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Supermarket Dairy Department Analysis

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SUPERMARKET DAIRY DEPARTMENT ANALYSIS*

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Purpose

To clarify the role of the dairy department in regard to its sales and profit contribution to total supermarket sales and profits.

To demonstrate the effect of improved merchandising practices on the sales and gross margins of the supermarket dairy department.

The Study

Customer traffic studies and product sales, profit (gross margin) space and investment (inventory) evaluations were made of the existing arrangement of items in a selected supermarket dairy department.

Based on the traffic study evaluations and the operating standards calculated at the end of a 4-week observational period, the following general changes were made:

1. Sixty two slow moving, unprofitable items were discontinued from the original product mix of 177. Despite the large number of eliminations, the original selection among kind of item remained. Most of the eliminations made were duplicate brands of the same kind of an item.

2. Space was reallocated for the remaining 115 items according to sales and dollar gross profit contributions as well as their return on space and inventory investment.

3. Products were displayed in family groupings (milk, margarine, butter, sour cream dips, etc.).

4. Vertical or ribbon displays for items were employed whenever possible.

5. Demand and impulse items were strategically dispersed throughout the display.

6. Shelves in the display fixture were adjusted so as to accommodate the display of dairy items and to make the appearance of the display more interesting.

A second 4-week period of observation followed. Traffic studies of the department and sales, profit, space and inventory evaluations were reported.

The Supermarket Selected --

--Is in midwestern town of 15,000 population.

--Shares location on major highway on outskirts of town with an established retail drug outlet.

--Has a selling area 6,990 square feet.

--Averaged weekly sales during first 4-week study, $36,950; during second 4-week study, $36,600.

--Is one of four operated by the same owner. The other three supermarkets

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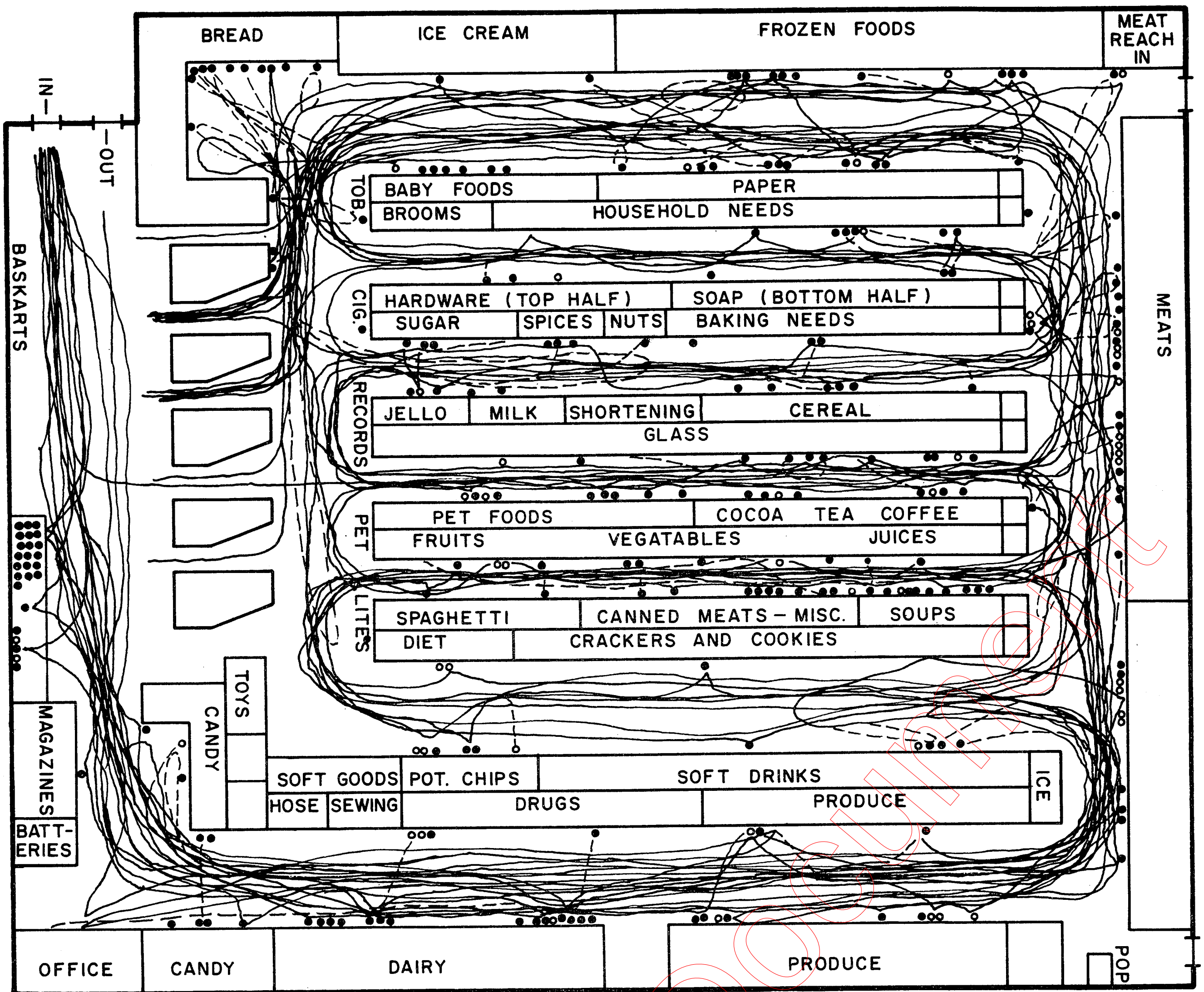

Figure 1. Shopping pattern of selected customer, midwestern supermarket, September 1968.

are much larger in size and corresponding sales volume and are in medium-sized towns.

--Competes with three other supermarkets of similar size in the trading area.

The Dairy Department --

--Perimeter location is in right, front corner of the selling area.

--Conventional display fixture is 28 feet long.

Results

The supermarket customer (based on a sample of 65)--

--Spent $8.25.

--Shopped for 11.5 minutes.

--Spent more as her shopping time increased.

