AN ANALYSIS OF A SPECIAL CHEESE PROMOTION PROGRAM; HOUSTON, TEXAS

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Research Highlights

1. Evaluation of consumer's ability to recall the advertising program revealed that the newspaper and television advertisments were more effective in this respect than the in-store promotional material. More than 20 percent of the respondents could recall some cheese advertisements in newspapers and on television. Of those interviewed 7 and 8 percent, respectively, could recall and identify the ADA newspaper and television advertisements while only 4 percent of the exposed population could recall the in-store material.

2. Evaluation of the store delivery and sales data indicates that per customer sales of all cheese were about 4 percent higher during the full promotion period compared to an average of the preceeding four weeks.

3. There was a larger relative response in the movement of natural cheese. The data indicates that per customer sales of natural cheese increased by about 23 percent during the promotion period relative to the preceding four week period. Natural cheeses constituted 38 percent of all cheese sold during the test period.

4. The analysis indicates that the promotion program achieved the goal of stimulating consumer awareness, but had only limited success in obtaining an increase in total cheese sales.

5. There was a direct effect of increasing shelf space on the volume of cheese sold per customer. A large end-aisle display employed by the stores had a recognizable effect on increasing cheese movement. This merchandising effort allowed the cheese display to expand beyond the normal limits of the cheese case.

6. The timing and coordination of all phases of the promotion effort is very important. The effectiveness of mass media advertising is reduced greatly if other phases of the program have created a response from consumers before the advertising begins. In such a situation the total result from the entire program is reduced.

7. It is important to involve chainstore management in the promotion program and obtain their enthusiastic support. The single most effective merchandising effort during this test was the use of a large end-aisle cheese display which was instituted by the chainstore management. If this type of effort can be drawn from store management the success of the promotion program will be greatly enhanced.

AN ANALYSIS OF A SPECIAL CHEESE PROMOTION PROGRAM; HOUSTON, TEXAS

John P. Nichols and Randall Stelly*

INTRODUCTION

Through mergers and consolidation of local organizations into regional cooperatives, dairy producers are playing an increasingly active role in marketing their milk. Involved are activities to control the movement of producer milk, allocate milk supplies among handlers and markets, dispose of surplus milk in producer-owned processing facilities, and to advertise and otherwise promote increased sales and consumption of fluid milk and processed milk products.

Through the American Dairy Association (ADA), the advertising and promotional sector of dairy producer organizations, Associated Milk Producers, Inc. used a multi-media advertising and promotion program designed to increase the sale and consumption of cheese in several major consumption centers in the South and Southwest during October, 1969. Newspaper and TV advertising, and in-store displays were employed plus trade luncheons with distributors. Emphasis was on domestic cheeses.

A major resource investment is involved in most advertising and promotion programs. An important function of management, therefore, is to determine, where possible, sales responses which result from these expenditures. This report concerns a research study designed to examine the response to the October 1969 cheese promotion program in Houston, Texas.

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RESEARCH DESIGN

The evaluation of this promotion program was under taken for two reasons. First, to obtain a measure of response to the promotion in terms of actual sales changes. Secondly, a measure of consumer awareness of the promotion campaign was considered important. Both measures of response are necessary to obtain as much information as possible concerning the impact of the various parts of the promotion program as well as the effect on sales.

Limited time and resources were available for this research which posed several restrictions on the design. Historic records from the stores was necessary to establish a base period for comparison. This requirement eliminated a number of stores from consideration. In addition it was not possible to maintain checks on inventory changes in all stores; thus major reliance was placed on delivery records as indicators of actual sales levels. Under ideal conditions, of course, inventories would be taken in all stores at regular intervals throughout the test, thereby establishing a basis for estimating actual sales levels.

Despite these restrictions on the design, the study can contribute to a better understanding of the factors involved in cheese movement and the problems encountered in its measurement. Thus, in addition to providing necessary basic indications of the effect of a promotion program on cheese movement the study represents a "pilot" effort from which guidelines for future research may be drawn.

The promotion campaign consisted of television and newspaper advertising, in-store point-of-purchase material and information releases through food editors. The program was begun during the last week of September and continued through the month of October.

Examination of consumer awareness of the advertising program was done through use of a telephone interview. After the second week of the advertising schedule, a random probability sample of 300 households were contacted and 291 interviews were completed. The interviews were designed to obtain awareness information concerning all parts of the promotion program. As an additional check on recall of in-store promotion material, 161 shoppers were interviewed personally as they left three of the test stores. This provided an opportunity to more closely examine customer recall of in-store promotion efforts.

