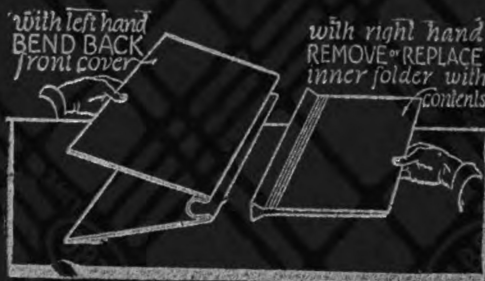


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A
MERCHANDISING STRATEGY
FOR
FROZEN FOODS

by

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A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
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PREFACE

I have made many false starts on a project calculated to judge the profitability of the frozen food department. I had hoped to show that in a given circumstance the frozen food department was profitable. My original plan called for a case study of a few selected stores in a large Midwestern chain. Tentative agreement to cooperate was received from the chain, until the large scope of the project was realized. The gentleman from whom I had hoped to gain all relevant information was perfectly frank in admitting he did not have the staff nor the time to conduct the rather thorough study I had envisioned.

I have, then, devised a strategy for effective merchandising of frozen foods from what I consider a more realistic approach than that taken by most managers. By realistic I mean more useful for managers in their individual situations.

I would like to express my gratitude to the following persons for their generous assistance in contributing to the completion of the study: Dr. Edward M. Barnet, Director of Programs in Mass Marketing Management at Michigan State University; Assistant Professor Daniel Slate, Michigan State University; Mr. Charles Crossed, United States Department of Agriculture, Marketing Economics Division; Miss Catherine

McAndrews, Manager--Information Service, Super Market Institute, Inc.; my classmates, especially Mr. Adrian Vannice and Mr. Tom Neal of The Kroger Company; and to the many companies and other individuals who have contributed information.

I feel deeply grateful to my company, Red Owl Stores, Inc. for providing me with the opportunity to do this research, and especially to Mr. Robert Feinfeld for his pointed questions and observations.

I wish also to give special thanks to my wife, Kay, for her patience, cooperation typing ability, and general inspiration.

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CHAPTER I

INTRODUCTION

Personal observations indicated that store managers neglected the frozen food department until the grocery department had been put in reasonable order. Such actions meant that few facings in the frozen food case were full and valuable sales opportunities were probably lost. Observations were made of some customers bending and stretching to get a last can of orange juice from the cabinet, but frequently they would rather go without than go through the contortions necessary to get the last can. Neglect, then can cause not only low stocks but also customer irritation which, if not detected and remedied, will have detrimental effects on the store.

Because observations were limited to stores of only one chain, the value of this study may be seriously limited. It is believed that the managers of this chain are representative of most managers and most managers act in substantially the same way. The point is, frozen foods are being neglected to varying degrees by some managers, assumed to be representative of the whole group of managers. To the extent the neglect situation is true in the particular instance, it is assumed to be true in most instances.

Problem

The problem is how to formulate a better merchandising strategy for frozen foods by developing in the manager a consciousness of operating costs and market characteristics.

The reluctance of store managers to accept fully the frozen food department might be attributed to the common belief that the department is unprofitable. Such an across-the-board statement grossly underestimates the potentialities of the department--potentialities that could be utilized to make profits. The preconceived and erroneous notions about profitability stem from the position of frozen foods during and after World War II when, in actuality, there were no profits. The manager thinks he carries frozen foods merely as a service for the customer and not as a contribution to his net profit. It is his idea that as long as he is not getting anything out of the blankety-blank department he is not going to put anything into it. Because of this belief too many managers and chains lack an effective strategy for promotion of frozen foods.

The strategy to be developed here is meant to be applied by the store manager in his individual situation. However, utilization of the study is not limited solely to store managers but, in fact, can be adopted by personnel at headquarters. Responsibility for setting the tone of frozen food merchandising rests with headquarters personnel. If the "office" does not think frozen foods are worth promoting,

then the store manager is hard pressed to put an aggressive sales program into action.

It is assumed that many managers do not have a realistic idea of what they are putting into the department. At the present time there is little in the way of a simple method for allocating operating costs to the frozen food department, particularly on a per item basis. Traditional methods view frozen food as a department and entirely neglect the individual items. Traditional methods assume each item takes an equal amount of operating costs, an idea this paper hopes to dispel.

Cost consciousness on the part of the manager, together with a knowledge of market characteristics is an integral part of any merchandising strategy. Cognizance of these two areas is essential to formulating any kind of per unit space allocation which, in turn, must be the foundation of any effective promotion.

Objectives

The first objective of the study is to define the past and present problems of frozen food merchandising. In Chapter II a brief review will be made of some essential historical background in order to set the stage for a discussion of the stagnation of frozen food sales. Previous to 1956, frozen food sales increased at a rapid rate, but since then have leveled off at about 4.0% of total food sales. The frozen food industry, once destined for gigantic proportions, has suddenly stopped growing.

The first of several causes contributing to the stagnation of frozen food sales is lack of customer acceptance of frozen foods. Perhaps the consumer does not like the quality of frozen foods, and therefore, will not buy them. If this be the case, a program to educate people on the degree of quality inherent in quick frozen foods is long overdue.

The degree to which the consumer will substitute frozen items for canned or fresh is an extension of the problem of acceptability. An attempt will be made to discuss whether or not the industry is faced with a problem of latent demand which must be uncovered.

Another problem facing the industry is the degree to which the consumer has facilities to store large quantities of frozen food. In order to preserve the quality inherent in frozen foods they must be stored at 0° F. at all times. Limited freezer capacity would most certainly stifle volume purchases of frozen items.

One problem which is on the way to being solved is the absence of decent display cases. The cabinets presently being used offer little in the way of eye-level merchandise appeal to the consumer. Some manufacturers of refrigeration equipment, notably Hussman Refrigeration and Tyler Refrigeration, are producing limited quantities of a new triple-deck case which would eliminate the problem.

Having at least become aware of the problems facing the industry, a second objective will be discussed, namely,

to formulate and describe a better method for computing operating costs.

It is felt one reason the department is neglected is that managers and chain personnel do not have an adequate method to measure net operating profit. Managers need to know the net operating profit not only of the department but also per item. By breaking down costs and profits to a per item basis it is hoped store managers will be able to make better decisions concerning display and space allocations. In using an item comparison the operator can see whether additional promotional costs pay for themselves in terms of increased sales of an item, or perhaps increased volume of the department.

The third objective is to describe types of market information and to list sources of such material available to a manager. Without an adequate knowledge of the people in his trading area the manager might well make gross errors in promotion. A sophisticated statistical analysis of the market need not be made in order to obtain the type of knowledge necessary. There exists a vast availability of source material for just the general information that is needed, but only some of the relevant sources will be discussed.

The next objective is to demonstrate a space allocation formula that integrates the criteria of cost consciousness and market knowledge. Of prime consideration in any space allocation should be the overhead cost attributed to the space together with the labor cost allocated to the

item occupying the space. Once a base space per item has been ascertained it must be adjusted in terms of the demand of the market for the item. The quantitative criterion of costs will be combined with the qualitative criterion of market characteristics to arrive at a workable and efficient formula to be used by the manager.

The last objective of the analysis of an effective merchandising strategy is to suggest techniques for proper merchandising of frozen foods. A focus will be drawn on techniques having sufficient flexibility to adapt to changing times and markets. Some of the topics to be covered include advertising, display, and proper handling.

The objectives rank as a summary of the merchandising strategy being proposed to managers and chain personnel. It is hoped the strategy leaves far behind the trial and error approach now used by most frozen food men.

Hypothesis

It is hypothesized that knowledge of the effect of operating costs on net profit and an awareness of market characteristics combined with proper display techniques will demonstrate to the store manager possible areas of neglected net profit contribution or loss reduction, and hence, will benefit the store manager in formulating a strategy for merchandising frozen foods.

Definitions

In order to clarify the hypothesis it is deemed necessary to define some of the terms. Perhaps the term which would be subject to the most controversy is operating costs. For purposes of the paper, operating costs are defined as the costs of doing business, measured by the store manager as actually occurring at store level. Thus, costs such as warehousing, freight and trucking, and administrative are not included in operating expenses.¹

Operating expenses include noncontrollable and controllable recurring costs. Noncontrollable costs, from a store manager's viewpoint, may be charged either in constant dollar amounts each operating period or in constant percentage of store volume. Rent or occupancy charge is an example of a constant dollar amount deducted on the store operating statement. Other costs such as advertising or trading stamps may be pro-rated on a constant percentage of store volume.

Controllable expenses are those costs upon which the manager can have direct influence, and include labor, supplies, and in some cases, utilities.

For the purposes of the paper, operating costs will be divided into direct and indirect costs.²

¹The significance of this omission will be explained in Chapter III.

²The meaning and significance of direct and indirect costs will be explained in Chapter III.

Net profit is to be taken as gross profit less operating costs defined above. In terms of the previous definition this is net operating profit but for the purpose of simplicity will be called net profit.

Awareness of market characteristics is merely a state of being informed about the wants and desires of the people in the trading area of the store.

Methods

The method chosen to accomplish the objectives and to verify the hypothesis is an historical approach, supplemented wherever possible with direct sources. A number of reliable sources have been drawn upon in order to combine separate ideas into an integrated workable program for the manager. Sources include personal observation to a certain degree, but, more emphasis has been placed on the use of food industry magazines and newspapers and an interpretation of the material therein.

Summary

The study deals with formulating an effective strategy whereby the store manager will be better able to merchandise frozen foods. The degree to which the manager must be conscious of operating costs and market characteristics will be stressed. With a basic understanding of what is proposed one may now proceed to the body of the report.

CHAPTER II

DEVELOPMENT OF FROZEN FOOD

In order to understand the position in which the store manager has been placed it is necessary to understand the developmental problems of the frozen food industry. The objective of this chapter is to define past and present problems of the frozen food industry.

Historically it is believed that man became aware of freezing flesh foods when he moved from the warmer areas of the world to the colder northern climates. There is even some historical evidence that Egyptian Pharoahs were fond of frozen desserts, going to such extremes as bringing snow for freezing purposes from the far away mountains.¹ Less than one hundred years ago slow freezing by artificial means was used on fish, poultry, and some meats. The present day development of artificial freezing of fruits and vegetables was only started in 1925, by an enterprising man named Clarence Birdseye.²

¹Robert A. Froman. "Ice Cream--Sundae, Monday and All Ways," Colliers, CXXVII, No. 23 (June 9, 1951), 19.

²"Tribute to Clarence Birdseye," Quick Frozen Foods, XXII, No. 8 (March, 1960), 319.