Time minutes	Per cent of customers	Sales/ customer
0-3	14.0	$ 2.44
4-6	17.2	4.20
7-10	25.0	6.56
11-15	28.1	8.62
16-20	6.3	14.93
21-over	9.4	23.37

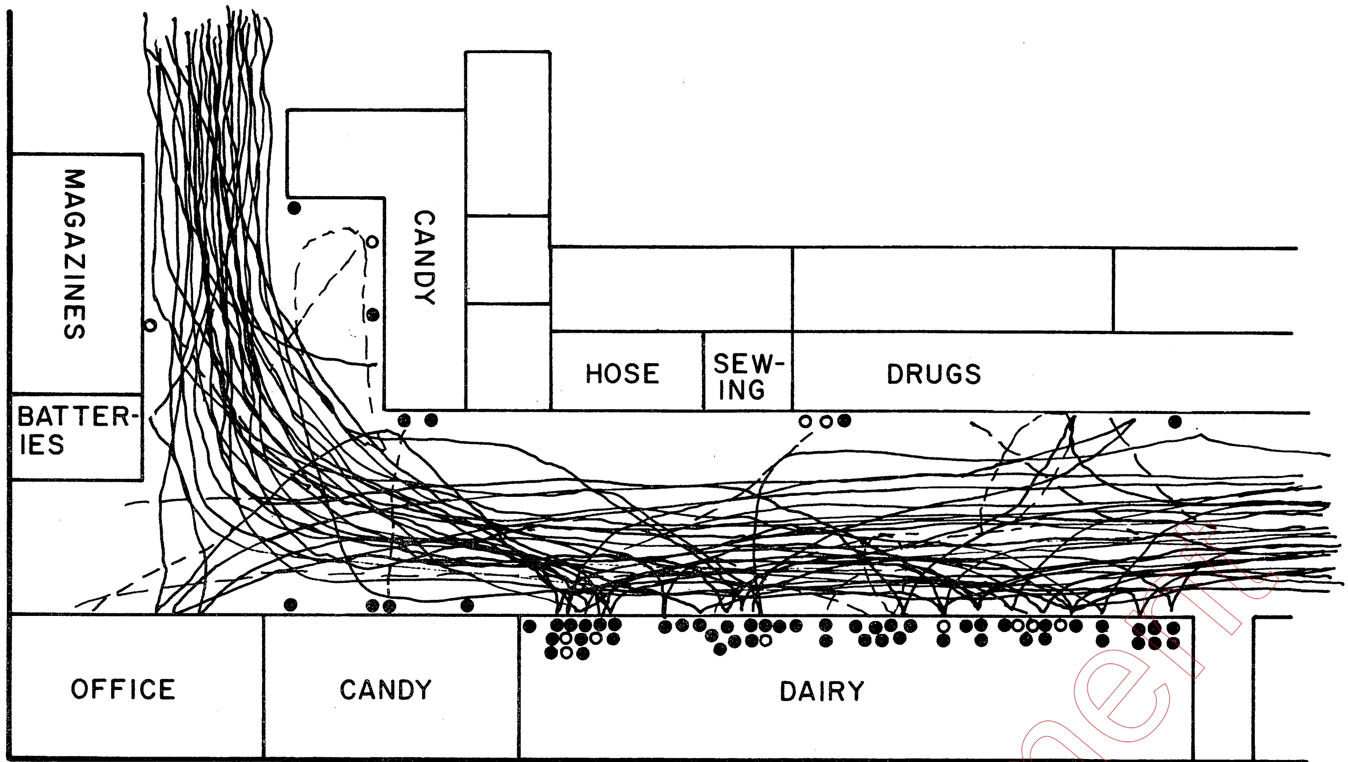

Figure 2. Customer shopping pattern in the dairy department, midwestern supermarket, September 1968.

--Did not use a shopping list (83 per cent).

--Spent 30 cents more when not using a list.

	Per cent of customers	Amount spent
Shopping list	17	$8.00
No shopping list	83	8.30

--Was predominately a woman, alone.

--Spent $13.81 when with husband, $11.47 when with her children and $9.13 when shopping with another woman.

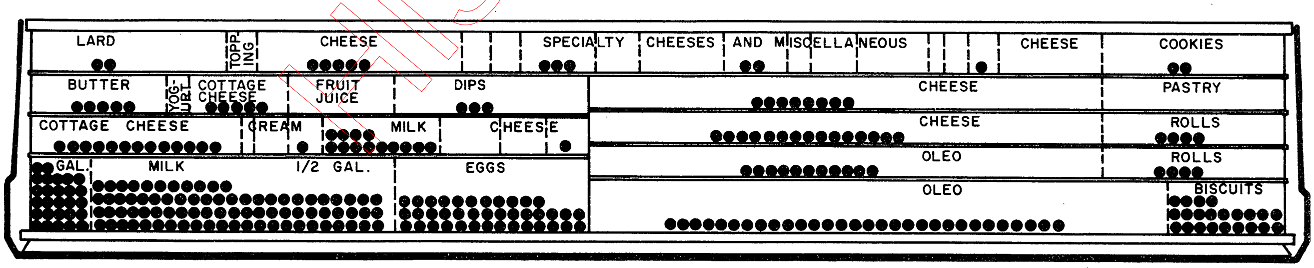

Figure 3. Customer purchase pattern in a self service dairy case, midwestern supermarket, September 1968.

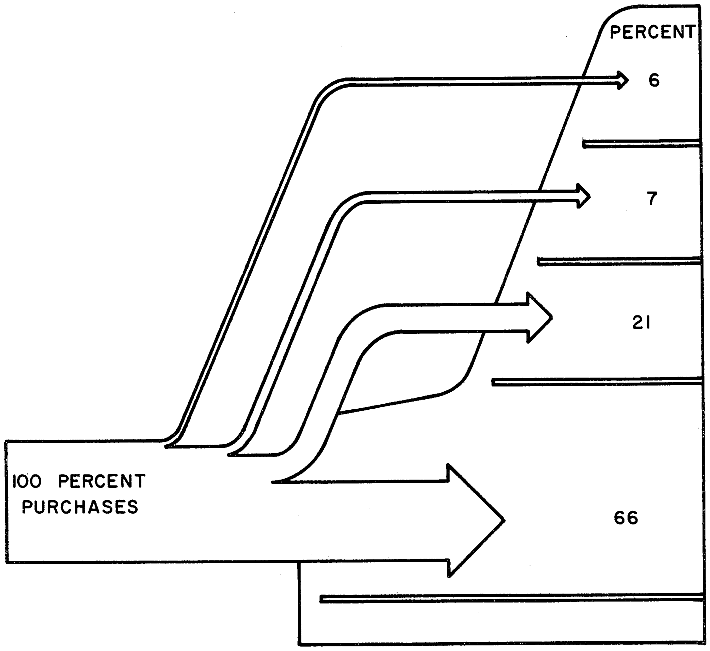

Figure 4. Customer purchase, by shelf, in a self service dairy case, midwestern supermarket, September 1968.