The evaluation of sales changes require collection of data from representative stores in the Houston market. Due to lack of lead time it was necessary to find stores which had back records which could be used for establishing a base period. Two major retail food chains with a total of 18 stores in Houston were selected for this part of the study. Weekly cheese delivery records were obtained for each store for a thirteen week period beginning six weeks prior to the start of the mass media advertising program and ending four weeks after completion of media advertising. In addition, six of the test stores were audited during the period to observe changes in inventory levels. Stores with a history of low level or highly variable cheese movement were then eliminated from the analysis.

RESEARCH RESULTS

Consumer Awareness

Tabulation of the data from the telephone interviews provides information concerning the consumer awareness of the advertising program. The basic aided recall percentages are summarized in Table 1. In general consumers could more easily recall the television and newspaper advertisements than the in-store promotional material.

Both aided and unaided consumer recall data were obtained. However, more consistent responses were obtained with the aided than with the unaided recall portion of the questionnaire. Therefore, the information presented concerning consumer awareness relates to the aided recall.

About 22 percent recalled seeing some kind of cheese advertisement in the newspaper while 7 percent described the ADA advertisement. Approximately 23 percent remembered seeing a cheese advertisement on television while 8 percent described the ADA television advertisement. The recall of the in-store material was lowest with 11 percent remembering some cheese ad in-store and 4 percent describing the ADA point-of-purchase material. In general about one-third of those who recalled seeing a cheese advertisement could describe the ADA ad. This held true for television, newspaper, and in-store.

A more detailed view of the responses is illustrated in Figure 1. Fifty-one percent of all respondents recalled some kind of food

advertisement in the newspaper, while 22 percent recalled a specific cheese ad and 7 percent could describe the ADA sponsored ad. For television, 47 percent recalled seeing some food ad while 23 percent recalled a cheese ad and 8 percent could describe the ADA advertisement. Concerning the in-store display material 20 percent recalled seeing some material, 11 percent recalled material for cheese and 4 percent could describe the ADA sponsored material.

TABLE 1.

