IMAGE ANALYSIS AND EXTENSION EDUCATION

by
Raymond M. Owensby and William J. Vastine
Texas Agricultural Extension Service
Texas A&M University System, Respectively
College Station, Texas

The authors present how image analysis could be effectively utilized in Extension Education. A case study was conducted to support their contentions

Introduction and Objectives

Image analysis has been used by some Extension educators for a number of years. Leed and Watkins have probably had the most experience and their formal and informal assistance to the authors was invaluable. However, any errors of omission or commission are the responsibility of the authors.

The general objective of the authors is to provide a discussion of the use of this technique in Extension educational programs and to share some recent experiences with image analysis. The specific objectives are:

1. Examine the use of image analysis in Extension education.

2. Illustrate the use of image analysis as a planning tool.

3. Describe operational improvements resulting from an image analysis.

4. Compare retailer versus consumer perceptions of image analysis.

5. Discuss the use of consumer profiles.

6. Suggest needed research to apply image analysis to industry and Extension education.

Image Analysis as a Planning Tool

This technique is an effective planning tool for developing strategies and tactics. Through image analysis, the relative strengths and weaknesses of a store and its competitors can be identified and evaluated. This provides the basis for the establishment of specific objectives regarding strategies and tactics.

Basically, strategies will fall into two categories--Defensive Strategy and Offensive Strategy. There are various sub-classes of these strategies such as determining consumer impact of a new competitor and the development of one or more defensive strategies to protect ones market share or the feasibility of a new store and the implementation of one or more offensive strategies.

Image Analysis As a Planning Tool For Developing Strategies

Defensive Strategies

-Merchandising Strategies
-Promotion and Advertising
-Training Needs and Identification
-Feasibility of Expansion
-Merchandising Layout and Design

Offensive Strategies

-Market Penetration
-Merchandising Strategies
-Promotion and Advertising
-Training Needs Identification
-Feasibility of Expansion
-Merchandising Layout and Design

Image studies can also provide basic information on market penetration as well as indicating desirable changes in merchandising strategies. Effectiveness of advertising and promotional policies can be documented and evaluated based on responses of consumers relative to where they receive information about retail stores. Sources of information can include newspapers, radio, television, friends, handbills or other sources. This technique will provide insight to the effectiveness of promotion and advertising activities.

Retailers can also receive valuable feedback from consumer image surveys by identifying important training needs for employees. Training needs identification involves all areas of customer relations training to improve image and customer service. Once identified and documented through consumer surveys, training objectives can be identified and implemented.

Consumer opinions on merchandising layout and design provide additional insight to satisfying customer service needs and provide important information relative to suggestive selling and tie-in merchandising techniques.

Consumer image surveys also assist in the identification and documentation of improvements required in managerial tactics. Once these weaknesses are identified, objectives for altering tactics can be defined and implemented. The following illustrates examples of

management tactics which can be changed to improve consumer image:

-Identify short-run training needs e.g., improve poor customer relations,
-Alter labor scheduling practices,
-Alter merchandise layout and/or design,
-Relocate merchandise e.g., suggestive selling, tie-in selling techniques, or improve customer traffic flow.

Operational Improvement Resulting from Image Analysis

During the Spring of 1977, a result demonstration was initiated with an independent retail supermarket barely meeting the sales definition minimum of one million dollars annual sales. The owner-manager and buyer-advertiser were interested in their image for several reasons. These included: (1) knowing how well they were meeting consumer needs, (2) relative strengths and weaknesses compared to local competitors, (3) where consumers learned about food stores, (4) needed improvements to better serve consumers, (5) how to plan for the future.

A "mini store audit" was completed prior to initiating the image analysis. Since the store had limited financial data available the report was also limited. The "mini store audit" was useful in designing the image analysis questionnaire because it suggested areas to be explored. The basic questionnaire designed by Ricker and refined by Leed (4, pp 113-115) and Watkins (14, pp 110-111) was utilized. Minor modifications were made to meet local needs.