Description	Per cent of customers	Amount spent
Woman, alone	42.2	$ 6.62
Man, alone	15.6	3.84
Man and wife	17.2	13.81
Two women	9.4	9.13
Woman and children	14.0	11.47
Man and children	1.6	1.21

--Shopped the selling area in regard to the arrangement of demand item location (Figure 1).

The Dairy Department Customer (based on a sample of 155)--

--Was predominately female.

--Spent more when in the company of children, husband or other shoppers.

Customer class	Per cent	Amount spent
Woman alone	50.0	1.56
Man alone	16.6	1.45
Man and wife	15.6	1.76
Two women	7.8	1.97
Woman and children	7.8	1.83
Man and children	2.2	2.02

--Did not frequently use a shopping list but spent more when she did.

	Per cent of customers	Amount spent
Shopping list	21.0	1.85
No shopping list	79.0	1.58

--Spent more as her shopping time increased.

--In proportion to the time spent in the supermarket, she increased the amount spent even more. She increased her time in the supermarket 17.6 per cent and increased the amount spent 39.3 per cent.

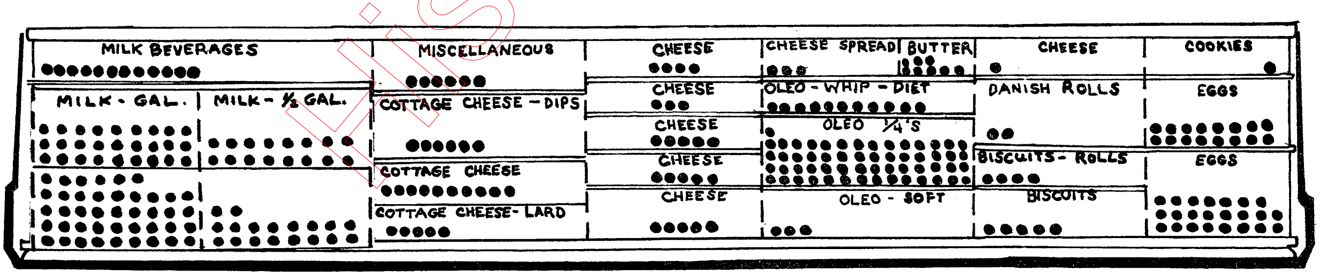

Figure 5. Customer purchase pattern in a self service dairy case resulting from merchandising improvements, midwestern supermarket, July 1969.

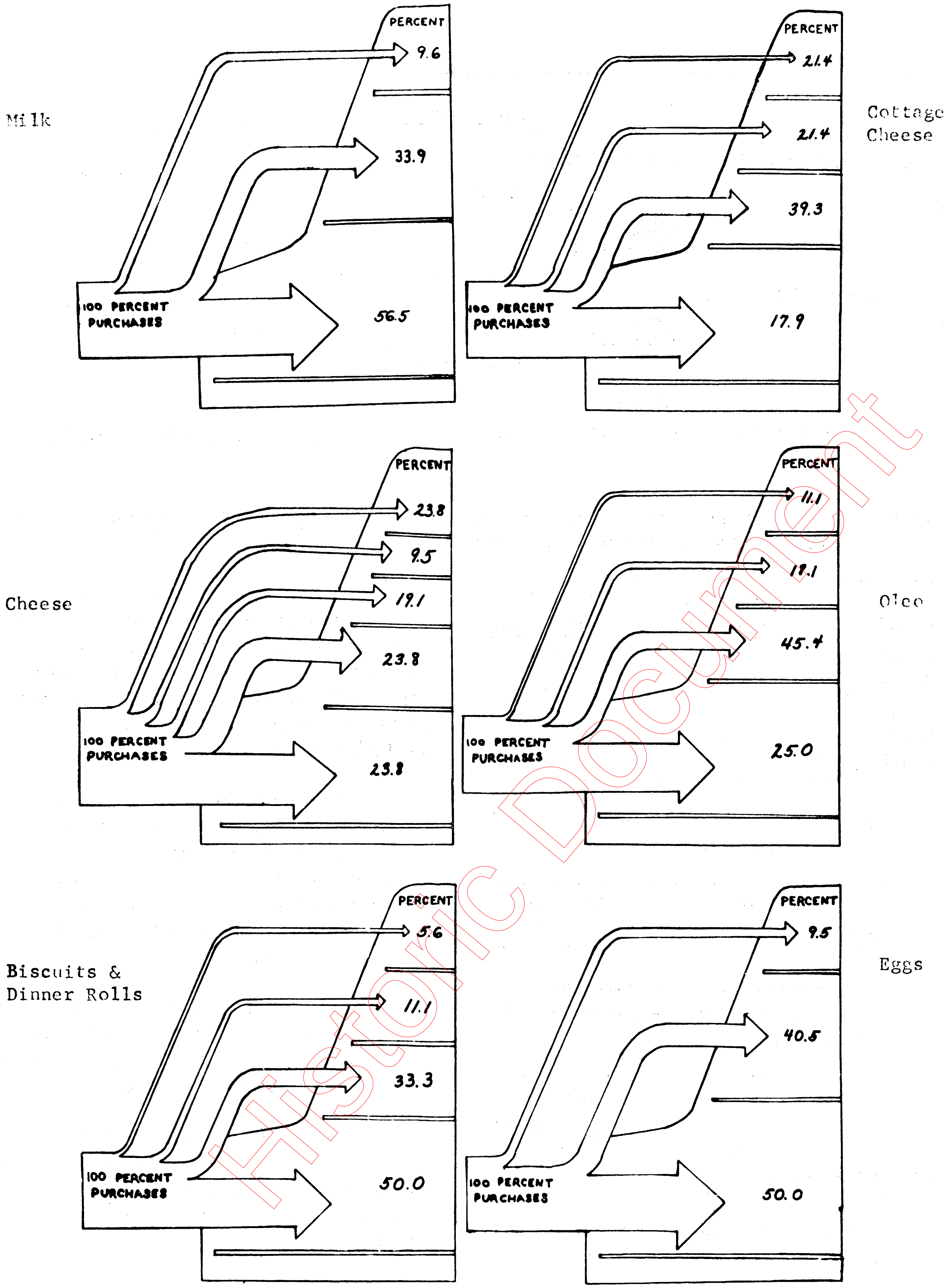

Figure 6. Customer purchase, by shelf in family group sections of a self service dairy case, midwestern supermarket, July 1969.