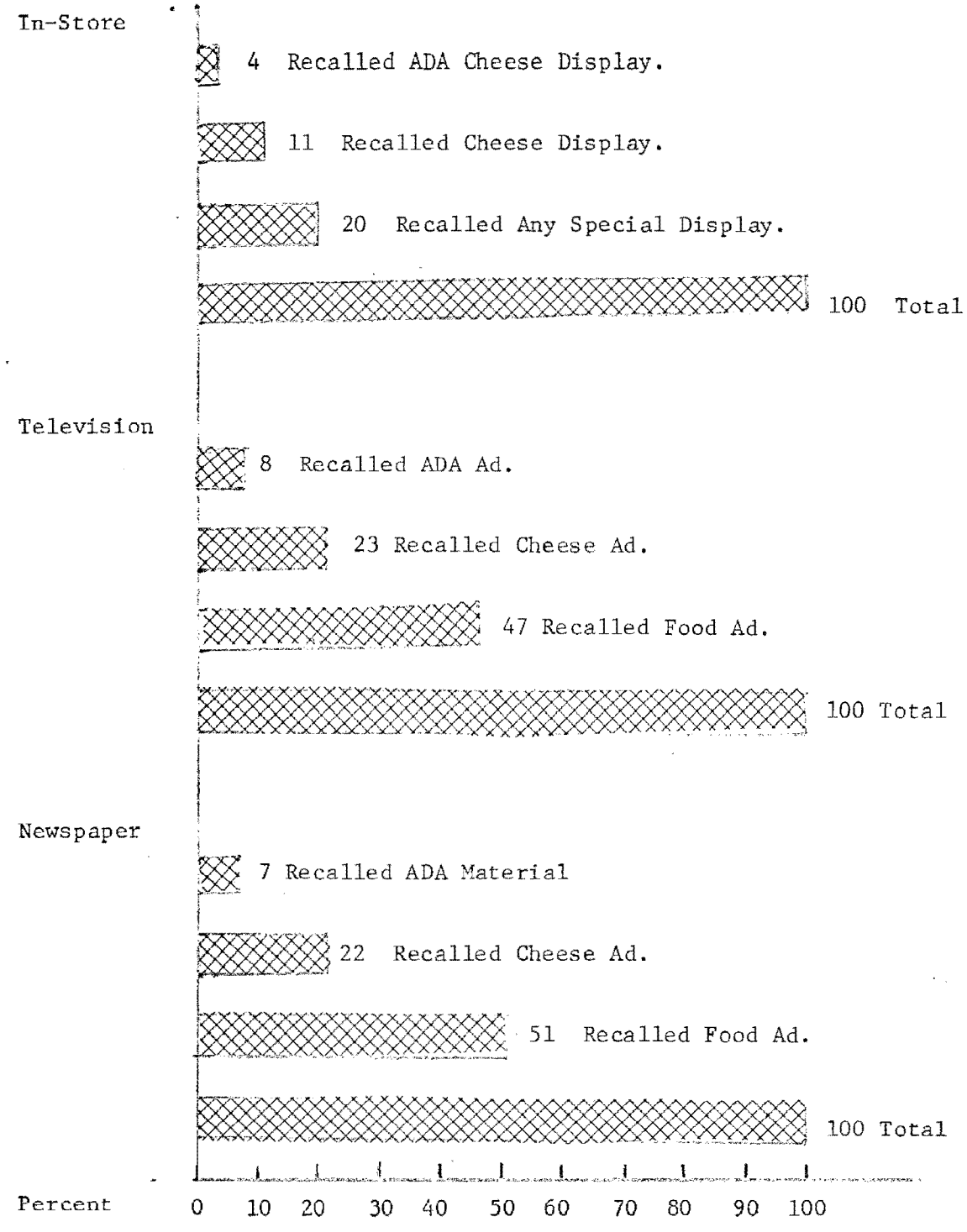
RECALL OF ADVERTISING; TELEPHONE INTERVIEW, OCTOBER 18 - 21, 1969

	Recall any Cheese ads		Identify the ADA ads	
	(Percent)	S_p 4/	(Percent)	S_p 4/
Newspaper ad 1/	22	(2.49)	7	(1.54)
Television ads 2/	23	(2.47)	8	(1.59)
In-store 3/	11	(2.02)	4	(1.27)

1/ Total of 276 interviews.
2/ Total of 291 interviews.
3/ Total of 239 interviews. This represents the number of persons interviewed who had been exposed to the in-store promotion material.
4/ $S_p = \sqrt{\frac{p\,q}{n}}$; estimated standard error of the percentage. This may be used in calculating confidence limits for population percentages.

The data from the interviews conducted outside the stores are summarized in Table 2. Fifty-eight (or 36 percent) of the 161 persons interviewed outside of the stores had visited the cheese display case. About 10 percent of all store customers recalled seeing some cheese point-of-purchase material. Of those who visited the cheese case or

Figure 1. Recall of Cheese Advertisements and Promotion; Newspaper, Television, and In-Store, October 1969.



display area about 28 percent recalled seeing some cheese material. About 6 percent of total store customers identified the "jester" portion of the point-of-purchase display.[1/] This represented about 16 percent of those who visited the cheese section of the store. About 9 percent of all store customers recognized the cut of the newspaper ad - which was also part of the point-of-purchase material. This represents about 24 percent of those visiting the cheese section. The higher recall on the newspaper ad cut may have occurred since it appeared in the newspaper earlier and was also on display in the store, thus reinforcing recall.

TABLE 2.

RECALL OF PROMOTION MATERIAL; INTERVIEW AT STORE EXIT, OCTOBER 31 - NOVEMBER 1, 1969

	Percent of total store customers interviewed 1/		Percent of interviewed customers passing the cheese display 2/	
	(percent)	S_p 3/	(percent)	S_p 3/
Recalled seeing any advertisement at cheese counter	10	(2.36)	28	(5.90)
Recalled seeing the jester	6	(1.87)	16	(4.81)
Recalled seeing the newspaper ad cut	9	(2.26)	24	(5.61)

1/Based on 161 total interviews.
2/Based on 58 customers who visited the cheese section.
3/$S_p = \sqrt{\frac{p\,q}{n}}$; estimated standard error of the percentage. This may be used in calculating confidence limits for population percentages.

1/The "jester" portion of the display is shown in Figure 2.

