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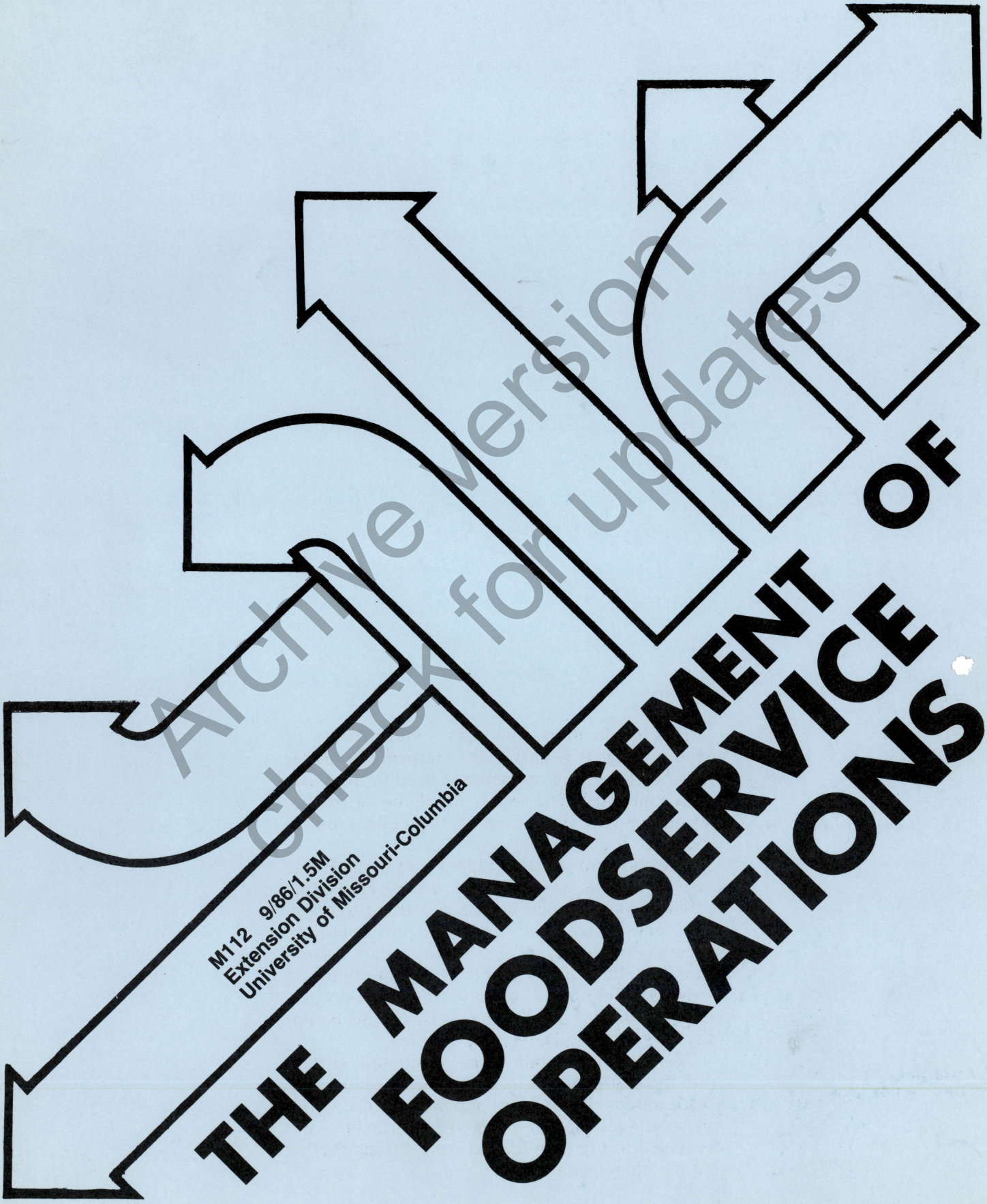
PRICING MENUS FOR PROFIT



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This publication considers some aspects of menu pricing. It is designed to inform the reader of some of the pricing methods used in the foodservice industry. The reader should be aware that the figures used in setting up the budget and to determine food cost are hypothetical.

The allocation of direct labor cost in the Prime Cost Method is based on Mr. Harry H. Pope's operations and should not be construed to apply to all foodservice operations. The profit mark-up percentages used in the Texas Restaurant Association's Method are based on the average mark-up of the association's members. The mark-up percentages also should not be construed to be applicable to *all* foodservice operations.

The pricing methods are discussed strictly from the mathematics involved. More than mathematics are involved in pricing menu items. Other important considerations in menu pricing - not discussed in this publication - are the marketing and merchandising aspects.

PRICING MENUS FOR PROFIT

Robert F. Lukowski
State Extension Specialist
Food Service/Lodging Management
University of Missouri-Columbia

Pricing—A Key Factor to Success

One of the most important factors in the continued success of a foodservice establishment is effective menu pricing. Effective pricing basically determines profits and, ultimately, success or failure of the establishment.

The primary goal in setting menu prices should be to maximize profits. A foodservice operator must be careful not to *overprice* menu items, this may limit the number of items customers will accept. At the same time, he must be careful not to *underprice* items. This results in loss of important dollars that contribute to profits.

There is no magic formula for pricing menu items. Effective pricing requires an understanding of the influences of market factors, the economy, and the competition. Also, a foodservice operator must consider each of these variables in relation to costs of food, labor, operating expenses, and his planned profit margin.

Two factors are important in setting menu prices.

1. In any competitive industry the market, not costs, determines the acceptable (merchandisable) selling price. To charge more than the acceptable selling price will cause customers to go elsewhere.
2. Only costs and desired profit margins establish a "price floor" below which a product cannot be sold at a profit.

Relevant Price Range

The difference between the merchandisable price (price ceiling), established by the market, and the "price floor", determined by costs and profit margins, is the *relevant price range*. Within this range the foodservice operator must determine the "best" selling price for each menu item which hopefully will maximize profits. In essence, the best selling price will be cost oriented and customer oriented.

Customers are not concerned with a foodservice operator's costs. They are only concerned with the value they receive for their money. The merchanidsable price should be high enough to cover costs and profits and at the same time it should be low enough to attract customers and build volume. Volume plays an important part in the profit structure; however, high sales volume alone does not mean high profit volume unless cost, volume, and profit are in the proper proportions.