The preliminary report in conjunction with the mini store audit stimulated several changes in store operations. Management decided more and better data for planning and control purposes were needed. As a result, new registers were

purchased to speedup check-out and to provide more complete data. More and bigger slicks were substituted for the large number of small block items in the ads to combat their high-priced image. One-liners have been used to capitalize on a strong variety image and the statement "the oldest independent" has been used to reinforce this strong point. The produce department was upgraded by creating a produce manager and promoting produce. Sales increases have been substantial but the lack of previous documentation does not permit an accurate estimate of the increase. As a result of implemented changes, weekly sales have increased by 35 percent as of this September, while increasing the percent of net profits also. Additional improvements are planned including: new shelving, relocation of gondolas, and rearrangement of the front-end.

Who gains from this? Consumers gain by having a better store in which to shop as well as through increased competition. The community gains by having a business survive to provide employment opportunities. Employees gain through having a brighter, more secure future. Owner-managers gain through increased profits and pride of serving the community.

Retailers' Versus Consumers' Perception of Image

Watkins has indicated that, in his experiences, retailers' perception of the consumers' image of their stores is seldom correct (15, pp 65-69). Informal evaluations by the authors support this contention. During the 1977 spring semester, Wayne Taylor conducted a pilot project, under the authors direction, in Bryan-College Station, Texas, to test the hypothesis that the image retailers perceive they project is different than the image perceived by consumers (8). The eleven store

managers of the area's supermarkets were interviewed along with 100 households randomly sampled from the telephone book. Telephone interviews were taken between semesters, biasing the results because many students and faculty leave the area between semesters. However, the pilot project did suggest several areas needing further explanation.

Retailers demonstrated a surprisingly low level of knowledge of their competitors. Most admitted they had never been in any of the competing stores; even from the same chain. There are no independent supermarkets in the area.

Questions such as which store has the best meat department, produce, or lowest prices had to be rephrased to "who has the second best." Every manager said they had the best meat department, 10 out of 11 said their store had the best produce, 4 out of 11 said they had the lowest prices, while 4 gave other stores, and 3 said they did not know. Since the managers had not been in the other stores, one ponders the source of their information. Was it from friends and relatives, customers, their supervisors, or a devine message?

Support for the working hypothesis that retailers do not accurately perceive consumers' image of their store is found in their comparative responses to why consumers shop where they do (Table 1). This pilot project clearly suggests that retailers are more accurate in assessing why consumers shop at another store compared to why they shop at their own store. Perhaps this lack of understanding of consumers' perceptions explains some of the failures in merchandising, layout, and customer service that have occurred over the years. Naturally, a generalized conclusion would require a more thorough analysis than was possible in this pilot study.

Table 1. Why consumers shop where they do according to consumers, retailers reasons for consumers selecting their store, and retailers reasons for consumers selecting a competing store, Bryan-College Station, Texas, Spring 1977.

Consumers Reasons for Store Selection (N=195)[1]		Retailers Reasons for Selecting Their Store (N=41)[1]		Retailers Reasons for Selecting Competitor (N=23)[1]	
Reasons	Percent Responses	Reasons	Percent Responses	Reasons	Percent Responses
1 Location	19.0	Service	24.4	Location	26.1
2 Prices	14.9	Product-mix	17.1	Product-mix	17.4
3 Product-mix	12.8	Cleanliness	17.1	Bakery	13.1
4 People	8.2	Prices	14.6	Deli	13.1
5 Service	7.2	People	14.6	Specials	13.1
6 Habit	6.7	Location	7.3	Service	4.4
7 Meats	5.6	Meats	2.4	Layout	4.4
8 Store Layout	4.6	Stamps	2.4	People	4.4
9 Cleanliness	3.6			Value	4.4
10 Stamps	3.6				
11 Produce	3.6				
12 Others	10.1				
TOTALS	99.9		99.9		100.0