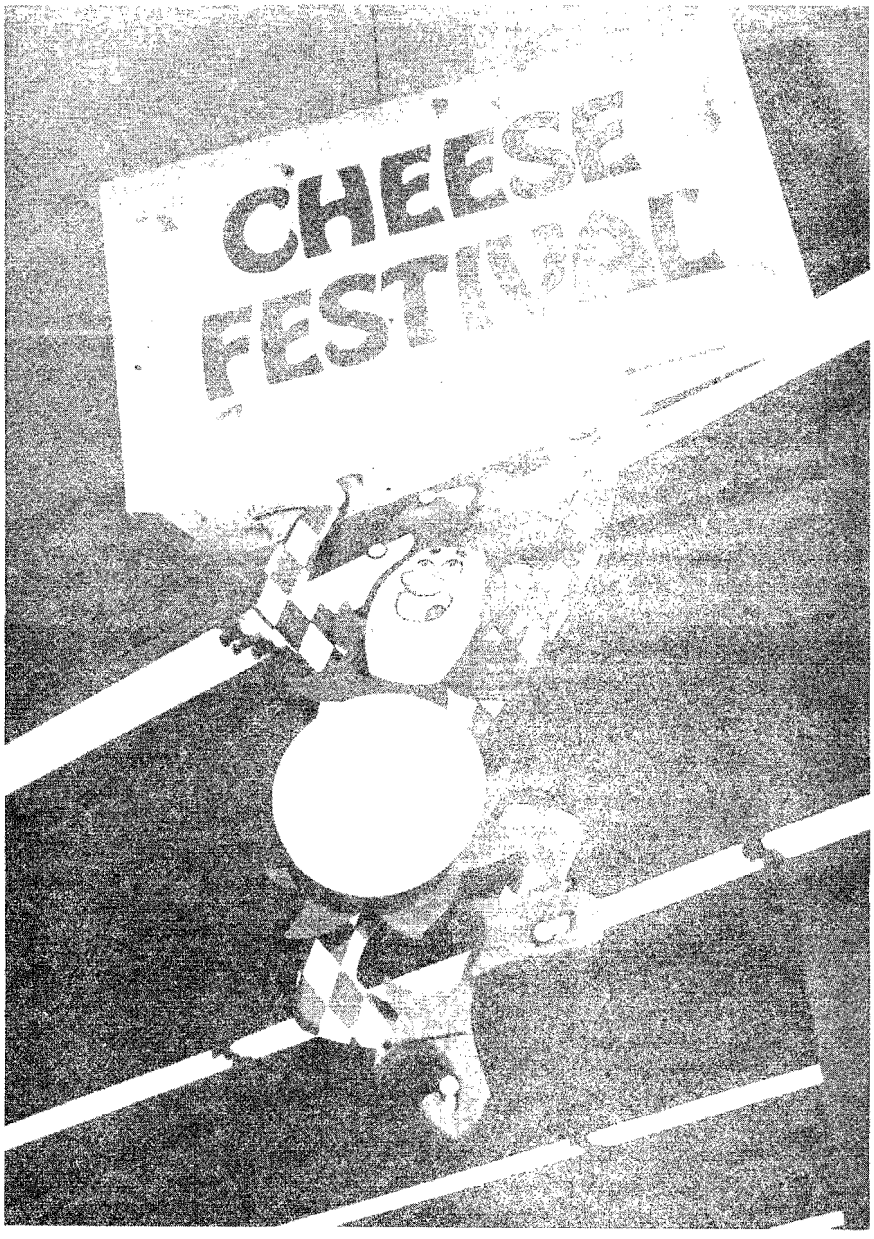


Figure 2: The "jester" Portion of the In-store Display.

Distribution of the respondents by age of housewife, size of household and income level is shown in Table 3. Cross-tabulation of the responses to the recall questions revealed that responses did not differ significantly regardless of consumer characteristics. There was no apparent relationship between any of these characteristics and the recall level.

TABLE 3.

DISTRIBUTION OF RESPONDENTS INTERVIEWED BY SELECTED CHARACTERISTICS; AGE OF HOUSEWIFE, SIZE OF HOUSEHOLD AND ANNUAL INCOME.1/

	Characteristic	Proportion of Total	Houston Metropolitan Area
		(percent)	
Age of Housewife	Under 20	1	*
	21-25	9	*
	26-30	13	*
	31-45	39	*
	46-60	24	*
	61 and over	14	*
	TOTAL	100	
Number in Household	1	9	18
	2	30	30
	3	20	16
	4	18	15
	5	12	10
	6 or more	11	11
	TOTAL	100	100
Annual Family Income	$15,000 and over	16	12
	10,000-14,999	23	19
	8,000-9,999	17	15
	5,000-7,999	23	23
	3,000-4,999	13	13
	Under 3,000	8	18
	TOTAL	100	100

1/ 291 interviews.
* Not available
Source: Sales Management; Survey of Buying Power, June 10, 1969. Volume 102, No. 12. pgs. C-110, C-112, and C-113.

