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Fluid Milk Category Management – A Retail Approach to Improving Milk Sales

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From “Milk – It Does a Body Good” to “Got Milk?” to “3-A-Day for Dairy,” you’ve seen the advertisements and commercials aimed at increasing demand for fluid milk and dairy products. Generic advertising of dairy products has been around for many years and has been shown to increase consumer demand and improve the net returns to producers who fund the activities. However, in recent years, strong increases in media advertising costs have prompted a shift in investments to other types of demand-enhancing activities. One such example is a new store-level marketing effort by the American Dairy Association and Dairy Council (ADADC) focused on implementing retail category management (CM) programs for fluid milk products in the dairy case – the Dairy Case Management Program (DCMP). Implemented in over 600 retail grocery stores in New York State and funded by New York dairy farmers, the program is intended to improve the management, appearance, and operation of the dairy case, with the ultimate goal of increasing per capita fluid milk consumption.

CM involves managing product categories as strategic business units and customizing them on a store-by-store basis to satisfy consumer needs. The expectation of increased sales provides an incentive for retailers to adopt CM programs. However, to milk producers who fund

the DCMP efforts, the underlying expectation is these activities will increase consumption. The DCMP strives to improve the position of fluid milk as a high-profile beverage and fluid milk category and to improve the management of milk ordering and handling in retail stores.

The dairy case is the primary merchandising instrument available for grocery retailers to promote dairy and other refrigerated products. Since the space of a dairy case is limited, retailers continuously face the problem as to how much space they should allocate to various products and how to determine the location of each product within the dairy case. Accordingly, this brief highlights a case study analysis of a DCMP recently conducted in the Hudson Valley area of New York State. In particular, our objectives will be to evaluate the importance of case design and product location and to estimate sales impact of the DCMP in participating stores.

The DCMP was operated on an 8-week cycle in retail grocery outlets including supermarkets, mass merchants, convenience stores, and drug stores. Program personnel provided multiple store visits per week and worked closely with retail store staff to improve case management by evaluating product ordering and variety, case hygiene, and stocking and rotation procedures. Dairy case arrangements were redesigned to develop an effective presentation of a variety of fluid milk products. These products included the more traditional unflavored milk products, as well as various single serve, flavored, and specialty products (e.g., organic and lactaid products). Availability and location of private label and branded products were also important considerations.

Store participation in the Hudson Valley Region included 65% of all supermarket, mass merchant, convenience stores, and drug stores, and accounted for over 91% of average weekly volume (in total store dollars). The Northwestern Hudson Valley program was the focus of this case study and included the counties of Sullivan, Ulster, Orange, and Rockland. The program was conducted in the summer of 2002 and included 25 convenience stores, 16 drug stores, 16 supermarkets, and 4 mass merchants.

For our evaluation, we examined changes in product sales volumes from the pre-category-management baseline period to the in-program period. An econometric model was designed to control for changes in store environments (such as price and promotion) and seasonality. Location and space allocation variables were generated for each product from store case designs for the pre- and in-program time periods to numerically evaluate shelf design sales performance.

Why should rearranging shelf space matter? At least two explanations can be provided to answer this question. First, store-level space management decreases the probability of being out of stock because shelf space is more closely allocated proportional to the current store-level sales. Second, changes in space and location can affect consumer attention by altering the visibility of a product. A better location or increasing the number of product facings may shift consumers to higher margin items or may increase the number of unplanned purchases on a given shopping occasion.

Our results confirm that location matters and plays an important role in increasing product sales, particularly along the vertical dimension. We examined how horizontal and vertical product movement affects product sales through simulation of estimated store sales models, differentiating large and small store effects. For the horizontal movement, mixed results were observed from convenience and drug stores (CDS) versus supermarkets and mass merchants (SMM). For CDS, the preferred product location was approximately centrally located, while the preferred product location in SMM was the right edge. There is no unifying theory that can justify this result, but the results may be attributed to the relative differences in case sizes. When the case is relatively narrow, the midpoint may be a good location, but it may not be an ideal location to attract consumers when the case is substantially wide with a large number of products on either side. Thus, when the case is wide, the preferred location may be the edges, the first or last in attention to the consumer.

For the vertical movement, the results were consistent across store types. Expected sales reached the highest point when the product was located around 5 feet high; i.e., about eye-level. These results can be useful in the development of retail store dairy case designs to improve shelf space management and product sales. Obviously, not all products can be placed in the ‘preferred’ location, but the results are consistent with variable slotting fees charged by retailers for product space and location.

The econometric model was also simulated to estimate the sales impact of the DCMP in participating stores. To do so, the sample was divided into two parts representing the pre- and in-program time periods, and then the estimated models were simulated for each period with only the corresponding DCMP variables on location, space, and store performance varying between the two periods. Simulation results indicated that the DCMP resulted in a 7.1% increase in average milk sales across all stores. Disaggregated by store type, DCMP effects indicated

sales enhancement of 5.9% and 10.4% for SMM and CDS, respectively. The higher relative performance in CDS may be reflective of increasing popularity for single-serve and flavored value-added products that had particular attention in the DCMP and which represent a relatively larger proportion of sales in these smaller stores.

The simulation results show that the DCMP program has been effective in increasing sales of fluid milk products in the retail dairy case. That said, the results should be compared with the relative costs of the producer-funded program. Given the estimated cost of the program at roughly \$2,000 per store and valuing the increased average volume at current prices, this finding implies that the program would pay for itself in approximately 1.5 years. Viewed from a longer-term structural change in management perspective, this payoff timeline may be acceptable. However, the absence of immediate or short-run net gains underscores the importance of implementing a long-run management strategy, with continual evaluation for the program to be successful.

Smart Marketing is a monthly marketing newsletter for extension publication in local newsletters and for placement in local media. It reviews the elements critical to successful marketing in the food and agricultural industry. Articles are written by faculty members in the Department of Applied Economics and Management at Cornell University.

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