Many foodservice operators do not price menu items profitably because:

1. They are not aware of the interrelationship of cost, volume, and profit.
2. They are not aware of the elements that make up a selling price. These elements are: food cost, labor cost, operating and overhead costs, and the planned profit margin.

Effective menu pricing requires a knowledge of the above elements, an understanding of the market, and sound judgment. Although competition and the prevailing economic climate have an impact on sales volume and pricing, the selling price must be sufficient to cover all costs and still provide a fair profit.

Menu Pricing Methods

Informal Menu Pricing

A variety of menu pricing methods is used in the foodservice industry. Some of them are definitely a "hit or miss" approach. According to Fay, Rhoads, and Rosenblatt [1] pricing methods used in the foodservice industry may be influenced by one or more of the following philosophies:

1. Intuition
2. Competition
3. Trial and Error
4. Follow-The-Leader
5. Psychological

These methods are rather informal and unscientific. This is not to say they are not effective. Few will dispute the fact that the success of many foodservice businesses results from intuition, serendipity, and hard work - not necessarily in

this order, or in equal parts, or mutually exclusive of the other.

A foodservice operator's success in using these methods depends on

- his intuition
- how quickly he adjusts to competition,
- how rapidly he can determine the right price through trial-and-error - before he looses his shirt,
- how well his "intuition" is working when selecting the "right leader" to follow, and
- how well he understands his product and his customer's expectations and their willingness to pay high prices because of "the psychological value received."

The major deficiency of these methods is that they do not consider the elements of pricing; food cost, labor cost, operating and overhead costs, and planned profit. Unfortunately, by using these methods, the operator does not know the profitability of his operation until he see his monthly profit and loss statement.

Traditional Menu Pricing

The traditional menu pricing method used by the foodservice industry has been to multiply the cost of the main ingredient—meat, fish, or fowl—by a factor of 2, 3, 4, or 5. This method has been criticized by pricing experts as being irrational and out-of-date—as irrational as pricing an automobile by multiplying the cost of the transmission by a factor of 16½. However, the traditional method has worked in the past and is still working for many foodservice operators today.

Many foodservice operators have become successful using the traditional pricing method. Yet, many have failed using it. Those who have become successful have, in one way or another, established the proper balance between customer satisfaction and return on investment. This may have been accomplished by "intuition" - more commonly referred to as "seat-of-the-pants management." In some ways there is nothing wrong with this type of management.

The major criticism of the traditional method is that pricing menu items based on the main ingredients may not cover all other costs incurred. This criticism is valid. If the foodservice operator does not know his true food, labor, and operating costs, and his profit, how does he know if the factor he has chosen will return an adequate profit to him?

Pricing experts say that foodservice operators should base their menu prices more on market demands and economic theory. This may be true, but the industry is a *service* industry. A foodservice operator cannot produce meals that can be stored in anticipation of future demands or a more favorable price climate. The product is perishable and the intangible service cannot be stored. Overhead costs, and profits, must be paid out of current income and cannot be deferred to a future income period. Also, it is extremely difficult for a foodservice operator to determine customer demand for his product under intense competitive pressure. This situation suggests that menu prices have to play an active role in the marketing strategies of the foodservice firm.

Basic Approach To Menu Pricing

Even though there is no "magic" formula in pricing, some basic ground rules apply. An understanding of these ground rules will help the foodservice operator to maximize profits. A few of the ground rules are:

1. Keep an accurate list of costs. Effective pricing depends on good cost information—for food, labor, and operating expenses—and if you don't know your profit margins, chances are you are pricing menu items blindly. Good cost information from an accounting or bookkeeping system that accurately reflects all costs, is necessary to establish "floor prices."
2. Know the difference between fixed costs and variable costs. Fixed costs remain even though you cease producing or serving meals. Variable costs are those expenditures that respond proportionately to volume. If you stop producing meals, you eliminate food cost and labor cost but fixed costs remain. Knowing which costs are variable and fixed is very important in the pricing decision.
3. Standardize your operation—your recipes, portions, yields, and purchasing specifications. The cost of each recipe must be based on standard portions—the size of the portion, the number of portions. Every menu item must have a portion cost based on all the ingredients that go into the recipe. An operator cannot do accurate pricing if costed recipes are not available (Figure 1).
4. Each menu item should contribute to the total profit structure of the establishment. "Loss leaders" do not work in the foodservice industry. One menu item should not be promoted at a loss or a reduced profit margin at the expense of other menu items unless you are sure that such action will increase your overall sales and profits.

Figure 1
STANDARDIZED RECIPE

Total Yield 29 lbs. - 3½ gals.

Recipe for Chop Suey

Number Portions 50

Date January 10, 1978

Size of Portion 8 oz.

Ingredients	Amount of Ingredients			Cost Per Unit		Amount	
	Weight		Measure Count				
	Purchase	Edible					
Pork Shoulder	12 lbs.	10 lbs.	5 qts.	$1	45	$17	40
Oil, Vegetable	1 lb.	1 lb.	1 pt.		46		46
Stock	4 lbs.	4 lbs.	2 qts.		14		56
Celery	6½ lbs.	6 lbs.	3 qts.		30	1	95
Onions	3¼ lbs.	3 lbs.	1½ qts.		15		49
Peppers, Green	3½ lbs.	3 lbs.	1½ qts.		32	1	12
Pepper	2 tsp.		2 tsp.		03		03
Salt	1 tsp.		1 tsp.		01		01
Soy Sauce	4 oz.		1/2 c.		10		40
Bean Sprouts	2 No. 2cans	1 lb.4 oz.	1 pt. 2 oz.		67	1	34
Corn Starch	4 oz.		3/4 c.		02		08
Water	4 oz.		½ c.				
Labor Hours to Prepare 45 minutes			Total Cost			$23	84
Cooking Time 2 hours 5 minutes			Cost Per Portion				48

PROCEDURE:

1. Trim fat and cut meat into ½-inch by 1-inch strips.
2. Brown meat and add stock. Cover and simmer for 1 hour.
3. Slice celery, onions and green pepper -- do not dice.
4. Add celery, onions, and green pepper, salt and pepper. Simmer for 1 hour.
5. Blend corn starch in soy sauce, water and liquid from bean sprouts.
6. Add one cup of hot mixture slowly to the starch and liquid mixture and blend well to prevent lumping.
7. Add mixture to hot ingredients slowly with good agitation. Cook until clear.
8. Add bean sprouts and mix together. Simmer for 5 minutes.

