MANAGERIAL ECONOMICS AND CUSTOMER SATISFACTION

by
Edgar P. Watkins
The Ohio State University
Columbus, Ohio

Uses examples to illustrate the trade-offs to be made between operating efficiency and customer satisfaction.

Will a food distribution organization which concentrates on operating efficiency and cost reduction achieve first place in the hearts of customers? Managers of retail stores, and of organizations operating these stores are frequently troubled because customers do not always respond to the well designed stores operating in an efficient, systematic way. Management may well be pulled in different directions by two sometimes conflicting objectives. The economics of the business demands that costs be cut and price and operating efficiency increased. Thus, the managerial economics aspect. Customers, on the other hand, may well respond to a much broader program in which cost cutting and efficiency are only an integral part of a total marketing mix. Hence, the customer satisfaction aspect.

Managerial economics has been defined by Haynes[1] as economics applied in decision making. The tools of managerial economics are well known. Some variations of these tools are widely used in food distribution. Included are such diverse subjects as:

- -- Forecasting demand
- -- Sales forecasting
- -- Analysis of fixed and variable costs
- -- Breakeven analysis and its application
- -- Cost functions
- -- Relation of production functions to cost curves
- -- Incremental reasoning in pricing
- -- Margin cost pricing
- -- Present value analysis
- -- Discounted rate of return
- -- Analysis of uncertainty
- -- Measurement of risk
- -- Linear programming
- -- Replacement decision making
- -- Lease or own decisions
- -- Market segmentation
- -- Location analysis

The use of such tools and techniques is a necessary part of managing the food business. As food distribution companies grow in size and complexity, the economics and management required for planning, for reporting, for control tend to become more formalized. In the process of formalizing these techniques and implementing planning, exercising control, and executing the reporting procedure there is evidence that translation of operating efficiency, cost control and pricing at retail tends to overwhelm meeting the total needs of customers as they see these needs at the retail store level.

To reason why meeting the needs of customers may be overwhelmed, or overlooked, it may be useful to examine considerations customers feel are important when choosing a food store. The needs of customers, as identified by a continuing series of trading area analyses, are associated with a broad range of interests. The range of customer considerations in choosing a food store are closely identified by four major segments in trading area analyses at The Ohio State University.[2]

(1) Store Related
- Cleanliness
- Shopping convenience
- Location convenience
- Out-of-stocks

(2) Price & Advertising Related
- Price unaware
- Expectation of lower prices
- Expectation of competitive prices
- Expectation of specials
- Acceptance of promotion programs

(3) Product Related
- Meat quality and freshness
- Wide choice of items
- Produce quality and freshness
- General quality level
- Recognized brands

(4) Employee & Service Related
- Courteous, friendly, helpful employees
- Quick check out
- Miscellaneous services

When the listing of economic tools that managers find useful is compared with the listing of considerations customers find useful in choosing a retail food store, and the quantitative increases related to both are examined, it becomes fairly apparent that managers have relatively few numerical measures of performance related to those things customers feel are important. In the areas of customer concern, the planning, reporting and control aspect of the business may indeed become cloudy or unsure. Yet, the successful use of these economic tools requires satisfying customers from their point of view.

There is evidence that some of the efficiencies and productivity of an organization which accrue up until the time of the retail sale may indeed be lost in the retail function of the business. Handy and Padberg[3] explore a conceptual model of the food industry. These points are made in relation to the food distribution sector:

1. Core distributors (defined as the ten largest retail food chains) have a pre-retailing advantage pertaining to cost and efficiency, not product quality.

2. This pre-retailing advantage may account for 2.4 to 3.0 percent lower store-door merchandise costs than fringe distributors (defined as small and medium sized food retailers).

3. Progressive fringe distributors rely on unique store decor, highly motivated personnel and innovative merchandising programs.

4. Fringe distributors had gross margins in the retail function of 2 to 5 percentage points less than the core distributors.

Additional evidence regarding retailing efficiency is found in operating information as reported in leading grocery publications. In 1970[4] only one of the core firms was in the top ten of the 50 largest chains having the best return on net worth. Only one of the core firms was in the top ten as reported as having the best profit margin. Only one was in the top ten reporting the largest gain in earnings over the previous year.

In spite of lower cost to the store-door over the past decade, the core distributors have just about maintained their share of the market. In 1960 the top ten chains had 28.2 percent of the total grocery store sales. In 1970 this figure was 28.5 percent.

