i.e., more than the 0.5 milliroentgens per hour termed acceptable by the National Council on Radiation Protection and Measurements.⁹²

Congressional action on the matter culminated in the fall of 1968 with the passage of the Radiation Control for Health and Safety Act, which vested in HEW the power to set acceptable radiation emission standards for color televisions as well as other consumer electronic products. The bill became law on October 18, 1968.

The issue did not fade out after the passage of the Radiation Act, largely due to the 1969 release of a two year study conducted by the County Public Health Department in Suffolk County, New York. Approximately 20 percent of the color TV's in the 5,000 households surveyed registered emissions above the level prescribed by the NCRPM. The study uncovered at least one set from each of the 37 manufacturers that exceeded the standards.

Color television set producers instituted several changes in the product aimed at eliminating the problem, which centered upon excessive voltage running through the receivers. They removed the knob that enabled servicemen to brighten the picture by turning up the voltage, modified the shunt regulator so that voltage decreased rather than increased when malfunctions occurred, and moved toward the installation of solid state voltage devices to replace radiation emitting tubes.⁹³

The industry found the publicity aspect of the radiation problem much more difficult to handle. Rather than keeping the issue alive in

by 50% and excessive radiation exposure was more than 10
millirem per hour. The following table shows the
on Radiation Protection in the United States.

Source of Radiation		Estimated Annual Dose (mrem)
Medical X-rays	100	100
Natural Background	300	300
Consumer Products	10	10
Industrial Sources	10	10
Air Pollution	10	10
Food and Water	10	10
Other	10	10
Total		550

the public's mind by taking their side of the story directly to consumers, the manufacturers aimed their information at dealers. They put forth informational brochures discussing the extent, control, and possible effects of radiation emissions so that salespeople could respond to customer inquiries. Retailers were cautioned against raising the issue themselves, but prepared to reply should the customer have asked.

Consumer advocate Ralph Nader subsequently charged that the Radiation Control Act did not deal adequately with color television radiation hazards. In a letter to Senator Warren Magnuson, Chairman of the Senate Commerce Committee, he claimed there existed a continued risk of physical, genetic, and eye damage. Nader cited the lack of an inducement to develop new technology and the absence of regulations governing older sets. He pointed out that the advisory committee to HEW, which proposed the acceptable radiation standards, did not include any of the specialists who helped to pass the 1968 legislation. Nader also noted the fire hazard associated with color television sets, a problem that would shortly attract substantial attention.⁹⁴

HEW reported in 1971 that the health hazard formerly related to color television receivers no longer existed. The department said that both government and industry had taken steps to reduce the potential dangers previously noted and that there was no evidence that x-rays from TV sets caused any human injury.⁹⁵

The 1968 sales totals showed color television receivers outsold black-and-white for the first time; 51.3 percent of the total units

shipped by manufacturers were color. These shipments accounted for more than 80 percent of total television dollar volume sales.⁹⁶

The percentage of total color receiver sales accounted for by console models continued its downward trend, as this market segment shrank to 56.1 percent of the 1968 total, down from 81.9 percent in 1964.⁹⁷

Sales volume subsequently dropped for the first time in 1969. Although the two previous years had shown a leveling trend in sales along with increased market saturation, the 1969 sales figures still shocked the industry. One manufacturer remarked, "We've bee hit like a ton of bricks," while trade publications noted that pricing by retailers was "less than firm."⁹⁸

The market deteriorated even further during 1970, with the EIA reporting sales off by more than 700,000 units from 1969.⁹⁹ Manufacturers and dealers blamed the tight credit situation and economic uncertainty for the slackening of consumer demand.

However, color television sets made a comeback in 1971, with sales rising to 6,349,000 units from the 1970 figure of 4,729,000. Widespread price cutting, by both manufacturers and retailers, the advent of solid-state circuitry and "football mania" were the most commonly offered explanations for the resurgence.

As one might expect, prices behaved in a volatile fashion throughout the three year period. Each spring the manufacturers made what had become their annual attempt to boost prices for the next model year, but by late August nervous retailers, perceiving continued market

shipped by manufacturers were **about** 50 percent of total sales. The **percentage** of console sales that were shipped by manufacturers were **about** 50 percent of total sales. The **percentage** of console sales that were shipped by manufacturers were **about** 50 percent of total sales.

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saturation, bulging inventories and ever-stiffening competition, forced price rollbacks. Even Motorola, which had traditionally followed a policy of pricing their line noticeably higher than competitors, felt compelled to bring out a new, lower priced series for 1971. Some of the new models carried prices up to \$80 less than their counterparts from previous years, making their line "more competitive" according to a company spokesman.¹⁰⁰

Secondary demand cultivation on the part of manufacturers became much more intensive as market saturation increased. The industry had developed brighter picture tubes with improved contrast and made this the basis for concerted efforts at product differentiation. Zenith announced plans to spend \$5 million during the 1969 model year to promulgate its "Chromacolor" advertising theme.¹⁰¹ Chromacolor was the name adopted by the company for its improved color picture tube. RCA chose to label its version of the same picture tube development "AccuColor," while Philco selected "Cosmetic Color" as its theme for the same thing.

Manufacturers did not hesitate to back such campaigns heavily; RCA laid out \$10 million for advertising during the 1970 model year.¹⁰²

Unstable prices and shrinking profit margins led some manufacturers to tighten up their distribution methods. Magnavox had for some time employed a dealer franchise system in an effort to maintain tight control over retail sales. However the FTC ruled in 1970 that the company had gone too far when it set retail prices, required dealers to carry its full line, prohibited the handling of rival brands, forbade trading stamps, controlled advertising, and dictated allowances on

trade-in merchandise.¹⁰³ Magnavox subsequently backed off and limited its factory pricing to fair trade states only. Philco also introduced a franchising system, but did not run afoul of the FTC in the process.

A steady stream of technical product refinements failed to provide a competitive advantage for any one manufacturer over the rest, since all of them introduced such features as automatic fine tuning, 110 degree picture tubes, and solid state construction at approximately the same time.

Zenith continued to close the gap on RCA's market share lead from a 16 percent advantage in 1969, 36 percent versus 20 percent, to a 1 percent difference by 1971, 24 percent for RCA, 23 percent for Zenith (see Table 2). As the industry pioneer, RCA could expect to experience a long-run decline in market share resulting from the entry, establishment, and growth of rival firms while the market matured. Zenith's growing strength arose from its capable management, strong dealer loyalty, and constant monitoring of rapidly changing market conditions, to which it adapted very quickly. No other manufacturer was able to mount such an effective challenge to RCA.

While the American manufacturers suffered through the sales doldrums of the late 1960's and very early 1970's, the Japanese producers of color television sets found a flowering market for their smaller screen models. Their shipments into the United States rose from a modest 733,982 units during 1968 to 1,281,335 in 1971. This rapid expansion began to alarm even the Japanese. Konosuke Matsushita, President of Matsushita Electric Company, warned that the growing color

Excess in merchandise sold to the company.

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television exports of Japanese firms would soon seriously affect U.S. producers. He urged the Japanese companies to impose a limit on exports to America.¹⁰⁴

The U.S. manufacturers sought government assistance in their battle with the Japanese. In response to a complaint filed by the EIA on March 22, 1968, the U.S. Treasury Department initiated the biggest case ever brought under the 1922 Anti-Dumping Act. The suit charged that the Japanese sold color television receivers at a lower price in American markets than in Japan. The Treasury Department declared that the Japanese were dumping color televisions in the United States, and turned the matter over to the Tariff Commission. In March 1971, the Tariff Commission ruled that Japanese color television receivers were sold in the United States at less than their fair value, that this action injured domestic manufacturers, and that the Japanese sets were therefore subject to special import duties until the Japanese either lowered prices at home or raised them in the United States.

Consumer groups in Japan had been pressuring manufacturers there on the same issue. In 1966, Japan's Ministry of International Trade and Industry inquired into the discrepancy between the export price of \$180 and the domestic price of \$420. Japanese firms cited cost savings on exported sets arising from the absence of expenses for promotion, service, distributor rebates and commissions, and profit margins for domestic retailers. They also pointed out that exported sets were not subject to the 12 percent commodity tax levied on those marketed in Japan and that the models sold abroad had cheaper cabinets and fewer speakers.

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Both the Japanese and American authorities remained unconvinced by such arguments and price adjustments were made.

The Treasury Department again brought dumping charges against the Japanese color television industry in 1971, this time over the issue of color picture tube prices. However, the Customs Bureau ruled that dumping had not occurred.

The growth of Japanese color television receiver imports slowed in 1971, as the figures in Table 3 indicate. The revaluation of the yen, import surcharges in the United States, and higher shipping costs caused the tapering off. This particularly affected Japanese suppliers of American private label markets, since the Japanese could not absorb these higher costs without violating the antidumping laws.

The softening of the color television receiver market had pronounced effects on the production of color picture tubes as well. Total industry sales fell in 1969 and National Video filed for bankruptcy that same year, having previously suffered losses in 1967 and 1968. In the announcement of its closing, the firm noted an excess of picture tube manufacturing capacity in the United States.¹⁰⁶

Motorola, which had bought color picture tubes from National Video until 1965, when it constructed its own plant, closed that facility in April of 1970. Avnet, another small producer, quit shortly thereafter.

Even with those closings, estimates of industry overcapacity ran as high as 50 percent. Failure of the industry to achieve the sales level of ten million units per year, which receiver manufacturers

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anticipated would happen in the late 1960's, lay at the root of the problem. Japanese imports, which had grown to 912,436 by 1969, exacerbated the problem.¹⁰⁷

By 1970, RCA, Sylvania, and Zenith comprised the major producers of color picture tubes. Admiral, Philco, General Electric, and Westinghouse, which ceased to make color receivers during 1969, were also in the market. Westinghouse and Sylvania functioned as suppliers to the color receiver industry while General Electric, Philco, and Zenith produced chiefly for their own use. RCA did both. In April 1971, RCA purchased Admiral's color picture tube manufacturing equipment.

In addition to overcapacity problems, and just as the color television industry began to recover from the radiation scare, a new product safety issue arose. The National Commission on Product Safety, a federal fact-finding agency, declared in 1969 that color television sets posed a significant and unreasonable fire hazard, according to reports of the National Fire Protection Association.¹⁰⁸

The subsequent report of the NCPS, based upon a survey of fire and smoke damage claims submitted to 13 manufacturers, showed 1.2 claims for every 10,000 sets built. This was 40 times higher than the rate for black-and-white televisions. The commission attributed the difference to the higher voltage required by color sets. The NCPS advocated that manufacturers recall all models with a fire incidence in excess of three per 10,000.¹⁰⁹

Industry response to the fire reports struck a conciliatory note. Anxious to avoid a repeat of the x-ray episode, manufacturers

anticipated would have been in the range of 10 to 15 percent. Japanese imports, which had declined from 1970 to 1972, were expected to increase in 1973.

According to the Japanese Ministry of International Trade and Commerce, the Japanese government had been studying the possibility of a trade agreement with the United States for some time. It was expected that such an agreement would be reached in 1973.

The Japanese government had also been studying the possibility of a trade agreement with the European Community. It was expected that such an agreement would be reached in 1973.

The Japanese government had also been studying the possibility of a trade agreement with the Soviet Union. It was expected that such an agreement would be reached in 1973.

The Japanese government had also been studying the possibility of a trade agreement with the United Kingdom. It was expected that such an agreement would be reached in 1973.

met with the NCPS and publicly committed themselves to a policy of full cooperation in eliminating the danger. The EIA said the industry would initiate a crash program to develop voluntary safety standards and pointed out that, statistically, the fire hazard was small.

Once again, manufacturers and dealers adopted an attitude of saying as little as possible to the public about the matter. Dealers prepared themselves to handle customer questions concerning the problem, but refrained from bringing it up themselves. Both dealers and manufacturers expressed dismay over publication of the report, which listed brand names and model numbers.

Two of the manufacturers included in the report, RCA and Magnavox, undertook concerted efforts to locate and correct those of their models which allowed an unusually high number of fires. Zenith later ordered its dealers and distributors to stop selling five of its models in which the company discovered faulty wiring that could cause fires.¹¹⁰

Another product hazard, that of electrical shock, surfaced during 1973 when RCA announced it was ceasing delivery of two color television models for that reason. They had sold fewer than 750 of the defective sets up to the time of the disclosure.

In March 1974, the Consumer Product Safety Commission, a creation of the federal Consumer Product Safety Law, declared its intent to develop mandatory safety standards for television sets. The Commission cited eight manufacturers' reports since 1973 of potential shock and fire hazards in more than 140,000 sets, mostly portables.

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initiate a public program to develop and maintain the HCS.

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During the previous year, the CPSC learned of 35 fire, shock, and explosion incidents related to color television sets, with 14 fire deaths, 2 electrocutions, and 15 injuries.¹¹¹

Prices remained soft, producer and dealer margins shrank, some brands left the market, and replacement sales became dominant as the color television market slipped further into maturity during the first years of the 1970's.