Pricing The Menu Based On A Budget

Pricing the menu based on a budget is a more systematic method of determining the most effective selling price. The four elements involved in establishing the menu prices are:

1. Food cost
2. Labor cost
3. Operating cost
4. Desired profit

Realistic pricing requires a good knowledge of the total costs associated with providing the customer with the product. The budget is management's primary tool for determining planned costs. The methods of preparing a budget are fairly well established and will not be discussed here.

How is a budget used to determine menu selling prices? Assume that our past records show that operating expenses—expressed as a percent of sales—look like those in Table 1. Profit before income taxes is 10 percent (arrived at by determining what our return on investment should be and what percentage of total sales it should be).

Our expenses total 68 percent of gross sales (operating costs, 48% + fixed costs, 10% + profit, 10%). Therefore, our food cost percentage must not exceed 32 percent of total sales. That is all we have left to spend for food.

Gross Sales	=	100%
Total Expenses	=	-68%
Food Cost		32%

In other words, if we forecast sales for the coming year to be $240,000 our food cost in dollars should not exceed $76,800. If the food costs exceeds $76,800 and if all other expenses remain the same, profits have to suffer. Table 2 illustrates the projected budget for the coming year based on our projected sales volume of $240,000.

The desired food cost is 32 percent. To produce this food cost percentage divide the cost of the food by 32 percent or multiply the food cost by the factor (reciprocal) of 3.13 to arrive at the selling price. The factor 3.13 is obtained by dividing 1 by 32 percent (1 ÷ 32% = 3.13). Both methods will produce similar selling prices.

Table 1

Total Expenses As A Percentage of Sales

OPERATING EXPENSES	
Salaries and Wages	27%
Employee Benefits	4%
Direct Operating Expenses	6%
Advertising and Promotion	2%
Administrative and General	2%
Repairs and Maintenance	2%
Heat, Light, and Power	5%
Total Operating Expenses	48%
FIXED COSTS	
Rent	5%
Property Taxes and Licenses	1%
Insurance	1%
Interest	1%
Depreciation	2%
Total Fixed Costs	10%
NET PROFIT BEFORE TAXES	10%
Total Expenses	68%

For example, if the food cost for a menu item is $2.50 the selling price of the menu item using both methods would be $7.85.

1. Cost of food $2.50
   Food cost percentage 32% = $7.85* Selling price

2. Cost of food $2.50
   Food cost factor X3.13
   $7.85* = Selling price

*Selling price rounded upward to the next 5 cents.

This does not mean that every menu item must produce a 32 percent food cost. Our food cost percentage merely means that all menu items sold should produce a net food cost of 32 percent of sales. If we price all menu items at 32 percent we are forgetting about market demands, the prevailing economic conditions, and competition.

Table 2

Pro Forma Profit and Loss Statement

	Amount	*Percent Ratio*
FOOD SALES	$240,000	100%
Cost of Food Sold	76,800	32
GROSS PROFIT	$163,200	68%
OPERATING EXPENSES		
Salaries and Wages	$ 64,800	27%
Employee Benefits	9,600	4
Direct Operating Expenses	14,400	6
Advertising and Promotion	4,800	2
Administration and General	4,800	2
Repairs and Maintenance	4,800	2
Heat, Light and Power	12,000	5
Total Operating Expenses	$115,200	48%
FIXED EXPENSES		
Rent	$ 12,000	5%
Property Taxes and Licenses	2,400	1
Insurance	2,400	1
Interest	2,400	1
Depreciation	4,800	2
Total Fixed Expenses	$ 24,000	10%
NET PROFIT BEFORE TAXES	$ 24,000	10%

Balancing The Menu

Basically, the foodservice operator has to plan a menu to produce a certain profit. The potential food cost percentage, the projected average check and gross profit are only indications of what he thinks the actual food cost should be. If the actual results do not compare favorably with the planned results then adjustments must be made to bring actual performance in line with the planned performance. This must be done on a day by day basis if the restaurant operator expects to maximize profits.

To satisfy the majority of customers, the various menu items must be priced at different food cost percentages—some producing a high gross profit, some a medium gross profit, and others a low gross profit. It is important that there be a balance among the three. The result is a menu that produces the desired profits and food cost percentage.

If too many menu items are priced too high they will tend to drive customers away. Or customers will select the lower priced menu items because of their notion of what is a "fair" price. If menu items are priced too low and the customer recognizes them as a "good deal," then the restaurant operator has not maximized his profits because the customer might have been willing to pay more.

The foodservice operator must design a menu with a proper sales mix of high, medium and low cost menu items that will average out to his planned food cost percentage. For example, high cost items such as steaks, lobsters and shrimp must be offset with medium and low cost items such as chicken.

The menu in Table 3 has been designed to produce a 32 percent food cost, that is if the proper sales mix is attained. Notice, each menu item is priced using a different food cost percentage.

If the menu items in Table 3 were all priced at a 32 percent food cost, the menu items would sell for the following prices:

Steak	$ 9.50
Prime Rib	8.60
Roast Lamb	8.95
Lobster	14.65
Fried Chicken	4.50

Customers will more than likely purchase the chicken dinner because of its relatively low price. At $4.50, the chicken dinner looks good because the next lowest menu price, prime rib at $8.60, is almost twice the price of the chicken. If the majority of the customers purchase fried chicken there is a good chance that there will not be enough gross profit to cover labor, overhead and profit.

Many restaurant operators say that the highest priced menu item should not be priced more than two times the lowest menu price. The pricing structure in Table 3 is within this rule of thumb except for the lobster dinner. The lobster dinner is priced almost three times the chicken dinner. There is no reason to remove the lobster dinner even though only a few customers order them as long as the lobster dinners return a fair profit.

