Instructor's Guide for

Problems in Hospitality Cost Management

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I. Development and Use of Problems

Introduction

It is obvious that people entering hospitality management positions must be prepared to deal with cost control. Indeed, one author (Hoover, 1983) states that such knowledge and skill are more important today than ever before in managing the foodservice in health care facilities. As for the commercial sector, a group of Chief Executive Officers of major food franchises recently listed increased productivity and better cost control as imperative if the industry is to grow during the coming decade (Outlook for the 80's, 1981). Thus, the Hospitality Service Industries (HSI), commercial and non-commercial, are both concerned about declining growth rates, greater competition for consumer dollars, and increasing costs. Unfortunately, cost management, like the weather, causes a lot of talk but few solutions.

As with almost any content area, little is known about how students of hospitality management actually learn the major components of cost management; that is, analysis, planning, and control. Examination of curricula from schools with hospitality management problems invariably indicates that the study of cost management is required. Usually such a course follows the study of accounting, indicating that the skills and concepts presented in accounting classes are prerequisite to the study of cost management. It appears that instructors of cost management are individuals who have studied financial areas in schools of business, or who have had managerial experience in HSI, or both. At least one of the major textbooks in the area (Fay et al, 1976) combines general textual

discussions with content word problems following each chapter. This text states little, however, about course objectives, integration of the problems, or proper sequencing of materials.

This lack of clear-cut instructional guidelines leaves one with the rather uncomfortable feeling that if cost management is somehow "taught" students will "learn." Undoubtedly some students will, but is that enough?

The present authors, student and instructor respectively, have chosen to try a more specific approach. Would it not be more effective and efficient, we reasoned, to learn/teach cost management through a sequenced flow of realistic problems, using the reading materials to provide examples and insights rather than the other way around? Might it be possible, for example, to provide students with problem-solving applications in the field of HSI to which they could be given immediate feedback and from which they could cumulatively build their knowledge and skill of the interlocking concepts of cost analysis, planning, and control?

Content Sequence

The notion of interlocking concepts is of particular consequence here. Cost management is, by its very nature, composed of several interdependent parts which feed on each other. That is, collection and analysis of numbers are necessary for planning, and for control; which in turn requires collection and analysis of numbers to determine the effectiveness of control in order to plan, and so forth. In the authors' view, it is this circular dependence which mandates something more than fragmented presentation of facts, procedures, and pitfalls when learning about cost management.

The problem set presented in this Instructor's Guide represents our initial attempts to approach the learning/teaching of cost management from

this interdependent point of view. We postulated that this sequencing of realistic problems, augmented by readings and classroom lectures, would constitute a wholistic approach which could be missing in other presentations. In other words, what we attempted to do was to present the student with several facets of a content area simultaneously: a problem needing solution and a selection of information which could be employed to do so. Over time, more information suggested more possible solutions as problems became more complex. For example, developing a budget was the next to the last problem, because such activity presupposed facility with all of the facts, procedures, and pitfalls.

Mastery Learning

One final consideration was included. Mastery learning concepts (cf Bloom, 1976) indicate that it is eminently reasonable to expect all students in a class to master content, given appropriate materials and instructional methods along with a student's motivation to do so. There is no reason to believe that upper-division hospitality management majors would not be interested in one of the major components of their chosen field. Therefore, in addition to the wholistic approach to cost management, a second guiding principle was that each problem should assist the student to master both theory and application, not just become acquainted with the area. The problem sequence was thus constructed so that acceptable mastery of certain content would occur and then be used thereafter. For example, ratio analysis was introduced early and used repeatedly in ensuing problems. Break-even analysis, on the other hand, was not used until all its parts (e.g., volume, sales mix) had been mastered.

Problem Development and Pilot Testing

The problems were developed using several textbooks from the field, plus trade journal articles and information. Three faculty members from the program area reviewed and commented on the problem.

The set of problems was used in a class of upper-division hospitality management majors during the fall of 1982. Students purchased the set at the beginning of the quarter and completed and handed in one problem approximately every week. Lectures, visuals, handouts, guest speakers, and assigned readings were used. Students were told that studying in groups was all right, but that each person should base answers on his/her own work. The course had a midquarter and a final examination, consisting of short answer questions based solely on concepts. The tests required no calculations, and students were allowed to omit three or four of the approximately twenty questions on each. Both tests contained at least 75 percent new questions from the previous time the course was offered. Problems and tests were graded by the instructor.