Despite sales increases in 1972, dealers experienced difficulty in maintaining their dollar sales volumes as the shift from console models to portables continued. To compound the retailer's difficulties, gross margins on sales declined to 25 percent in 1972, down from 27 percent for 1970.¹¹²

The stock prices of color television makers reflected the industry situation of a mature market and a broadly owned product. Despite the achievement of record unit sales, prices of manufacturers' common shares declined. Analysts cited fierce competition and widespread price cutting.¹¹³

Even though attempts at price increases had a history of failure, producers tried again for the 1973 model year. RCA made the first move in June 1972, but had to rescind the increases within the year. Rival firms refused to go along. A spokesman for Admiral, usually the industry's price leader, noted that: "The change certainly wasn't done from a weakness in sales. It was done from competition."¹¹⁴

Such competition proved too much for National Union Electric, which decided to discontinue its Emerson and DuMont lines of color

receivers after 1972. National Union had ceased to manufacture color televisions themselves in 1970, although they continued to market sets produced by Admiral during the ensuing two years.

Undaunted by the departure of National Union and the failure of earlier efforts, RCA mounted yet another attempt to boost prices during January of 1974. In making the announcement, chairman Robert W. Sarnoff declared:

Color TV has been defying inflation for half a dozen years. The price of a color set has fallen approximately two percent in that time due to technological gains, productivity increases and intense competition . . . in 1974 we see a clear industry need for moderate price increases.¹¹⁵

The increases held through spring.

Replacement sales had dominated the market in 1973, as saturation continued. That year marked the first time that more than 50 percent of sales were to individuals who had previously owned color television sets (see Table 4). Merchandising Week estimated the saturation level at 68.7 percent for 1973 and projected that it would rise to over 90 percent by 1978.¹¹⁶

As market saturation continued and consumers became more selective, manufacturers felt compelled to respond to the growing number of consumer complaints about service and warranties. Dealers shared their customers' concerns over the growing difficulties associated with color receiver repairs. Producers reacted by inviting independent servicemen to examine and criticize their products and by increasing their use of plug-in circuit modules, socket-mounted transistors, and integrated circuits. They also modified their advertising copy accordingly, even

recovered after 1975. Estimated 1975-1976 production

of 100,000 tons of fish oil was estimated.

Production of fish oil

1975-1976

100,000 tons

1976-1977

100,000 tons

Table 4. Color television replacement sales as a percent of total sales, 1967-1968

Year	Replacement Sales as a Percent of Total
1973	60
1972	50
1971	41
1970	39
1969	13
1968	10
1967	13

Source: Merchandising Week, 29 January 1968, pp. 19-90; 23 February 1970, pp. 17-81; 28 February 1972, pp. 57-108; and 25 February 1974, pp. 21-97.

to the extent of utilizing endorsements of television repairmen and broadcast studio engineers.

Admiral continued to pioneer in the area of warranties, extending their coverage to five years on picture tubes starting with the 1972 models. They also guaranteed parts for one year and labor for 90 days. The firm felt this would have sufficient impact on consumers to justify the expenditure of \$3 million for advertising over a 17 week period beginning in September 1973.¹¹⁷

Zenith surpassed RCA in total market share during 1973, gaining 22.6 percent compared to the former leader's 21.6 percent. Nine years earlier, RCA had held the lead of 42 percent to 14 percent.¹¹⁸ Their

steadily declining market share in one sense reflected a positive achievement for RCA; they had cultivated the market for color television to a point where other firms committed substantial resources to production and marketing of the product. While RCA's dollar sales volume continued to grow, total market expansion for the industry had proceeded at a much more rapid rate. Zenith exploited this market potential very effectively.

While Zenith's market share ascended during the early 1970's Magnavox slipped from its undisputed number three position behind RCA and Zenith. The company reacted by launching a comeback campaign titled "Action '74." They nearly doubled their 1973 advertising budget of \$4.7 million, allocating 9 million dollars to back their "Videomatic Color" theme during the 1974 model year.¹¹⁹ Magnavox also moved to improve communications with dealers, upgraded their quality control, and placed a greater emphasis upon the incorporation of solid-state circuitry into the construction of their color television sets. Company officials believed this last effort would correct a major deficiency of their earlier lines. The firm did not depart from its traditional approach of concentrating on medium and high priced sets rather than aiming for the mass market.¹²⁰ Adherence to the policy of pursuing the "class" segment of the color television market may render the task more difficult, since that portion has been the most fully developed and highly saturated.

The Japanese, on the other hand, continued to focus most of their efforts upon the more compact models, 17-inches and under.

steadily declining market share in the foreign market. The
 achievement for RCA during 1960-1961 was to maintain its
 position in a market which was becoming increasingly competitive
 to production of other countries. The company's position
 was maintained by the introduction of new products and
 process improvements. The company's position was maintained
 by the introduction of new products and process improvements.

American producers, such as Zenith and Magnavox, charged that Japanese color television manufacturers received export subsidies, but were unable to substantiate their claims during Treasury Department investigations. Currency realignments during 1971 and 1972 adversely affected the Japanese firms' ability to compete in American markets. By April 1972, imports from Japan ran 38.3 percent below that month's total during the previous year.¹²¹ Japanese color receiver exports to the United States for 1972 exceeded those of 1971 by only 2.89 percent (see Table 5).

Table 5. U.S. color television imports from Japan,
1965-1973

Year	Number of Units
1973	1,398,000
1972	1,318,292
1971	1,281,335
1970	913,980
1969	912,436
1968	733,982
1967	323,961
1966	239,861
1965	45,000

Source: Merchandising Week, 31 January 1966, pp. 13-81;
29 January 1968, pp. 19-90; 23 February 1970,
pp. 17-81; 28 February 1972, pp. 57-108; and
25 February 1974, pp. 21-97.

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The Japanese responded to the growing political and economic pressures which arose from the American market activities by opening a plant in San Diego, during July 1972. The initial capacity of 5,000 sets per month has been expanded twice, first to 20,000 per month and then again to 30,000 per month at the end of 1973.¹²² Hitachi followed the Sony example when it began assembling color television receivers at a Los Angeles facility during 1973. Through such actions, the Japanese sought protection against fluctuating foreign exchange rates and adverse political reactions to their nation's growing trade surplus with the United States.

The struggle to establish a unique niche in the market through the attainment of differential advantage led several color television receiver manufacturers afoul of the FTC. A study of producers' advertising themes, requested in 1972 by the Commission "to help consumers choose rationally between competing products and discourage advertisers from making claims they could not document,"¹²³ showed that many claims could not be substantiated, and most of those which could implied a uniqueness which did not exist.

The Institute for Public Interest Representation, an adjunct of the Georgetown University Law Center, contracted to administer the investigation. They in turn retained Dr. George Peter, a research engineer from Cornell University, to perform the technical testing.

The report covered 59 pieces of copy submitted by 12 manufacturers. Forty-one of these could not be substantiated with data provided by the firms who sponsored the ads. Of the 18 advertisements

The Japanese response to the American presence in the Pacific was a mixture of surprise and hostility. The Japanese had been expecting the Americans to remain in the Philippines and to withdraw from the Pacific. The Japanese had been expecting the Americans to remain in the Philippines and to withdraw from the Pacific. The Japanese had been expecting the Americans to remain in the Philippines and to withdraw from the Pacific.

upheld, fourteen were noted as features common to many brands, but cloaked in unique trade names, such as "Chromatrix" and "AccuColor." Manufacturers disavowed nine of the ads on the grounds that they were run by retailers. Table 6 summarizes the results.

Table 6. Summary of FTC study on substantiation of color television set manufacturers' advertising copy claims

Manufacturer	No. of Ads Analyzed	Ad Claims Substantiated	Ad Claims Unsubstantiated	Ad Claims Disowned
Admiral	1	0	1	0
General Electric	3	1	2	0
Magnavox	9	2	3	4
Montgomery Ward	2	1	1	0
Panasonic	1	0	0	1
RCA	12	5	3	4
Sears	15	4	11	0
Sony	1	1	0	0
Sylvania	1	0	1	0
Zenith	6	1	5	0
Motorola	3	3	0	0
Philco	5	0	5	0

Source: New York Times, 4 December 1972, p. 15.

Three of the four unique and verified claims belonged to RCA. All involved the touting of solid-state construction as easier to repair. The study also upheld Sony advertisements for its Trinitron system as a unique device which provided sharper, brighter pictures.

upheld, fourteen were noted as having been closed in order to maintain the status of the building. The building was closed by the fire department.

Table 1

The report went on to point out the impossibility of more than one manufacturer having the "brightest" picture, despite the plethora of advertisements to the contrary. It also commented on the proliferation of exaggerated claims for automatic tuning devices.

The FTC initiated the study as part of an effort to review the advertising activities of selected American industries in order to ascertain the need for legislation in that area. The results were submitted to the Senate Commerce Committee as testimony on behalf of the "Truth-in-Advertising" bill, which never became law.

Despite the strongly worded conclusions, the findings do not appear to have affected the advertising practices of color television set manufacturers. The industry's advertising continues to put forth conflicting claims, such as those for the "brightest picture," and to utilize terminology implying that a feature common to all color sets is unique to the advertiser's brand.

However, the situation described by the FTC report is common to many industries where firms find themselves struggling to survive in a mature product market.

Concluding Comment

The color television receiver industry has experienced its share of the distress and uncertainty associated with the maturity phase of the product life cycle, such as declining profit margins, increasing difficulty in maintaining dollar sales volume, and a growing saturation of the market. Japanese imports have come to dominate an entire market

The report went on to state that the manufacturer had been notified of the advertisement and the advertisement had been removed. The report also stated that the manufacturer had been notified of the advertisement and the advertisement had been removed.

segment, presently accounting for roughly 15 percent of total United States color television set sales. Meanwhile, the industry has suffered further agonies from product safety problems related to radiation emissions, fire hazards and electrical shock.

Since the present outlook certainly does not give any indication that color television sets will become obsolete, it is safe to assume that the product will continue in the throes of its life cycle maturity. Technological refinements will occur, most notably in the areas of solid-state and circuit construction, but it remains highly unlikely that any one manufacturer will scoop his rivals with an exclusive new product development. Increasing market saturation in the small-screen portable segment and the present international trade situation will probably level off the growth rate of Japanese manufacturers' sales in the United States. Competitive market pressures in all segments will preclude price increases, with the exception of those dictated by inflationary rises in labor and materials costs.

As in previous years, advertising copy platforms will be among the producers' key competitive weapons in the battle for market share. Consumers, however, will continue to make brand choice decisions on the basis of other factors described elsewhere in this study.

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 States color television sets are not yet available
 further states that, until a certain date, the
 emission of the sets is not yet available.

21st of the month

that the sets

are not yet available

the sets

Notes--Chapter II

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⁹"About Color TV," New York Times, 11 April 1954, sec. 2, p. 13.

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¹¹"Color TV Fades," New York Times, 14 December 1954, p. 53.

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¹³"Color Television," New York Times, 23 October 1955, p. 11.

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"Color City on the Air" Times & Herald

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"NBC Closes" Business Week 12 November 1982

"NBC Closes" Business Week 12 November 1982

"NBC Closes" Business Week 12 November 1982

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"Ida"

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"Ida"

February 1970

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100 "Section and General" (1900-1901)

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CHAPTER III

SURVEY DESIGN AND EXECUTION

Introductory Comment

A discussion of the procedures utilized in carrying out this study will facilitate the understanding of its results; therefore, this chapter will describe the research methodology employed, including the drawing of the sample, the design and construction of the measurement instrument, the data collection process, the editing and coding of responses, and the data analysis. Such an account of the considerations and constraints involved in conducting the research will also serve to clarify the reasons for its ultimate design and execution.

The Sample

The sample was drawn from individuals who purchased color television sets in the Lansing, Michigan, area over an eight week period from February 1, 1974 through March 26, 1974.

Ten cooperating retailers provided names, addresses, and additional information about color television receiver sales made during the survey period. Although manufacturers' warranty cards would have furnished much the same information, the records of the retailers proved superior in several respects. Since the customer

lists could be obtained from area stores soon after the purchases were made, a minimal amount of time elapsed from the buyer's consummation of his brand choice decision to his participation in the survey. This reduced the likelihood that respondents would omit important information due to memory lapses. Since each manufacturer does not collect the same information on warranty cards, gathering the transaction data from retailers reduced the problem of obtaining the same purchase information about each sale. And, while the majority of area stores contacted proved sympathetic and favorably inclined toward assisting a graduate student from the local university, no similar advantage could be counted upon in trying to enlist the support of the major manufacturers in the color television set industry. Thus, reliance upon Lansing area retailers for customer names and related information proved to be both a more efficient and a more effective means of obtaining a sample.