The artificial method of freezing perishable foods pioneered by Mr. Birdseye was a system of quick freezing by pressing the packaged goods between two refrigerated metal belts. Though the scientific principles of quick freezing had long been known, no one had ever thought of using the process to preserve the top qualities of a fresh product. Mr. Birdseye, an avid fisherman and noted hunter, noticed on one of his trips that fish frozen in minus thirty to forty degree weather, when thawed and cooked were as tasty as the fresh product.³ This was in 1923.

After much research and experimentation he developed plans for a small belt froster which, by 1926, had grown into a twenty ton quick freezing machine. Birdseye began shipping bulky packs of frozen fish to the Midwest and he also kept on experimenting with fruits and vegetables. Business was generally bad because people associated frozen foods with cold storage food whose flavor was so bad that customers shunned it. A good job of educating the public about the advantages and quality of frozen foods was sorely needed and was, to a certain degree, implemented by Mr. Birdseye.

In June, 1929, Clarence Birdseye was able to sell the patents and assets of his fledgling company to the Postum Company which recognized the potential of this infant industry. On March 6, 1930, quick frozen food was offered to

³Ibid., 318.

America for the first time in retail stores in Springfield, Massachusetts, just thirty-two years ago. Behind a tumultuous forty week advertising campaign, Birdseye launched twenty-seven different products in ten stores and, in the following ten months, sold 80,000 packages.⁴ By 1934, the young Birdseye business was deep in debt and deeply bogged down by a distribution problem. The first step and ultimate solution to the problem was a cut in retail prices in order to develop a greater volume of sales and to gain economies of distribution. As a result of the action the company began to move into the black.

It was not until 1940, at the end of the depression, that the Birdseye Company began national distribution. Shortly thereafter, an all out war effort by the United States drew a great percentage of the homemakers into defense plants and, in the search for quick meals, frozen foods came into its own. However, the era was not one of complete success because it also gave birth to many unscrupulous operators who saw in frozen foods a chance to make a quick dollar. The guileful operators included processors, distributors, and retailers. The whole operation was new and no one knew quite how to sell the merchandise in an effective manner without taking undue advantage of the consumer. As a result, many operators thought it perfectly permissible to sell frozen foods from a non-refrigerated display. Pictures can be seen

⁴Ibid., 324.

of operators holding "frozen" food sales in front of the store in midsummer. What equipment there was, was not cared for properly and, as a result, both the equipment and the frozen products deteriorated. But, in spite of the abuses and poor customer relations, the industry grew from an output of 325 million pounds in 1939, to over 6.5 billion pounds in 1959. Table 1 delineates the production comparison in the last decade.

TABLE 1
PRODUCTION COMPARISON OF FROZEN FOODS*
(In millions of pounds)

Frozen Foods	1949	1959	% Increase
Fruits	360	613	171
Vegetables	590	1,626	276
Poultry	200	1,747	870
Meats	50	300	600
Seafoods	165	473	290
Prepared Foods	33	700	2,000
Concentrates	140	1,096	782
Total	1,516	6,565	433
Dollar Value Total (in millions)	\$375	\$2,740	733%

*Source: "1960 Frozen Food Almanac," Quick Frozen Foods, XXIII, No. 3 (October, 1960), 150.

Stagnation

In the past few years frozen food sales have leveled off in a range of 4.6% to 7% in many large stores, by no means reaching the over-all goal of 10% set some years

ago.⁵ Frozen foods have continued to make progress, even though they have not fully lived up to some of the optimistic predictions. Table 2 illustrates the trend in recent years for supermarkets and food stores. The average per capita consumption of frozen foods is around twenty-eight pounds per year or about five-tenths pounds per week for every man, woman, and child in the country today.⁶

TABLE 2
FROZEN FOODS: PER CENT OF STORE SALES

Year	Supermarkets ^a	Food Stores ^b
1960	4.5	4.04
1959	n.a.	4.09
1958	4.3	4.03
1957	n.a.	3.96
1956	4.0	3.93
1955	n.a.	3.71
1954	3.5	3.34

^aSource: "The Super Market Industry Speaks--1961," Thirteenth Annual Report by the Members of Super Market Institute, Inc., 13.

^bSource: "What Customers Spent for All Products Sold in Food Stores," Food Topics (reprint), XVI, No. 9 (September, 1961).

⁵E. W. Williams, "Immediate Trends in the Frozen Food Industry," Quick Frozen Foods, XXIII, No. 3 (October, 1960), 73.

⁶Lawrence Martin, "Growth Factors for Frozen Foods in the 1960's," Frosted Food Field, XXX, No. 4 (April, 1960), 12.

In a discussion as to whether there is a limit to the consumption of frozen fruits and vegetables, one author questions the relative security of the frozen food industry. This author expressed it as follows: ". . . if only six ounces more of frozen vegetables and fruits were eaten in this country, not only would the industry be more secure, but the public healthier."⁷

There exists a paradoxical situation because the socio-economic factors which resulted in the early popularity of frozen foods still exist but the influence is not being felt. As mentioned before, an increased number of women are being employed outside the home and consequently they are seeking faster and easier ways to perform their kitchen rituals. The built-in maid service of prepared frozen foods has helped many homemakers keep their new found freedom from the four walls.

Another of the socio-economic factors prevalent in the past growth of frozen food is the natural growth of the population. "Population is likely to increase by 2.5 to 4.0 million persons per year during the next 10 years,"⁸ which means that even if the frozen food industry were to continue present promotion methods it would be selling more

⁷"Is There a Limit to the Consumption of Frozen Fruits and Vegetables?," Quick Frozen Foods, XXIII, No. 8 (March, 1961), 370.

⁸Martin, loc. cit.

frozen food by 1970. But its percentage share of the total food sale will not necessarily increase. The young adult group should increase in the next ten years and, as a result, new households will be formed with a still larger potential for frozen foods. The density of population along the Eastern Seaboard and Pacific States awaits the rapid spread of new markets and marketing appeals.

The education level is on the increase and with this comes an increase in frozen food purchases. A survey of frozen food consumers indicated their education level was much higher than non-users.⁹

The aforementioned are just a few of the factors that, in the past, have helped the growth of frozen foods. Some people express the opinion that these factors and more will continue to influence frozen food purchases. But as of the last few years frozen food sales as a per cent of total food store sales has remained relatively stable. This is an apparent paradox for which there is no real answer. All this paper can do is to discuss various areas contributing to the stagnation of frozen food sales.

Customer Acceptance

In any discussion about the dearth of frozen food sales the one topic that comes to mind most often is customer acceptance or extent of over-all usage. Until

⁹Ralph Joseph Matysiak, "A Study of the Profitability of Frozen Food Departments" (unpublished Master's thesis School of Business and Public Service, Michigan State University, 1960), 13.

recently the manufacturers were fighting an uphill battle to win consumer confidence on the mere idea of using frozen foods. A recent Life magazine survey indicated that the acceptance of frozen merchandise has improved and has become generally favorable.¹⁰ The extent of over-all usage, as reported in the survey, is indicated in Table 3.

TABLE 3
EXTENT OF OVER-ALL USAGE*

Per Cent	Frozen Food
94	vegetables
93	juices
70	fruit
68	bakery products
63	meat pies
59	dinners
58	fish
41	seafood

*Source: "Life Magazine Surveys Consumer Attitudes Towards Frozen Foods," Quick Frozen Foods, XXIII, No. 3 (October, 1960), 37.

In juices alone almost half (48%) of the respondents indicated that they served it once a day or more. "In contrast, 14% of the respondents never serve canned juice and 27% never serve fresh juice."¹¹ Of course, the incidence of

¹⁰"Life Magazine Surveys Consumer Attitudes Towards Frozen Foods," Quick Frozen Foods, XXIII, No. 3 (October, 1960), 87.

¹¹Ibid.

juice is predicated upon the quality of the product and the tremendously important aspect of ease of preparation. No longer does the American housewife have to squeeze juice from oranges when she can just add water to an already prepared concentrate.

The frequency of servings of canned vegetables is left behind in the intensive competition between fresh and frozen vegetables, which are comparably consumed. Table 4 demonstrates the competition of fresh, frozen, and canned vegetables.

TABLE 4
FREQUENCY OF SERVINGS*

Times Per Month	Frozen	Fresh	Canned
Never	--%	1%	3%
1-4	17	13	19
5-9	19	13	17
10-14	17	19	11
15-19	12	12	11
20-24	13	9	3
25-29	12	10	1
30 or more	10	13	5
Other	--	--	--

*Source: "Life Magazine Surveys Consumer Attitudes Towards Frozen Foods," Quick Frozen Foods, XXIII, No. (October, 1960), 88.

In the 1960 New York World-Telegram Grocery Inventory there was manifested a distinct pattern of seasonal variation in frozen food sales. There appears to be ". . . a steady climb in unit sales of frozen foods as the weather grows

colder with the exception of frozen juice concentrates which display a steady decline."¹² Frozen vegetables are no exception to this, probably reflecting the incidence of availability of fresh vegetables. See Table 5 for quantitative data.

TABLE 5

FROZEN VEGETABLE SALES FIVE MONTHS--1960*

Months	Unprepared 13 Brands	Prepared 2 Brands
July	64,067	2,645
August	58,930	2,696
September	64,402	2,624
October	70,873	3,079
November	74,333	3,393

*Source: "Seasonal Fluctuation in Frozen Food Sales," Quick Frozen Foods, XXIII, No. 7 (February, 1961), 36.

"Most people liked frozen foods because of their freshness and the attribute of being faster and easier to prepare."¹³ A quality image has been built through the years and many people have been won over to the use of frozen foods. The Life survey indicated that in quality and health considerations, frozen foods ran close to the quality attributed to fresh foods. Table 6 details this more closely.

¹²"Seasonal Fluctuation in Frozen Food Sales," Quick Frozen Foods, XXIII, No. 7 (February, 1961), 36.

¹³"Life Magazine Surveys Consumer Attitudes Towards Frozen Foods," loc. cit.

TABLE 6
QUALITY, HEALTH, AND COST COMPARISONS*

Method of Serving	Better Quality	More Healthful	Best Taste	Lowest Price per Serving
Frozen	46%	41%	40%	35%
Canned	4	5	3	34
Fresh	51	58	58	25

Percentages may exceed 100% due to multiple responses. Only certain categories appropriate to all three types were compared.

*Source: "Life Magazine Surveys Consumer Attitudes Towards Frozen Foods," Quick Frozen Foods, XXIII, No. 3 (October, 1960), 91.