Retail Movement Evaluation

This section of the study was designed to provide a measure of any change in movement of cheese at the retail level which may have occurred during the promotion program. Data from three sources were examined for evidence of any change in retail movement. This consisted of store delivery data, store inventory data and estimates from wholesalers concerning changes in the volume shipped to retail outlets.

Delivery Data

One method of analysis used was an evaluation of changes in the volume of cheese delivered to the retail stores. Records were obtained for a four week period preceding the beginning of the promotion program for each of eighteen stores. These stores were drawn from two different chains and were selected to represent a cross-section of the stores in the market. Availability of records on previous deliveries was also necessary as the evaluation was not begun until just prior to the promotion program. No data were available on the previous year's deliveries to any of the stores.

Records of weekly deliveries were obtained for each store through the promotion period and a four week post-promotion period. In total, data for 13 consecutive weeks were available for analysis. The number of customer visits to the stores each week was also recorded and maintained for the analysis.

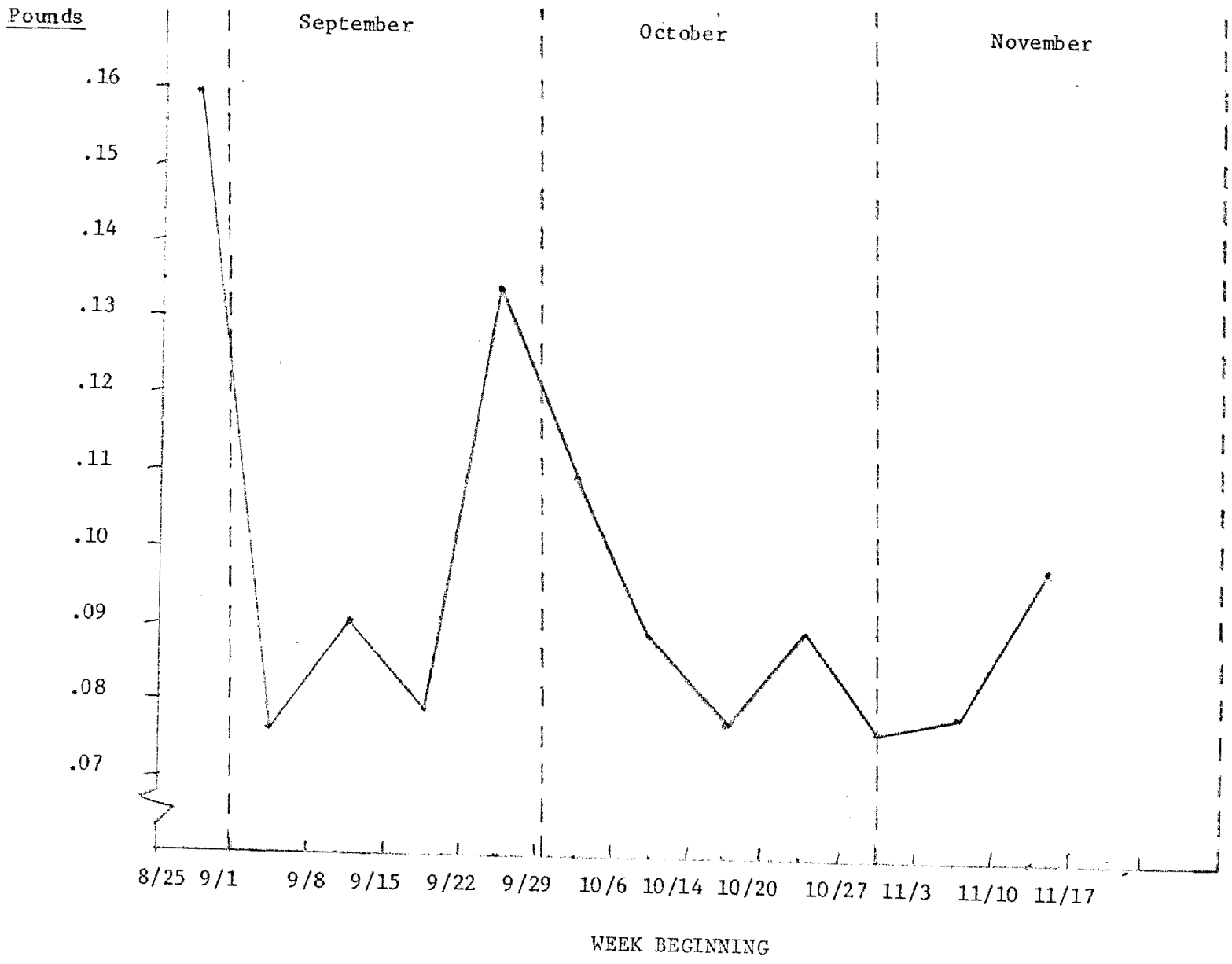
Examination of the aggregate data revealed that the level of cheese movement through the stores of one supermarket chain was too low and variable to be of significant use in the analysis. It was concluded that these stores did not adequately represent the conditions in the market at that time. Consequently analysis of delivery data was based on data from nine stores in one chain which demonstrated a consistent generally high level of cheese movement. These stores represent all areas and segments of the Houston market.