Time constraints precluded drawing the sample in a random fashion. The list of customers to whom questionnaires were sent included everyone who purchased a color television set at a cooperating store during the survey period. A random selection of names from this group would have entailed extending the data collection time, or reducing the sample size, neither of which was desirable.

The study encompasses eight domestic brands of color television receivers: RCA, Zenith, Magnavox, Sears, Motorola, Sylvania, Admiral, and Philco. The selection of these brands was predicated on a desire to obtain the broadest possible cross-section of customer motivations by surveying purchasers of a variety of different makes. The relative

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its broad character, and the *in vivo* studies, which reduced the

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market strength of manufacturers, their historical roles within the industry, the distinctiveness of their advertising themes, and the distribution strategies they employed were the key considerations governing the choice of producers for the study. The specific rationales follow.

RCA has pioneered the industry's advancement, at one point carrying the product development burden by itself. The firm dominated the color television set market until recent years. Zenith did not produce color television sets until 1961, but subsequently proceeded methodically and determinedly to dislodge arch-rival RCA from its number one sales position, accomplishing this task after 12 years in the market. Magnavox has successfully carved out a niche for itself as the favorite line for department stores and furniture outlets which cater to the middle and upper-middle income segments of the market. However, having recently slipped from its undisputed position as number three in total sales, the company has launched a major effort to regain its former standing. Its traditional policy of franchising dealerships, on an exclusive basis whenever possible, constitutes another important reason for including Magnavox purchasers in the sample. Sears was chosen on the assumption that its customers would display the most pronounced feelings of store loyalty, and because of its dominant position within the appliance market. No study related to advertising themes would be complete without Motorola's "Quasar," one of the longest running and most distinctive in the industry. Sylvania also ranks as a significant force among color television set producers and offers one of the most

market strength of manufacturers, and the ability of the industry to distribute its products. The industry's ability to distribute its products is a key factor in its success. The industry's ability to distribute its products is a key factor in its success. The industry's ability to distribute its products is a key factor in its success.

1. The industry's ability to distribute its products is a key factor in its success.

2. The industry's ability to distribute its products is a key factor in its success.

distinctive advertising campaigns of the 1973-1974 model year. Admiral has traditionally played the role of price leader for the industry and has pioneered in the extension of warranties, an area in which it continues to maintain an edge over competitors. Philco represents the "also-rans" of the industry, holding a small market share and operating from a relatively weak distribution system.

A cross-section of retail store categories are also represented in the sample. Two national discount department stores (K-Mart and Woolco), a nationwide department store chain (Sears), and a leading regional department store chain (The J. W. Knapp Company) were included, along with two local furniture stores (Tony Coats and Hager-Fox, Inc.), a member of a regional chain of appliance stores (Highland Appliance), a local discount store (Whalen Distributing Company), two small television sales-and-service outlets (TV Tech and General Radio TV and Phono Service), and one outlet of a regional chain of specialty stores (Grinnells).

This variety of establishments enables comparisons of customer feelings about store loyalty according to the type of outlet in which the purchase was made. The participating retailers also represent a variety of locations throughout the Lansing metropolitan area, thereby making possible some comparisons of shopping patterns according to locational factors.

However, two of these retailers, one of the sales-and-service outlets and one of the national chain of discount department stores, did not report any color television set sales during the survey period.

distinctive advertising campaign of the first half of the 1960s. The campaign was traditionally played on the radio and in the newspapers. The campaign was planned by the advertising agency of the time, the "Baker & Baker" firm. The campaign was a success and the firm was known as "Baker & Baker".

Two area outlets declined to cooperate when approached with the study. One was a sales-and-service operation whose proprietor demurred on the grounds that he would not release the names of his customers to anyone. The manager of a store belonging to a regional chain of specialty stores also refused for the same reason.

The limited resources available for conducting the research resulted in some omissions of color television set brands and area stores from the study. Several national brands could not be included due to the necessity of holding the questionnaire to a realistic length, i.e., one which recipients would take the time to answer. To have added more manufacturers would have entailed lengthening the sections on advertising themes and product attributes. However, the limited amount of space available for a single question within the width of a page made it physically impossible to include any additional brands, even after the utilization of photo-reduction in the printing process. For the same reason, purchasers of foreign brands also were excluded. Enlisting the cooperation of additional stores would have rendered impossible the task of making periodic visits for data collection at reasonable time intervals. Nonetheless, the sample does encompass a combination of manufacturers and stores which include the most significant market forces along with an appropriate mix of representative brands and outlets.

Area retailers supplied a total of 327 customer names during the survey period. Each individual on the list received a copy of the questionnaire by mail, along with a cover letter and a stamped,

person. The area outside the house to complete the interview was

study. One was a ~~single interview~~ and the other was a

on the ground. The first was a ~~single interview~~ and the other was a

single interview.

single interview.

single interview.

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single interview.

single interview.

pre-addressed envelope. The letter requested the recipient's cooperation in assisting a graduate student from Michigan State University to fulfill the research requirements for his Ph.D. degree in Business Administration (see Appendix A for a sample of the cover letter). The mailing date, inside address, and salutation were individually typed on each letter, as was the outside address on every envelope. The letters were personally signed, and, in a further effort to lend a personal touch to the solicitation, all postage was affixed by hand.

The survey elicited a total of 142 replies. Since seven of the mailings were returned unopened, marked "addressee unknown," "no such address," or "moved, left no forwarding address," the response rate from those who may be assumed to have received questionnaires was 44 percent.

Six of the 142 returned questionnaires were immediately discarded as unusable. Two respondents claimed to have purchased brands not included in the study, despite information to the contrary provided by participating stores. One individual replied that the only television set she owned was a black-and-white model purchased in Florida six years earlier. Three other questionnaires came back blank, one with a note stating that the purchaser had died before the questionnaire arrived. Another recent buyer begged off on the grounds that a case of severe eyestrain made it impossible for him to complete the survey. The third included a message that the questions were "too confusing" to answer.

pre-addressed envelope. The envelope should be addressed to the following address:

University of Illinois at Chicago

in Business + Economics

Chicago, Illinois 60607

Attention: Director

of the Center

for the Study of

the History of

the United States

Further inspection of the returned questionnaires revealed that 12 had major omissions in key areas which precluded their use for the data analysis.

An additional 21 responses were eliminated from the sample on the grounds that the purchasers had bought their color television sets during January 1974. The combination of post-Christmas clearance sales and dealers' special selling events aimed at reducing their stocks prior to the February 1 inventory tax assessments causes a preponderance of "price selling" throughout the first month of the year. Incorporating this group of purchasers into the sample would have risked distorting the results in the direction of an overemphasis on the importance of price in the buying decision.

The 103 responses which comprise the data base reflect the current balance of present market forces. RCA and Zenith, the two leading brands, account for 53 percent of the sample. Nineteen percent of the returns analyzed were from people who bought at Sears, generally considered to hold the third largest market share. Magnavox, Motorola, and Sylvania purchasers furnished 25 percent of the questionnaires in the sample, while Admiral and Philco, the two weakest brands covered, provided 3 percent.

The Measurement Instrument

The measurement instrument consisted of a questionnaire with 31 numbered items, 30 of which were multiple choice. The final question asked for a brief statement about the most important factors in

the respondent's decision concerning which brand of color television set to purchase.

The multiple-choice format offered several advantages. Objective questions require a minimal amount of time and effort to answer and therefore increase the probability that a recipient will complete and return the inventory. It insures a uniformity of responses, which eliminates problems of data interpretation and comparisons. Multiple choice questions also lend themselves to machine scoring, which both simplifies the data processing and greatly increases the potential scope of the analysis.

Construction of the questionnaire began with an investigation into earlier research on consumer buying behavior in the purchase of durable goods items. These studies proved valuable in the delineation of factors relevant to the consumers' brand choice decision, particularly in the areas of store loyalty, previous ownership experience with the product, and the relative importance of consumer-product rating services, such as Consumer Reports magazine. They also aided in the determination of pertinent demographic variables.

A series of tape-recorded interviews with salespeople in several Lansing area stores turned up additional factors relevant to the buyer's purchase decisions. The retail sales personnel cited solid-state construction and picture brightness as the customer's primary concerns. The salespeople also stated that while color television set shoppers could occasionally remember manufacturers' advertising themes, prospective buyers could not connect them with the appropriate

The respondent's decision concerning which product to purchase from

was to purchase

The multiple choice question was

Objective question was

Answered and the

correct answer

score was

100

brands, e.g., people would ask about "Quasar," but not associate it with Motorola. Not surprisingly, the retailers expressed the opinion that local newspaper advertising, which featured price and store location, sold the product more effectively than the ads in the national media that stressed the copy platforms of producers.

These initial contacts with retailers also afforded the opportunity to enlist their further cooperation with the study by asking them to agree to furnish lists of recent purchasers.

The preliminary explorations of related research and store salespeople's opinions identified several pertinent topics for the survey instrument, which included store shopping patterns, store loyalty, pre-shopping brand preferences, the influence of in-store personal selling, the role of consumer-product rating services, the extent of reliance upon word-of-mouth information, and the degree of sensitivity to price differences.

The manufacturers' advertising themes used in the sections related to their identification and association were culled from the national printed media. Advertisements appearing in Sports Illustrated, Newsweek, Time, Psychology Today, U.S. News and World Report, The New Yorker, and Reader's Digest demonstrated that a unique theme, i.e., copy platform, dominated each producer's ads. This theme, often encapsulated in a slogan or headline, appeared in every advertisement run by a given manufacturer. In fact, most producers used only one or two different ads throughout the entire five month period, running the same ones in successive issues of a particular magazine or simultaneously

brands, e.g., people would see...
with Motorola, for example, the...
that local newspaper...
stone, sold the...
media that...

1970-1971

1972-1973

in several different publications. Their televised advertisements utilized the same themes they employed in printed media, often with identical leads, content, and phrasing. Thus the investigation of manufacturers' advertising not only provided material for the questionnaire construction, but also confirmed earlier observations about each firm's use of a uniform copy platform throughout all of its ads.

The survey instrument evolved through several editions before it reached the pretest stage. The early drafts differed from the final version primarily in terms of length; the categories of questions did not change. The revision problem consisted of paring down the inventory to the point where there was a reasonable expectation that recipients would take the time to fill it out. Some reshuffling of the order in which sections appeared also occurred. Questions were rephrased and formats altered on several others in accordance with the suggestions of both graduate student colleagues and dissertation committee members.

After numerous revisions of the initial draft, the pretesting of the survey instrument began. The pretest exercise sought to resolve three major issues. First, at what rate would recent purchasers of color television sets respond to a mail survey questionnaire of the length being contemplated? Second, what items within the inventory contained ambiguities sufficient to obstruct measurement of the variables being tested? Third, what important variables might have been omitted from the objective portion of the survey that respondents would bring up in the open-ended question at the conclusion?

To save time and expense in the production of the pretest version, photocopies were made from a typed original: 25 on white paper and an additional 25 on yellow paper. Five area retailers contributed a total of 43 names to the customer list used for the test, which was conducted during the last week of December 1973, and the first week of January 1974. Twenty-two people received white copies of the questionnaire and 21 were sent yellow copies.

Twelve recipients of questionnaires printed on white paper replied to the survey, but there were only three responses from those who received yellow copies.

The return rate affirmed the feasibility of collecting the survey data by mail, and it also suggested that the final edition of the questionnaire had best be printed on white paper.

Analysis of the pretest responses did not indicate a need for major modifications of the survey instrument.

The final version of the questionnaire was professionally typed and printed by a photo-offset process on two pages of white, 11" x 17" paper. It was then folded and stapled in the middle to form a four-sheet booklet with seven pages of copy (see Appendix A for a sample of the questionnaire).

Data Collection

Although several attempts were made to obtain sufficient funding to enable the use of personal interviews for the data collection, all such efforts proved fruitless. Furthermore, several of the participating

retailers stipulated that neither telephone nor personal contacts be made with their customers. These restrictions reflected the beliefs of retailers that some of the individuals would regard such efforts as undue intrusions upon their privacy and would thereby arouse animosity toward the store. These factors precluded the use of face-to-face interviews, which would otherwise have been a preferred means of data collection.

Even the mail survey technique caused some recipients to register complaints with the stores at which they had purchased their color television sets. According to the retailers, these people resented the fact that their names had been released. Some objected on the grounds that they didn't want anyone to know there was a new television in their house for fear of having it stolen, while others resented what they perceived as an invasion of their privacy.

The first mailing for the actual data collection took place on February 5, 1974. Subsequent mailings followed at intervals of two-to-six days through April 4, 1974. The first returns arrived on February 9, 1974 and the final responses came in on April 17, 1974.

A combination of time and cost constraints ruled out the use of follow-up mailings to non-respondents. Too great a time lapse between consummation of the brand choice decision and completion of the questionnaire would have increased the risk of buyers forgetting pertinent details. Thus, waiting to see which purchasers responded and then sending follow-up letters to the others was not practical. On the other hand, the very limited financial resources available for the

retailer accumulated that he had not been able to find any more.