Findings

There was evidence to support the efficacy of the problem set. First, class median number of points awarded on each problem showed a modest but consistent increase as the course progressed. This was true even though the problems became more complex and required the student to use increasing amounts of information.

Second, scores on the final exam were quite high: out of a possible 51 points, the class median was 42 points. This occurred even though the exam was constructed with the intent of being as difficult as was reasonable and comprehensive of the entire course content. The midquarter examination

showed somewhat less class mastery: a median of 32 points out of a possible 48 points. In the instructor's opinion, the differences in these test medians is compatible with a mastery learning progression.

Third, students' comments to the instructor and other faculty members indicated that they maintained an active interest in the course content. Many students in the course were employed part-time in HSI areas. These students in particular commented that they could see immediate applications of the problem set.

Finally, the median number of points for both problems and tests in the course was 164 out of 200, with no student receiving less than 70 percent. Again, this lack of variability was consistent with the notion of mastery learning.

The previous year's class was taught by the same instructor, using many of the same readings, a few problems, and the same type of tests. Students from this class did not show the uniformly high achievement of the class using the problem set. Also, in the instructor's opinion, the sustained interest was not as evident in the previous class and probably accounts for some of the difference in achievement.

There were two major difficulties encountered in the use of the problem set. The first probably cannot be eliminated; the second probably can. First, both students and instructor put in more time because of the problems. Although within the guidelines of outside time for that number of credits, students commented that their time and effort for this class exceeded that for other courses. The instructor also used additional time, but this is true for any course where student homework must be graded. Thus, time requirements for learning/teaching cost management in the proposed way are greater.

The second difficulty pertained to cumulative rounding error which occurred in students' answers as the course progressed. Because of the sequencing of the problems, students used former calculations to solve the current problem. In time, rounding error caused some answers to be quite different from those in the answer key. Further, no one had exactly the same answers.

These differences in answers were a fairly good indication that students were truly doing their own work, but correcting papers was difficult. To alleviate this problem, students could periodically be given updated "correct" numbers to use. This correction would not detract from the problem-solving sequence or negate the mastery notion.

Student suggestions have been incorporated into the problems, as have those made by faculty members prior to the use of problems in the class. The problem set is, at this point, suitable for use with students and/or as part of a research treatment.

Suggestions for Further Study

Since use of the problems to date has been on the order of a pilot test, it would be useful to compare in more controlled fashion the effects of using the problems vs not using them, or the possibility of using only part of the set in order to reduce both student and instructor time requirements. It would also be important to examine the sequencing of the problems. Certainly the authors have given every consideration to this factor, but further work could be done.

The problem set, along with the other materials used in class, would constitute the major portion of an independent study course in cost management. It is anticipated that such use will be made.

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Bloom, F. S. 1976. Human characteristics and school learning. New York: McGraw-Hill.

Fay, C. T., Jr., Rhoads, R. C. and Rosenblatt, R. L. 1976. Managerial accounting for the hospitality service industries. 2nd Edition. Dubuque, IA: Wm. C. Brown.

Hoover, L. W. 1983. Enhancing managerial effectiveness in dietetics. J. Amer. Dietet. Assn. Vol 82 #1, pp. 58-61.

Outlook for the 80's. Restaurant Business, September 1, 1981. pp. 171-195.

II. Problems in Hospitality Cost Management

Learning Objectives and Suggested Readings appear on the first page of each problem set. Solutions are given on separate pages following a problem set.

Problem 1 through Problem 6 must be done consecutively; the solutions to a problem are needed to answer the questions in the following problem. The first six problems must be completed before Problem 7 and Problem 8 are attempted. (Note: Problem 7 and Problem 8 may be reversed if the instructor prefers to teach Break-Even Analysis before Budgets.)

SUGGESTED READING MATERIALS USED WITH PROBLEMS

Balance value, cost and profits. Reprinted from Institutions/Volume Feeding, Dec. 1, 1974; in, Kahrl, W. L. Advanced modern food and beverage service. 1977. pp. 16-17.

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Keiser, J. and Kallio, E. 1974. Controlling and analyzing costs in food service operations. New York: Wiley.