Impact Of Sale Mix On Profits

Many foodservice operators do not realize that profits can be affected by a shift in sales patterns. As customer eating habits change, they will purchase more or less of certain menu items. When they do the average food cost percentage, the average check and gross profits will be affected.

The five menu items in Table 4 represent food groups that have a high, medium and low food cost. One hundred customers purchased equal amounts of the five menu items—20 each. Because they did, the budgeted food cost percentage (potential) was accomplished. The analysis shows that the average food cost percentage was 31.9% or 32% rounded, the average check $9.24, and the gross profit $629.00. If the daily break-even point for the day is $550.00 a profit of $79.00 was made.

In Table 5 there is a shift in customer preference. Instead of selling equal amounts of the five menu items, the majority of customers (40) purchased the chicken dinners. Each menu item still maintained its respective food cost percentage, but notice the change in the average food cost percentage, the average check, and the gross profit.

Some operators would look at the average food cost percentage and assume they did a good job by lowering the food cost to 30.9 percent. However, when one looks at the average check and the gross profit, the manager did not do as well as he thought. The average check is now $8.30 and gross profit is only $572.75. That is $56.25 less than the gross profit in Table 4 and only $22.75 above the break-even point.

Table 3

Cost of Menu Items

Menu Item	Portion	Portion Cost	Surrounding[1] Items	Plus[2] 10%	Total Cost	Selling Price	Food Cost Percentage
Steak	10 oz.	$2.25	$0.50	$0.28	$ 3.03	$ 7.85	38.6
Prime Rib	10 oz.	2.00	0.50	0.25	2.75	8.30	33.1
Roast Lamb	7 oz.	2.10	0.50	0.26	2.86	8.95	31.9
Lobster	1¼-1½	3.75	0.50	0.43	4.68	15.95	29.3
Fried Chicken	½	0.80	0.50	0.13	1.43	5.35	26.7
			Totals		$14.75	$46.41	31.8%

[1]Surrounding Items - vegetables, rolls, butter, condiments.
[2]Some operators add 10% to make up for waste, employee snacking, and pilferage.

Table 4

Impact of Change in Sales Mix on Gross Profits

Menu Item	Selling Price	Unit Food Cost	No. Covers Sold	Total Sale	Total Food Cost	Food Cost Percent
Steak	$ 7.85	$3.03	20	$157.00	$ 60.60	38.6
Prime Rib	8.30	2.75	20	166.00	55.00	33.1
Roast Lamb	8.95	2.86	20	175.00	57.20	31.9
Lobster	15.95	4.68	20	319.00	93.60	29.3
Fried Chicken	5.35	1.43	20	107.00	28.60	26.7
Total			100	$924.00	$295.00	31.9

Average Food Cost Percentage

Total Food Cost / Total Sales = $\frac{\$295.00}{\$924.00} = 31.9\%$

Average Check

Total Sales / Number Covers Sold = $\frac{\$924.00}{100} = \$9.24$

Gross Profit

Total Sales - Total Food Cost

$924.00 - $295.00 = $629.00

Table 5

Impact of Change in Sales Mix on Gross Profits

Menu Item	Selling Price	Unit Food Cost	No. Covers Sold	Total Sale	Total Food Cost	Food Cost Percent
Steak	$ 7.85	$3.03	15	$117.75	$ 45.45	38.6
Prime Rib	8.30	2.75	15	124.50	41.25	33.1
Roast Lamb	8.95	2.86	15	134.25	42.90	31.9
Lobster	15.95	4.68	15	239.25	70.20	29.3
Fried Chicken	5.35	1.43	40	214.00	57.20	26.7
Total			100	$829.75	$257.00	30.9

Average Food Cost Percentage

Total Food Cost / Total Sales = $\frac{\$257.00}{\$829.75} = 30.9\%$

Average Check

Total Sales / Number Covers Sold = $\frac{\$829.75}{100} = \$8.30$

Gross Profit

Total Sales - Total Food Cost

$829.75 - $257.00 = $572.75

Table 6

Impact of Change in Sales Mix on Gross Profits

Menu Item	Selling Price	Unit Food Cost	No. Covers Sold	Total Sale	Total Food Cost	Food Cost Percent
Steak	$ 7.85	$3.03	15	$117.75	$ 45.45	38.6
Prime Rib	8.30	2.75	15	124.50	41.25	33.1
Roast Lamb	8.95	2.86	15	134.25	42.90	31.9
Lobster	15.95	4.68	20	319.00	93.60	29.3
Fried Chicken	5.35	1.43	35	187.25	50.05	26.7
Total			100	$882.75	$273.25	30.9

Average Food Cost Percentage

Total Food Cost / Total Sales = $273.25 / $882.75 = 30.9%

Average Check

Total Sales / Number Covers Sold = $882.75 / 100 = $8.83

Gross Profit

Total Sales - Total Food Cost

$882.75 - $273.25 = $609.50

Table 6 shows another shift in customer preference. Now 35 customers purchased the chicken dinner and 20 customers purchased the lobster dinners. Once again, each menu item maintained its respective food cost percentage. The average food cost percentage is 30.9 percent which would probably be looked upon favorably. Gross profit of $609.50 is considerably better than the gross profit in Table 5. Because of the higher gross profit, the check average increased by 53¢, to $8.83. The increase in the gross profit and the average check, although the food cost percentage remained at 30.9 percent, is attributed to the higher gross profit on the lobster dinner.

The gross profit on each chicken dinner is only $3.92 ($5.35 - $1.43)—the reason why the Table 5 gross profit was considerably less. The 20 additional chicken dinners in Table 5 contributed $78.40 to gross profit while the five additional lobster dinners in Table 6 contributed $56.35 to gross profit.

Gross profit analysis is a useful technique for analyzing alternative menus or replacement of menu items to maximize profits.

Change In Selling Prices

What happens if the foodservice operator decides to change the selling price of menu items? For example, the operator feels that if he reduces the selling prices for the roast lamb and lobster dinners, the price reduction should influence more customers to purchase those items. He reduces the selling price of the roast lamb by 50 cents and the lobster by 85 cents. The results, as shown in Table 7, show that an additional 15 roast lamb and 10 lobster dinners were sold.