The weekly cheese movement on a per customer basis averaged over the nine stores is shown in Figure 3. Variation may be observed from week to week. The 13 weeks is broken into periods and sub-periods for the analysis. There are three major periods as shown below with one period having two sub-periods.

A. Pre-promotion	B. Promotion		C. Post-promotion
A	B_1	B_2	C
Aug. 25	Sept. 24	Oct. 6	Oct. 27 — Nov. 22

The pre-promotion period (A) was four weeks long. The promotion period (B) consisted of two phases B_1 and B_2. The mass media advertising appeared during period B_2 while in-store material and newspaper food editor columns featuring cheese appeared during period B_1.

Figure 3. Cheese Deliveries per Customer, By Weeks, Average for 9 Stores, Houston, 1969.



In Table 4 the average amount of cheese delivered per customer is shown for each of the periods in the test. The pre-promotion and post-promotion periods show a similar level of deliveries per customer while during the five week promotion period deliveries per customer averaged about 4.3 percent higher.

This should be examined more closely, however. Cheese deliveries during each of the two sub-periods of the promotion period are shown in Table 4 also. The level of deliveries was much higher during the two week first phase (period B_1) while during the following three weeks (period B_2) the level was well below that of any other period. Thus, while the average over the whole promotion period was higher, the deliveries per customer actually declined during the mass media advertising campaign (period B_2). It should be expected that delivery would increase

TABLE 4.

TOTAL CHEESE DELIVERIES PER CUSTOMER IN NINE SELECTED RETAIL FOOD STORES, BY PERIOD AND SUB-PERIOD, HOUSTON 1969

	Period		Deliveries Per Customer
			(pounds)
A	Pre-promotion (Aug. 25 - Sept. 22)		.093
B	Promotion:		
B_1	First Phase (Sept. 24 - Oct. 4)	.120	
B_2	Second Phase (mass media) (Oct. 6 - Oct. 25)	.082	
	Average for Period B		.097
C	Post-promotion (Oct. 27 - Nov. 22)		.092

prior to an anticipated advertising program in an effort to build inventories. It is possible that actual sales did not drop during the advertising program but remained the same and drew on inventories built up earlier. This possibility is examined in the next section.

Analysis of Inventory Levels

There were on the average 161 different cheese items in the retail store cheese displays. Cost considerations prohibited auditing each of the stores in the test for the purpose of computing inventory changes. Thus, a subsample of three stores were selected from the nine test stores. These three stores were inventoried three times during the test. The first inventory was completed after the four week "pre-promotion" period. The second inventory was done two weeks later, just before the mass media advertising began, and the third was done three weeks later, just after the media advertising was completed. By combining this data with the delivery data for these stores it is possible to determine what the actual sales were for these stores during the two sub-periods.

The data in Table 5 indicate the results. For each of the three stores, sales of cheese per customer was less during the mass media promotion period than during the preceeding two week "build-up" period. The drop in sales per customer was substantial in two cases and only slight in the third, but in no case was there an increase during the mass media advertising program. These findings support the delivery data presented earlier.