He then went to the store and found that the store had no more.

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He then went to the store and found that the store had no more.

study ruled out the possibility of multiple mailings to every name on the customer list.

Telephone follow-ups were not possible either, since several participating stores stipulated that their customers should neither be contacted in person nor over the telephone.

Editing and Coding

Incomplete and unintelligible answers resulted in the elimination of 12 returned questionnaires from the sample.

Concerns about distorting the findings through a disproportionate representation of those customers who based purchase decisions primarily upon price factors led to the discarding of returns from individuals who bought their color television sets before February 1, 1974. As previously noted, this reduced the final data base from 124 respondents to 103.

Non-responses to the questions in the sections dealing with recognition of advertising themes and trademarked product attributes were recorded as incorrect answers. The objective of these questions was to test recent purchasers' abilities to recognize those items and to connect them with the appropriate manufacturer. The failure to answer such a question indicated an inability to perform those tasks.

Raw data from the questionnaires were transferred to coding sheets and then key punched onto standard IBM cards with 80 columns per card. The data deck contained four cards for each respondent. Three of these contained the data from the survey instrument and one had information kept in a log of customer purchases.

study ruled out the possibility of a causal relationship between the customer list and the telephone follow-up. The participating telephone company contacted the customers on a random basis.

Data Processing

The data processing consisted of machine tabulations covering the 112 variables from each questionnaire along with eight additional variables from the customer purchase log. Cross-tabulations on selected variables of interest yielded 312 two-dimensional contingency tables.

The analysis was performed on a CDC 6500 computer at Michigan State University, using programs developed by the Computer Institute for Social Science Research.

The exploratory and descriptive nature of the research, the structure of the sample, its limited size, and the level of measure afforded by the data served to restrict the analysis to descriptive statistics and a tentative examination of bivariate relationships.

Concluding Comment

The procedures described in this chapter determined the scope of the data analysis performed. While more details could have been offered about the research design and execution, hopefully the account presented above will provide an adequate background for interpretation of the results presented in the following chapter.

2.4

CHAPTER IV

FINDINGS

Introductory Comment

Having previously considered the nature and objectives of this research project, the development of the market for color television receivers in the United States, and the survey design and execution, it is now time to present the empirical findings of the research.

The structure of the survey instrument suggests a logical procedure for consideration of the results. Although not grouped under specific headings on the questionnaire, the items fall into nine distinct categories: previous ownership experience with the product, store shopping behavior, store loyalty, in-store personal selling influences, the use of consumer-product rating services, sensitivity to product price, the reliance upon word-of-mouth information, the memorability of manufacturers' advertising themes, and the demographic structure of the sample. These topics will furnish the headings for presentation of the results.

Since the avowed aim of the research is to assess the role played by the advertising of color television set manufacturers in consumers' brand choice decisions, and doing so requires a consideration of other factors relevant to the purchase decision, this chapter will

begin with a description of the responses to the questions concerning topics other than advertising. The sections related to the role of advertising in the brand choice decisions of consumers will follow. The chapter concludes with a consideration of selected demographic variables which describe the sample.

Previous Ownership Experience

Ninety-seven respondents reported having owned either a black-and-white or a color television set prior to their recent purchase of a new color receiver. Out of this group, 22 percent had formerly owned a color television set of the same brand they had just bought, while 37 percent had previously owned a brand of color television different from the one they had just purchased.

The total of 59 percent of the television households in the sample which owned color sets compares with the 1973 figure of 60.1 percent for the entire United States (see Table 2, page 44).

In assessing the importance of their ownership experience with previous color and/or black-and-white television sets as it affected their decision about which brand of color television to purchase, 37 percent of the respondents rated it as "very important" or "extremely important." This was offset by the 44 percent who replied that their prior ownership experience was "not very important" or "not important at all," while 20 percent said that it was "moderately important."

These replies indicate that previous ownership experience with television sets is not an overwhelmingly important factor in the color

television purchasers' brand choice decision. Although approximately one-third of the sample rates it at least "very important," nearly twice that number say that their ownership experience is not more than "moderately important," and more than one-fourth indicate that it is "not important at all."

Cross tabulations showed that respondents were consistent in their evaluations of the importance of previous ownership experience with television sets in helping them to make brand choice decisions. Both the question from this first section of the survey instrument and a later item from the sequence on the importance of information gleaned from word-of-mouth and related sources yielded the same results.

Previous ownership experience is apparently more important for purchasers of some brands than it is for others. Forty-six percent of Zenith buyers and 39 percent of RCA purchasers replied that previous ownership experience proved either "extremely important" or "very important" in helping them to decide which make of color television set to buy. At the other extreme, 71 percent of the Magnavox buyers said that previous ownership was either "not very important" or "not important at all." Sixty-three percent of Sylvania purchasers concurred with the majority of the Magnavox customers, as did 47 percent of the Sears customers.

Store Loyalty

The survey instrument asked respondents to evaluate the relationship of nine factors to their selection of a store in which

calculator purchases' brand choice was the same as the brand choice of the

one-third of the respondents who had purchased a calculator in the last year.

Price was not a significant factor in the choice of a calculator brand.

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to purchase a color television set. The list included the location of the store, the reputation of the store, its repair service, whether or not the respondent generally shopped there, the importance of a special price, the availability of a desired brand, the influence of the store sales personnel, the store's advertising, and whether or not the respondent had a charge account there.

Color television buyers displayed a marked sensitivity to the availability of special prices in their choices of a store at which to purchase their color television sets. Nearly one-half rated "special price" as the "single most important factor" in the selection of the store where they bought, while another 37 percent said the special price was "more important than most factors." Only 5 percent claimed that a special price was either "less important than most factors" or "the single least important factor."

The availability of a desired brand also showed up as an important consideration in determining the store at which the purchase was made. Thirty-five percent of the sample said this was "the single most important factor" and an additional 27 percent listed it as "more important than most factors."

Repair service was another noticeable concern expressed by purchasers, as 26 percent stated that it was the "single most important factor" in their selection of the store at which they bought their color television set. Another 38 percent evaluated repair service as "more important than most factors."

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While the reputation of the store did not show up in the "single most important factor" category as frequently as some of the other items, 47 percent of the replies described it as "more important than most factors."

At the other end of the scale, 65 percent of those who recently purchased color television sets indicated that the availability of a store charge account was "the single least important factor" in their decision about where to buy a color television.

Store location ranked low on the list of considerations about where to purchase, since 34 percent gave this as the "single least important factor" and 30 percent termed it "less important than most factors."

Appendix B presents the reported sales of color television sets according to the retail outlet which made the sale and the zip code area of the purchaser. These figures do not suggest any pronounced store shopping patterns which follow from locational considerations.

Consumers also assigned a low rating to the role of store advertising as an influence upon their choice of outlets, with 57 percent placing it as either "less important than most factors" or "the single least important factor."

Respondents further indicated that generally shopping at a particular store did not influence them to buy a color television set there. Twenty-eight percent said "generally shop there" was the "single least important factor" in their selection of a store. An additional 20 percent indicated it was "less important than most factors."

The attraction of a special price proved notably stronger than other factors in the consumers' selections of a store at which to purchase a color television set. The availability of a desired brand ranked second. The store's repair service and overall reputation, considerations more commonly associated with store loyalty, proved to be noticeably less important than the first two items.

In general, the factors which are more closely associated with store loyalty registered the lowest ratings with respect to their importance in the customer's choice of retail outlet at which to buy. Having a charge account at the store, whether or not the consumer generally shopped there, the store's location and its advertising did not show up among purchasers' primary considerations.

The use of cross-tabulations to disaggregate the figures on store loyalty factors according to the individual retailers participating in the study turned up some interesting results.

For example, 40 percent of the people who purchased color television sets at Sears said that generally shopping there was not an important consideration in their selection of a store at which to purchase. Forty-seven percent of Whalen's customers gave the same response, but 29 percent of those buying at Knapps indicated that generally shopping there was either the "single most important factor" or "more important than most other factors."

"Store sales personnel" did not show up as important considerations for Sears, Woolco, or Highland customers in their choice of outlets at which to purchase. Forty-three percent of Knapps' and Whalens'

The attraction of a woman to a man is a complex phenomenon.

Other factors in the relationship are the man's personality and the woman's personality.

There is a close relationship between the man's personality and the woman's personality.

The man's personality is a complex phenomenon.

The woman's personality is a complex phenomenon.

The man's personality is a complex phenomenon.

The woman's personality is a complex phenomenon.

customers, on the other hand, replied that store sales personnel were "more important than most factors" or the "single most important factor" in their choice of a retail store. ~~eight times as a preferred brand.~~

~~Other m~~Not surprisingly, the customers of both Sears and Knapps placed a greater emphasis upon the role of store charge accounts as decisive factors in their selection of outlets at which to purchase than did those who bought elsewhere. People who purchased color televisions at Woolco, Highland, and Tony Coats minimized the role of this factor, with 80 percent or more of each of their customers rating it as "less important than most" or as the "single least important" consideration.

On the whole, these findings suggest that store loyalty does not play an important part in color television receiver purchases.

In-Store Personal Selling

Responses to the questions on pre-shopping brand preferences and post-shopping brand preferences did not indicate that retail sales personnel influenced color television buyers to change whatever pre-dispositions they had toward the purchase of a particular brand of color television set.

Seventy-two percent of the sample said they had a preference for a particular brand of color television set before they began visiting retail stores. Comparisons of this group's choice of brands before visiting retail stores to their choice of brands after such visits showed very few changes. Sylvania benefited most from shifts in brand preferences following retail shopping forays by consumers,

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being cited 13 times as a brand considered for purchase after the respondent had visited the store, whereas prior to contact with retailers, it had been listed only eight times as a preferred brand. Other manufacturers which registered lesser gains in consumer considerations following visits to retail stores included Magnavox, Philco, Admiral, RCA, and Sears. Motorola and Zenith showed slight declines.

Consumers seemed reasonably satisfied with the expertise of retail store sales personnel concerning color television receivers. Fifty-one percent said that salespeople were "adequately knowledgeable" about color television, while an additional 34 percent rated them "very knowledgeable" or "extremely knowledgeable" about the product. Only 13 percent classified store sales personnel as "not very knowledgeable" about color television and a mere 2 percent declared that they were "not at all knowledgeable."

A comparison of answers to the item about knowledgeability of retail store sales personnel with those to a subsequent item concerning the advice of other people showed a consistency in the responses. Those individuals who found store sales people to be "very knowledgeable" or "extremely knowledgeable" about color television also evaluated the advice of TV sales personnel in the retail store as an "extremely important" factor in their purchase decision or at least as "taken into consideration." Those respondents who did not find salespeople to be knowledgeable about the product claimed to have disregarded their opinions. The majority of purchasers fell into this latter category.

being asked to attend a meeting at the time of the
investigation and visited the premises of the
retailer, it was found that the retailer had
other customers.

At the time of the

investigation

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The sales personnel at Tony Coats rated highest in knowledgeability about color television sets according to their customers. Whalens and Highland Appliance also fared well in this area, while none of the participating retailers' sales people received a low rating.

Thus it appears color television set purchasers do not believe that retail store sales personnel have much influence over their brand choice decisions. With the exception of Sylvania, the changes in brand preferences which followed after visits to retail stores would not seem large enough to suggest otherwise. Furthermore, while the results indicate that consumers respect the knowledgeability of retail sales people, either they are not so impressed as to let the salespeople's viewpoint override their own, or the salesperson does not wish to imperil a potential sale by attempting to change a customer's brand preference.

The Use of Consumer-Product Rating Services

The respondents displayed a relatively casual attitude toward the use of publications issued by consumer-product testing and rating services, such as Consumers Reports, Consumer Bulletin and similar sources. The majority, 52 percent, replied that they occasionally consult such ratings and recommendations before making a purchase, while 25 percent said they never utilize these ratings and recommendations. Another 19 percent indicated that they "always consult the ratings and recommendations before making a major purchase (such as a

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clothes dryer, refrigerator, or television set)" but only 4 percent declared that they "always consult their ratings and recommendations before buying anything that might be rated by such services."

Of those who said they do make use of such information, 43 percent did in fact consult these publications prior to their final purchase of a color television set.

The group which consulted one or more of these publications prior to the final purchase of a color television set did seem to regard the rating service opinions as useful information. Fifty-two percent rated the information provided as "more important than most other factors," while 8 percent evaluated it as "the most important factor." An additional 28 percent said it was "no more or no less important than other factors," and only 13 percent declared it "less important than most other factors" or "the least important factor."

Cross-tabulations of responses to questions concerning the use of consumer-product rating services and the importance of such information in the brand choice decision reveal, not surprisingly, that the overwhelming majority of people who utilize such publications find their advice to be either the "most important factor" or "more important than most other factors."