The analysis of the sales mix show that the average check and gross profit increased to $9.54 and $642.55 respectively. However, the average food cost increased to 32.6 percent. Not only did the foodservice operator influence his customers to purchase lamb and lobsters, he increased his gross profit (from Table 4) by an additional $13.55 by increasing the food cost percentages on roast lamb and lobster 1.9 percent and 1.6 percent respectively.

If all other expenses remained the same (labor cost and operating expenses), it would be better to have a 32.6 percent food cost than a 31.9 percent food cost. The $13.55 additional profit does not seem significant, but in 30 days this menu mix will produce an additional $406.50 profit.

A Shift In Customer Preferences

Customer eating habits and preferences change. Table 8 shows a shift in customer preference to steak, prime rib and roast lamb. Once again, each menu item maintained its respective food cost percentage, but the average food cost percentage is now 33.6 percent, the average check

Table 7

Impact of Change in Sales Mix on Gross Profits

Menu Item	Selling Price	Unit Food Cost	No. Covers Sold	Total Sale	Total Food Cost	Food Cost Percent
Steak	$ 7.85	$3.03	15	$117.75	$ 45.45	38.6
Prime Rib	8.30	2.75	15	124.50	41.25	33.1
Roast Lamb	8.45	2.86	30	253.50	85.80	33.8
Lobster	15.10	4.68	25	377.50	117.00	30.9
Fried Chicken	5.35	1.43	15	80.25	21.45	26.7
Total			100	$953.50	$310.95	32.6

Average Food Cost Percentage

$$\frac{\text{Total Food Cost}}{\text{Total Sales}} \quad \frac{\$310.95}{\$953.50} = 32.6\%$$

Average Check

$$\frac{\text{Total Sales}}{\text{Number Covers Sold}} \quad \frac{\$953.50}{100} = \$9.54$$

Gross Profit

Total Sales - Total Food Cost

$953.50 - $310.95 = $642.55

Table 8

Impact of Change in Sales Mix on Gross Profits

Menu Item	Selling Price	Unit Food Cost	No. Covers Sold	Total Sale	Total Food Cost	Food Cost Percent
Steak	$ 7.85	$3.03	30	$235.50	$ 90.90	38.6
Prime Rib	8.30	2.75	30	249.00	82.50	33.1
Roast Lamb	8.95	2.86	25	223.75	71.50	31.9
Lobster	15.95	4.68	5	79.75	23.40	29.3
Fried Chicken	5.35	1.43	10	53.50	14.30	26.7
Total			100	$841.50	$282.60	33.6

Average Food Cost Percentage

$$\frac{\text{Total Food Cost}}{\text{Total Sales}} \quad \frac{\$228.60}{\$841.50} = 33.6\%$$

Average Check

$$\frac{\text{Total Sales}}{\text{Number Covers Sold}} \quad \frac{\$841.50}{100} = \$8.42$$

Gross Profit

Total Sales - Total Food Cost

$841.50 - $282.60 = $558.90

Table 9

Summary of Change in Sales Mix
Daily Break-Even Point $550.

Table	Gross Profit	Food Cost Percentage	Average Check
4	$629.00	31.9	$9.24
5	572.75	30.9	8.30
6	609.50	30.9	8.83
7	642.55	32.6	9.54
8	558.90	33.6	8.42

$8.42, and gross profit $558.90—$8.90 above the break-even point. In many foodservice operations the 1.7 percent increase in food cost can cause "heads to roll" when in fact the high food cost percentage is not the manager's fault. It's just that the customers see the low and medium food cost items as a "better value." If the customers keep up this buying pattern, net profit will decrease if all other expenses remain the same.

The situation calls for immediate action to determine why there was shift in customer preference. And, this is a difficult task because of the many variables involved (such as the price charged by competition, the quality of the food, a change in the type of customer, or the diversity in the menu prices). The shift in customer preference could be the result of one or more of these variables.

Although these examples seem simple and perhaps exaggerated, they illustrate the possible effects of a change in sales mix. As the examples illustrated, because of a different sales mix and a price adjustment, actual food cost percentages varied—some for the better and some for the worse (see Table 9).

Additional Menu Pricing Methods

More than one workable menu pricing method may be used in establishing realistic menu prices in terms of the operator's profit objective. Some of the more commonly used methods for pricing menus are:

1. Percentage Mark-Up (Direct Cost)
2. Prime Cost
3. Group Pricing
4. Gross Profit Mark-up
5. Ratio of Total Expenses to Food Cost
6. Texas Restaurant Association (TRA)
7. Cost Plus

Percentage Mark-Up

The most widely used method of pricing menu items is based on a food cost multiplier. Traditionally, restaurateurs have used multiples of cost expanded to a selling price defined as 100 percent. (Selling price or Sales always equals 100% in the pricing equations.) For example, the pro forma statement in Table 2 shows that our food cost percentage is 32 percent. The established ratio of food cost to sales is expressed as follows:

$$\text{Selling Price} = \frac{100\%}{32\%} = 3.125 \text{ or } 3.13$$

Therefore, if we take the cost of our steak dinner in Table 3 which has a total food cost of $3.03 the selling price is $9.48 ($3.03 X 3.13 = $9.48).

A second method of calculation is to divide the raw food cost by the food cost percentage of 32 percent.

$$\frac{\text{Raw or Actual food cost}}{\text{Food cost percentage}} = \text{Selling price}$$

$$\frac{\$3.03}{32\%} = \$9.47$$

The selling price difference is due to rounding. The percentage mark-up or the multiple factor is easy to understand and simple in application.

To use the percentage mark-up method indiscriminately is a serious mistake. Some items will be priced too high and some items too low. Too high menu prices will drive customers away and too low menu prices will affect profits. A foodservice operation must realize that besides being a cost function menu pricing is also a merchandising and marketing function.

Prime Cost Method

The prime cost method developed by Harry H. Pope, a very successful St. Louis restaurateur, is another approach to menu pricing. The prime cost method consists of direct materials (raw food cost) plus direct labor. This method is a modification of the direct costing system used by cost accountants in the manufacturing industry. A new twist is added in this pricing system. Direct labor cost (DLC) becomes part of the base cost—raw food cost plus direct labor cost.