Uniform Systems of Accounts & Expense Dictionary, 2nd Ed. 1981. East Lansing, MI: The Education Institute, The Hotel and Motel Assn.

Problem #1: Uniform Systems, Ratios, Industry Averages

Learning Objectives:

1. To provide students with a review of the two major financial statements: the balance sheet and the profit and loss statement.

2. To familiarize the student with the Uniform System of Accounts as it applies to the Hospitality Services Industry.

3. To highlight some of the ratios that are important to the hospitality manager.

4. To teach the student to use industry averages to spot problem areas in a foodservice operation.

Suggested Readings:

Fay et al. Chapters 4, 6
Uniform System of Accounts and Expense Dictionary for Small Hotels and Motels

A. Page 1-3 presents total dollar transactions for 1981 for the Chez Marie Restaurant.

1. From these figures, prepare a balance sheet and a profit and loss statement.

2. Convert the P&L to express percentages of sales, and compare to industry averages. Can you locate any problem areas?

3. Compute the average check. (Average check = Total Food & Beverage Sales/ # covers)

B. The Sleepy Eye Hotel, a hotel with 250 rooms, has sales of $1,516,500 for 1982. During the year, 74,750 guests have stayed at the Sleepy Eye Hotel, occupying a total of 57,488 rooms.

1.a. Compute the average daily occupancy.

1.b. How many rooms would have to be sold in the year to have an average occupancy rate of 80%?

2.a. What is the average number of persons staying in the occupied rooms in 1982?

2.b. What is the average price charged per occupied room?

THE CHEZ MARIE

Totals for 1981

Food sales	$1,097,873
Beverage sales	448,427
Accounts payable	76,800
Accrued liabilities	236,300
Payroll	542,751
Employee benefits	64,945
Repairs and maintenance	18,560
Utilities	43,296
Advertising and promotion	18,556
Administration and general	78,861
Direct operating expenses	91,232
Music and entertainment	15,463
Prepaid expenses	22,800
Beginning food inventory	15,000
Beginning beverage inventory	45,000
Closing food inventory	20,000
Closing beverage inventory	35,000
Food purchases	515,279
Beverage purchases	163,186
Supplies inventory	4,650
Accounts receivable	132,500
Cash on hand	11,900
Cash in bank	87,600
Long-term debt	1,227,700
Current portion of long-term debt	72,600
Land	1,125,000
Building and improvements	578,500
Building depreciation	39,434
Furniture and equipment	236,600
Furniture and equipment depreciation	30,150
Common stock, par value $12 per share, 21,670 shares	260,040
Marketable securities	29,400
Preferred stock, 6%	182,500
Retained earnings	46,026
Capital surplus	159,550
Taxes payable	25,450
#meals served in 1981	155,945
Planned profit margin	5%

Solutions:

Part A:

1.

Chez Marie
Balance Sheet
December 31, 1981

Current Assets			**Current Liabilities**		
Cash on Hand		$ 11,900	Accounts Payable		$ 76,800
Cash in Bank		87,600	Accrued Liabilities		236,300
Accounts Receivable		132,500	Taxes Payable		25,450
Marketable Securities		29,400	Current Portion of Long Term Debt		72,600
Food Inventory		20,000	Total Current Liabilities		$ 411,150
Beverage Inventory		35,000			
Supplies Inventory		4,650	**Long Term Liabilities**		
Prepaid Expenses		22,800	Long Term Debt	1,227,700	
Total Current Assets		$ 343,850	Less: Current Portion of Long Term Debt	- 72,600	1,155,100
			Total Long Term Liabilities		$1,155,100
Fixed Assets					
Land		1,125,000	**Stockholder's Equity**		
Building & Improvements	578,500		Common Stock, $12 par value, 21,670 shares issued		260,040
Less: Accumulated Depreciation	- 39,434	539,066	Preferred Stock, 6%		182,500
Furniture & Equipment	236,600		Retained Earnings		46,026
Less: Accumulated Depreciation	- 30,150	206,450	Capital Surplus		159,550
Total Fixed Assets		$1,870,516	Total Stockholder's Equity		$ 648,116
Total Assets		$2,214,366	Total Liabilities		$2,214,366

Part A:

1. & 2.