Of those individuals who rely most heavily upon the recommendations of consumer-product rating services, 52 percent had annual incomes of \$15,000 or more. The highest earnings categories also showed up quite frequently among the group which consulted these services prior to making their color television set purchase decision. Fifty-seven

clothes dryer, refrigerator, and television set. But only a few minutes
 decided that they had no choice but to leave the house and go to the
 before buying anything else.

Of these, the most common was the refrigerator, which was
 40 percent of the total.

The most common of these was the refrigerator, which was
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The most common of these was the refrigerator, which was
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The most common of these was the refrigerator, which was
 40 percent of the total.

percent of those who made use of consumer-product rating services earn \$15,000 per year or more. People in this income range also accounted for 45 percent of those who evaluated the advice of such services as "the most important factor" or "more important than most factors" in their brand choice decisions.

For those who make use of their publications, consumer-product rating services appear to play an important role in helping them to make a brand choice decision. However, such individuals constituted a minority of the purchasers surveyed.

Sensitivity to Price

Consumer sensitivity to product price differences stood out in the results of the survey. Forty-four percent of the respondents cited price as "more important than most other factors" or as "the most important factor" in choosing among the various brands of color television sets. Only 10 percent said price was "less important than most other factors" and a mere 3 percent listed it as "the least important factor."

The vast majority of the sample reported having negotiated a "deal" on their purchases, with 74 percent claiming that they paid less than the manufacturer's list price. Interestingly enough, 17 percent of this group admitted that they didn't know whether or not they were charged the manufacturer's list price. Only 9 percent replied that they had paid full list price.

Of those who reported paying less than the manufacturer's list price, 67 percent indicated that they purchased their color television

sets during a special sale, while the remainder stated that they had received a special discount off the manufacturer's list price.

Somewhat surprisingly, only 52 percent of those claiming they paid less than the manufacturer's stated price bothered to shop at two or more stores for that discount.

Cross-tabulations of the items concerning the importance of price with those about respondent's shopping behavior reinforced this observation. Within the group of consumers who ranked price as "the most important factor" in choosing among the various brands of color television sets, or as "more important than most other factors," 54 percent did not undertake the effort to shop at two or more stores in an attempt to gain a discount off the manufacturers' list price. This suggests that many shoppers are satisfied with the first price concession granted or that price is not as important a factor in the purchase decision as it would appear at first glance.

Respondents in the lowest income categories placed the greatest emphasis upon the role of price in their purchase decisions. Sixty percent of those with incomes below \$3,500 per year said that price was an "extremely important" consideration. People in the highest income categories were also concerned about price, although not so emphatically as the lower income group. Sixty-eight percent of the respondents who earn more than \$18,000 per year said price was "more important than most other factors" or "no more or no less important than other factors."

Cross-tabulations of brands purchased with the items related to price sensitivity showed that Sears purchasers placed a greater emphasis

sets during a special sale, which was held on the same day. The sets were sold for a special price of \$1.00 each, and the sets were sold out in a matter of hours.

The sets were sold for a special price of \$1.00 each, and the sets were sold out in a matter of hours. The sets were sold for a special price of \$1.00 each, and the sets were sold out in a matter of hours. The sets were sold for a special price of \$1.00 each, and the sets were sold out in a matter of hours.

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upon price differences than did those who bought other brands. Seventy-two percent of them rated price as "more important than most other factors," or as "the most important factor" in choosing among the various brands of color television sets. RCA customers were next highest in this category with 48 percent, followed closely by Zenith purchasers, of whom 44 percent gave the same evaluations.

The picture that emerges of widespread price shading by retailers is consistent with the description of pricing practices given in Chapter II. Customers rate price as a key element in the purchase decision and retailers apparently encourage everyone to believe that he receives a "special deal" on his set. The results also underscore the effectiveness of special selling events, with the concomitant "buy-now-and-save" theme. The eagerness of retailers to promulgate the "special sale-special deal" idea is further reflected in the ease with which customers say they obtain discount prices, half of them claiming to do so without shopping two or more stores.

Influence of Word-of-Mouth Information

The investigation concerning the role of word-of-mouth advice in purchase decisions of consumers considered the possible influences of fellow workers, relatives, friends, TV servicemen, neighbors, and television sales personnel in the retail store. It also raised again the issue of previous ownership experience and asked respondents to assess the overall usefulness of the information obtained from word-of-mouth sources.

upon price differences than the other factors. The average price of the various grades of the various brands of the various factors of production is shown in Table I. The average price of the various grades of the various brands of the various factors of production is shown in Table I. The average price of the various grades of the various brands of the various factors of production is shown in Table I.

Table I

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Color television purchasers apparently do not hold the advice of others in very high esteem when it comes to making a decision about which brand to buy. Twenty-six percent said that the advice of other people was "not useful at all." Twenty-three percent did say it was "very useful," while 37 percent replied that information from others proved "somewhat useful." Only 6 percent said it was "extremely useful."

Of those sources taken into account, consumers claimed to rely most heavily upon the word of TV servicemen, with 21 percent saying their recommendations were "extremely important." However, the significance of previous ownership experience with the same brand eclipsed that of the word-of-mouth sources when the two were evaluated in the same section. Thirty-seven percent of the respondents labeled this factor "extremely important."

The advice of television sales personnel in the retail stores, that of friends, and recommendations from relatives were frequently cited as "taken into consideration." Information gleaned from neighbors showed up as the least important source. Seventy-five percent of the respondents marked it "not considered."

People in the lower income categories apparently rely more upon word-of-mouth information than do higher income individuals. Eighty percent of respondents in the lowest income categories said that word-of-mouth references were "very useful" in helping them to decide which brand of color television to purchase. On the other hand, 78 percent of people with incomes above \$14,999 looked upon word-of-mouth information as "not very useful" or "not useful at all."

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The higher the level of educational achievement of the respondent, the less inclined he was to rely upon word-of-mouth information. Of those who referred to the advice of other people as "not at all useful" in the brand choice decision, 44 percent had completed four years of college or more. Only 8 percent of those who called such information "extremely useful" had comparable educational backgrounds.

Thus, information gathered from other individuals appears to be neither especially useful nor overwhelmingly important in helping color television purchasers to make their brand choice decisions. And, when measured against the possible sources of word-of-mouth advice, previous ownership experience with the same brand emerges as a much more important factor.

Store Shopping Behavior

Respondents reported a total of 300 visits to retail stores as part of their efforts to purchase their new color television sets. These trips resulted in 103 sales; thus, the buyers in the sample required an average of slightly less than three store visits before making a final purchase.

A breakdown of the aggregate figures according to individual stores showed that most outlets were either right on the average or very close to it. Sears customers had the lowest ratio of store visits to purchases, 2.4, while Knapps customers registered 3.6, the highest. People who bought at other retailers fell into the 2.9 to 3.3 range.

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Comparisons of the percentage of total visits made to each retailer with the percentage of surveyed sales accounted for by each of these stores showed that most of the outlets had a larger share of the sales than of the reported visits. The fact that 23 percent of the respondents' visits were to outlets not covered by the study made this outcome possible. While Sears experienced 12 percent of the visits to retail stores made by customers in the sample, they accounted for 19 percent of the sales. Tony Coats did 11 percent of the sales with only 5 percent of the visits. Walens made 38 percent of the surveyed sales on only 15 percent of the total visits. On the other hand, Knapps received 17 percent of buyers' store visits and did 8 percent of the sales.

Such disparities between the proportions of total store visits and the share of sales could be the result of several factors. They may reflect the relative expertise of store sales personnel, the strength of product lines carried, the congruity of these lines with customer demands, or the retailers' willingness to negotiate his price. The intensity of an individual's predisposition to purchase may also be a relevant consideration. For example, retailers with stores in shopping malls, such as Knapps, may draw a higher percentage of casual visits by people in the very early, exploratory stages of the purchase process, since shopping malls are more conducive to this type of traffic.

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Relative Importance of Selected
Product Features

Information was sought about purchasers' evaluations of the importance of nine product features: the black matrix picture tube, automatic fine tuning, the manufacturers' warranty, plug-in circuit panels and modules, cabinet styling, 100 percent solid-state chassis, picture quality, the quality of reception in fringe areas and the quality of sound.

Respondents had the opportunity to indicate that they did not understand the significance of a given feature by replying "the importance of this feature is not clear to me." Forty percent admitted that they did not comprehend the meaning of "black matrix picture tube" while 18 percent said the same about "plug-in circuit panels and modules."

"Picture quality" and "100 percent solid-state chassis" ranked the highest among those features which consumers rated as "more important than most other features" scoring 95 percent and 81 percent, respectively. Recent purchasers also emphasized the significance of the manufacturers' warranty, with 66 percent placing it in the "more important than most other features" category. An additional 58 percent did likewise for automatic fine tuning.

Not surprisingly, the two features which most confused consumers showed up more frequently in the "less important than most other features" classification. Twenty-nine percent of the replies put the black matrix picture tube there, while 27 percent did so with plug-in circuit panels and modules.

... $\frac{1}{2} \times 10^{-10}$...

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

The latter is particularly interesting since "100 percent solid-state chassis" appears as the second most important feature according to the survey. Apparently consumers do not recognize that plug-in circuit panels and modules often accompany solid-state construction and, in fact, constitute a product feature made practical by solid-state technology.

Cabinet styling also finished low on the respondents' priority lists, with 28 percent calling it "less important than most other features." Magnavox buyers, however, stood out from the rest in their evaluations of this feature. Seventy-seven percent classified it as "more important than most other features."

Magnavox customers, along with RCA buyers, also placed a greater emphasis upon the importance of the quality of sound reproduction by their television receivers.

Memorability of Advertising Themes

In a highly aided recall test, respondents were asked to match eight manufacturers with the advertising slogans that characterized their copy platforms for the 1973-1974 model year. Some of the slogans tested had been used for several years prior to the current model year, but were included since the producer continued to use them during the survey period.

A high percentage of non-responses, in excess of 40 percent for many items, occurred in this section. Many people who carefully filled out the rest of the survey instrument simply scrawled large question

The form is particularly interesting

with state character, especially in the

according to the

kind of circuit

extending

of

marks over this portion, or wrote "don't know" across it. As a whole, the recent purchasers of color television sets did poorly in their attempts to identify manufacturer's advertising themes.

However, disaggregation of the results showed that the purchasers of a particular brand typically were more capable of recognizing the themes utilized by the manufacturer of the brand which they bought than could buyers of other brands. Thus, a higher percentage of Zenith purchasers correctly identified that producer's advertising themes than did the purchasers of other brands. This same phenomenon showed up in the section dealing with trademarked product attributes.

The RCA theme of "More than twice as many TV Chief Engineers own RCA than any other color television" garnered the highest number of correct responses. Forty-three percent of all respondents correctly identified it.

Magnavox and Philco both had advertising themes which produced recognition rates in the middle range of those tested, registering 27 percent and 23 percent, respectively.

In addition to having a copy platform with the greatest memorability of all those tested, RCA also had one which ranked among the lowest. Its "New Reliables" theme was correctly identified by fewer than 4 percent of the respondents.

Admiral and Sylvania also fared poorly in terms of recent purchasers' abilities to connect their brand names with their advertising slogans.

marks over this portion, or words "don't know" or "no idea".

The recent purchases of a car, a house, a boat, a plane, a

attempt to identify the person.

However, only a few of these items are listed.

There is a list of a few items, but it is not complete.

The items are listed in the following order:

1. Car

2. House

3. Boat

4. Plane

5. Other

Consumer Recognition of Trademarked
Product Attributes

Respondents performed unevenly in a section designed to assess their abilities to match producers with the terms they employ in their advertising and sales promotion to describe particular product features. While such product attributes are typically available on all brands, the trademarked terminology used to describe them is unique to each manufacturer.

Motorola's "Quasar" and RCA's "XL-100" scored the highest rate of recognition with 64 percent of the respondents correctly identifying them.

Zenith's "Chromacolor II" followed with a 49 percent recognition factor.

Twenty-four percent of the replies correctly associated "Videomatic Color" with Magnavox and 21 percent managed to connect "GT-Matic" with Sylvania.

Sears runs virtually no advertising for their color television sets beyond that placed in local newspapers. These ads feature product price, often stressing a "buy now and save" theme rather than promoting a copy platform or trademarked product attributes. Therefore it is not surprising that only 10 percent of recent purchasers linked them with the "Super Chromix Black Matrix Picture," the most heavily emphasized product attribute in Sears' promotional literature on color television sets. More people attributed reliability and repair service themes to them. For example, 16 percent matched "Two Year Service

Customer Satisfaction by Telephone
Product Satisfaction

Responses provided

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Guarantee" to Sears, despite the fact that this is a Philco feature. Eleven percent of the respondents incorrectly credited Admiral's "5-Point Protection Package" to Sears.