The objective of the prime cost method is to reflect the difference in the cost of menu items that require various amounts of production labor and those menu items that require little or no production labor. How is direct labor cost determined? According to Mr. Pope, labor cost in his operations is made up of 1/3 in direct production labor, 1/3 in service and 1/3 in supervision.

COMPUTING THE PRICING FACTOR. To illustrate this method, let's go back to our pro forma profit-and-loss statement in Table 2. The food cost percentage is 32 percent and the labor cost percentage including fringe benefits is 31 percent. The gross profit margin is 68 percent. Accepting Mr. Pope's premise that direct labor cost is one third or 30 percent, then the direct labor cost for our operation is about 10 percent or 10 cents of each sales dollar. If direct labor cost is added to the raw food cost the gross profit is 58 percent and the prime cost factor is 1.72 (100% ÷ 58%).

	Prime Cost		
Food Cost	32%	Sales	100%
Labor Cost (DLC)	10%	Prime Cost	42%
Total Prime Cost	42%	Gross Profit	58%

Let's price the steak dinner using the prime cost method. Assume the cook is receiving $6.00 an hour and it takes him 15 minutes to prepare the steak. The direct labor cost is $1.50, (6.00 ÷ 4). Selling price for the steak dinner, using prime cost, is determined as follows:

Raw Food Cost ($) + DLC ($) = Prime Cost
Prime Cost X Pricing Factor = Selling Price

Food Cost	$3.03
Direct Labor Cost	1.50
Prime Cost	$4.53

Therefore, the prime cost $4.53 multiplied by the prime cost factor 1.72 equals $7.79. The prime cost selling price for the steak dinner is $1.68 less than the traditional percentage mark-up.

The prime cost reciprocal or factor of 1.72 is not applied indiscriminately to all menu items. If the menu item requires very little or no labor an adjustment in the pricing factor is made. For example, an oven-ready roast would have a high food cost but a low direct labor cost so the pricing factor would be adjusted downward. For menu items requiring much more labor such as "home made stew" or pastries the prime cost factor would be adjusted upward. This adjustment is based on management's observation of the amount of direct labor involved in preparation.

The prime cost method is a logical approach to menu pricing. Consumers, especially housewives, are not uninformed as to the cost of food. They know how much they have to pay for an oven-ready roast in the supermarket—supermarket prices are generally lower than the restaurant operator's wholesale price—and what is involved in preparing it. They also know how much time and effort it is to make "home made" stew and pastries. They can rationalize the higher prices for these items.

Table 10

Allocation of Costs

Present Cost Structure		Food Group A with High Labor Cost 70%	Food Group B with Little or no Labor Cost 30%
Food Cost	32%	22.4 %	9.6 %
Labor Cost	31%	10.30%	
		14.5	6.2
Other Cost	27%	18.9 %	8.10%
Profit	10%	7. %	3. %
Total	100%	73.1 %	26.9 %
Price Factor	3.13	3.26	2.80

The prime cost system works very well for Pope's operations. Since he uses very few convenience products, direct labor cost is a major factor in production. The prime cost system incorporates two of the major pricing elements—food cost and labor cost. The prime cost factor supposedly covers the operating expenses and profit.

Group Pricing Method

Dukas [2] advocates a method similar to the prime cost method. The group pricing method requires the operator to:

1. Analyze his menu and divide the cost of food sold into two groups of food according to the cost of food sold requiring high labor cost and the cost of food sold requiring little or no labor cost.
2. Separate direct labor cost from the total labor cost and charge the direct labor cost only to those items requiring high labor. The remaining labor cost and other expenses are allocated proportionally between the two groups.
3. Determine a pricing factor for each food group.

Table 10, using the percentages from our pro forma profit-and-loss statement, illustrates the group pricing method.

A menu analysis shows that approximately 70 percent of the items we serve require extensive production labor. The remaining menu items, 30 percent, require little or no production labor. Therefore, Food Group A at 70 percent represents 22.4 percent of the total food cost (32% X 70%) and Food Group B represents 9.6% of the total food cost (32% X 30%).

Assuming that one-third of the total labor cost is direct labor, then Food Group A will be allocated 10.3 percent of the total labor cost (31% ÷ 1/3). The remaining labor cost is allocated between the food groups on a 70-30 basis.

Labor Cost (%)	÷	Direct Labor Cost (%)	=	Direct Labor Charge (%)
		31% ÷ 1/3	=	10.3%
Labor Cost (%)	−	Direct Labor Charge (%)	=	Labor Cost to be Allocated
		31% − 10.3%	=	20.7%
Remaining Labor Cost (%)	×	Food Group's (%) of Total Food Cost	=	Allocated Share
		20.7% × 70%	=	14.5% Group A's share
		20.7% × 30%	=	6.2% Group B's share

Other costs and *profit* are allocated using the same 70-30 ratio. The percentage allocations for each group is totaled. Then the total percentage cost allocation for each food group is divided by its respective food cost percentage to determine the pricing factor. Group A's pricing factor is 3.26 (73.1% ÷ 22.4%) and Group B's pricing factor is 2.8 (26.9% ÷ 9.6%). When menu items requiring high labor costs are prepared, they are multiplied by the pricing factor of 3.26.

The steak dinner using the group pricing method would be $8.48 ($3.03 X 2.80).

This example used only two food groups. More than two food groups can be used if the food-service operator so desires and is willing to put in the time to analyze the menu items. All there is to do is analyze his menu items to determine the degree of direct labor needed for various food groups. Using more than two groups will permit greater flexibility in setting prices.

Gross Profit Mark-Up Method

The gross profit mark-up method differs from the percentage mark-up, prime cost, and the group pricing methods. The basic philosophy of the gross profit mark-up is that each customer should share equally the cost of serving each meal. Those who advocate this method say that the cost of serving a chicken, steak or fish dinner is the same once the raw food cost is paid for. Food cost is not the important pricing element in this method.

The rationale behind this method is that each customer uses the same amount of service regardless of his choice of menu item. The cost of purchasing, storage, supervision, etc. are also the same regardless of the menu item. Therefore the customer should pay for what he or she uses.