Typical of the frozen food advertising and education approach in the last few years is one to the effect that the housewife must be made to understand that she is not serving her family enough luscious and nutritious vegetables for a healthy balanced diet. No mother likes to hear such an indictment brought against her methods of feeding her family. Whether or not the indictment is true is another matter and not at issue here. Any product preserved through the quick freezing system, in fact, does have sealed in the original vitamins, nutrients, and flavors.

An appeal such as this has not failed to build an image in the mind of the housewife, and she now firmly believes she gets better foods when she stops at the frozen food cabinet. Responses compiled in the Life survey indicated that the perceived quality of frozen foods has

increased, particularly with the juices, vegetables, and seafoods. Table 7 summarizes the responses.

TABLE 7
PERCEPTION OF FROZEN FOOD QUALITY NOW
COMPARED TO WHEN FIRST USED*

Type of Product	Higher	Same	Lower	Don't Know
Juices	60%	37%	1%	2%
Vegetables	71	29	--	--
Meat Pies	57	29	4	10
Fish	42	55	3	--
Fruits	42	55	3	--
Seafoods	32	61	5	2
Dinners	46	45	4	5
Bakery	63	34	2	1

*Source: "Life Magazine Surveys Consumer Attitudes Towards Frozen Foods," Quick Frozen Foods, XXIII, No. 3 (October, 1960), 90.

Life has shown that people do use frozen foods and that they believe in the quality of frozen foods. But the fact remains that they are not buying the quantities needed by a store to qualify for a volume operation, even though quality is perceived as good.

Substitutibility

The extent of usage (as indicated in Table 3) is good, and rising continuously, but the volume of frozen food purchases has not kept pace. Perhaps the industry is faced with a problem of latent demand which must be uncovered in order to attain the goal of 10% of total food sales set

up a few years ago. Perhaps the goal itself was and is unrealistic.

One angle of possible latent demand that no one has really explored is the degree to which consumers will substitute frozen for canned or fresh items. It is only conjecture but it is felt that frozen foods of themselves do not have the drawing power that fresh or canned items have. For example, suppose that a woman sees a can of peas on the shelf on one side of the aisle, and on the other side she sees a package of frozen peas at the same price. What is the probability that she will buy the frozen item? No one really knows.

One woman in Miami, Florida, a Mrs. Johnson, seems to point up the fact that the yen to try more frozen food is latent in every woman. Mrs. Johnson had the chance, as a result of a contest, to keep all the groceries she could pile into one grocery cart in fifteen minutes time. Of the total bill of \$129.97 almost 20% was frozen food. "This was all the more surprising since steaks, roasts, canned hams and Canadian bacon accounted for a large part of the total dollar volume."¹⁴

In accumulating the large amount of frozen foods that Mrs. Johnson did, she completely forgot about the limited freezer capacity she had at home. As a result, she

¹⁴"If I Had My Way," Quick Frozen Foods, XXII, No. 7 (February, 1960), 92.

had to enlist the aid of her helpful neighbors in storing the merchandise she won. This would seem to point up the fact that if home storage capacity was larger, then total frozen food volume would be greater. One incident does not make a fact but it is worth discussing later in the chapter.

Another reason why the consumer is not buying an increased amount of frozen foods is in the price differential. The Life survey sheds some light on this aspect of the problem. Almost two-thirds of the respondents perceived higher prices, compared to the first time used, but 50% would continue to use frozen food if they were economizing on the food bill. So even though prices were perceived as risen, half the people would still use frozen products if budget pinching was a necessity. (See Tables 8 and 9 for detailed figures.)

TABLE 8
PERCEPTION OF FROZEN FOOD PRICES NOW
COMPARED TO WHEN FIRST USED*

Type of Product	Higher	Same	Lower	Don't Know
Juices	40%	27%	25%	8%
Vegetables	28	31	29	12
Meat Pies	16	33	35	11
Fish	33	46	14	7
Fruits	31	44	21	4
Seafoods	30	47	16	7
Dinners	11	44	34	11
Bakery	21	43	24	12

*Source: "Life Magazine Surveys Consumer Attitudes Towards Frozen Foods," Quick Frozen Foods, XXIII, No. 3 (October, 1960), 91.

TABLE 9

ATTITUDES TOWARD USING FROZEN FOOD
WHEN ECONOMIZING ON FOOD BILL*

Type of Product	Not Continue	Continue
Juices	26%	74%
Vegetables	42	58
Meat Pies	30	70
Fish	39	61
Fruits	73	27
Seafoods	70	30
Dinners	63	37
Bakery	61	39

*Source: "Life Magazine Surveys Consumer Attitudes Towards Frozen Foods," Quick Frozen Foods, XXIII, No. 3 (October, 1960), 91.

Price then, does appear to be somewhat a deterrent to frozen food purchasing but even here the answer is not complete.

Storage Capacity

Another area contributing indirectly to the stagnation of frozen foods is the extent to which the consumer has facilities for storing large quantities of frozen food. In the past, the development of mechanical refrigeration for home use has helped the sale of frozen items. Most assuredly, limited freezer capacity would stifle volume purchases of frozen items. But up to a point, capacity does not seem to be limited. It is estimated that around 93% of all families in the United States possess some form of mechanical refrigeration equipment.¹⁵ At present, it is

¹⁵U. S. Department of Agriculture, "New Developments

estimated that there are 7,700,000 home freezers in use, and one-half of the population now live in homes where freezers are in use.¹⁶ So to a certain degree, consumers do have the storage facilities necessary to allow them to make large purchases of frozen goods.

A 1956 study indicated that families owning refrigerators with freezer compartments bought as much frozen fruits and vegetables as families owning home freezers.¹⁷ The excess capacity in home freezers was put to use in storing home processed fruits and vegetables. One can only surmise as to the reason why the homemakers did not purchase commercially processed frozen foods. Perhaps, and this is only conjecture, the housewife who shops regularly does not need a large home freezer to store frozen foods. Perhaps merchandising techniques provide no incentive for customers to purchase more than two packages at a time. The strategy proposed later in the paper should help to alleviate the situation and thus increase the total sale of frozen items.

Display Equipment

One last problem contributing to the stagnation of sales is the absence of a decent display case. Some of the

in the Frozen Food Industry," Agricultural Marketing Service, Marketing Research Report No. 236, May, 1958, 15.

¹⁶Matysiak, op. cit., 12.

¹⁷Marketing Research Report No. 236, op. cit., 15, cites: "Purchases of Frozen and Canned Foods by Urban Families as Related to Home Refrigeration Facilities," U.S.D. A.; Agr. Mktg. Serv., Mktg. Res. Rept. No. 60, February, 1956.

newer stores have double-deck freezer cabinets that allow greater display area for frozen foods. The second deck is used especially for high impulse items such as baked goods and nationality speciality foods.

Jewel Tea in Chicago has been testing a new air-curtain frozen food unit developed by Union Stockyards and Transit Company.

Now in limited production, the three-tiered vertical unit is claimed to be the first air-curtain cabinet designed to maintain below-zero temperature and will be offered to food retailers in limited quantities early next year [1962].¹⁸

As with the double-decked cabinets, high markup items move faster off eye-level shelves and shoppers like the ease of selecting foods at arm level. "'A five-week merchandising test by a large chain, accounted for doubled turnover of items displayed, compared with low-level chest type cabinets at the same location,' it was said."¹⁹

Hussman Refrigeration and Tyler Refrigeration are known to have limited production models of a three-tiered display case but no reports of actual testing have been made up to this time.

It is not expected that operators of supermarkets will rush to buy the new display case but this type will be put into new stores. It is not realistic to hope the

¹⁸"Chicago Firm Unveils 3-Tier Jet Freeze Unit," Supermarket News, December 4, 1961.

¹⁹Ibid.

present equipment will be junked in order to take advantage of the display characteristics offered by the new unit. In the future, however, the triple-tiered air-curtain unit will be used extensively. Once it is put into the larger stores there will become available a vast number of older model chest type display cases which can easily be used by smaller stores. For the most part even the present, wide chest type is an improvement over the older coffin types used by some smaller retailers. In any event, this new unit will revolutionize display techniques in the frozen food industry.

In this chapter the discussion was concerned with the history and development of frozen food--its problems and its relative position in the food industry. Many problem areas were discussed and many questions asked but left unanswered because, for the most part, there are no pat answers. This report only raises questions, it does not attempt to supply all the answers. It is hypothesized that the dearth of frozen food sales lies in the interaction of all the problem areas and cannot be attributed to one specific area. What is evident is "a people problem"--both consumers and retailers are at fault. As was seen earlier, the quality of frozen foods is excellent, price is comparable to fresh and canned, storage capacity is good but could be better and display cases will presently be on the market which will allow more effective merchandising.

It is believed that there exists a latent demand which must be uncovered if the industry is ever to parallel

its past growth rate. Latent demand can be increased only by constant and imaginative promotions, educating the people to the advantages, quality, and costs of frozen foods. To outline a strategy for effectively promoting and merchandising frozen foods remains the problem of this paper.

CHAPTER III

NET PROFIT DETERMINATION

The present chapter is concerned with net profit determination of individual frozen food items. A conventional approach to cost allocation and net profit determination will first be described, and then a case will be made for a new method of determining operating costs when computing net profit. The significance of determining net profit on individual items will also be explored.

The conventional approach to the net profit determination problem has been on a departmental basis only and rarely, if ever, on an individual product basis. Such an approach entailed using supposedly precise allocations of operating expenses to the department, which costs are at best a statistical guesstimate of actual costs.

In a recent study, Progressive Grocer "proved" the profitability of frozen foods, as frozen foods, on a departmental basis.¹ Data were amassed over an eight-week period not only on frozen food sales and margins but also on departmental operating expenses and every effort was made to be

¹"Sales and Expense Analysis Proves Profitability of Frozen Foods," Progressive Grocer, XL, No. 1 (January, 1961), 72-73.

both fair and statistically accurate in making the analysis of departmental expenses. Expenses were allocated either directly or pro-rated on the basis of commonly accepted methods such as selling space occupied or units handled. Gross margin on sales amounted to 25.8% while total overhead came to 20.4% of sales--a nifty 5.4% net profit on frozen food sales. For detailed figures see Table 10.