The poor overall showing of Admiral's "5-Point Protection Package" attribute came as a surprise, since the firm does feature it prominently in both their printed and their televised national advertising. Only 9 percent of the respondents were able to recognize it as an Admiral feature.

Further tests concerning the memorability of advertising themes involved the abilities of consumers to associate manufacturers with the underlying messages which run through their ad campaigns. For example, Zenith has built its copy platforms around a "quality" theme for many years, carrying over the phrase "At Zenith, the quality goes in before the name goes on." Other firms have made similar use of such concepts as "reliability" and "best engineering."

Given a choice of eight manufacturers covered in the survey, 37 percent of the respondents correctly connected Zenith with "quality." This was the best showing by any brand for the section. At the other extreme, only 2 percent linked Philco with "best engineering," a notion that the company pushed in both its ad copy and the tag-line, "We think we engineer them better. So we guarantee them better." RCA's emphasis upon reliability, which even entailed running a series of ads under the banner "The New Reliables," did not seem to have an overwhelming impact upon purchaser's attitudes toward their products. While 28 percent marked RCA, 35 percent said Zenith was the brand they most associated with "reliability."

Guarantee" to Sears, Roebuck and Co. for a period of 100 days.

Eleven percent of the respondents indicated that they had not used the

"2-Point Protection" is 100%

of the respondents indicated that they had not used the

2-point protection is 100%

of the respondents indicated that they had not used the

2-point protection is 100%

of the respondents indicated that they had not used the

Only 6 percent of the replies to the "Best Warranty" item gave Admiral, despite the fact that the company stresses its "5-Point Protection Package" throughout all its ads, prints the warranty provisions on the product package, and has traditionally been the industry leader in the product warranty area.

Responses were further broken down according to the brand of color television set which the respondent purchased. It then became clear that individuals were better able to recognize the underlying theme utilized by the manufacturer of the set they purchased than could the buyers of other brands. For example, while 28 percent of all respondents associated RCA with "reliability," 68 percent of the RCA purchasers made the connection. This pattern held for all five association tests in the section.

However, Zenith and RCA received a very high percentage of the responses for all the items on the association test, both on those items which were based upon their own advertising and with those employed by rival producers. This suggests that the strength of consumers' pre-conceived notions about the various brands overrides attempts of advertisers to promulgate their own ideas via commercial messages.

The number of non-responses to items in this section was considerably lower than for the aided recall portion of the questionnaire, perhaps because the instructions for this part suggested that while "feelings" or "hunches" might be the only basis the respondent had for offering an answer, he should try anyway. Furthermore, this section bore considerably less resemblance to a "right-or-wrong" test than did

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gave him a list of the names of the people who

Protection Agency, and

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the aided recall section, and therefore was probably less threatening to the respondent's ego.

Relative Importance of Advertising

Most respondents did not believe that the advertising of color television manufacturers played a major role in helping them to make their decisions about which brand to buy. Fifty-two percent did say that advertising had assisted them with their brand choice decisions. However, 39 percent indicated that it was no more than "moderately important" while only 12 percent of the replies rated advertising as either "very important" or "extremely important."

Nevertheless, prior to making their purchases, 34 percent of the customers surveyed either actively searched out advertisements for color television sets or paid special attention to such messages when they happened to encounter them. More than one-half of the respondents claimed to have regarded advertisements for color television sets in the same manner they regarded advertisements for any other product, while 9 percent tried to ignore such ads before they bought their color sets.

After making their final purchases, 3 percent admitted that they continued to search actively for color television set advertisements and 17 percent still paid special attention to color television set ads which they happened to encounter. Sixty-six percent looked upon color television advertising in the same manner as other commercial messages, while the number trying to ignore color television set ads rose to 13 percent.

the whole record section, and therefore the whole record is to be referred to the respondent's copy.

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6. The record is to be referred to the respondent's copy.

7. The record is to be referred to the respondent's copy.

This shift in post-purchase period attitudes towards advertising indicates that some consumers did indeed consider the advertising of manufacturers as a useful source of information. The fact that one out of five maintained more than a passing interest in advertising for the product after having made their purchases also suggests the need for positive reinforcement about their decisions.

Among those respondents who minimized the role of advertising in their brand choice decisions, 62 percent enjoyed annual household incomes of \$14,999 or more. Forty percent of the individuals reporting incomes of less than \$3,500 per year said that advertising was "extremely important" or "very important" in helping them to decide which brand of color television set to buy.

Respondents displayed a consistency in their answers to the questions about the attention they devoted to advertisements for color television sets and their ratings of the importance of advertising in helping them to decide which brand to buy. The majority indicated that they paid no special attention to manufacturers' advertising prior to their purchases and further stated that such ads were "not very important" factors in their choice of a brand of color television. The level of consumer indifference toward advertising for the product following their purchases showed a slight increase.

Those purchasers who said that the advertising of producers was "very important" or "extremely important" in helping them to choose a particular brand of color television scored slightly better than the average for all respondents on five of the ad themes tested, slightly

This shift in post-war... indicates that some... manufacturers... of five... product... positive...

below the average on five others, and matched the percentage of correct responses on the other two. On the other hand, those who termed manufacturers' advertising "not very important" or "not important at all" in the brand choice decision performed below the average 11 times and above it once.

Thus, the performance of respondents on the tests of their abilities to recognize advertising themes of manufacturers did not vary according to their replies about the relative importance of advertising in helping them to decide which brand of color television set to buy.

In the section dealing with recognition of product attributes, both subgroups failed to do as well as the average for all respondents on six questions. Both exceeded the average on two others.

It therefore does not appear that customers who claim that advertising is an important factor in their choice of brands are more cognizant of such messages than the average buyer, nor do they seem to retain them any better. However, those individuals who discount the significance of advertising as input to their brand choice decision are apparently more indifferent to such communications than the average buyer.

The findings in this section seem to imply that the advertising of manufacturers, while not the dominant factor in brand choice decisions of purchasers, may play a more important role than they either recognize or are willing to admit.

below the average on this question and attached the following responses on the other side. In the first instance, the respondent's advertisement is very similar to the one in the book and the second is a variation of the first.

above is given

the following

advertising

the following

the following

Sample Demographics

The demographic characteristics of individuals who participated in the survey closely paralleled those of the Lansing, Michigan, Standard Metropolitan Statistical Area. The returns showed a median annual income category of \$12,000 to \$14,999, and the median level of education achievement by the head of the household included "some college." The average household size for the sample was 3.1 persons: two adults, 0.4 teenagers, and 0.8 children under twelve.

According to the recent U.S. Census, residents of the Lansing SMSA had a median income of \$11,213 in 1970 and the heads of households had completed an average of 12.4 years of school.¹ Census data also showed that the average household consisted of 2.9 persons: 1.9 adults, 0.5 teenagers, and 0.5 children under twelve.²

Seventy-two of the people who filled out questionnaires were husbands and 16 were wives. Twelve other respondents indicated that they were single people. The sample also included one college student living at home.

Table 7 presents a breakdown of customer incomes according to the store at which each one purchased his color television set. Although the number of respondents is not sufficiently large to permit a detailed and precise analysis for every retailer, some of the more interesting figures deserve comment.

While 12 percent of the respondents bought their color televisions at Sears, this group included 45 percent of those with incomes under \$5,000 a year. Eighteen percent of the Sears customers surveyed

Table 7. Respondent income versus store at which color television was purchased

Store	Number of Respondents by Income Category								
	Under \$3,500	\$3,500 to \$5,499	\$5,500 to \$7,499	\$7,500 to \$9,999	\$10,000 to \$11,999	\$12,000 to \$14,999	\$15,000 to \$18,000	Over \$18,000	
Sears	4	1	0	0	1	3	3	6	Order annual incomes of Sears
Knapps	0	1	0	1	1	2	1	1	
Tony Coats	1	0	0	0	1	0	2	7	
Woolco	0	1	0	0	2	1	1	0	
Highland Appliance	0	1	0	1	2	1	4	5	
Whalens	1	0	2	3	6	6	7	12	
Grinnells	1	0	0	0	0	1	1	0	



earned more than \$14,999 annually, but this income category accounted for 53 percent of all responses in the study.

Fifty-one percent of those who reported purchasing their color televisions at Whalens also reported annual incomes of more than \$14,999. However, only 18 percent of this income category bought there. Within the entire sample, Whalens did proportionately better among individuals with earnings in the \$7,500 to \$14,999 range. It accounted for 50 percent of the total reported sales to this group. People in this income classification made up 46 percent of that outlet's customers.

Tony Coats, which features the Magnavox brand exclusively, made 82 percent of its sales to people with incomes of \$15,000 a year or higher.

Sixty-four percent of Highland Appliance customers claimed annual incomes of \$15,000 or more. However, Highland sold to only 18 percent of the respondents who fell into that category.

Table 8 displays the cross-tabulations of brands purchased and the incomes of respondents. For the most part, incomes were distributed across the customers of each brand in the same proportions that characterized the entire sample.

However, people in the \$7,500 to \$15,000 per year income group accounted for 54 percent of the RCA sales covered in the survey. This compares with 34 percent of the entire sample which reported earnings in this range. The two households which purchased Philco sets also fit into this income category. No other brand sold as well among those with comparable annual earnings.

earned more than \$14,000 a year in 1970.

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71 percent of the population

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Table 8. Respondent income versus brand of color television purchased

Brand	Number of Respondents by Income Category										Over \$18,000
	Under \$3,500	\$3,500 to \$5,499	\$5,500 to \$7,499	\$7,500 to \$9,999	\$10,000 to \$11,999	\$12,000 to \$14,999	\$15,000 to \$18,000				
Sears	4	1	0	0	0	1	3	3	6		
Magnavox	1	0	0	0	0	1	1	3	7		
Zenith	1	1	1	3	3	3	2	6	8		
RCA	1	0	1	1	1	6	7	4	6		
Sylvania	0	1	0	0	0	1	1	3	2		
Admiral	0	0	0	0	0	0	0	0	1		
Philco	0	0	0	1	1	1	0	0	0		
Motorola	0	1	0	0	0	0	0	0	1		

Of those brands which were represented by more than three replies, Magnavox registered the highest proportion of sales to people with annual incomes above \$15,000. Seventy-seven percent of their buyers included in the study reported yearly earnings in excess of \$15,000.

The analysis also included a series of cross-tabulations which involved other demographic characteristics. These disaggregations did not yield figures that were noticeably different from those tallies for the sample taken as a whole. For example, a cross-tabulation of brands purchased with the levels of educational achievement of the respondents did not indicate that purchasers of any single brand had educational backgrounds different from the average for the entire sample, and, therefore, need not be discussed here.

Concluding Comment

The above discussion encompasses both the response frequencies for each question on the survey instrument and those cross-tabulations which showed variations of interest for particular items.

It now remains to summarize the findings, to offer some explanations for the observed phenomena, and to present suggestions for further investigations in the area. Chapter V will proceed with these tasks.

Notes--Chapter IV

¹U.S., Bureau of Census, Census of Population: 1970, General Population Characteristics, Final Report, PC (1)-C24, Michigan (Washington, D.C.: Government Printing Office, 1972).

²U.S., Bureau of the Census, Census of Population, 1970, General Population Characteristics, Final Report, PC (1)-B24, Michigan (Washington, D.C.: Government Printing Office, 1972).

Water-Resistant Ink

U.S. Bureau of
General Population Statistics
Washington, D.C.

General
Michigan

SUMMARY AND IMPLICATIONS

Introductory Comment

The findings presented in the previous chapter suggest the need for further elaboration of certain points and an integration of the more important discoveries.

This summation of the results will proceed under three headings. The first concerns the extent to which consumers are presold and the relative impact of various factors which come into play prior to store visits. The second section deals with the advertising themes employed by manufacturers and their relationship to the preselling of consumers. A third section considers the role of product price in the purchase decision.

The chapter closes with suggestions for additional research in related areas.

Preshopping Influences

The research findings indicate that the majority of color television set purchasers establish a brand preference before they enter a retail store. Seventy-two percent of the respondents said that they had a brand preference prior to making the rounds of color

television outlets. The data also show that few changes occur in these initial predispositions, despite the fact that the average buyer confers with retail sales personnel at three different stores. This means that, in the majority of cases, the brand choice decision is made independently of the sorts of influences encountered during store shopping excursions. In particular, it suggests that in-store personal selling plays a minimal role in helping color television set purchasers to decide which brand to buy. This does not necessarily imply that retail salespeople are ineffectual and unable to influence customers; rather, it probably reflects a wise reluctance on the part of the salesmen in the stores to contradict the expressed preferences of their customers. In any event, whatever information consumers acquire while visiting retail outlets, most of them do not regard it as grounds for changing their initial brand preferences.