A close examination of the information illustrated in Figure 3 may yield an explanation of this behavior in delivery and sales of

cheese. This series of weekly observations is plotted from the last week in August through the third week of November, for a total of thirteen weeks. It is evident that a cycle exists in the movement of cheese to the retail stores. Deliveries per customer increase at the end of each month. The last week in August, the last week in October and the week preceding Thanksgiving all recorded deliveries per customer which were relatively higher than preceding or following weeks. The increase which was noted during the first phase of the promotion period (B_1) occurred at the end of September so that this regular cycle may offer a partial explanation for this occurrance. In the same manner the low deliveries during the three week mass media campaign (period B_2) are not unusual for that period in the month (first, second, and third weeks).

TABLE 5.

A COMPARISON OF ACTUAL CHEESE SALES PER CUSTOMER WITH DELIVERIES PER CUSTOMER, BY PERIOD, HOUSTON 1969

Period	Actual Sales 1/			Average Deliveries Per Customer2/
	Store #1	Store #2	Store #3	
	pounds			
B_1 Promotion; first phase	.107	.101	.130	.120
B_2 Promotion; second phase	.078	.086	.124	.082
Net Change (B_1 to B_2)	-.029	-.015	-.006	-.038

1/ A subsample of three stores from the total of nine.
2/ See Table 4.

In summary, it appears that the effect of the promotion program was felt in deliveries and sales over the full five week promotion period. In addition, the promotion program did not significantly alter the "normal" pattern of cheese movement. The 4.3 percent increase in per customer deliveries during the promotion period probably represents an upper limit on the possible effectiveness of the program.

Delivery of Natural Cheeses

A more detailed examination of the effect of the promotion program on the movement of cheese may provide additional information of value. Toward this end, delivery data for natural cheese were primarily cheddars and some Swiss types. Of the total 161 cheese items in the stores, 58 were natural cheeses. Over the full 13 weeks, natural cheeses comprised 38 percent of total cheese movement through the test stores. The results (Table 6) show a pattern generally similar to that observed for total cheese deliveries (Table 5). These patterns are compared in Figure 4.

During the first phase of the promotion (period B_1) there was a definite increase in per customer deliveries in both natural and total cheeses. During the following period, in which the mass media promotion program was conducted (October 6 - October 25), natural cheese deliveries per customer declined to the level existing before the "build-up". All cheese, however, declined to a level below that which existed prior to the "build-up". The only significant divergence from

Figure 4. Deliveries Per Customer of All Cheese and Natural Cheese, By Period, Houston 1969.