[1]Exceed sample size due to multiple responses

Source: Taylor, Wayne, What Ways an Image Analysis be Used by Foodstore Management, unpublished Special Undergraduate Project supervised by Dr. William J. Vastine, Texas A&M University, Spring 1977. (pp 10-21)

Consumer Profiles

Consumer image analysis provides the necessary data for the development of a detailed profile of the typical customer of a trade area. The profile aggregates consumer characteristics of the study area. Demographic and consumer behavioral characteristics of the typical consumer, such as age, household income, family size, weekly food expenditures and distance travelled to favorite stores, provided retailers with a detailed description of the consumer clientele group. Knowledge of the clientele group to be served provides the retailer the opportunity to personalize his operation by adjusting his merchandising patterns and behavior to meet specific consumer needs. In addition to personalizing operations based upon a specific clientele group, retailers can also utilize consumer profiles to provide insight into identification of employee training needs, particularly for independent and specialty stores.

In addition to the consumer profile, the distribution of customers for each characteristic can be easily obtained. The distribution of consumers for each characteristic further defines the profile and provides the user a more refined illustration of the consumers in the trade area. An example of a detailed consumer profile and distribution is provided in the Appendix.

The use of consumer profiles in Extension education programs can provide useful information in addition to that for retailers. Profiles provide demographic information on communities which can be utilized by chambers of commerce and other local business promotional groups. Also, consumer profiles are valuable in Extension educational programs aimed at consumer education. Consumer image analysis and the resulting consumer profile allows consumers to provide direct imput into store operations. Case studies developed provide useful training aids for store operations personnel in understanding and evaluating consumer attitudes.

Consumer Profiles are Useful

-Identify typical consumer characteristics
-Documents primary sources of consumer information about stores
-Identify market (merchandising) strategy
-Provides useful demographic design
-Aids in assessing impacts of merchandising programs
-Provides materials for consumer education
-Provides case study and educational materials for Extension education programs designed to serve food industry clientele.

Research Needed for Application to Industry and Extension Education

Consumer image studies are not new to the food industry. Many applied have been conducted. There are, however, methodological areas which require further study.

The development of a predictive technique to replace traditional image analysis is sorely needed. The development of such a technique can be justified on cost factors alone. The time required for the development of a survey instrument, and cost of data gathering by mail, phone, or interview, in addition to computational and evaluation costs may be very expensive.

A predictive technique based on industry standards and guidelines would reduce the cost factor significantly. Research to develop a set of guidelines based on a series of weighted indices which could be applied to the development of scores for specific departments and for the total store would provide significant time and cost savings with minimal sacrifice of necessary data inputs. It may even be possible to develop a self-administered set of instruments.

The obvious limitations is the inability to develop demographic data for construction of consumer profiles. This information would be unobtainable from the predictive model based on weighted indices. In many instances, however, the profile would not be a critical factor, particularly if it was a follow-up study of a firm that has conducted a consumer image study.

In cases where traditional detailed questionnaires are utilized, additional

research is needed to refine the statistical techniques currently being utilized. For example, with cost being a limiting factor, what type and size sample is required for reliability? Other questions which need to be resolved include sampling sources such as criss-cross directories, voter registration rolls, and telephone directories. Are these sufficient? Are there better sampling frames for defined trade areas? What type of statistical procedures and analytical techniques are most efficient for measuring differences? The question, simply stated, deals with the acceptable degree of precision necessary to achieve meaningful results.

And finally, the role of consumer image analysis should be carefully evaluated. Is this a valid approach for measuring market performance in the retail food industry? Handy has essentially utilized this approach for example (3, 37-42) (3, 83-85).

SELECTED BIBLIOGRAPHY

1. Goff, Stephen C. "Matching Store Types to Market Needs to Better Serve the Consumer." Journal of Food Distribution Research, VII, Number 1 (February, 1976), 58-67.