Since the majority of color television set purchasers apparently decide which brand to buy before they visit retail stores, the list of predominant influences upon their brand preferences must be reduced to those which come into play prior to store shopping expeditions. Such factors include previous ownership experience with television sets, word-of-mouth information, the use of consumer-product rating services, certain store loyalty considerations, advertising, and the preconceived notions of consumers about the various brands. The ensuing discussion will consider each of these preshopping potential influences as it relates to the brand choice decision.

reflexion outside. The data also show that the pattern of the initial prepositions, despite the fact that the initial prepositions with certain verbs are not the same as the initial prepositions in the majority of cases, is not the same as the initial prepositions of the verbs in the majority of cases. It is particularly interesting that only a few verbs are found in the initial prepositions of the verbs in the majority of cases. This is particularly true of the verbs in the initial prepositions of the verbs in the majority of cases. The data also show that the pattern of the initial prepositions with certain verbs is not the same as the initial prepositions in the majority of cases. It is particularly interesting that only a few verbs are found in the initial prepositions of the verbs in the majority of cases. This is particularly true of the verbs in the initial prepositions of the verbs in the majority of cases.

Since 96 percent of the respondents had previously owned a television set, either color or black-and-white, the potential impact of previous ownership experience upon brand preferences is considerable. Nonetheless, recent purchasers of color television did not rate it as an important influence upon their choice of brands.

The importance of previous ownership experience did, however, exceed that of word-of-mouth information, according to the survey results. Most consumers evaluated the latter as neither especially useful nor particularly important.

To the extent that they were consulted, consumer-product rating services proved to be an important source of information to shoppers in their efforts to select a brand of color television set. However, the group of individuals who utilized such recommendations constituted a minority of those surveyed.

The data also eliminate store loyalty from consideration as a vital preshopping influence. Having a charge account at a particular store, generally shopping there, and the location of the store did not show up among the primary concerns of consumers in their purchase decisions. This, in turn, negates the possibility that the selection of brands follows the choice of a retail store, and hence must be made from the brands available there. Recall, however, that there is some evidence of the converse: the availability of a particular brand was often cited as an important factor in the choice of a store at which to purchase.

Since 80 percent of the respondents had previously served

in the military, the results of the survey are of particular

interest to the military community. The results of the

survey are presented in the following table.

The results of the survey are as follows:

The results of the survey are as follows:

except for the results of the survey.

Results of the survey are as follows:

The results of the survey are as follows:

Presold Consumers and Advertising Effectiveness

The extent to which customers appear to be presold would seem to suggest that the advertising of manufacturers plays a major role in the brand choice decisions of consumers. However, a closer examination of the data concerning the advertising efforts of color television producers and the abilities of respondents to identify such advertising themes clouds this issue. The very high percentage of non-responses to the survey items which dealt with advertising themes indicates that such messages typically do not register with consumers, although the results did show that individuals could best identify the advertising themes of the manufacturer whose brand they had just purchased.

The consumers themselves also denied that advertising played an important role in their brand choice decisions. Most of them declared that it was at best moderately important. Nonetheless, in their responses to questions about their efforts to obtain information from advertising before making the purchase, more than one-third said that they made special attempts to do so. Even after the purchase, nearly one-fifth of the respondents continued to gather information about color television sets from advertising. This indicates that the information gleaned from advertising may be more important to consumers than they will admit when questioned directly.

On the other hand, the data pertaining to consumer recognition of trademarked product attributes is consistent with the findings about the memorability of advertising themes. The overall recognition rates

Physical Concepts and Mathematical Techniques

The extent to which the mathematical techniques used in physics to suggest that the physical world is a mathematical structure, the present chapter is devoted to the study of the mathematical structure of the physical world. The chapter is divided into two parts. The first part is devoted to the study of the mathematical structure of the physical world, and the second part is devoted to the study of the physical world as a mathematical structure.

The first part of the chapter is devoted to the study of the mathematical structure of the physical world. It is divided into two parts. The first part is devoted to the study of the mathematical structure of the physical world, and the second part is devoted to the study of the physical world as a mathematical structure.

on these items were quite low. This may reflect an inability of customers to comprehend the meaning of the terminology employed, the indifference of buyers to such appeals by manufacturers, or a realization on the part of consumers that the majority of these features are common to most brands despite the distinctive names which each producer devises for them. As in the case of advertising themes, respondents could best identify those trademarked product features of the brands which they themselves had purchased.

This same pattern held for the section concerning the abilities of consumers to associate the underlying messages of advertising campaigns with the appropriate manufacturer. Few people could make the proper connections, but once again buyers were better able to recognize the underlying theme employed by the producer of the set they bought than could the purchasers of other brands.

Although the data on store shopping behavior and in-store personal selling showed that large numbers of color television buyers were presold with respect to their brand preferences, the results from the items concerning the impact of manufacturer advertising themes did not indicate that such communications made much of an impression upon consumers. It is particularly difficult to believe that these advertising efforts are an effective means of preselling a product when they do not appear to register with recent purchasers, who after all should be the most sensitive to such messages.

A combination of several factors probably accounts for this. Consumers could simply be ignoring advertisements for color television

sets, either out of a general cynicism toward all advertising or because they are so bombarded by commercial messages that they have become insensitive to all of them. Furthermore, by the maturity stage of the product life cycle it is probably too late for manufacturers to introduce new product images successfully or try to establish a differential advantage by any means other than a unique and readily recognizable change in the product itself. Consumers appear to have strong, preconceived notions about the various brands of color television sets which override the attempts by advertisers to persuade them otherwise. Hence, the persistence of respondents in connecting "reliability" and "best warranty" attributes with the Sears brand of color televisions, despite the fact that it was rival producers who so vociferously espoused those themes.

The findings related to the central issue of the research, i.e., the impact of advertising themes employed by color television manufacturers upon the brand choice decisions of consumers, indicate that the attempts of manufacturers to achieve a differential advantage through the promulgation of their advertising copy platforms do not register with consumers in ways that this study has been able to measure. This implies that consumers employ other criteria in their decisions about which brand to buy. On the other hand, these results do not necessarily mean that all of these advertising expenditures are wasted. Even if they fail to create and maintain product differentiation in the eyes of consumers, they do serve to keep the brand name before the public, furnish a basis for promoting the product line to

sets, either out of a general conviction that it is better to have a few sets, rather than a large number of them, or because they are so important to the success of the project, that it is better to have a few sets, rather than a large number of them. The sets are so important to the success of the project, that it is better to have a few sets, rather than a large number of them. The sets are so important to the success of the project, that it is better to have a few sets, rather than a large number of them.

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distributors and dealers, and provide a central theme around which the manufacturer and his dealers can mold a sales campaign. Manufacturer advertising of color television receivers may also serve to stimulate a primary demand for the product, despite the fact that the manufacturers may not have any intentions of accomplishing this objective.

The Importance of Product Price

Respondents consistently underscored the importance of product price in their purchase decisions. Both in the section concerning sensitivity to price differentials and on the items related to store loyalty factors, consumers ranked price as the most important consideration.

This finding does not come as a surprise, given the history of the color television receiver market described in Chapter II. Stiff price competition among domestic producers has characterized the industry, especially since 1966, and numerous attempted price increases by manufacturers have failed to hold at the retail level. For the most part, the prices of all producers gravitate to the same level for comparable models.

However, the experiences of those firms which have departed from the industry pricing norms have been consistent with what one would predict, given the results of this study. For example, Sears eschewed the conventional industry approach to product differentiation through the development of distinctive advertising copy platforms for the

distributors and dealers, and provide a market for the
 the manufacturer and his products in the United States.
 factors advertising in Canada and the United States
 to stimulate a demand for the product in the United States
 that the manufacturer
 this object was

product and intensive promotion of them via the national advertising media. Instead, they concentrated on price competition, featuring periodic sales under a "buy-now-and-save" theme. The industry sources cited in Chapter II generally concede this to be a major factor in the rise of Sears to the third largest market share in the industry.

The two brands which have tended toward the higher end of the industry pricing scale have not fared so well. Motorola resorted to substantial price cuts in 1971 as part of an effort to bring themselves into line with the rest of the industry. The firm noted the necessity of such action given the prevailing market conditions, but it was to no avail. Motorola announced that it would leave the color television receiver market in 1974. Magnavox, traditionally at the upper end of the price spectrum, has fallen from its former industry position as third in terms of market share. Although pricing practices may not be the sole source of their difficulties, the policy of factory control over retail prices makes it difficult for the retailers to cater to consumer demands for price concessions.

The emphasis which consumers placed upon the importance of product price in the purchase decision provides an explanation for their indifference about store loyalty considerations. People who concentrate their shopping efforts on finding the lowest possible price generally do not regard as significant such conventional store loyalty factors as the location of the retail outlet, whether they have a charge account there, or if they generally shop at that store.

Thus, the findings show that most color television set purchasers make their brand choice decisions before they begin to visit retail outlets. Their subsequent shopping trips constitute attempts to obtain the lowest possible price for the set they have selected. Very few shoppers change their original brand choice decision once they have begun to visit stores.

However, price differences alone do not suffice to explain the brand choice decision of every consumer. While product price may be the decisive factor in the selection of certain brands by some individuals, there are not enough price differences throughout the industry to provide explanations for the brand choice decisions of every buyer. Furthermore, the research indicates that although other considerations related to the purchase decision were secondary to that of price, they nonetheless did come into play.

Suggestions for Additional Research

The findings of this study indicate that most purchasers of color television receivers make their decisions about which brand to buy before they enter retail stores. However, much remains to be learned about the process by which consumers arrive at these decisions and their attendant, underlying motivations.

According to the outcome of this research, the roles of previous ownership experience, word-of-mouth information, consumer-product rating services, and, especially, the preconceived attitudes of consumers toward the available brands would appear to offer the greatest

promise for additional discoveries. Broadening the time period of the data collection to include purchases made throughout the entire year would enable testing for the existence of seasonal variations in purchase decisions.

A larger and more scientifically structured sample would enhance the probability of gaining additional insights into the decision making process of the consumer. This would also permit the analysis of the data with more sophisticated quantitative techniques. These capabilities would be especially important for any exploration of consumer attitudes and preconceived ideas about the various brands. The use of personal interviews as a data collection technique would likewise improve upon the present effort by upgrading the quality of the data.

Further explorations concerning the advertising themes of the color television set manufacturers might focus upon the objectives of such producer efforts and the process by which they allocate resources to advertising and sales promotion campaigns. It might be particularly interesting to examine the attitudes of marketing and sales managers about their perceptions of the role which advertising plays in the market strategy of the firm and the potential which they believe advertising offers as a weapon in the struggle for differential advantage.

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in various sections

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Concluding Comment

The willingness of area businesses to participate in this type of study indicates that businessmen are indeed sympathetic to the research efforts of academicians. Interaction with the business community offers an essential means by which the Marketing discipline can continue to make advances through empirical research.

Furthermore, the response rate for the mail survey questionnaire demonstrates the continuing feasibility of this investigative technique. Despite the imposing length of the survey instrument, the personal nature of some of the data requested, and the ego-deflating potential of the sections concerning the recall of advertising themes and trademarked product attributes, 44 percent of the recent purchasers contacted took the necessary time to respond. Of course, the cooperation of these people is also essential to the success of this kind of research effort.

Concluding Comments

The willingness of area business to participate in this type of study indicated that business was indeed up to speed in the research efforts on a wide range of issues. The business community offers an almost inexhaustible source of information and can certainly be counted on to provide the most accurate and

comprehensive information available.

Business leaders are

able to provide

the most accurate

information

available.

Business

leaders

are

APPENDICES

APPENDIX A

COVER LETTER AND SURVEY INSTRUMENT

MICHIGAN STATE UNIVERSITY EAST LANSING • MICHIGAN 48823

GRADUATE SCHOOL OF BUSINESS ADMINISTRATION

DEPARTMENT OF MARKETING AND TRANSPORTATION ADMINISTRATION • EPPLEY CENTER

Your willingness to answer a few questions about your recent purchase of a color television set will help me fulfill the research requirement for my Ph.D. degree in Business Administration at Michigan State University.

A limited budget has made it impossible for me to contact every Lansing household which has just bought a new color television set. Therefore, this survey involves a very limited number of people, and your response is crucial to the success of my project.

My study focuses upon the buying behavior of color television purchasers, and seeks to determine the relative influence of various factors relating to your decision about which brand of color television set to buy.

The enclosed questions are designed to require a minimal amount of time and effort to complete. You need only place check marks in the appropriate locations, or to fill in blanks with a single word or number. Of course, your answers will be confidential. You have my assurance that the information which you provide will be used only in conjunction with that of other recent purchasers of color television sets and will in no way be identified with you.

Please know that I very much appreciate your taking time to assist me with my research, and with completing this final phase of my doctoral program.

Sincerely,

Karl A. Boedecker

P.S. Please note that it will not be necessary for you to include either your name or address with your questionnaire. Should you have any questions concerning this survey, please feel free to call me at my M.S.U. telephone number: 355-7605.