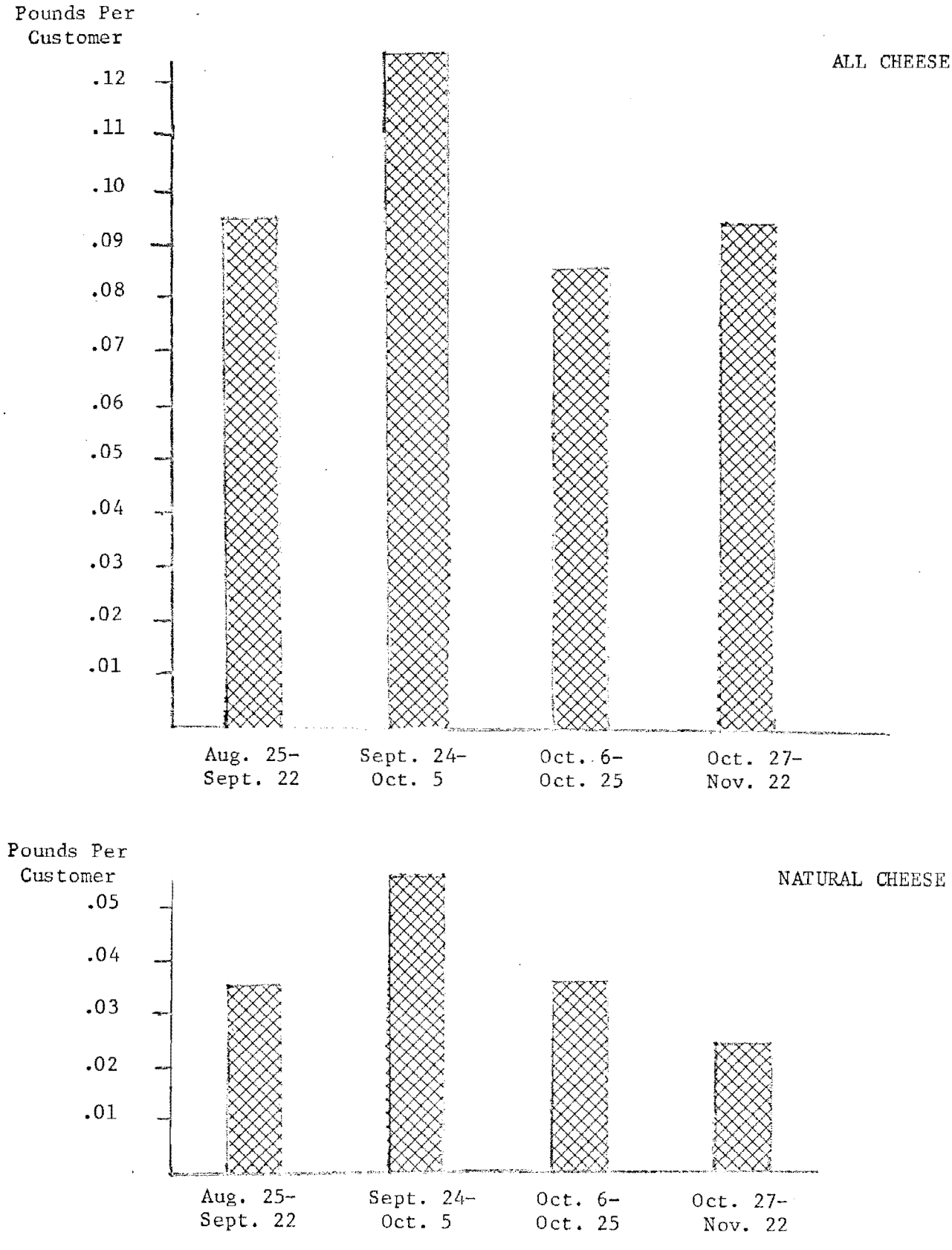


TABLE 6.

NATURAL CHEESE DELIVERIES PER CUSTOMER, NINE RETAIL FOOD STORES, BY PERIOD AND SUB-PERIOD, HOUSTON 1969

	Period	Deliveries Per Customer (pounds)
A	Pre-promotion (Aug. 25 - Sept. 22)	.035
B	Promotion:	
B_1	First Phase (Sept. 24 - Oct. 4)	.055
B_2	Second Phase (mass media) (Oct. 6 - Oct. 25)	.035
	Average for Period B	.043
C	Post-promotion (Oct. 27 - Nov. 22)	.027

the overall pattern occurred during the follow-up period (October 27 - November 22). While all cheese deliveries per customer increased to a level comparable to that before the "build-up" period began, the deliveries of natural cheeses declined to the lowest level of the four periods.

In percentage terms, the average increase during the full five-week promotion period (September 24 - October 25) relative to the four week pre-test period is greater for natural cheeses (23 percent) than for total cheeses (4.3 percent). A close examination of the data for natural cheeses reveals that the bulk of the increase in deliveries was due to one item in particular. This item, a 500 pound "barrel" of cheddar cheese was not a regularly stocked item but rather represented a special merchandising effort. It was displayed in an end-aisle location in the store and in effect expanded the shelf space allocated to

cheese beyond the regular limits of the cheese display case. While this indicates that the amount of display space was an important factor in increasing natural cheese movement, the promotion program had the desired effect of stimulating this type of merchandising effort on the part of retailers.

SUMMARY AND CONCLUSIONS

Results of 291 telephone interviews after two weeks of the mass media advertising program indicate that about 22 percent of those interviewed who had been exposed to newspapers could recall some cheese advertisements on this medium. About 7 percent could recall the ADA advertisement. The results were almost identical for the television advertisement while recall of in-store promotion material was about one-half as large. The promotion program was generally successful in stimulating consumer awareness of cheese advertisements. In addition, it appears that the newspaper and television media were more successful in stimulating this recall than was the in-store promotion material.

Analysis of store display and inventory data indicates that per customer sales of all cheese was about 4 percent higher during the full promotion period as compared to the preceeding four week period. Sales of natural cheese per customer increased by about 23 percent during the same period.

There is some indication that the program was successful in its role as a stimulant to other marketing groups in their promotion and merchandising

efforts. Successful results could not be achieved without enthusiastic cooperation from management at the retail level and precise timing of the various components of the program.

Examination of all sources of information from this analysis indicates that the promotion program achieved the goal of stimulating consumer awareness, but was only a limited success in directly translating this to an increase in total cheese sales. The major effect on sales was through stimulation of expanded merchandising programs by the retail sector.