2. Handy, Charles R. "An Index of Consumer Satisfaction." Journal of Food Distribution Research, IV, Number 3 (September, 1973), 37-42.

3. Handy, Charles R. "Satisfied? Consumers Rate the Food Industry." Journal of Food Distribution Research, VI, Number 1 (February, 1975), 83-85.

4. Leed, Theodore W. "Another Look at Consumer Image Studies." Journal of Food Distribution Research, VII, Number 1 (February, 1976), 113-115.

5. Leed, Theodore W. "Performance Objectives in Food Retailing," Journal of Food Distribution Research, IV, Number 2 (February, 1973), 56-64.

6. Long, Don L. and Johnson, Joseph M. "Consumer Use of Convenience Type Stores--A Telephone Interview, Roanoke, Virginia." Journal of Food Distribution Research, VI, Number 1 (February, 1975), 71.

7. Sporleder, Thomas L. and Vastine, William J. "Classification of Strategies for In-Store Merchandising Management." Journal of Food Distribution Research, IV, Number 2 (February, 1973), 70-78.

8. Taylor, Wayne. What Ways Can Image Analysis be Used by Foodstore Management, Unpublished Special Undergraduate Project supervised by Dr. William J. Vastine, Texas A&M University, Spring 1977.

9. Thibodaux, Jon D. Image Analysis: El Campo Food Shopping Area, Unpublished Special Undergraduate Project supervised by Dr. William J. Vastine and Dr. Raymond M. Owensby, Texas A&M University, Spring 1977.

10. Vastine, William J. Meeting Tomorrow's Management Needs. Texas Agricultural Extension Service, Texas A&M University. June, 1977.

11. Vastine, William J. and Owensby, Raymond M. Customer Image Analysis of the El Campo, Texas Market Area: A Confidential Report, Texas Agricultural Extension Service, Texas A&M University System, Fall 1977.

12. Vastine, William J. and Owensby, Raymond M. Customer Image Analysis of the Humble, Texas Market Area. Result Demonstration Project (in progress) Texas Agricultural Extension Service, Texas A&M University System, Fall 1977.

13. Vastine, William J., Thibodaux, Jon D. and Owensby, Raymond M. Image Analysis of El Campo Supermarkets, Texas Agricultural Extension Service, Texas A&M University System, September, 1977.

14. Watkins, Ed. "Customer Analysis and Market Strategy - Supermarkets vs. Convenience Stores." Journal of Food Distribution Research, VII, Number 1 (February, 1976), 110-111.

15. Watkins, Edgar P. "Managerial Economics and Customer Satisfaction." Journal of Food Distribution Research, IV, Number 2 (February, 1973), 65-69.

16. Wayman, Wilbur A., Jr. "A Retail Store Classification Technique Based on Customer Buying Power." Journal of Food Distribution Research, V, Number 1 (February, 1974), 115-119.

IMAGE ANALYSIS OF EL CAMPO SUPERMARKETS

A CASE STUDY

by

William J. Vastine
Jon Thibodaux
Raymond M. Owensby

Introduction and Purpose

This report is based on a special undergraduate project conducted by Mr. Jon Thibodaux under the supervision of Dr. William J. Vastine. The project was conducted under the auspices of the Texas Agricultural Extension Service, Texas A&M University System. We would like to thank the participating stores and El Campo area shoppers who responded to the questionnaire.

Food retailers compete for the consumer's dollar by providing a set of products and services that will meet consumer needs. Price competition is obvious, but nonprice competition may be even more important particularly if margins have been squeezed to the minimum level. Nonprice competition includes quality, services, and selection for example.

The purpose of this report is to provide information which will help evaluate how well foodstores are meeting consumer needs and aid competitors to meet consumer needs effectively. Specifically the following will be discussed: ratings of stores, customers' reasons for shopping at a specific store, a consumer profile, and suggested improvements.