Recently, the growth of food distributors has been greatest in the small to medium size firms. The sales gains of chains with 50-99 stores was 16.2 percent in 1970 over 1969.[5]

Change in Food Chain Sales
By Number of Stores

Chains	Sales Gain 1970 Over 1969
500 stores or more	8.6%
250 - 499 stores	9.2
100 - 249	12.9
50 - 99	16.2
25 - 49	12.7
11 - 24	10.0

If Handy and Padberg are right in their observations about pre-retailing efficiency as compared to retailing efficiency, the fringe distributors' and independents' record seems to indicate that somehow they are able

to balance higher store-door costs with some measure of retail efficiency. Customer satisfaction may account for some of this difference at retail. This retailing efficiency may be gained by increased customer satisfaction resulting in higher sales volume.

One evidence of customer satisfaction can be observed by comparing average store sales volume. Handy and Padberg[6] report that only two of the top ten chains had average supermarket sales of $2,000,000 or more in 1961, while 55 of the 11-100 largest chains had sales of this size.

In 1970 two (20 percent) of the top ten chains had average store sales of $3,000,000 or more per year. Forty-five percent of the 11-100 largest chains had average store sales of $3,000,000 or more per store per year. Sales per square foot would give a greater degree of precision to this comparison.

Food distributors have had fewer tools to measure customer satisfaction than those related to pricing, efficiency, and cost reduction. Observations suggest that management of firms operating in a more compact trading area may be better able to maintain contact with stores on customer oriented information not necessarily related directly to historical information concerning operating efficiency, cost reduction, and pricing efficiency.

Some of this dichotomy of interest between efficiency, costs, price, and customer satisfaction can be illustrated with two brief cases. The first case compares two operations, one of which places emphasis on efficient internal operations and cost reduction. The other operation is highly oriented to freshness and quality at retail. The second case illustrates that efficiency translated to the customer as price reductions may not attract additional customers if the store or organization falls short of providing other elements related to customer satisfaction.

The first could well be labeled "The Cost Reduction Trap." In this instance, we are concerned with two chains' produce operation. One was a division of a large chain, one a medium size chain. Both operated over about the same geographical area. Both had about 50 stores.

Chain A felt they based most of the decision making on economic facts. For example, most of the produce from distant producing areas was shipped by railroad rather than truck because of freight savings. They seldom mixed loads because of increased charges. The stores ordered ten days ahead with no adjustments in orders permitted a week before deliveries. They operated on a two day distribution center cooler supply as a safety stock. Supervisors had the responsibility for balancing supplies between stores. Stores were locked into a two or three times a week delivery schedule dependent upon location and store size. The major emphasis for retail managers was implementing company policy.

Chain B favored truck delivery to the distribution center on all items possible. While acknowledging a higher transportation cost, they cited 2-4 days quicker delivery to the distribution center from shipping points and a more reliable delivery schedule from production areas to the distribution center. Wide use was made of mixed loads to secure fresh shipments of low sales volume items. They operated on a policy of an empty cooler at the distribution center. Stores submitted their orders one week in advance and were permitted, although not encouraged, to make adjustments up until the evening before shipping to the stores. Stores could receive deliveries daily although most chose a three day schedule. Store managers and department managers were expected to manage their store within broad policy guidelines.

Chain B's store-door costs were higher than Chain A. However, on many high sales volume items Chain B had four to six days less elapsed time than in Chain A between production point shipping and when customers picked most items out of the display and carried them home. Chain B had readily observable freshness differences in stores. Customers in this area rated Chain B's produce tops in quality. Which company had the stores that really scored with customers?

Case No. 2 will be labeled "The Price Dilemma." This store is a one store independent. Extension and distributor management programs have reached this retailer in recent years. His net had increased over the past four years from .14 percent to 1.35 percent of sales with a steady increase in

sales volume. A national chain competitor moved to discounting, the third competitor to do so over a three year period. An additional competitor had by far the largest sales volume in the market and was not discounting. The latest chain move to a discount program convinced this store owner he had to meet discount pricing schedules, which he implemented largely by deep price cuts on high volume items. A customer analysis of that trading area shortly before indicated that 40 percent of the trading area customers were not oriented strongly to price comparisons. Can you predict the result for this store's operation? The net plunged back to where it had been four years before while sales were stagnant. In the process, some very desirable changes affecting store operations were postponed because of financial problems.

This latter case illustrates that problems of tuning in customers are not those of large organizations vs. small organizations but ones of meeting customer needs in each store's trading area. This procedure may become more complicated for large sized organizations but is not limited to them. Food distributors must be concerned with managerial economics. But they also must be concerned with satisfying customers.