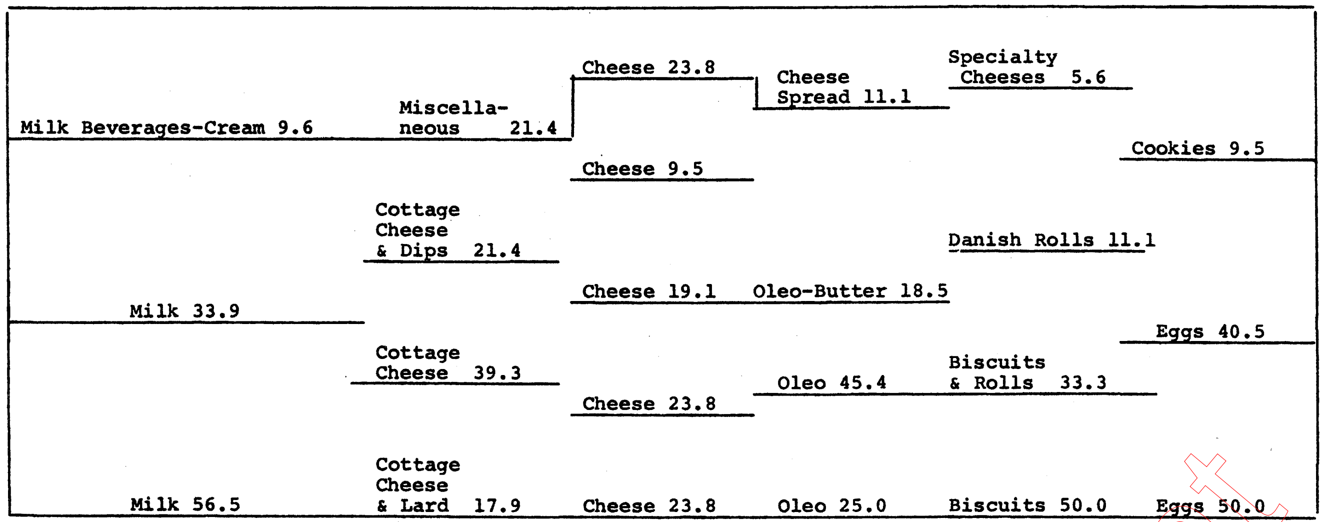

Figure 7. Customer purchase, by shelf in family group sections of a self service dairy case, midwestern supermarket, July 1969.

Time seconds	Per cent of customers	Sales per customer
0- 29	32.2	$1.10
30- 59	38.9	1.51
60-119	27.8	2.37
120-179	1.1	3.37
180-300	.0	.0

--Spent more time shopping the revised arrangement of dairy items.

Previous arrangement	74 seconds
New arrangement	87 seconds

--Increased purchases 46 cents when shopping the revised arrangement of dairy items.

	Spent for dairy items
Previous arrangement	$1.17
New arrangement	1.63

--Shopped the original dairy display according to the location of demand items (Figures 2 and 3).

Sixty-six per cent of all purchases were made from the bottom shelf. Six per cent of all purchases were made from the top shelf. Reason: demand items milk, eggs, oleomargarine accounting for about 55 per cent of total dairy sales were located on the lower shelf.

Hence the attention of the customer was directed toward the lower shelf. Her eye movement was directed along the front of the display but at the lower shelf level as she shopped for her milk, eggs, and oleo--items which were basic to her everyday meal planning (Figure 4).

When presented with the revised arrangement of dairy items, the average customer tended to shop the dairy department more completely (Figures 5, 6, 7).

This was the direct result of interspersing demand and impulse items and the use of full vision display which placed demand or frequently purchased items at eye level.

Sales activity on the upper shelves was increased for most product groups.

The use of display fixture shelves to accommodate the merchandising of the product resulted in the elimination of a straight line effect and created interesting product group sections.

Elimination of Nonproductive Items

62 of the original 177 items were found unprofitable and eliminated (Table 1).

Care was taken to retain variety within a product group but to eliminate duplication of brands.

Margarine, prepackaged natural cheese, and grated specialty cheese and miscellaneous product groups were sharply reduced in number.

Table 1. Number of items discontinued, by product group, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Dairy department product group	Before	After	Change
Milk	7	7	0
Milk beverages	7	6	-1
Cream	5	4	-1
Butter	3	3	0
Margarine	21	10	-11
Eggs	3	4	+1
Cottage cheese	8	7	-1
Process cheese	7	6	-1
Sliced process cheese	9	7	-2
Prepackaged natural cheese	28	15	-13
Grated and specialty cheese	16	7	-9
Cream cheese	3	1	-2
Spreads and cheese foods	11	7	-4
Sour cream and dips	9	4	-5
Biscuits and dinner rolls	11	11	0
Cookies and pastry	13	8	-5
Miscellaneous	16	8	-8
TOTAL	177	115	-62

The Role of the Dairy Department in the Supermarket

Supermarket total sales remained constant for both periods of observation.

Dairy department sales increased 25 per cent.

Dairy department sales now accounted for 13 per cent of total sales; previously dairy contributed 10 per cent of total store sales.

	Before		After	
	Weekly sales	Per cent	Weekly sales	Per cent
Grocery	$24,260	65.7	$23,121	63.2
Meat	7,205	19.5	6,624	18.1
Dairy	4,007	10.8	4,988	13.6
Produce	1,478	4.0	1,867	5.1
Total	$36,950	100.0	$36,600	100.0

Operating Results

Sales/week	Increased $980	+24.5%
Gross dollar profit/week	Increased $ 33	+ 4.3%
Gross profit percentage	Decreased 3%	-15.8%
Inventory turns/week	1.8 to 2.2	+22.2%
Gross return on the investment	Remained constant	

Group Sales

Sales gains were reported in all but five product groups (Table 2).