The gross profit mark-up works like this. Referring back to Table 2 our total sales were $240,000 and the gross profit $163,200. Assume that this is what the operation did for the past year and our records show that we served 25,000 customers. For every customer served we received an average gross profit of $6.53. This is computed as follows:

$$\frac{\text{Gross Profit}}{\text{Total Customers Served}} = \frac{\$163{,}200}{25{,}000}$$

$$= \$6.53 \quad \begin{matrix}\text{Gross Profit} \\ \text{Per Customer}\end{matrix}$$

To determine the selling price the average gross profit is added to the menu item cost. Using the cost figures for the menu items shown in Table 3, the menu selling price would be as follows:

Item	Entree Cost	Gross Profit Mark-Up	Selling Price
Steak	$3.03	$6.53	$ 9.56
Prime Rib	2.75	6.53	9.28
Leg of Lamb	2.86	6.53	9.39
Lobster	4.68	6.53	11.21
Chicken	1.43	6.53	7.96

Under this system the high cost item such as lobster becomes more attractive to the customer while the low cost items such as chicken become less attractive to the customer.

Low cost items such as chicken or fish can be priced out of the market using this method. This is not to say the system will not work. It works well with a limited menu where food cost and labor are relatively the same for each menu item.

Ratio of Total Expenses To Food Cost

The pricing method advocated by Kreck [3] is a total cost approach to menu pricing. The basic philosophy behind this method appears somewhat similar to the gross profit mark-up. According to Kreck, in the process of selling food a food-service operator generates a number of costs. Those costs should be shared equally by each menu item based on the cost of food sold. This method incorporates the basic pricing elements to arrive at the selling price ratio. To illustrate this method, using the figures from the profit-and-loss statement in Table 2:

Yearly Sales	$240,000
Food Cost	76,800
Gross Profit	$163,200
Operating Expenses	$115,200
Fixed Expenses	24,000
Profit	24,000
Total Expenses	$163,200

The formula or the ratio of food cost to total cost is:

$$\frac{\text{Total Expenses}}{\text{Total Food Cost}} = \frac{\$163{,}200}{76{,}800} = 2{:}13{:}1$$

(the cost of food is always equal to 1)

Here is how the pricing ratio works. The cost of our steak dinner is $3.03. The pricing ratio is 2:13:1. The formula is as follows:

$$\text{Food Cost X Pricing Ratio + Food Cost} = \begin{matrix}\text{Selling} \\ \text{Price}\end{matrix}$$

$$\$3.03 \text{ X } 2.13 = \$6.45 + \$3.03 = \$9.48$$

This method is the percentage mark-up with a slightly different approach. The pricing ratio 2:13:1 is the equivalent to the percentage mark-up factor of 3.13. For example, the food cost percentage for the steak is also 32 percent ($3.03 ÷ $9.48) using this method.

The Texas Restaurant Association (TRA) Method [4]

The TRA developed a pricing method in the mid-sixties that according to the association was the most precise way of cost accounting yet devised for the restaurant industry. The system was up-dated in 1977 but with no significant changes. The TRA's pricing method is based on the average expenses incurred or budgeted by a foodservice operator. These expenses include labor and operating expenses, and a desired profit mark-up for menu categories.

The menu categories are the key elements along with the desired profit mark-up. The profit percentage mark-up for each category was developed based on a consensus of Association members. The menu categories and profit mark-ups are as follows:

Menu Categories	Profit Mark-Up (%)
Appetizer	20 - 50
Fast-Moving Entrees	15 - 18
Slow-Moving Entrees	22
High-Priced Entrees	10 - 12
Desserts	35

Other menu categories can be added to the above list such as:

Menu Categories	Profit Mark-Up (%)
Salads	20 - 50
Vegetables	15 - 40
Breads	10 - 20
Beverages (Coffee, Tea, and Milk)	15 - 25

The profit mark-up is related to both volume and cost. For example, menu items of high cost or the possibility of high waste require a greater profit mark-up. On the other hand, menu items with high volume, minimum waste, and low cost allow a lower profit mark-up.

The TRA method requires that you know your expenses in percentages. The profit-and-loss statement in Table 2 shows expenses as: labor cost (including fringe benefits) 31 percent and operating expenses (including fixed costs) 27 percent.

Here is how the method works. The total cost of the steak dinner is $3.03. Depending on the foodservice operation it may be a slow-moving entree or a fast-moving entree. Assume it is a fast-moving entree and we desire a profit mark-up of 15 percent. Add labor cost, operating expenses, and the profit mark-up in percentages and subtract the total from 100 percent.

Labor Cost	31%
Operating Costs	27%
Profit Desired	15%
Cost Without Food	73%

Therefore, 100 percent (selling price always equals 100%) minus 73 percent equals 27 percent food cost mark-up. The cost of the steak dinner is $3.03 divided by 27 percent equals $11.22.

If the steak dinner were a slow-moving entree and we desire a 22 percent profit mark-up, then the selling price would be $15.15. The cost without food is now 80 percent. The food cost mark-up is 20 percent (100% − 80% = 20%). $3.03 ÷ 20% = $15.15.

If this price seems too high in relation to competition or the market demand, then the foodservice operator must adjust his price.

Cost Plus Pricing

Dr. John M. Welch [5] suggests a simple linear formula as a substitute for the percentage mark-up method to provide a more accurate and realistic menu pricing method. The formula is:

$$\text{Selling Price} = \text{Food Cost (I)} + \text{Direct Labor Cost (L)} + \text{All Other Costs (C)} + \text{Profit Desired (P)}$$

This method incorporates part of the prime cost method and the TRA method. The principal difficulty with this method is the allocation of the direct labor [6]. Application of the method requires separating direct labor cost (L) and all other labor. This is similar to the prime cost method.

Welch suggested that through observation or time-and-motion studies one can determine the time required to prepare the various menu items. The direct labor cost for each menu item is determined by the formula:

$$\text{Direct Labor Cost (L)} = \frac{\text{Time X Rate}}{\text{E (Work-Efficiency Factor)}}$$

The work-efficiency factor is based on two time-and-motion studies. Taking the average of the two studies Welch estimates that production workers are engaged in actual production about 43 percent of the time. The rest of their time, 57 percent, is used in watching and waiting, coffee breaks, and rest periods.