When operating ratios indicate poor performance and employees are pressured to improve, the wrong button may be pushed. An overly narrow interpretation of efficiency related ratios may call for an increase in sales per man hour, perhaps through job consolidation or through a quota in the number of labor hours allowed. The real problem in this case could well be merchandising the store for satisfied customers which can result in a higher customer count and a larger sales volume. Putting unrealistic pressure on employees may well push sales volume the wrong direction as store cleanliness declines, employee courtesy and friendliness disappear, and out of stocks rise resulting in customers being turned off instead of tuned in.

An analysis of customer satisfaction of each store's trading area is used only infrequently to identify problem areas and opportunities. The Kroger-Donnely Study[7] several years ago strongly recommended that each store be designed for and operated to meet the needs of the customers in its trading area. The implementation of this recommendation has not been a major achievement of the food industry. At the present time, customer analysis seems to be used most often in feasibility studies and site location work.

Leed[8] has developed a technique that enables managers to sample customers in their trading area for opinions related to some ten aspects of store operations and of competitors in their trading area.

Skinner[9] has been active in promoting seminars which concentrate on the management of external factors, including customer evaluations, of store operations.

Both Watkins'[10] and Vastine's[11] work on trading area analysis suggests that customers evaluate one or more major aspects of store operations differently than does management in every study made.

Most customer oriented evaluations seem more difficult to express than standard operating ratios, possibly because of less practice and less experience with this kind of information. The sum of customer experiences and impressions, however, has a major and long-lasting impact on the operating statement, and on the firm's efficiency.

A more complete management information system for the future calls for not only sophisticated financial and operating information but also a systematic approach to customer motivations, opinions, and values. The challenge at the present time is one of implementing measurement techniques related to customer satisfaction and integrating this measurement into the total system.

---

[1]W. W. Haynes, Managerial Economics, Business Publications, Inc., Austin, Texas, p. 3.

[2]Edgar P. Watkins, Retail Food Store Market Analysis, Cooperative Extension Service/Department of Agricultural Economics & Rural Sociology, ESO No. 5, The Ohio State University, Columbus, Ohio

[3]C. R. Handy and D. L. Padberg, "A Model of Competitive Behavior in Food Industries," American Journal of Agricultural Economics, Vol. 53, No. 2, May, 1971.

[4]Supermarketing, October, 1971, p. 57.

[5]Progressive Grocer, April, 1971, p. 81.

[6]Ibid.

[7]"Consumer Dynamics in the Supermarket," Progressive Grocer in cooperation with Reuben H. Donnely Corporation and the Kroger Company, 1966.

[8]Dr. Ted Leed, "River City Food Shopping Survey: A Case Study," University of Massachusetts, Amherst, Massachusetts.

[9]Richard Skinner, "Supermarketing Site Location Analysis," Kent State University, Kent, Ohio.

[10]Ed Watkins, "Store Image: A Management Tool," Journal of Food Distribution, Contributed Papers Issue, September, 1971.

[11]William Vastine, paper presented at National Association of Retail Grocers Annual Meeting, June, 1972.

******

WHAT IS THE FOOD DISTRIBUTION RESEARCH SOCIETY?

In May 1960, a group of interested educators, government researchers, and food industry people met to discuss their many mutual problems. The open, frank discussion sparked the enthusiasm of those involved and annually thereafter, the group informally sponsored the Food Distribution Research conference at various universities throughout the United States.

The need for more formal organization was recognized and at the 1967 conference the Food Distribution Research Society was officially formed.

The need to coordinate food distribution research and its implementation has brought together, as members of the society, a group of concerned persons dedicated to progress in this particular industry.

Purposes of the Organization

The Society organizes and holds conferences, meetings, symposiums, etc. of leaders in the field of food distribution research, and provides an atmosphere wherein ideas, methods, technical developments, and problems can be freely discussed.

Research

The Society encourages research by defining research problems of the industry; by providing guidelines and direction for developing and implementing food distribution research; by coordinating efforts of research workers; by feeding back research needs to researchers.

Information

The Society serves as an information clearinghouse for past, current, and future food distribution research, and provides channels for exchange of information.

Implementation

The Society encourages implementation of research findings through communication of research results to users, through training, and through encouragement of application and implementation research.

Professional Advancement

A major goal of the Society is to gain increased recognition for the field of food distribution research, thereby enhancing the roles of those involved in it.

******