Marked increases in sales resulted in key product groups accounting for about 78 per cent of total dairy department sales.

Product group	Per cent sales increase	Per cent of total dairy department sales
Milk	26.2	40.9
Eggs	36.1	17.8
Cottage cheese	77.8	6.7
Sliced processed cheese	31.6	5.0
Prepackaged natural cheese	19.8	4.7
Biscuits & dinner rolls	50.2	3.6
Total	32.5	78.7

Table 2. Dairy department sales, by product group, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Dairy department product group	Dollar sales by department Before	After	Per cent change
Milk	$1616.24	$2040.10	+26.2
Milk beverages	234.54	230.36	- 1.8
Cream	72.05	63.07	-12.5
Butter	79.83	90.86	+13.8
Margarine	378.28	372.68	- 1.5
Eggs	651.31	886.48	+36.1
Cottage cheese	188.75	335.55	+77.8
Process cheese	55.58	76.56	+37.7
Sliced process cheese	190.25	250.41	+31.6
Prepackaged natural cheese	193.69	232.03	+19.8
Grated and specialty cheese	38.17	36.22	- 5.1
Cream cheese	12.01	18.48	+53.9
Spreads and cheese foods	10.88	13.31	+22.3
Sour cream and dips	60.00	77.42	+29.0
Biscuits and dinner rolls	118.96	178.67	+50.2
Cookies and pastry	62.18	66.12	+ 6.3
Miscellaneous	45.11	19.50	-56.8
Total	$4007.83	$4987.82	+24.5

Group Gross Profits

Dollar gross profits increased $33 despite a decrease in gross profit dollars in nine of the product groups (Table 3).

However, gross profit as a percentage of total sales declined due to the substantial increase in sales which was not accompanied by a similar increase in dollar gross margin (Table 4).

Square Feet of Selling Area

Space allocated to product groups was measured in terms of square feet of frontage (width of display times height of display for any item or group of items).

Square feet of selling area for a product group thus represents the amount of facings for a given product group or product presented to the customer. Facings are important in self service selling.

This measure or standard replaced the shelf space standard since several of the shelves in the dairy display were removed for the second period of observation to better implement the new merchandising techniques.

Essentially, space was allocated according to sales and gross profit returns (Table 4).

Table 3. Gross profit, by product group, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Dairy department product group	Dollar gross profit by group Before	After	Per cent change
Milk	346.66	335.55	- 3.2
Milk beverages	25.64	23.40	- 8.7
Cream	21.81	19.30	-11.5
Butter	9.84	9.51	- 3.4
Margarine	43.32	34.35	-20.7
Eggs	95.58	144.90	+51.6
Cottage cheese	40.81	39.85	- 2.4
Process cheese	4.83	8.93	+84.9
Sliced process cheese	42.86	44.15	+ 3.0
Prepackaged natural cheese	43.94	47.03	+ 7.0
Grated and specialty cheese	9.46	8.43	-10.9
Cream cheese	2.16	1.68	-22.2
Spreads and cheese foods	2.45	2.85	+16.3
Sour cream and dips	17.00	18.55	+ 9.1
Biscuits and dinner rolls	26.19	37.36	+42.7
Cookies and pastry	10.24	14.12	+37.9
Miscellaneous	18.14	4.43	-75.6
Total	760.94	794.40	4.4

The adjustment in space remedied out of stock conditions, reduced labor costs and also contributed to increase in sales, particularly in key product groupings.

	Per cent change in square feet of display frontage	Per cent change in sales
Milk	+69.5	+26.2
Eggs	+76.3	+36.1
Oleomargarine	-25.5	constant
Cottage cheese	+10.7	+77.8
Sliced process cheese	0.0	+31.6
Prepackaged natural cheese	-44.3	+19.8
Biscuits and dinner rolls	+58.2	+50.2

Milk and eggs, accounting for almost half of the dairy department sales were grossly underspaced in the existing arrangement of dairy items. The new arrangement essentially remedied out of stock and stocking items for these fast moving items. The sales increases were quite marked, however, despite the fact that milk and eggs were the most frequently purchased of all dairy items.

Investment in Inventory

Increased 6.3 per cent for all dairy products (Table 5).

Table 4. Space in square feet, of display frontage by product group, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Dairy department product group	Square feet of frontage by group		
	Before	After	Per cent change
Milk	13.1	22.2	+69.5
Milk beverages	5.2	6.6	+26.9
Cream	1.9	3.0	+57.9
Butter	2.3	1.7	-26.1
Margarine	14.5	10.8	-25.5
Eggs	5.9	10.4	+76.3
Cottage cheese	5.6	6.2	+10.7
Process cheese	2.5	3.0	+20.0
Sliced process cheese	3.7	3.7	0
Prepackaged natural cheese	11.5	6.4	-44.3
Grated and specialty cheese	4.3	2.2	-48.8
Cream cheese	1.0	1.1	+10.0
Spreads and cheese foods	4.1	1.6	-61.0
Sour cream and dips	2.8	2.3	-17.9
Biscuits and dinner rolls	5.5	8.7	+58.2
Cookies and pastry	7.0	6.5	- 7.1
Miscellaneous	9.1	3.8	-58.2
Total	100.0	100.0	0.0

Table 5. Inventory in dollars, by product group, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Dairy department product group	Average dollar inventory Before	After	Per cent change
Milk	414.13	601.83	+45.3
Milk beverages	85.06	78.35	- 7.9
Cream	36.72	23.65	-35.6
Butter	83.31	44.95	-46.0
Margarine	210.08	104.10	-50.5
Eggs	148.23	247.51	+66.9
Cottage cheese	65.20	103.71	+59.1
Process cheese	35.97	63.18	+75.7
Sliced process cheese	93.05	120.23	+29.2
Prepackaged natural cheese	260.65	145.92	-44.0
Grated and specialty cheese	85.75	31.33	-63.5
Cream cheese	13.32	9.60	-27.9
Spreads and cheese foods	49.68	21.45	-56.8
Sour cream and dips	41.81	43.52	+ 4.1
Biscuits and dinner rolls	33.60	139.76	+316.0
Cookies and pastry	67.30	76.55	+13.7
Miscellaneous	48.09	28.63	-40.5
Total	1771.94	1884.28	+ 6.3

Essentially, changes in inventory investment for product groups were related to increases or decreases in space allocated.