TABLE 10

FROZEN FOOD EXPENSES ANALYSIS--WEEKLY BASIS*

SALES	\$1419.82	100.0%
COST OF SALES	\$1053.87	74.2%
DOLLAR MARGIN	365.95	25.8%
% MARGIN	25.8%	
EXPENSES:		
<u>Power</u> (at 38¢ per lin.ft. for display equip., 7.3¢ & 6.2¢ per lin.ft. for storage eq.)	\$ 26.06	1.8%
<u>Depreciation</u> (All equip. display at \$145 per lin.ft. installed, storage at \$1172 & \$785 inst. Checkout equip. pro-rated on units handled basis at 10%)	24.91	1.7%
<u>Salaries</u> (Direct--incl. mgr., ass't., & superv. commissions)	49.04	3.4%
<u>Salaries</u> (Indirect--checkouts pro-rated at 38% of groc. sal. exp. & on units handled 10%)	49.66	3.5%
<u>Salary Maintenance</u> (Direct)	6.03	.4%
<u>Fixture Maintenance</u> (at 25% of total fixture maintenance)	13.63	1.0%
<u>Other Utilities</u> (Pro-rated on basis of selling space occ. 7%)	10.33	.7%
<u>Other Expenses</u> (Pro-rated on basis of selling space occ. 7%)	86.30	6.1%
<u>Supplies</u> (On selling space occ. 7%)	2.32	.2%
<u>Service Departments</u> --Admin. Exp. (1.4% of sales)	20.00	1.4%
TOTAL	\$ 239.43	20.4%
OPERATING PROFIT	\$ 76.52	
NET PROFIT		5.4%

*Source: "Sales and Expense Analysis Proves Profitability of Frozen Foods," Progressive Grocer, XL, No.1 (January, 1961), 73.

The final figure certainly points more than favorably to the profit angle of this much maligned group of products. Note the key word, group. Progressive Grocer has attempted to show that beneath the surface of all the talk of unprofitability of frozen foods as a group, there actually does exist a substantial profit margin. Assuming for the moment the guesstimates used in allocating expenses are close to reality, Progressive Grocer has verified its contentions. Such figures should certainly help one to adjust his evaluation of this steadily growing line.

But where does this leave the manager in the analysis of his frozen food department? He does not have the time, facilities, or wherewithal to make a statistically accurate study that will supply the answers to his many questions. He wants to know which products he is making money on, how much space should be given to Brand X, and how much it costs him to stock certain items. A departmental profitability analysis along conventional lines will not supply the answers to the above questions without lengthy and unnecessary computations of questionable accuracy.

This study proposes to answer questions about individual products. The method provides a framework in which the manager can determine net profit on individual items in his frozen food department. It is hoped the procedure will put tools in the hands of the store manager to enable him to make more intelligent decisions about the kind and amount of display space for each item carried. Information

procurred will prove beneficial not only to the store personnel but also to the buying people of the chain. Armed with information on net profit of individual frozen food items, buyers can make more intelligent choices between brands and items in a commodity line.

It may happen in particular instances that, regardless of the merchandising strategy followed, certain frozen food items will not have a net profit, but, in fact, a net loss. The procedure delineated here will help reduce the losses. The discretion allowed the store manager, as to what merchandise he can carry, will limit the amount of reduction of losses. Physical facilities or company policy on private label can also limit potential reductions.

Distinctions between the proposed method of profit determination and the conventional method focus on the level of reference and potential usefulness of gathered information. The level of reference in the conventional method is at the departmental level while in the new approach the level of reference pertains to individual items. In the proposed method the manager is able to use the information quite readily in designing a program for maximum operational efficiency, while the conventional approach only prompts the manager to say, "That's nice," and to drop the whole matter.

It must be stressed that the store manager can do the computations for his particular store provided the chain is willing to help ascertain certain initial information.

The information referred to here will be explained during the course of the chapter and includes index numbers for direct and indirect operating costs, and certain percentage figures for a particular store. Close cooperation between the chain and its store managers is assumed because, without such cooperation, the accuracy of the approach will be grossly impaired.

Net profit computation is done in the traditional way:

Gross Profit--weekly (dollars)	\$xxx
Direct Cost	\$xxx
Indirect Cost	<u>xxx</u>
Total Cost	<u>xxx</u>
Net Profit--weekly (dollars)	\$xxx

Departure from conventional methods appears when calculating direct and indirect costs. An understanding of the problem of proper allocation of operating costs is incomplete without recognizing that every item in the frozen food department should not bear the same amount of overhead or labor costs of the department. A most readily admitted fact is that different cases of goods have a different cost for labor and for the space occupied in a supermarket. Frozen juices in a dump display, for example, require less labor than carefully stacked vegetables.

The cost of bringing the merchandise into the back-room freezer, price-marking it, placing it in the display case and then checking it out is herein designated as the direct cost.

The expense incurred as a portion of the store's rental cost, its promotion and advertising, supplies, depreciation and insurance charges is designated as indirect costs.

For the sake of simplicity the procedure in this paper is to talk in terms of stocking one-case lots in display cases. In practice one must be careful to adjust for actual operating conditions.

Included in the direct costs involved in handling a case of merchandise are additional labor costs for non-production time, fringe benefits, and taxes on wages. "There is probably no exact method of allocating non-production labor to each case" ² In order to minimize this problem, it is suggested total labor costs incurred by the frozen food department be allocated among the different products in proportion to the production time determined by time and motion studies. To determine, by time studies, the relative direct cost for different types of frozen products it is mandatory that chainwide cooperation be established from store to head office and back again. (Step-by-step instructions on how a retailer can compute the direct labor cost can be found in Appendix A.)

Indirect costs may be allocated to an item on the basis of the number of cases carried in inventory or the linear feet of display space the item occupies, each with

²"The Dry Groceries Department," Food Topics, XVI, No. 5 (May, 1961), 3. (Reprint.)

corresponding advantages and disadvantages. Overhead charged on an inventory basis tends to emphasize the cost of carrying quantities of an item, while linear feet of display space tends to emphasize the importance of facings. There is usually a close correlation between the number of cases carried in inventory and the linear feet devoted to the item. Thus, there is likely to be little difference in the overhead charged against an item whether based on cases in inventory or feet of display.

The procedure followed in this report allocates overhead on the amount of inventory carried for an item, adjusted by the cubic space that inventory occupies in the store.³ Cases carried in inventory was used because of ease of understanding by supermarket managers and ease of application by buyers and other chain officials.⁴ Lest one forget, the key role of the manager cannot be understated. A thorough understanding of costs per item will allow said manager to be fully aware of profitable opportunities arising over tighter supervision of display space and facings. Such an understanding tends to assure maximum operational efficiency.

The Profit and Loss statement of the store provides a ready source for operating cost information and also

³Ibid., 4.

⁴In certain cases some adjustments must be made on the overhead figure. For circumstances and methods see Addenda to Appendix B.

recent inventory figures. Since an accurate net profit figure cannot be computed without relatively current inventory figures, the Profit and Loss statement is an excellent source for such information.

On the other other hand, information on linear footage is often available only at headquarters from a store's blueprints which may not reflect current arrangements. However, the store manager could measure the linear footage under current operations and thus make the basis more valid.

The primary reason for not using linear footage for allocating overhead charges is that space occupied by a case of merchandise has height and depth as well as width, and the one-dimension character of linear footage may be misleading. For example, one brand of frozen peas may take five inches of linear case space but be stacked eight packages deep and six packages back. A second brand may take five inches of linear case space, be stacked eight packages deep but only three back. A reasonable allocation of overhead would charge more to the first brand than to the second; even though both occupy the same linear footage of display space, but the first brand occupies twice the cubic display space.

The value of the case of merchandise has not been considered in allocating overhead, except as interest charges are part of the store's expenses, for the reason that the cost of merchandise is incurred only when the item is first stocked. As the item sells down it is paying for the items used in restocking. Hence, an investment in an item is made

only once and only the interest charge on that investment is a continuing expense.⁵ The carrying charge for the initial investment is not a significant factor in over-all charges against the item. (Step-by-step instructions on how a retailer can compute indirect costs can be found in Appendix B.)

In computing direct charges one must be careful in particular instances to adjust for sales above or below the one case figure. Similarly, if the average inventory carried for an item were more than one case, the weekly indirect charges would be proportionately more.

Using substantially the same techniques developed in this paper, the United States Department of Agriculture (USDA) conducted a study in the dry groceries department of three chains. The results of that study are summarized in the following paragraphs.

"Unit direct and indirect costs vary between companies studied and between stores of the same chain. Higher unit labor costs in a store are usually a reflection of operating inefficiency. . . ."⁶ Indirect costs tend to be lower in older stores because of reduced depreciation, lower rental and smaller backroom space. Stores with frequent deliveries also tend to have lower indirect costs. "Higher sales volume seems to be associated with higher unit overhead

⁵"The Dry Groceries Department," loc. cit.

⁶Ibid.

costs . . . ,"⁷ because fixtures are geared to high sales potential.

The USDA study also indicates an item moving less than one case per week makes no contribution to net profit unless margins are adequate and inventories kept low. The traditional approach to research on margins and profit contribution of grocery items is with gross profits rather than net. Although there is a relationship between the two, some items can have a satisfactory weekly gross profit and still return little or no net profit. Some comparisons have been made in Table 11 between gross and net profit for selected items carried by an eastern supermarket. Higher volume sales of canned peas did not mean a higher net than moderately selling Devil's food cake mix.

It is an opinion that similar results would occur in the frozen food department if an actual study were to be undertaken. Since the methods developed here were not tested (for reasons iterated previously), the results of the USDA study of dry groceries were cited.

In the approach to the problem of profitability an attempt was made to dwell on operating costs of the department. Since the individual retailer has little or no control over capital expenditures for his store, the cost of display cabinets and walk-in freezers was considered as sunk. Admittedly this type of equipment costs more than grocery

⁷ Ibid., 5.

TABLE 11

GROSS PROFIT AND NET PROFIT COMPARISONS FOR SELECTED GROCERY ITEMS*

	Pineapple Juice	Tuna Fish Solid White	Green Peas	Devil's Food Cake Mix
	12/46oz.	13/ 1/2	48/3 oz.	24/19
GROSS PROFIT--weekly(\$)				
Direct cost	3.35	16.78	4.77	4.48
Indirect cost	.77	1.47	1.16	.43
Total costs	1.71	1.24	1.05	.94
NET PROFIT--weekly	2.48	2.70	2.21	1.37
	.37	14.03	2.56	3.11
DETAIL OF SALES AND COSTS				
Cost per case (\$)	3.29	15.67	4.92	6.16
Retail (unit or units)	.33	.39	2/.25	.35
Retail per case (\$)	3.96	18.72	6.00	8.40
Gross per case (\$)	.67	3.05	1.03	2.24
Gross per unit (\$)	.056	.004	.023	.093
Average weekly sales (units)	60	264	212	43
Average weekly inventory(units)	72	312	264	72

*Source: "The Dry Groceries Department," Food Topics, XVI, No. 5 (May, 1961), 5. (Reprint.)

shelving but store equipment was viewed as a fixed investment which the store manager used to create sales and, ultimately, profits. Hence, primary concern was for operating expenses.