SURVEY OF BUYERS

DOMESTIC COLOR TELEVISION SETS

1. What brand of color television set did you purchase? _____
2. Please indicate whether you have:
- _____ ever owned a color television set of that same brand.
- _____ ever owned a black and white television set of that same brand.
- _____ ever owned a color television set of some other brand.
- _____ ever owned a black and white television set of some other brand.
- _____ never previously owned either a black and white or a color television set of any brand.
3. How important was your ownership experience with your previous television set(s), color and/or black and white, in helping you to make your decision about which brand of color television set to purchase? *(Please circle the appropriate response.)*
- extremely very moderately not very not important
important important important important at all
4. What is the name of the store at which you purchased your color television set?
- _____
5. What are the names of any other stores at which you may also have shopped prior to your final purchase of a color television set?
- _____
- _____
- _____

6. In the space below, please evaluate the importance of the following factors as they relate to your selection of a store in which to purchase your color television set.
(Please circle the "X" below the most appropriate responses.)

	IMPORTANCE				
	single most important factor	more important than most factors	no more or or less important than most other factors	less important than most factors	single least important factor
Location of store	X	X	X	X	X
Reputation of store	X	X	X	X	X
Repair service	X	X	X	X	X
Generally shop there	X	X	X	X	X
Special price	X	X	X	X	X
Carried the brand I wanted .	X	X	X	X	X
Store sales personnel	X	X	X	X	X
Store advertising	X	X	X	X	X
Had charge account there . .	X	X	X	X	X

7. Before you began visiting retail stores, what brands of color television sets did you prefer?

_____ I did not have any particular brand preference.

_____ I had a preference for the following brand(s):

8. Which brands did you consider purchasing after visiting retail stores and talking with sales personnel?

9. When shopping in retail stores, did you find the sales personnel to be:
(Please circle the appropriate response.)

extremely knowledgeable about color television	very knowledgeable about color television	adequately knowledgeable about color television	not very knowledgeable about color television	not at all knowledgeable about color television
---	--	--	--	--

10. Please check below the one statement which best describes the manner in which you or your family make use of the publications issued by consumer-product testing and rating services, such as Consumer Reports, Consumer Bulletin, Consumer Guide and similar sources.

_____ Always consult their ratings and recommendations before buying anything that might be rated by such services.

_____ Always consult their ratings and recommendations before making a major purchase (such as a clothes dryer, refrigerator, or television set).

_____ Occasionally consult their ratings and recommendations before making a purchase.

_____ Never utilize such ratings and recommendations.

11. In the event that you do make use of such information, did you in fact consult these publications prior to your final purchase of a color television set?

_____ yes

_____ no

12. In the event that you did consult one or more of these publications prior to your final purchase of a color television set, how important was the information provided in helping you to decide which brand to buy?

(Please circle the most appropriate response.)

the most important factor	more important than most other factors	no more or no less important than other factors	less important than most other factors	the least important factor
---------------------------------	--	---	--	----------------------------------

13. In choosing among the various brands of color television sets, how important were the price differences compared to the other, non-price differences among the brands?
(Please circle the appropriate response.)

price was
the most
important
factor

price was
more important
than most
other factors

price was no
more or no less
important than
other factors

price was
less important
than most
other factors

price was
the least
important
factor

14. When you purchased your color television set, did you pay the manufacturer's full list price?

_____ yes

_____ no

_____ don't know

15. If "no," did you purchase your color television:

_____ at a special discount off the manufacturer's list price?

_____ during a special sale?

16. If you purchased your color television set at a discount off of the manufacturer's full list price, did you shop around at two or more stores for that discount?

_____ yes

_____ no

17. In gathering information about which brand of color television set to buy, did you find the advice of other people to be:

(Please circle the appropriate response.)

extremely
useful

very
useful

somewhat
useful

not very
useful

not useful
at all

18. In the space below, please rate the importance of information you obtained from the sources listed.

(Please circle the "X" beneath the appropriate responses.)

Source	IMPORTANCE OF INFORMATION OBTAINED		
	not considered	taken into consideration	extremely important
Fellow workers	X	X	X
Relatives	X	X	X
Friends	X	X	X
TV servicemen	X	X	X
Neighbors	X	X	X
TV sales personnel in the retail store	X	X	X
Previous ownership experience with same brand . . .	X	X	X
Other (please specify): _____ . . .	X	X	X

19. The advertising slogans presented below come from the manufacturers given on the left. To the best of your recollection, please try to match each brand with its slogan by filling in the blank with the appropriate manufacturer's name. [Note that it will be necessary to use certain manufacturer's names on more than one occasion. It is also important that you attempt to do this from memory only and that you do not consult any actual advertising in order to determine your responses.]
(Please fill in all of the blanks, even if it is necessary for you to "guess" in order to arrive at one or more answers.)

_____ We think we engineer them better. So we guarantee them better.

RCA _____ Only ***** Color TV adjusts its own picture to changing roomlight ... automatically. And we lit up the L.A. Coliseum to prove it.

MAGNAVOX _____ The New Reliables.

_____ So automatic we lock up the controls.

ZENITH _____ More than twice as many TV Chief Engineers own ***** than any other color television.

ADMIRAL _____ ***** Mark of Quality.

SYLVANIA _____ In two recent nationwide surveys, independent TV service technicians named ***** by more than 2 to 1 over the next brand, as the color TV needing fewest repairs.

PHILCO _____ Twice as good.

MOTOROLA _____ At *****, the quality goes in before the name goes on.

_____ ***** puts its Color TV in the strongest protection package in the business.

SEARS _____ *****'s 90-day in-home labor guarantee.

_____ The first true self-adjusting color set ever. The amazing *****.

20. In the space below, you will find some brands of color television sets and a list of names and terms used by manufacturers in their advertising and sales promotion to describe particular product features. [Please note that the term employed for each feature is the exclusive property of one and only one manufacturer but that there may be more than one feature common to a particular manufacturer's brand. It is important that you attempt to do this from memory only and that you do not consult any actual advertising in order to determine your responses.]
(Please circle the appropriate "X" in the column under the brand which offers the listed feature.)

Feature	BRAND							
	Sears	Magnavox	Admiral	Zenith	Motorola	Philco	Sylvania	RCA
Chromacolor II	X	X	X	X	X	X	X	X
Two year service guarantee .	X	X	X	X	X	X	X	X
GT-Matic	X	X	X	X	X	X	X	X
5-Point Protection Package .	X	X	X	X	X	X	X	X
Videomatic Color	X	X	X	X	X	X	X	X
Super Chromix Black Matrix Color Picture	X	X	X	X	X	X	X	X
Quasar	X	X	X	X	X	X	X	X
XL-100	X	X	X	X	X	X	X	X

21. In the space below, please rate the product features listed in terms of their importance to you in your final choice of brand of color television set.
 (Please circle the "X" below the most appropriate response. If the importance of a given feature is not clear to you, please circle the first "X" on the left.)

RELATIVE IMPORTANCE OF PRODUCT FEATURE
 IN FINAL CHOICE OF TV BRAND

Product Feature	the importance of this feature is not clear to me	more important than most other features	no more or no less important than other features	less important than most other features
Black matrix picture tube	X	X	X	X
Automatic fine tuning	X	X	X	X
Manufacturer's warranty	X	X	X	X
Plug-in circuit panels and modules	X	X	X	X
Cabinet styling	X	X	X	X
100% solid state chassis	X	X	X	X
Picture quality	X	X	X	X
Quality of reception in fringe areas	X	X	X	X
Quality of sound	X	X	X	X

22. Before you made your final purchase, how much attention did you give to advertisements for color television sets?

_____ I actively searched for advertisements for color television sets.

_____ I paid special attention to advertisements for color television sets when I happened to encounter them.

_____ I regarded advertisements for color television sets in the same manner I regarded any advertisements for any product.

_____ I tried to ignore the advertisements for color television sets.

23. After you made your final purchase, how much attention did you give to advertisements for color television sets?

_____ I actively searched for advertisements for color television sets.

_____ I paid special attention to advertisements for color television sets when I happened to encounter them.

_____ I regarded advertisements for color television sets in the same manner I regarded any advertisements for any product.

_____ I tried to ignore the advertisements for color television sets.

24. How important was the color television manufacturers' advertising in helping you to make your decision about which brand to buy?
(Please circle the appropriate response.)

extremely
important

very
important

moderately
important

not very
important

Not important
at all

25. Please answer the following questions on the basis of your impressions about the various brands of color television sets. "Feelings" or "hunches" may be the only basis you have for offering a response, but please do give an answer to each question.

(In the space below, please circle the one brand which you most associate with the following features.)

"Quality" ———— Sears Motorola Philco Admiral Zenith Sylvania RCA Magnavox

"Best Warranty" ———— Philco Admiral Zenith Sylvania RCA Magnavox Sears Motorola

"Dependability" ———— Magnavox Sears Motorola Philco Admiral Zenith Sylvania RCA

"Best Engineering" ———— Sylvania RCA Magnavox Sears Motorola Philco Admiral Zenith

"Reliability" ———— Zenith RCA Motorola Sylvania Magnavox Sears Philco Admiral

26. How many persons, including yourself, are there living in your residence at the present time?

_____ adults

_____ teenagers

_____ children under 12

27. What is your approximate total family income per year? (This information will be kept in the strictest confidence. It will be used only to compile aggregate figures about characteristics of groups of color television set owners.)

(Please check one of the following.)

_____ under \$3,500

_____ \$3,500-\$5,499

_____ \$5,500-\$7,499

_____ \$7,500-\$9,999

_____ \$10,000-\$11,999

_____ \$12,000-\$14,999

_____ \$15,000-\$18,000

_____ over \$18,000

28. What is the occupation of the head of the household?

29. How much formal schooling did the head of the household complete?

- ☐ 0-5 grades
- ☐ 6-8 grades
- ☐ some high school
- ☐ high school graduate
- ☐ some college
- ☐ college graduate
- ☐ post graduate study
- ☐ master's degree
- ☐ post master's degree
- ☐ doctorate
- ☐ professional degree (M.D., D.D.S., LL.B., etc.)

30. Please indicate your role within your residence at the present time.

- ☐ husband
- ☐ wife
- ☐ other member of family (please specify): _____
- ☐ single man, living alone
- ☐ single man, living with other(s)
- ☐ single woman, living alone
- ☐ single woman, living with other(s)

31. In conclusion, please give a brief statement of the most important factor in your decision to buy the particular brand of color television set that you recently purchased.

*Thank you for having taken time
to complete this survey.*

Please enclose this completed questionnaire in the envelope provided and return it to:

Karl A. Boedecker
Room 7 Eppley Center
Michigan State University
East Lansing, Michigan 48824

APPENDIX B

THE REPORTED SALES OF COLOR TELEVISION SETS ACCORDING
TO THE RETAIL OUTLET WHICH MADE THE SALE AND
THE ZIP CODE AREA OF THE PURCHASER

[illegible]

Residence of Purchasers by Zip Code Area	Store at Which Purchase Was Made								
	Sears	Knapps	Hager-Fox	Tony Coats	Woolco	Highland Appliance	TV Tech	Whatens	Grinnells
Haslett 48840	2				3				
Holt 48842	1					4		3	
Howell 48843						1			
Ithaca 48847	1								
Jackson 49201						1			
Laingsburg 48848								1	
Lansing 48933	3			1	1	2		3	
Lansing 48915	3	2						6	1
Lansing 48912	7			3	1	1		10	1
Lansing 48906	13	6	1	2		5	1	12	3
Lansing 48923	2								
Lansing 48912	9	1	1						
Lansing 48917	2	1		1		1		14	1

Residence of Purchasers by Zip Code Area	Store at Which Purchase Was Made								
	Sears	Knapps	Hager-Fox	Tony Coats	Woolco	Highland Appliance	TV Tech	Whalens	Grinnells
Lansing 48910	20	10		10	2	7		24	3
Lansing 48902								1	
Leslie 49251				1		1			
Maple Rapids 48853				1		1			
Mason 48854	6	1							
Midland 48640					1				
Mt. Pleasant 48858								1	
Mulliken 48861	1								
Munith 49259					1				
Okemos 48864	2			3	1			4	
Onondaga 49264						1			
Ovid 48866	2								
Perry 48872	1							1	

State of New York

Residence of
 Purchased by
 City Code Book

10000

10000

Residence of Purchasers by Zip Code Area	Store at Which Purchase Was Made							
	Sears	Knapps	Hager-Fox	Tony Coats	Woolco	Highland Appliance	TV Tech	Whalens
Portland 48875	1							
Potterville 48876	1							1
St. Johns 48879	1					1		
Stockbridge 49285	1							
Webberville 48892	1							
Williamston 48895	2				2			

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2000

2000

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The first two sections are organized alphabetically according to the surnames of the authors. The latter two are presented with subheadings for each publication, under which the references follow in chronological order.

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