	Percentage change in inventory	Percentage change in space (square feet of display frontage)
Milk	+45.3	+69.5
Eggs	+66.9	+76.3
Margarine	-50.5	-25.5
Cottage cheese	+59.1	+10.7
Prepackaged natural cheese	-44.0	-44.3
Biscuits and dinner rolls	+316.0	+58.2

Total inventory turnover improved 22 percent, moving upward from 1.8 to 2.2 turns per week (Table 6).

Improvement in inventory turnover could be evidenced in two ways. In instances where space was limited in relationship to product movement (milk, eggs) inventory turnover was reduced, reflecting an improved space, movement balance. On the other hand, where space was excessive in relationship to product movement (margarine, prepackaged natural cheese, grated or specialty cheese) inventory turns increased likewise providing an improved balance in space and product movement.

Table 6. Weekly inventory turnover, by product group, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Dairy department product group	Weekly inventory turnover by group		
	Before	After	Per cent change
Milk	3.1	2.8	- 9.7
Milk beverages	2.5	2.6	+ 4.0
Cream	1.4	1.9	+35.7
Butter	0.8	1.8	+125.0
Margarine	1.6	3.2	+100.0
Eggs	3.7	3.0	-18.9
Cottage cheese	2.3	2.9	+26.1
Process cheese	1.4	1.1	-21.4
Sliced process cheese	1.6	1.7	+ 6.3
Prepackaged natural cheese	0.6	1.3	+116.7
Grated and specialty cheese	0.3	0.9	+200.0
Cream cheese	0.7	1.7	+142.9
Spreads and cheese foods	0.2	0.5	+150.0
Sour cream and dips	1.0	1.4	+40.0
Biscuits and dinner rolls	2.8	1.0	-64.3
Cookies and pastry	0.8	0.7	-12.5
Miscellaneous	0.6	0.5	-16.7
Total	1.8	2.2	+22.2

Table 7. Return on investment, by product group, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Dairy department product group	Gross margin dollar return on inventory investment		
	Before	After	Per cent change
Milk	83.71	55.76	-33.4
Milk beverages	30.14	29.86	- .9
Cream	59.42	81.63	+37.4
Butter	11.81	21.16	+79.2
Margarine	20.62	33.00	+60.0
Eggs	64.48	58.54	- 9.2
Cottage cheese	62.59	38.42	-38.6
Process cheese	13.43	14.13	+ 5.2
Sliced process cheese	46.06	36.72	-20.3
Prepackaged natural cheese	16.86	32.23	+91.2
Grated and specialty cheese	11.04	26.91	+143.8
Cream cheese	16.19	17.50	+ 8.1
Spreads and cheese foods	4.94	13.29	+169.0
Sour cream and dips	40.66	42.62	+ 4.8
Biscuits and dinner rolls	77.95	26.73	-65.7
Cookies and pastry	15.21	18.45	+21.3
Miscellaneous	37.73	15.49	-59.0
Total	42.94	42.16	- 1.8

Gross Dollar Margin Return on the Dollar Inventory Investment

Declined slightly because of the compounded effect of increased inventory investment and the decline in gross margin dollar returns (Table 7).

Full Vision (vertical) Display

The full vision display technique was employed for product groupings in milk, eggs, oleomargarine and cottage cheese.

This display technique calls for placement of as many of the product groupings on eye level shelves or positions as possible.

For the four key product groups, this would mean that the attention of the consumer would be now directed toward the center of the display and away from the bottom layer of the dairy display as was the instance in the conventional arrangement where milk, eggs and oleo were placed on the bottom shelf (Figure 4).

By spacing the fast moving key items at intervals across the display frontage and employing the full vision technique, store management can thus disperse impulse family groupings in between the fast moving demand items.

Thus not only do the sales of key demand groups benefit from this display technique, but sales of other more impulsive, slow moving groups respond also.

For Milk -- in full vision display

Sales	increased $424	up 26.2%
Department sales, per cent	remained constant	
Gross margin dollars	decreased $11.	down 3.2%
Gross margin per cent	decreased 4.9%	down 22.9%

For Eggs -- in full vision display

Sales	increased $235	up 36.1%
Department sales, per cent	increased 1.6%	up 9.9%
Gross margin dollars	increased $49	up 51.6%
Gross margin per cent	increased 1.7%	up 11.6%

For margarine -- in full vision display

Sales	remained constant	
Department sales, per cent	decreased 1.9%	down 20.2%
Gross margin dollars	decreased $9	down 20.7%
Gross margin per cent	decreased 2.2%	down 19.3%

For Cottage Cheese -- in full vision display

Sales	increased $147	up 77.8%
Department sales, per cent	increased 1.9%	up 39.6%
Gross margin dollars	remained constant	
Gross margin per cent	decreased 9.8%	down 45.2%

Summary - Full Vision

When used in conjunction with the display techniques of family grouping and allocation of space in regard to product movement, three of the four key product groups in the dairy department increased sales substantially.

Margarine sales remained constant. However more than 50 per cent of items in this grouping were eliminated after the initial product evaluation. Space was decreased 25 per cent.

Gross margin dollar returns were not commensurate with the sales increases. This reflected either the marked increase in volume of low margin items or a decrease in price of volume items during the second period of observation.

The effect of price decreases on movement of milk items was marked. Unquestionably this practice contributed to the substantial increase in milk sales (Table 8).

Conclusion

This was a study of a single dairy department in a well-managed, successful supermarket in a medium sized midwestern city.

The two trial periods were carried out under normal operating conditions. Space was held constant during each of the trial periods. Prices were held constant in most instances for the two periods. However, noticeable price changes occurred in several items in the second period because of competitive conditions.

Consequently, the actual statistical results are not representative of supermarket dairy departments in general.

However, the resulting increase in sales and profits from a combination of a) space management, b) full vision display techniques, c) grouping of items by family, and d) interspacing of demand and impulse items appears to be possible for most supermarket dairy departments in a varying degree.

This study does not attach importance to any one of these merchandising practices but emphasizes the combined application of these techniques as a bundle.