Another assumption made concerns the cost of operating a warehouse for frozen food and transporting such merchandise to the store in refrigerated trucks. It is expensive to deliver frozen foods, by virtue of the double-handling at the warehouse and because of dual-temperature trucks. Also, freezers are more costly to buy and to operate than general warehouse space. It was assumed that most of the excess warehousing cost connected with frozen merchandise is recovered by the chain in the billing cost to the store, whether the store is billed at retail or cost plus. The main point is that the study was limited to cost comparisons at store level.

At office level it is not necessary to assume away the above categories of costs. If per chance frozen foods are sold at a loss in total, the procedure developed here would reduce the losses at store level, even if it did not assure a profit. Once store level losses have been minimized, then office personnel can seek to minimize warehouse and transportation losses.

This chapter has dealt with net profit determination at store level but there is no reason that the same procedure cannot be applied to a group of stores in a branch or division. Such a broadening would entail only substituting

a summation of individual store data into the appropriate places.

More importantly, net profit calculations provide an antidote for the notion that store profits are the product of gross margins times the turnover of units--without regard to handling costs or overhead costs on inventory. On questions of "deals" requiring the stores to carry excess stock, the cost of inventory can be computed.

At store level, information on net profit for individual items, recognizing labor and overhead, can be most helpful in allocating display space. The manager has no control over cost or selling price of his merchandise because gross margins are determined by considerations he does not control. By using the method developed here, store managers can modify the use of cabinet space and the size of inventory carried for an item in order to hold down costs charged to it in relationship to its sales. Items not earning their keep may be dropped, depending on the authority vested in the manager.

An attempt was made to build a sound case for the use of a net profit per item concept in store operation. It is believed that such an approach provides more meaningful figures than the conventional departmental approach--more meaningful figures for more intelligent decisions.

CHAPTER IV

MARKET ANALYSIS

In the last chapter a method was presented by which the store manager could determine net profit per item, one essential criterion upon which good space allocation must be based. Before launching into a detailed discussion of space allocation in the frozen food department, a brief look will be taken at another criterion, knowledge of the market.

Knowledge of net profit per item does not supply all the answers to space allocation questions because the grocer may find that certain frozen items he carries are unprofitable and should be dropped from the line. However, the grocer may be forced to carry the items for reasons of variety and assortment or, as to be suggested in this chapter, for reasons of definite product preferences in the trading area. The manager may find, upon proper analysis, he can create greater volume by displaying products preferred by the nationalities, races, or creeds in his neighborhood. This may entail cutting into supposedly valuable display space of other items. One consequence of such space realignment might be that profitability of both the "preference" and the "other" item might increase. Another possibility is, the profit on both items might decline.

An additional ramification is that if the word is spread a particular store is catering to the tastes and wants of particular people, they will want to shop there, causing over-all volume to increase even though the share may not be the same for all product lines, including frozen foods.

The consequences of catering to particular segments of the population can well be recognized. The purpose of this chapter is to show that the store manager must know the makeup of his market, the immediate neighborhood. The type of information available and where it can be found will be shown. As before, the view of the situation will be from the point of the store manager primarily, and then will be extended to the chain.

As a point of clarification, a distinction will be drawn between the market and marketing. The market is defined as "a group of individuals willing to buy a product and service and able to pay for it."¹ Marketing refers to the methods of getting the product to the market. One should be able to see from the definition that there is more concern here with the market than with marketing.

For purposes of the report then, market analysis is "the procedure of evaluating the desire of a group of people to buy, its ability to buy and the effect that distribution

¹Edward A. Brand, A Study of Administrative Policies and Practices in Food Distribution, 1953, 2 (Mimeographed), citing Myron S. Heidingsfield and Albert B. Blankenship, Market and Marketing Analysis (New York: Henry Holt and Company, 1947), 9-10.

methods have upon making the goods available to the market."²

To an individual store manager, the market is nothing more than the people in the surrounding neighborhood from which he might draw customers. As viewed by the chain, the market may consist of the people in a city, a county, a state, or geographical region in which the chain can sell its products. But in either case, the market is not a mere piece of land surrounded by an imaginary line; it is a locality bursting with people ready to buy.

The first thing one needs to know is how many people there are in the market. One needs to know how old these people are, because one has, for example, a greater opportunity to sell baby food to young couples with small children than to older couples with older children. Knowledge of their race and national origins is essential. Different races and ethnic groups have different eating habits, which make it possible, for example, to sell more black-eyed peas in one area than in another. One needs to know where these people stand economically, how much income they have and how much they spend for foods. "Households with greater incomes tend to use more frozen food than middle or low income categories," says a survey by the Chicago Tribune.³

² Ibid.

³ "Across the Buyer's Desk," Quick Frozen Foods, XXIII, No. 3 (October, 1960), 215.

An economic evaluation tells one the incidence of television ownership, dishwashers, freezers, and lawn mowers, and helps set the status of the neighborhood.

The store manager has available to him a great deal of published material on the above vital statistics. Published materials start with the publications of the United States Bureau of the Census. A book compiled by J. Walter Thompson Company, Population and Its Distribution,⁴ rearranges the census data to cover specific markets.

It arranges the census data by 162 metropolitan markets and 436 smaller urban markets and provides basic material on every town in the United States with a population of 2,500 or more.⁵

A number of other departments of the Federal Government can also supply valuable information. Among these are the Department of Commerce, Agriculture, and Labor, specifically the Bureau of Labor Statistics. From the latter department comes the figures on employment, and income and price indices for various markets. Also, state governments and Chambers of Commerce publish reports on conditions within their areas.

After assimilating and understanding the economic patterns in a market, be it neighborhood or city, one needs to know where people are accustomed to finding different

⁴John W. Crawford, Advertising: Communications for Management (Boston: Allyn and Bacon, Inc., 1960), 133, citing J. Walter Thompson Company, Population and Its Distribution (7th ed., 1951; New York: McGraw-Hill Book Co., Inc., 1952).

⁵Ibid.

kinds of goods. It must be decided how much of one kind of product people buy, in other words, brand share. Relevant to the report here, the manager should know what portion of total food sales is in the frozen line in his market, and how does this compare to the national, or state breakdown. Then he can compute the same proportion for his own store and compare it with his market, the state or national figure.

Newspapers and magazines, and radio and television stations, provide much specific market data. The Consolidated Consumer Analysis

brings you a nation-wide picture of shopping habits with 22- market comparisons in 125 different product classifications and thousands of brands, a three year trend in product use and median product use.⁶

In newspapers participating in the Consumer Analysis each provide data in greater depth for its own market area.

The Minneapolis Star and Tribune conducts an annual home-interview survey of Minnesota and Hennepin County (metropolitan Minneapolis) homemakers on what products they have on hand and in use in their homes.

This is not a brand "preference" survey. It is an INVENTORY of what's on hand and in use (or what was last purchased), not what's "generally" purchased or what is "preferred" by the homemaker.⁷

An additional selling point of the survey is it defines the

⁶Ibid.

⁷Minneapolis Star and Tribune, Minnesota Homemaker Survey No. 14., 1961.

market in terms of the medium, a newspaper, which is used extensively for retail grocery advertising.

The major obstacle in relying upon published sources is the tendency of market facts and figures to go out-of-date rapidly. More and more companies are relying upon commercial research organizations. Individual store managers can get information from these sources only through headquarters, if the chain subscribes to the service.

The Food-Drug Index of A. C. Nielsen Company reports to its subscribers every two months the findings of actual store audits. Market Research Corporation of America measures actual purchases by families across the country. J. Walter Thompson has for years maintained a Consumer Purchase Panel which reports purchases to the company each month.

The store manager should know why people buy what they buy. Often their buying reasons are not individualistic at all but deeply rooted in the culture patterns of the country. He should be attuned to the changing patterns of mores and folkways of his neighborhood. For example, the incidence of working women in his area might be quite high, indicating to him an excellent opportunity to promote prepared frozen foods.

Customs of a people change with great rapidity, but the fastest changing kind of human behavior is in the area of fashions or fads. An observant manager will note or be aware of a fad for particular foods. Frozen and boxed pizza

is an excellent example of a food raid.

It is impossible to hope the store manager will be skilled in motivational psychology, let alone have the time or facilities to practice it. The chain usually does not maintain bureaus that go into research of this sort. Trade publications, journals, newspapers, and weekly magazines give insights into the lives of Americans and a store manager would do well to cultivate an interest in such publications. Supermarket News, Chain Store Age, Printer's Ink, publications of Super Market Institute, Time, and Life are examples of authoritative sources of this sort. Libraries are excellent storehouses of applicable information and less expensive than subscribing to magazines or research services.

A store manager does not have the time, money, or facilities to do the detailed market research required to gather all the information. Some chains do engage in market research of their own by use of test stores. The store manager might well be asked to participate in a study of customer buying habits in his store. Such studies seek to determine the origin of customers, frequency of store visits, mode of travel to the store, size of purchase, items purchased, and departments patronized.

The chain itself can play a very important part in the whole area of market research by acting as a pipeline or funnel of information to all its store managers. Without the benefits of chain sponsored market research the store manager will be stifled in his attempts to gain

accurate data. He will then be obliged to seek adequate information from public sources obtainable through libraries.

In either case, whether chain sponsored or undertaken on individual initiative, some type of market research is imperative. As stated earlier in the chapter, knowledge of the market is one of the essential criterion upon which good space allocation must be based.

CHAPTER V

SPACE ALLOCATION

In the two preceding chapters, two essential criteria, upon which good space allocation should be based, were developed. It is the intent in this chapter to integrate the criteria into a workable formula to be used by the manager in allocating space to categories of items and to items within the categories.

"Many frozen foods men have fallen down on the job. Frozen food--space the most expensive merchandising space in the store--is not being fully utilized."¹ The high cost of refrigeration equipment is only one element in keeping frozen food space the most expensive space in the store. Because, until recently, the industry has lacked a cabinet to display merchandise at eye-level, the space above the cabinet was wasted as far as selling space is concerned. This situation should be remedied shortly.

A survey conducted by New York University on frozen food departments revealed that in half the stores surveyed, between one-fifth and two-fifths of the available space

¹"Available Space Not Fully Used," Chain Store Age, Groc. Exec. Ed., XXXV, No. 8 (August, 1959), 114.

was wasted.² Lack of efficient housekeeping and merchandising by store frozen food men generally contributed to the gross waste of available space. The study further concluded there is not enough frozen food space in many stores.