To illustrate the cost plus method, assume that a cook takes 10 minutes to prepare the steak dinner. The cook is paid $5.00 per hour. The direct labor cost would be as follows:

$$L = \frac{\frac{10}{60} \text{ X } \$5.00}{43\%} = \$1.94 \text{ Direct Labor Cost}$$

Basically this formula says that since the cook is not 100 percent productive at all times we pass on his non-productive time to the customer in the form of higher labor cost. Since the direct labor cost is $1.94 for 10 minutes and there are six ten minute periods in an hour, the direct labor cost for an hour is now $11.64. Or, $5.00 ÷ 43% = $11.64.

PROFIT DESIRED. The profit desired according to Welch is variable and is based on the "Popularity Index" of the individual menu items. The philosophy behind the profit mark-up is that a greater profit can be obtained from a popular item such as steak than from a less popular item such as liver. According to Welch, the profit mark-up desired may be stated either as a percentage of the selling price or as a dollar amount.

Let's price our steak dinner using the cost plus formula. Assume the steak dinner is a fast-moving entree. Using the TRA's menu category the profit desired is 15 percent. First we must make an adjustment for our labor cost percentage. Using Pope's observation that 30 percent or one-third of total labor cost is direct labor then "all other labor" will be 21 percent (31% ÷ 1/3 = 10.3%: 31% − 10.3% = 20.7% or 21%). The cost structure is now:

Direct Labor Cost (L)	$1.94
All Other Labor Cost (C)	21%
All Other Costs (C)	27%
Profit Desired (P)	15%

Substituting these figures in the formula:

I + L + C + P = Selling Price
$3.03 + $1.94 + 48% + 15% = 100%
$4.97 = 100% − (48% + 15%)
$4.97 = 37%
Selling Price = $13.43

The selling price is $5.58 higher than the original selling price for the steak as shown in Table 3. The food cost percentage is 22 percent.

If we don't consider the work-efficiency ratio, the selling price is still $2.58 higher than the original selling price. Since the cook's pay is $5.00 per hour, the direct labor cost is .83 cents. ($5.00 ÷ 60 minutes = .083¢ × 10 minutes = .83¢).

$3.03 (I) + .83 (L) + 48% (C) + 15% (P) = Selling Price
$3.86 = 100% − (40% + 15%)
$3.86 = 37%
Selling Price = $10.43

If the restaurant operator can get the price, then the method is applicable. If he can't get the price because of competition or market demand an adjustment in selling price has to be made.

Pricing Method Summary

Which is the "best" pricing method? No value judgment can be made as to the best method. Few foodservice operators use only one method. Most use a combination of the methods described above including intuition, what competition is doing, and what the market will bear. Basically, a foodservice operator must be flexible in his approach to pricing. Any one of the pricing methods may be the most practical method under certain situations (See Table 11).

None of the pricing methods is without shortcomings. All have been criticized by one "expert" or another. Some of the criticisms are as follows:

PERCENTAGE MARK-UP places too much emphasis on a single pricing element - food cost. It does not account for direct cost of labor involved in preparation nor does it consider the market demand for the product or service. Using the standard percentage mark-up does not reflect the risk of high waste inherent in some menu items. One of the strongest objections to this method is that there is no relationship between net profit and the capital invested in the business. It is assumed that the standard mark-up will generate enough revenue to cover all other costs and profit.

Table 11

Summary of Pricing Systems Steak Dinner

Pricing Methods	Unit Food Cost	Selling Price	Food Cost Percentage	Gross Profit
Percentage Mark-Up	$3.03	$ 9.50	31.9%	$ 6.47
Prime Cost	3.03	7.79	38.9	4.76
Group Pricing	3.03	8.48	35.7	5.45
Gross Profit	3.03	9.56	31.7	6.53
Ratio of Expenses to Food Cost	3.03	9.48	31.9	6.45
TRA	3.03	11.22	27.0	8.19
Cost Plus	3.03	13.43	22.5	10.40

PRIME COST, GROUP PRICING and COST PLUS are time consuming and to say the least difficult to apply by the average foodservice operator. Time-and-motion studies are difficult to do in a foodservice operation. Basing the selling price on food cost and direct labor cost assumes that the cost multiplier will cover all other costs. It may not since the direct labor cost is based on an average direct labor cost and the average might not reflect the true amount of direct labor used on each item. For example, if the direct labor cost for preparing a steak dinner is $1.50 based on 15 minutes of the cook's time, what is the direct labor cost for 15, 20 or 25 steaks prepared in a 15 minute period?

Some say that if the operator is concerned with direct labor cost in establishing prices, he should also be concerned with the overhead cost in dollars or cents per menu item - not percentages of overhead cost. They say that food cost, direct labor and overhead cost per unit provide a more realistic base for a profit margin mark-up. The same criticisms of the percentage mark-up method apply to these methods.

GROSS PROFIT MARK-UP criticisms are basically the same as the criticisms of the percentage mark-up method. One of the major criticisms is that if the market price is not defined the restaurant operator can price himself out of the market on some menu items.

RATIO OF TOTAL EXPENSES TO FOOD COST basically is no different than the percentage mark-up method except that profit is included in the factor used to determine the selling price based on raw food cost. The percentage mark-up criticisms apply to this method also.

THE TRA METHOD is subject to the same criticisms mentioned above. In addition, some concern has been expressed about assigning operating cost on a percentage basis. More thought should be given to fixed and variable costs. Of course, the other methods have this shortcoming also. Again, one of the major objections to the method is that there is no relationship of the profits desired on each menu item to the total net profit and net profit to return on investment.

Summary

The foregoing methods can help a foodservice operator to establish "pricing floors" but they are only useful if the market will accept the resulting price at the required volume. It must be kept in mind that the "price ceiling" or the merchandisable price is established by the market. It is important for the foodservice operator to develop a way of reasoning about pricing rather than to put his trust into specific methods. A well-reasoned approach to pricing considers the impact of a decision on total sales and total costs. If a decision to change prices leads to greater profits even though cost may increase the change should be looked upon as favorable.

Which is the "best" method? Each foodservice operator must decide his own pricing method. He can adapt, combine or modify any of the methods to fit his circumstances. Above all he must be flexible in his approach to setting prices to promote the long-range welfare of his business.

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