Certainly this study does point up the importance of implementing these practices in the four key product groups (milk, eggs, oleomargarine, cottage cheese) in the dairy department.

Table 8. Sales, unit prices and gross margins for individual milk brands and sizes, by product group, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Brand	Size	Unit Sales		Unit Price in Dollars		Unit Gross Margin in Dollars		Dollars Gross Margin		Per cent Gross Margin	
		Before	After	Before	After	Before	After	Before	After	Before	After
Best Ever V 2 milk	gal.	---	480	---	.79	---	.096	---	46	---	12.16
Val U homogenized milk	gal.	488	420	.97	.97	.219	.219	107	92	22.30	22.61
Best Ever homogenized milk	gal.	283	261	.99	.99	.218	.218	62	57	22.04	22.04
Best Ever V 2 milk	1/2 gal.	573	939	.395	.371	.053	.029	30	27	13.4	7.72
Val U homogenized milk	1/2 gal.	638	905	.495	.442	.115	.062	73	56	23.1	13.9
Best Ever homogenized milk	1/2 gal.	570	435	.510	.510	.119	.119	68	52	23.3	23.3
Frazier homogenized milk	1 qt.	107	86	.27	.28	.059	.069	6	6	21.9	24.6

Naturally key items may differ for dairy departments in different kinds of stores in different parts of the country. However, the use of product movement studies to define the importance of product groups (and specific items within product groups) appears to be of utmost importance.

The following are appendix tables
with
emphasis on operating results
by individual family groupings.

Table 9. Selected dairy department operating ratios, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Item	Before	After	Per cent change
Sales	4008	4988	+24.5
Department sales, per cent			
Gross margin dollars	761	794	+ 4.3
Gross margin per cent	18.9	15.9	-15.9
Contribution to total gross margin, per cent			
Display area, per cent	100.0	100.0	0
Weekly sales per square foot of display	32.32	40.42	+25.1
Weekly gross per square foot of display	6.1	6.4	+ 4.9
Average dollar inventory	1772	1884	+ 6.3
Weekly inventory turnover	1.8	2.2	+22.2
Gross margin dollar return from inventory investment	42.9	42.2	- 1.6

Table 10. Sales, contribution to total gross margin and display frontage for seven high volume dairy items, by product group, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Item	Per cent department sales	Per cent contribution to total gross margin	Per cent display frontage
		Before	
Milk	40.3	46.0	13.1
Eggs	16.2	12.6	5.9
Margarine	9.4	5.6	14.5
Milk beverages	5.9	3.3	5.2
Prepackaged natural cheese	4.9	5.8	11.5
Sliced process cheese	4.8	5.7	3.7
Cottage cheese	4.8	5.3	5.6
Total	86.3	84.3	59.5
		After	
Milk	40.9	42.2	22.2
Eggs	17.8	18.2	10.4
Margarine	7.4	4.3	10.8
Milk beverages	4.6	3.0	6.6
Prepackaged natural cheese	4.7	5.9	6.4
Sliced process cheese	5.1	5.6	3.7
Cottage cheese	6.7	5.0	6.2
Total	87.2	84.2	66.3

Table 11. Sales, contribution to total gross margin and display frontage for seven low volume dairy items, by product, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Item	Per cent department sales	Per cent contribution to total gross margin	Per cent display frontage
		Before	
Cheese spreads and food	.2	.3	4.1
Cream cheese	.3	.2	1.0
Grated and specialty cheese	1.0	1.2	4.3
Miscellaneous	1.1	2.3	9.1
Process cheese loaves	1.3	.6	2.5
Sour cream dips	1.5	2.2	2.8
Total	5.4	6.8	23.8
		After	
Cheese spreads and food	.3	.4	1.6
Cream cheese	.4	.2	1.1
Grated and specialty cheese	.7	1.1	2.2
Miscellaneous	.4	.6	3.8
Process cheese loaves	1.5	1.1	3.0
Sour cream dips	1.6	2.3	2.3
Total	4.9	5.7	14.0

Table 12. Selected operating ratios for milk, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Operating ratios	Before	After	Per cent change
Sales	1616	2040	+26.2
Department sales, per cent	40.3	40.9	- 1.5
Gross margin dollars	347	336	- 3.2
Gross margin per cent	21.4	16.5	-22.9
Contribution to total gross margin, per cent	46	42.2	- 8.3
Display area, per cent	13.1	22.2	+69.5
Weekly sales per square foot of display	99.5	74.50	-25.1
Weekly gross per square foot of display	21.3	21.48	+ .8
Average dollar inventory	414	601	+45.2
Weekly inventory turnover	3.1	2.8	- 9.7
Gross margin dollar return from inventory investment	83.8	55.8	-33.4

Table 13. Selected operating ratios for eggs, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Operating ratios	Before	After	Per cent change
Sales	651	886	+36.1
Department Sales, per cent	16.2	17.8	+ 9.9
Gross margin dollars	95.60	144.90	+51.6
Gross margin percent	14.7	16.4	+11.6
Contribution to total gross margin, per cent	12.6	18.2	+44.4
Display area, per cent	5.9	10.4	+76.3
Weekly sales per square foot of display	89.2	69.08	-22.6
Weekly gross per square foot of display	13.1	11.29	-13.8
Average dollar inventory	148	248	+67.6
Weekly inventory turnover	3.7	3.0	-18.9
Gross margin dollar return from inventory investment	64.4	58.5	- 9.2

Table 14. Selected operating ratios for margarine, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Operating ratios	Before	After	Per cent change
Sales	378	373	- 1.5
Department sales, per cent	9.4	7.5	-20.2
Gross margin dollars	43.30	34.35	-20.7
Gross margin per cent	11.4	9.2	-19.3
Contribution to total gross margin, per cent	5.6	4.3	-23.2
Display area, per cent	14.5	10.8	-25.5
Weekly sales per square foot of display	21.3	28.04	+31.6
Weekly gross per square foot of display	2.4	2.60	+ 8.3
Average dollar inventory	210	104	-50.5
Weekly inventory turnover	1.6	3.2	+100.0
Gross margin dollar return from inventory investment	20.7	33	+59.4

Table 15. Selected operating ratios for cottage cheese, before and after merchandising improvements, midwestern supermarket, September 1968; March 1969