Since, for the most part, the store manager can do little about increasing his space for frozen foods he must make every effort to use what he has efficiently. "Top-flight management is the catalyst that can turn frozen foods from a low return, also-ran department into the dynamic profit producing section it has become for a growing number of the independent food store operators."³ Under the circumstances then, good space management is a must.

Any initial space allocation should be based on product performance, and then, changes can be made to suit special situations where the market demands warrant a change. Product performance can be judged from many angles depending on one's vested interests or the point one is trying to make. The angles are, gross profit, dollar sales, and unit movement.

The first of these angles considers only gross profit, but as has been noted in Chapter III, a good gross profit does not always mean a good net profit. The net

²"Is There Enough Frozen Food Space?," Chain Store Age, Groc. Exec. Ed., XXXV, No. 7 (July, 1959), 338.

³"Management Key to Performance," Food Merchandising, XXXV I I, No. 6 (June, 1961), 35.

profit per item approach has been substituted in preference to the traditional gross profit one. Net profit considerations stress the overhead and labor costs attributed to the space.

Another measure of product performance is dollar sales. This figure is slightly out of place in a discussion of the profit contribution of an item. Certain items may have large dollar sales but contribute little or nothing to net profit.

The same is true of the third measure of product performance, unit movement. The number of units moved may be outstanding but in actuality are contributing little, if anything, to net profit. However, the figure is useful in another sense, and that is, to judge the demands of a certain market for the item. Take for example, okra, which normally is not a rapid mover. In a predominantly colored neighborhood the demand for this product jumps significantly. Market research by the manager would have indicated that the colored people in his area preferred more okra for their diets.

All three of the measures of product performance have been combined into a space allocation formula.⁴ By

⁴Ideas on the space allocation formula were drawn from an article, "What's Happening in U. S. Supermarket Cabinets" in the February, 1960 (XXX, No. 2) Frosted Food Field. The main point of the article is that space allocation should be based on product performance, judged by the three factors. As explained in the text, net profit has been substituted for gross profit.

doing so, the criteria set up in previous chapters have been considered, and at the same time, the three most important factors of product performance have been included.

The formula for the initial space allocation for different categories of items is as follows:

$$S_c = \frac{D_c + P_c + U_c}{3} \cdot Y$$

where:

S_c = space to be allocated to a category (c)

c = category under consideration, e.g., vegetables

D_c = $\frac{\text{average dollar sales of the category}}{\text{average total frozen food dollar sales}}$

P_c = $\frac{\text{average net profit of the category}}{\text{average net profit of the frozen food department}}$

U_c = $\frac{\text{average unit sales of the category}}{\text{average total unit sales of the department}}$

Y = total cubic feet of cabinet display space

Perhaps a hypothetical example will help explain the interaction of the three elements of product performance. Assume for an instant the following data gleaned from a study of the frozen food department for the category of vegetables over a period of weeks:

average dollar sales of vegetables	\$ 375.00
average total dollar sales.	\$1000.00
average net profit of vegetables.	\$ 13.20
average net profit of the department	\$ 50.00
average unit sales of vegetables.	936
average total unit sales	3000

total cubic feet of cabinet display space. .	160 cu.ft.
--	------------

Then:

$$D_c = \frac{\$375}{\$1000} = .375$$

$$P_c = \frac{\$13.20}{\$50.00} = .265$$

$$U_c = \frac{936}{3000} = .312$$

$$S_c = \frac{D_c + P_c + U_c}{3} \cdot Y$$

$$S_c = \frac{.375 + .265 + .312}{3} \cdot 160 \text{ cu. ft.}$$

$$S_c = .317 \cdot 160 \text{ cu. ft.}$$

$$S_c = 50.72 \text{ cu. ft.}$$

In this hypothetical example the elements of product performance have combined to dictate that .317 of the total cubic feet be allocated to vegetables. This means that 50.72 cubic feet of display space should be the optimum allocation based on past records. Similar computations can also be made for the other categories such as juices or prepared foods, but will not be done here.

The above formula determines only the initial category allotment of space and thus it is necessary to compute the space allocation for individual items and brands. This entails only a substitution in the original formula of item figures instead of category figures. The formula for items is as follows:

$$S_i = \frac{D_i + P_i + U_i}{3} \cdot S_c$$

where:

S_i = space to be allocated to the item (i)

i = item under consideration, e.g., peas

D_i = $\frac{\text{average dollar sales of the item}}{\text{average dollar sales of the category}}$

P_i = $\frac{\text{average net profit of the item}}{\text{average net profit of the category}}$

U_i = $\frac{\text{average unit sales of the item}}{\text{average unit sales of the category}}$

S_c = space allocated to the category

Each of the component parts of these formulas should be an average computed over a reasonable length of time. The average can be expressed in any length of time but preferably in weekly units.

Witness the fact that these formulas result in an ideal situation which most often does not agree entirely with reality. It is most important to recognize adjustments must sometimes be made because of special situations such as item size, special promotions, seasonal items, and many other aspects related to good product display. The formulas give a reasonable approximation as to what category and item space should be, and at best, is an improvement over the trial and error approach of many managers.

Space allocation is but one of the requisites to efficient use of available space. Many operators have found they can substantially increase frozen food sales by careful realignment of space and elimination of slow movers. Quality Foods, Incorporated has a very positive approach to

the elimination of slow moving items. Every sixty days, each frozen food manager submits a list of the ten slowest moving items in his cabinets and when the lists of most stores in the chain concur, those items are eliminated.⁵

Retailers affiliated with the Independent Grocers Alliance (IGA) are bound by a similar agreement. If a particular item is not ordered at least once during a five-week period the item is dropped.⁶

A conscientious application of the space allocation formula coupled with an active program of eliminating slow movers should lead to an increase in net profits of the frozen food department.

⁵"500% Increase in Frozen Food Sales in Three Years at Quality Foods, Inc.," Quick Frozen Foods, XXIII, No. 3 (October, 1960), 249.

⁶"Average \$45 per Linear Foot Weekly Sales: Secrets to Keep Cabinets Full, Minimize Out of Stocks," Quick Frozen Foods, XXIII, No. 5 (December, 1960), 104.

CHAPTER VI

TECHNIQUES FOR PROPER MERCHANDISING

The objective of this chapter is to suggest techniques for proper merchandising that would assure maximum use of the space allocation developed in the previous chapter. In essence the chapter is a delineation of ways and means of increasing profits in the frozen food department. The techniques have been divided into four major areas: advertising, display, elimination of out-of-stocks, and proper handling.

In using any of the techniques to be developed, one must recognize the existence of the law of varying proportions. There is a limit to the profitable use of any promotion, advertising, or display techniques which might be used in the creation of new sales. Under traditional profit analysis methods the limit was difficult to recognize, but not so if per item profit allocation is followed. By allocating costs on a per item basis the manager can see at a glance whether or not the additional promotional expense paid for itself. A per item breakdown of costs will tell the manager whether or not the additional labor can be used without impairing the profit picture. But it should still be kept in mind that all promotional techniques reach a

point where the cost is adding up faster than the profit generated by the technique.

Advertising

Advertising incites desire for a product and is a necessary aspect of the marketing program for a product. Advertising in frozen foods has been limited, for the most part, to manufacturers' advertising to the ultimate consumer, and the majority of such advertising has paid off handsomely for many manufacturers and some retailers. "Names which were hardly known in 1950 have become household brands today."¹

Most of the manufacturer advertising has been done with two ideas in mind, viz., (1) to impart information to the consumer about frozen foods, and (2) to acquaint the customer with a brand name. Manufacturers have come to realize frozen foods are accepted and, hence, have geared their advertising toward establishing brand identification. "The Dupont survey shows that almost 83% of frozen food buying decisions are made in the store."² If the consumer is attracted to a frozen food cabinet she will probably pick the advertised brand, provided the manufacturer's image is good and there is very little price differential.

Few chains have managed to advertise as successfully as the national manufacturers, simply because they do not

¹Williams, loc. cit., 77.

²Matysiak, op. cit., 45.

have national coverage. Only Safeway and the A & P are considered national chains with much the same reputations as a national manufacturer. Safeway, in particular, prides itself in its advertising. The first private label frozen vegetable was introduced by Safeway in 1950 under the name, Bel-Air, now well-known nationally.

Early in 1961, Associated Grocers of Miami found themselves in a paradoxical situation when the introduction of private label added more space for advertised items. Up until the addition of private label, the prestige or advertised items had been the main forte of these merchants. In adding private label in thirty-five of their four hundred fifty frozen food items, more cabinet and warehouse space had to be created, but they created more than was actually demanded by the sales. In order to put the excess space to efficient use, they allocated advertised items more space with the "surprising" results that total sales picked up.³

One can see in this instance that the image established by a national advertiser was beneficial to the stores. Chains often gain a good deal of "free" advertising when they display and promote national brands. Whereas, in order to gain the same benefits from private label merchandise, a chain would have to advertise vigorously and vociferously; but the mere dollars and cents angle keeps

³"Frozen Food Paradox: Private Label Adds More Space for Advertised Brands at Miami Co-op," Quick Frozen Foods, XXIII, No. 7 (February, 1961), 81.

some chains from an active advertising program.

Looking at the problem from the manager's point of view, there are a few things he can do to advertise or to incite desire for a product. He cannot, for the most part, run big advertisements in a paper usually because of chain restrictions and more so because of his budget. There are many effective means, other than advertisements, of calling attention to the department and to specific products. Posters, small signs and departmental signs are all excellent means of attracting attention.

"If you can't spread out, go up!"⁴ Point-of-purchase material above the frozen food cabinet can be just as effective as more facings of an item. Some manufacturers such as Birds Eye Division of General Foods and Sara Lee will furnish, upon request, dummy cartons or three-dimensional replicas of full meals to suggest different meat and vegetable combinations for meals, a suggestion most housewives appreciate.

Another method used by some operators is to have a hostess or demonstrator giving out samples in the department. The promise of something free usually manages to draw a number of people. The hostess can also explain product use to the customer. Complete customer understanding of how to cook the product is necessary if repeat sales are to be expected. If the customer knows what she is to do with the

⁴"Ten Ways to Merchandise Frozen Foods," Chain Store Age, Groc. Exec. Ed., XXXVI, No. 4 (April, 1960), 162.

product, her family will be satisfied with it and she will buy it again. The personal touch of a hostess might well be the key to repeat sales.

Advertising can exist on either a large or small scale. A manager must make use of the facilities at his disposal by calling attention to not only private label but also nationally branded merchandise.

Display

Display meshes well with advertising by calling final attention to a product for which advertising has built a desire. The chief purpose of both display and advertising is to sell more goods and, thereby, create greater profits.

There are two categories of display, namely, (1) the regular display, that is, merchandise in a regular display space, and (2) special displays, consisting of merchandise in cases other than the customary ones. The presentation will not make any differentiation in the techniques to be applied to each category. What will be discussed is equally applicable to both categories. To discuss the techniques of display does not preclude talking about a specific category.

It is not possible to set up a standard procedure for the display of frozen foods because each individual operation must be tailored to fit the needs of its environment. No hard and fast rules exist for determining where to

display frozen foods. Some stores have noted much success by placing the freezer cases next to related items; for example, one group of stores placed the vegetable section across from the produce department. In some markets, ice cream cases are located as near as possible to checkout counters to take advantage of the excellent impulse propensities of ice cream.

Case placement raises a controversy because some frozen food merchandising men recommend placing all freezing cabinets near checkout counters. Such placement, they say, will help the customer keep her products frozen, and hence, maintain the quality inherent in frozen foods. Another reason for near checkout placement is to take advantage of the heavy traffic pattern of the aisle leading to the counters. One chain in California has solved the problem of thawing by supplying large size insulated bags at the cabinet.⁵ The bags not only keep the products frozen but also spread the name of the chain through effective advertising on the outside of the bag. If all stores were to supply means of keeping products frozen, cases could be placed wherever shopping patterns would dictate. Impulse items could be displayed near checkstands or other peak traffic locations, or items could be put near related departments. Any number of good display techniques would be followed if the operator did not have to worry about thawing.

⁵"500% Increase in Frozen Food Sales in Three Years at Quality Foods, Inc.," loc. cit.

Once case location has been determined, suitable case layout should be planned. There are many ways to lay out a frozen food cabinet but one maxim should be kept in mind, namely, item position should be based on its drawing properties relative to the traffic patterns of the store. Fast selling, basic items such as juices, vegetables, and meat pies should be placed as far apart as possible to encourage shopping of the entire cabinet. Layout must be designed to pull shoppers through the entire department.

Items of similar shape should be separated by packages of a contrasting color so as to distinguish one item from another. Quality Foods, Inc., has used colored fluorescent lighting above one section of the case to obtain contrast.

Some stores have tested angled product stocking to break up the monotony of the frozen food case. Packages are placed on an angle so the customer can see the product more readily and can pick it up more easily.⁶ Frozen food men say customer convenience is the biggest plus to using the method. On the other hand, besides being exceptionally messy in appearance, angling is found to be workable on only forty per cent of the items which return only twenty per cent of the sales in frozen foods.⁷ Therefore, use of

⁶"Chains Test Angled Selling," Chain Store Age, Groc. Exec. Ed., XXXVII, No. 10 (October, 1961), 170, 172.

⁷Ibid.

angling might best be restricted to contrast for a few rows only, much the same as the color contrast idea.

Another effective method of display is to bring together related items in either the regular cabinet or spot cabinet somewhere in the store. Quality Foods reports that "placing frozen waffles and frozen fruits in the ice cream section increased sales of those items as much as 15%."⁸ Some operators have mixed frozen cranberry relish with the frozen poultry and obtained not only cross-merchandising but color contrast as well.

The old faithful for frozen food display is the dump display usually reserved for "special," fast moving items. In the long cases of the modern supermarket, dumps are effective only in proportion to the neatness of the rest of the cabinet.

Spot cases, dump or non-dump, should be moved every week to take advantage of impulse creations. If one of the new immovable dual-temperature cases is used it is necessary to change the merchandise weekly, otherwise the customer will think that unwanted merchandise is being pushed off on her. Many operators are using masking tape to make special price packs to promote in spot cases, where they are particularly effective.

From the retailer's point of view, there are ten obviously good reasons for using special displays:

⁸"500% Increase in Frozen Food Sales in Three Years at Quality Foods, Inc.," loc. cit., 250.

- 1) they sell more merchandise
- 2) they create a low price impression
- 3) they help to balance inventories
- 4) they help to strengthen advertising
- 5) they add excitement to a store
- 6) they break shopping monotony
- 7) they create impulse sales
- 8) they highlight new products
- 9) they help reduce stockouts on weekly ad features
- 10) they offer shoppers suggestions on what to serve⁹

The previous discussion has revolved around ways of getting the customer to the cabinet but not too much has been said about keeping here there. One of the surest methods of irritating customers is to have sloppy pricing. Good, legible face pricing allows the customer to make ready price comparisons with similar items. Some operators advocate side pricing because of the ease with which it can be done, but face pricing remains more popular with the customers.

In this section many ways of displaying frozen foods have been discussed--some obvious and some not so obvious. The store manager would do well to be more imaginative in using display space. The preceding illustrations served only to suggest what can be done to further better space management and to help increase sales and profits with a minimum of costs.

Elimination of Out-of-Stocks

The out-of-stock situation is probably the biggest area in which store managers have been guilty of neglect.

⁹George E. Kline, "How to Build More Profits into Special Display Program," Progressive Grocer, XXXIX, No. 1 (January, 1960), 49.

Some more aggressive managers, such as Mr. MacFarland, owner of an I.G.A. store, feel that:

. . . if a housewife sees a frozen food case half-empty she **will** think everything has been picked over, and she **does** not get a good choice. If the cabinet is full, she has first choice and will be more likely to buy.¹⁰

If what Mr. MacFarland says is true then the manager had better make a critical appraisal of his case stocking methods.

In the past ten years two studies have been done on the problem of out-of-stocks and both show that out-of-stocks seriously affect frozen food sales and, hence, profitability. In the first study done by Progressive Grocer in 1953, spectacular sales increases occurred when the cabinets were kept fully stocked.¹¹ Frozen food sales of a group of stores were studied for a normal two-week period when no special emphasis was given to frozen foods, and during this period 1,336 units were sold. In the following two-week interval, frozen food cases were restocked daily, resulting in unit sales of 2,021, a healthy 51.2% increase. Even if the percentage increase is reduced by one-half, the results indicated greater profit potentialities than most stores are now realizing.

¹⁰ "Average \$45 per Linear Foot Weekly Sales: Secret is to Keep Cabinets Full, Minimize Out of Stocks," loc. cit., 105.

¹¹ Robert W. Mueller, George E. Kline, and Joseph J. Trout, "Customers Buy 22% More When Shelves are Well Stocked," Progressive Grocer, XXXII, No. 6 (June, 1953), 40.

Frozen foods, with certain exceptions such as peas, beans and frozen juices, are bought largely on impulse and no merchandising technique can begin to compare with a continuously stocked well-arranged case.¹²

The second study, done by Quick Frozen Foods, proved substantially the same thing as the first study done by Progressive Grocer. The approach was slightly different in that the Quick Frozen Foods study was concerned with keeping a record of stocking procedures for a group of stores.¹³ "Store D . . . having the best record in out-of-stock does \$40,000 a week and enjoys 6.52% of its volume or \$53.58 per linear foot out of its 36 feet of cabinets."¹⁴ Store D, though it had the best out-of-stock record, had a poor apportionment of frozen foods but did better than stores with proper space allocation and a bad out-of-stock record. This just seems to point up the fact a strategy for merchandising must include a number of aspects rather than emphasize only one. Integration of advertising, display and good stocking procedures into a well-defined merchandising strategy will benefit any store manager.

In any case, the studies done by Progressive Grocer and Quick Frozen Foods indicate a need for a closer look at the out-of-stock situation of frozen foods. A customer

¹² Ibid., 48.

¹³ "Reducing Out-of-Stocks Takes Priority Over Scientific Cabinet Layout," Quick Frozen Foods, XXIII, No. 9 (April, 1961), 91.

¹⁴ Ibid.

cannot buy what the store does not have.

Proper Handling

The importance of proper handling and its effect on profits and sales can readily be seen. Improper handling of frozen foods results in lowered sales and profits induced by defrosted and torn packages, and poorly marked packages. Inefficient use of labor causes increased costs which eat up any profits generated by the strategy for merchandising of frozen foods. Costs are increased by excessive operation of refrigeration machines resulting from improper stocking of frozen food cabinets.

The store manager can do three things to help assure correct handling of frozen foods, namely, assign responsibility, instruct carefully, and check work regularly.

Just as in the other departments of a supermarket, the first requirement of a good frozen food department is to make one person responsible for it. In many stores, the frozen food department does not require a man's full time; nevertheless, one person must be assigned the responsibility of ordering, stocking, and rotating and the care of the freezer equipment. The individual must also have the authority to direct those who may be assigned to help him.

The store manager should take the time to be sure the person assigned the responsibility of the frozen food department knows his job thoroughly. Clear, concise instructions are a necessity if the man is to do a good job. Many

problems can be alleviated if a manager checks periodically to see that the job is being done properly and effectively.

The manager can facilitate the handling of frozen foods by instructing his employees according to the following checklist:

WHEN RECEIVING . . .

- Be ready for the load
- Segregate items that can go directly into display cabinet
- Stack cases closely together
- Unload the order quickly and get it back under refrigeration

IN THE STORAGE FREEZER . . .

- Segregate merchandise as it is put away
- Keep labels visible or mark visible ends of cases
- Push carts into walk-in type freezer to load or unload
- Load the cart so merchandise put on last will be taken off first
- Keep the freezer clean and free of ice

ON DISPLAY . . .

- Check the display cabinet at least twice a day
- Handle full or half cases only
- Make a written list of needs as you check the cabinet
- Police the display cabinet while checking the stock watch for damaged items and remove them
- Keep price signs clean and up to date
- Keep display cabinets clean and free of ice
- Keep 0° F. in freezers and cabinets (check often)

WHEN PRICING . . .

- Use a good marking set and keep it clean
- Price the whole case at once on the front-face surface
- Price the packages quickly
- Price in the backroom if possible

WHEN SETTING UP THE DISPLAY . . .

- Use dump displays when feasible
- Keep displays of at least half a row

Don't stock merchandise too tightly in cabinets
 Don't backtrack . . . service as you go
 Don't block the cabinet with carts or empty cases
 Combine rotation with stocking
 Get the case up to the display when stocking
 Use both hands when stocking
 Keep the displays below the fill line of the cabinet
 Use dividers when feasible¹⁵

Summary

The above checklist is only a summary of the essential elements included in any handling procedure. Lest one forget, proper handling must be integrated with proper display and promotion techniques to help round out an effective strategy for merchandising frozen foods. The objective of the chapter was to suggest techniques for proper merchandising that would assure efficient use of available space. The illustrations mentioned should not be taken as the be-all and end-all. A store manager should take a long hard look at his present tactics to see where he can improve the most, and then take steps to build up the whole program.