Operating ratios	Before	After	Per cent change
Sales	189	336	+77.8
Department sales, per cent	4.8	6.7	+39.6
Gross margin dollars	40.90	39.90	- 2.44
Gross margin per cent	21.7	11.88	-45.3
Contribution to total gross margin, per cent	5.3	5.0	- 5.7
Display area, per cent	5.6	6.2	+10.7
Weekly sales per square foot of display	27.3	44.21	+61.9
Weekly gross per square foot of display	5.9	5.25	-11.0
Average dollar inventory	65.20	103.70	+59.1
Weekly inventory turnover	2.3	2.9	+26.1
Gross margin dollar return from inventory investment	62.6	38.4	-38.6

Table 16. Dairy department financial and operating data, midwestern supermarket, September 1968

Dairy	Product performance					Space evaluation			Inventory evaluation		
	Dollar sales by group	Per cent department sales	Dollar gross profit by group	Per cent gross margin	Per cent contribution to total dollar gross margin	Per cent square foot of display frontage	Sales per square foot of display frontage	Gross profit per square foot of display frontage	Average dollar inventory	Inventory turnover	Gross margin dollar return on inventory investment
Milk	1616.2	40.3	346.7	21.4	46.0	13.1	99.5	21.3	414.1	3.1	83.8
Milk beverages	234.6	5.9	25.7	11.0	3.3	5.2	36.4	4.0	85.0	2.5	30.1
Cream - cream substitutes	72.0	1.8	21.9	30.2	3.0	1.9	30.5	9.3	36.8	1.4	59.4
Butter	79.9	2.0	9.9	12.3	1.2	2.3	28.0	3.5	83.3	0.8	11.9
Margarine	378.2	9.4	43.3	11.4	5.6	14.5	21.3	2.4	210.0	1.6	20.7
Eggs	651.3	16.2	95.6	14.7	12.6	5.9	89.2	13.1	148.2	3.7	64.4
Cottage cheese	188.7	4.8	40.9	21.7	5.3	5.6	27.3	5.9	65.2	2.3	62.6
Process cheese loaves	55.6	1.3	4.9	8.7	.6	2.5	17.9	1.6	36.0	1.4	13.4
Sliced process cheese	190.2	4.8	42.9	22.6	5.7	3.7	41.4	9.3	93.0	1.6	46.0
Pre-packaged natural cheese	193.7	4.9	43.9	22.7	5.8	11.5	13.6	3.0	260.7	.6	17.
Grated & specialty cheese	38.1	1.0	9.4	24.8	1.2	4.3	5.5	1.4	85.8	.3	11.0
Cream cheese	12.0	.3	2.1	18.0	0.2	1.0	9.7	1.7	13.3	.7	16.1
Cheese spread - food	10.9	.2	2.4	22.6	0.3	4.1	2.1	.5	49.7	.2	5.0
Sour cream - dips	60.0	1.5	17.0	28.3	2.2	2.8	17.3	4.9	41.9	1.0	40.7
Biscuits, dinner rolls	118.9	3.0	26.1	22.0	3.4	5.5	17.4	3.8	33.7	2.8	78.0
Cookies, pastry	62.1	1.5	10.2	16.4	1.3	7.0	7.2	1.2	67.3	0.8	15.2
Miscellaneous	45.1	1.1	18.1	40.2	2.3	9.1	4.0	1.6	48.0	0.6	37.8
Total	4007.85	100.0	760.94	18.99	100.0	100.00	32.32	6.14	1772.00	1.8	42.94

Table 17. Dairy department financial and operating data, midwestern supermarket, September 1968; March 1969

Dairy department product group	Product performance					Space evaluation			Inventory evaluation		
	Dollar sales by group	Per cent department sales	Dollar gross profit by group	Per cent gross margin	Per cent contribution to total dollar gross margin	Per cent square foot of display frontage	Sales per square foot of display frontage	Gross profit per square foot of display frontage	Average dollar inventory	Inventory turnover	Gross margin dollar return on inventory investment
Milk	2040.1	40.9	335.6	16.5	42.2	22.2	74.5	12.3	601.8	2.8	55.8
Milk beverages	230.4	4.6	23.4	10.2	3.0	6.6	28.4	2.9	78.4	2.6	29.9
Cream	63.1	1.3	19.3	30.6	2.4	3.0	16.9	5.2	23.7	1.9	81.6
Butter	90.9	1.8	9.5	10.5	1.2	1.7	43.5	4.6	45.0	1.8	21.2
Margarine	372.7	7.4	34.4	9.2	4.3	10.8	28.0	2.6	104.1	3.2	33.0
Eggs	886.5	17.8	144.9	16.4	18.2	10.4	69.1	11.3	247.5	3.0	58.5
Cottage cheese	335.6	6.7	39.9	11.9	5.0	6.2	44.2	5.3	103.7	2.9	38.4
Process cheese	76.6	1.5	8.9	11.7	1.1	3.0	20.8	2.4	63.2	1.1	14.1
Sliced process cheese	250.4	5.0	44.1	17.6	5.6	3.7	54.5	9.8	120.2	1.7	36.7
Pre-packaged natural cheese	232.0	4.7	47.0	20.3	5.9	6.4	29.2	5.9	145.9	1.3	32.2
Grated and specialty cheese	36.2	.7	8.4	23.3	1.1	2.2	13.6	3.2	31.3	.9	26.9
Cream cheese	18.5	.4	1.7	9.1	.2	1.1	13.6	1.2	9.6	1.7	17.5
Cheese spreads and foods	13.3	.3	2.9	21.4	.4	1.6	6.6	1.4	21.5	.5	13.3
Sour cream and dips	77.4	1.6	18.6	24.0	2.3	2.3	27.8	6.7	43.5	1.4	42.6
Biscuits and dinner rolls	178.7	3.6	37.4	20.9	4.7	8.7	16.7	3.5	139.8	1.0	26.7
Cookies and pastry	66.1	1.3	14.1	21.4	1.8	6.5	8.3	1.8	76.6	.7	18.5
Miscellaneous	19.5	.4	4.4	22.7	.6	3.8	4.2	1.0	28.6	.5	15.5
Total	4988.0	100.0	794.6	15.9	100.0	100.0	40.4	6.4	1884.4	2.2	42.2