¹⁵ "Frozen Food," Extension Service of University of Massachusetts and United States Department of Agriculture, n.d., 13-14.

CHAPTER VII

SUMMARY AND CONCLUSIONS

The purpose of this paper was to formulate a better merchandising strategy for frozen foods, by developing in the manager a consciousness of operating costs and market characteristics. The problem was occasioned by personal observations and comments made by certain managers of a large grocery chain. It is believed that many managers lack sufficient insight into what the frozen food department could do for them by way of contributing to gross profit occasioned by sales of frozen foods and the relative drawing power of the department itself. This lack of knowledge caused a situation of neglect believed to be unhealthy.

In order to remedy the situation, a strategy was proposed that would overcome the manager's lack of insight into the potentialities of frozen foods. Past and present problems of the frozen food industry, leading to the situation of relative neglect, were clarified. Formulation of a method whereby the manager could easily compute operating costs and hence, net profit, was placed first on a list of importance to the strategy. In addition to net profit

considerations (though important, but not all-important) a description of market characteristics and situations was made available as part of the strategy. Profit contribution plus demand of a market for a product were combined into a formula for space allocation that gave weight to over-all product performance. Space was concluded to be wasted by a number of store managers and this was considered to be definitely an unhealthy aspect in the department's competitive struggle for profits. Efficient use of available space, through use of display and promotion techniques, was touched upon as a necessary element in an over-all attack upon the problem of strategy.

It was hypothesized at the beginning of the paper that knowledge of the effect of operating costs on net profit and an unawareness of market characteristics will benefit the store manager in formulating a strategy for merchandising frozen foods. All the evidence presented indicates that knowledge of the effect does benefit a store manager and is, in fact, an integral part or component of any merchandising strategy. Without a thorough-going knowledge of the direct and indirect costs allocated to an item, the manager will never know what he can afford to spend on promoting that item. Without an awareness of the tastes of the market, the store manager will never be able to draw that extra little bit of business that means the difference between an adequate manager and a good manager.

For a number of reasons the method of allocating costs is not as accurate as it might be under non-existent ideal circumstances. The method was not tested because of a scarcity of time, money, and lack of an adequate test subject. The method of allocating costs is a departure from the trial and error approach used by many managers, but it is not as accurate as a sophisticated statistical procedure computed by a machine.

The proposed strategy itself is not the be-all and end-all of the merchandising world, and is not guaranteed to cure all the ills associated with frozen food merchandising. It is one man's approach to the problem and, it is believed, a little more workable and accurate than that presently used by store managers.

APPENDIX A

HOW TO COMPUTE DIRECT OPERATING COSTS ON A CASE OF FROZEN FOOD

The appendix will present, in detail, the procedure by which a retailer can compute direct operating costs on a case of frozen food. The approach is divided into two parts: (1) computation of direct costs on a typical or average case of frozen foods; (2) adjustment of that cost figure to suit a specific product.

Individual retailers and firms can use their own accounting data for direct cost allocations per typical case of frozen foods.

Adjustment of direct costs can be done handily by the use of index numbers which can be obtained by work sampling methods and time studies. (It is in this area, as referred to in the text, that utmost cooperation between headquarters and store operator be attained.) The direct cost index should be based on time study data covering the handling of frozen food from receiving off the truck to cabinet stocking. Items clustering around the median time should be taken as 100 and all others scaled proportionately. Thus, dumped strawberries may have an index of 100 while

stacked vegetables will have an index of 135 due to the extra time spent for stacking.

COMPUTATION: (Numbers are keyed to compilation sheet at end of appendix.)

1. Determine average weekly direct costs for the grocery department.

This information can usually be obtained from the regular P & L statement of the store. Care should be taken to include grocery department payroll and taxes, and costs of fringe benefits associated with the payroll sum and front-end labor costs. Whether or not store management and administration costs should be included depends on the policy of the chain.

2. Estimate the weekly direct costs for frozen merchandise.

This may be estimated at 5% of total grocery department labor costs (#1),¹ or data may be amassed by the chain to give a more accurate percentage.

3. Estimate the number of cases of frozen food moving through the store in a week.

This can be done by tallying invoices (simplest method) or by machine runs of cases delivered to the store. Over a period of weeks receipts closely approximate sales, upon which labor is based.

¹"The Dry Groceries Department," loc. cit., 2: it is cited: "This [weekly direct costs for warehouse merchandise] may be estimated at 85% of the total department labor costs if frozen foods are counted as groceries and 90% if grocery personnel do not handle frozen goods."

4. Calculate the direct cost for handling a case of frozen food in the store.

Divide the average weekly direct costs for frozen food (#2) by the number of frozen cases moving through the store in a week (#3). The result is the direct cost borne by a typical case of frozen merchandise.

ADJUSTMENT:

5. Estimate the direct costs for a particular frozen item.

Obtain the standard time index, based on time studies conducted by the chain, for the particular kind of product group and pack. The direct cost is then derived by multiplying the index of standard time by the typical case costs for the store (#4).

COMPILATION SHEET FOR AVERAGE DIRECT COSTS

1. Average weekly costs for the grocery department.
2. Weekly direct costs for frozen merchandise.
 $5\% \times (\#1)$
3. Number of cases of frozen food moving through the store in a week.
4. Direct cost for handling a case of frozen food in the store.

$$\frac{(\#2)}{(\#3)}$$

5. Direct costs for a particular item.

$$\text{direct cost index} \times (\#4)$$

APPENDIX B

HOW TO COMPUTE INDIRECT OPERATING COSTS ON A CASE OF FROZEN FOOD

This appendix will present, in some detail, the procedure by which a retailer can compute indirect operating costs on a case of frozen food. As with direct costs the approach can be divided into two parts: (1) computation of indirect costs on a typical or average case of frozen foods; (2) adjustment of that cost figure by use of index numbers to suit a specific product.

Indirect cost indices should be based on the size of the case in which the merchandise is packed and expressed as the cubage of the case. Average size cases should be taken as 100 and all others scaled proportionately. For example, a case of six ounce juice packed twenty-four might have a case index of 75 while a case of large pizza packed twelve may have a case index of 175.

COMPUTATION: (Numbers are keyed to compilation sheet at end of appendix.)

1. Obtain the average weekly grocery inventory in dollars.

This is usually available from the P & L statement of the store or from the periodic inventory record.

2. Calculate the average weekly inventory of frozen food items in dollars.

This can be done by a tally of invoices over a period of weeks.

3. Calculate the number of cases of frozen foods carried in inventory.

This figure can be obtained by actual count of inventory over a period of weeks.

4. Obtain general store expenses allocated to the grocery department on a weekly basis.

This should include all non-labor costs and appropriate allocations for rent and depreciation on fixtures, costs of advertising, stamps, etc., most of which can be obtained from the store P & L statement.

5. Compute percentage of frozen food inventory to weekly grocery inventory.

This figure is computed by dividing the average weekly inventory of frozen food items in dollars (#2) by the average weekly grocery inventory in dollars (#1).

6. Estimate grocery department indirect costs allocated to frozen food.

This figure is computed by multiplying the figure obtained in (#5) by the general store expenses allocated to the grocery department (#4). (See addenda to Appendix B.)

7. Compute the overhead charge for a case of frozen food.

Divide indirect costs allocated to frozen food (#6) by the number of cases calculated in (#3). This gives the

overhead that should be charged to a case of merchandise carried in the inventory each week.

ADJUSTMENT:

8. Calculate the overhead or indirect costs for a particular frozen item.

Multiply the charge for an average case of frozen merchandise (#7) by the indirect cost index for that item.

COMPILATION SHEET FOR AVERAGE INDIRECT COSTS

1. Average weekly grocery inventory in dollars.
2. Average weekly inventory of frozen food items in dollars.
3. Number of cases of frozen foods carried in inventory.
4. Indirect expenses allocated to the grocery department on a weekly basis.
5. Percentage of frozen food inventory to weekly grocery inventory.

$$\frac{(\#2)}{(\#1)}$$

6. Grocery department indirect costs allocated to frozen food.

$$(\#5) \times (\#4)$$

7. Overhead charge for a case of frozen food.

$$\frac{(\#6)}{(\#3)}$$

8. Overhead for a particular frozen item.

$$\text{indirect cost index} \times (\#7)$$

ADDENDA TO APPENDIX B

Although an attempt was made to allocate overhead (indirect costs) on the basis of cases carried in inventory, it is recognized that there are some shortcomings in the approach. This is especially true when speaking of frozen foods. Under indirect costs there are two most important expenses: electricity needed to run refrigerated equipment, and depreciation.

Progressive Grocer, in a recent study, determined power expense necessary to maintain desired temperature in the frozen food cabinets and walk-in coolers by arranging to have special meters installed to measure the kilowatt hours of electricity used.¹ The final figure amounted to 1.8% of frozen food sales or approximately .09% of total store sales. (See Table 10.) Admittedly it is a high expense and must not be overlooked.

Depreciation of freezer equipment must also be reckoned with in ascertaining reasonable indirect cost allocations. Progressive Grocer figures show that 1.7% of frozen food sales is a reasonable allocation of the depreciation charge which includes a pro-rated share of checkout

¹"Sales and Expense Analysis Proves Profitability of Frozen Foods," loc. cit., 73.

depreciation charged to frozen food on the basis of units handled through the checkouts. In the same study fixture maintenance amounted to 1.0% of sales.

The above indirect expenses account for 4.5% of the total operating expenses expressed as a percentage of frozen food sales. This is a substantial amount in relation to the volume apparent in most frozen food departments.

Viewing such expense figures it is seen that allocation of indirect expense on the basis of cases carried in inventory might not present a wholly acceptable or accurate figure. Therefore it is suggested that the retailer may have to adjust the overhead charge for frozen food up to a more realistic level, if necessary.

The following is a recommended adjustment procedure. Assume for an instant that indirect operating expenses expressed as a per cent of frozen food sales closely approximate the Progressive Grocer finding of 13.1%. (See Table 10.) Assume also that frozen food sales as a percentage of store sales closely approximate 5%, (or compute an accurate figure for an individual store).² Indirect expenses of 13.1% (relation of indirect expenses to frozen food sales) multiplied by 5% (relation of frozen food sales to store sales) will give indirect expense as a percentage of total store sales which, in this case, is .655%.

²Williams, loc. cit., 78.

Next compute the overhead charge for frozen foods (per the original method) as a percentage of store sales. If this figure is less than the index computed in the above paragraph (.655%), then adjustment must be made at least to the level of the index. The retailer can then proceed to adjust this figure for a particular item as in the original method.

It is believed that the approach of increasing the share of indirect expenses is realistic even though it does depart from the original premise.

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