Chez Marie

Profit and Loss Statement

For Period Ending December 31, 1981

Sales		
Food	$1,097,873	71.0%
Beverage	448,427	29.0%
Total Sales	$1,546,300	100.0%
Cost of Sales		
Food	510,279	33.0%
Beverage	173,186	11.2%
Total Cost of Sales	$ 683,465	44.2%
Gross Profit	$ 862,835	55.8%
Controllable Expenses		
Payroll	542,751	35.1%
Employee Benefits	64,945	4.2%
Direct Operating Expenses	91,232	5.9%
Music and Entertainment	15,463	1.0%
Advertising and Promotion	18,556	1.2%
Utilities	43,296	2.8%
Administrative and General	78,861	5.1%
Repair and Maintenance	18,560	1.2%
Total Controllable Expenses	$ 873,664	56.5%
Non-Controllable Expenses		
Depreciation Expenses	69,584	4.5%
Total Non-Controllable Expenses	$ 69,584	4.5%
Profit (Loss) before Income Taxes	$ (80,413)	(5.2%)

Solutions: (con't)

Part A:

2. Problem Areas:

   - High food and beverage costs
   - High payroll costs
   - Negative profits

3. $9.92 (including beverages) $7.04 (not including beverages)

Part B:

1.a. 63%

1.b. 73,000 rooms

2.a. 1.3 persons

2.b. Average room price
$26.38/room

Problem #2: Common Size Statements

Learning Objectives:

1. To raise the student's awareness of the impact of price-level changes on daily operations.

2. To teach the student to use Consumer Price Indices to adjust financial data to reflect price-level changes.

3. To enable the student to make useful comparisons between different-sized business units.

4. To give the student practice in interpreting financial data. The student should be able to spot trends in the data and project the impact of these trends on his business.

Suggested Readings:

Fay et al. Chapters 5, 7

A. Page 2-3 summarizes the total dollar transactions for 1980 and 1979 for the Chez Marie.

1.a. Prepare a comparative income statement, using the income statement for 1981 from Problem #1 and the data from 1980 and 1979.

1.b. On the same sheet used for 1.a. prepare a common-size comparative income statement for the three-year period by expressing all items as percentage components of total sales.

YEAR	CPI
1981	281.5
1980	258.4
1979	229.9

2. Using the comparative income statement from question 1, and the Consumer Price Indices (CPI) from these years, adjust total sales and net income to reflect the price level changes. Use 1981 as the base year.

3. Comment on significant trends and relationships revealed by the analytical computations in 1.b. and 2. Speak especially to "real growth" and to cost of sales as a percentage of revenues.

B. In addition to Chez Marie, you also own another restaurant for fine dining, Chez Henri. The manager of Chez Henri has turned in to you his financial reports for 1981, including the profit and loss statement (page 2-4). You'd like to see which restaurant is operating more efficiently but, since Chez Henri is much smaller than Chez Marie, its profit and loss statements cannot be directly compared.

1. Prepare common-size unit profit and loss statements for the two restaurants and compare the various costs and net income ratios.

THE CHEZ MARIE

Totals for 1980 and 1979

	1980	1979
Food sales	1,074,130	998,605
Beverage sales	377,395	460,920
Beginning food inventory	9,600	7,500
Beginning beverage inventory	33,600	30,000
Ending food inventory	14,800	9,225
Ending beverage inventory	30,400	25,950
Food purchases	495,815	405,820
Beverage purchases	147,755	192,730
Supplies inventory	2,555	2,435
Payroll	489,165	486,080
Employee benefits	59,510	63,150
Direct operating expenses	69,670	70,490
Music and entertainment	15,965	17,620
Advertising and promotion	15,970	30,840
Utilities	34,835	35,245
Prepaid expenses	15,000	13,350
Building	678,500	717,934
Depreciation	39,434	39,434
Furniture	286,600	316,750
Depreciation	30,150	30,150
Repair and maintenance	21,710	19,090
Administrative and general	55,155	49,675

THE CHEZ HENRI

Totals for 1981

Food sales	684,000
Beverage sales	152,000
Food cost	251,640
Beverage cost	53,500
Payroll	273,370
Employee benefits	35,950
Direct operating expenses	32,600
Prepaid expenses	9,360
Building	378,000
Depreciation	18,760
Furniture and equipment	189,000
Depreciation	16,350
Repairs and maintenance	14,210
Administrative and general	30,100
Music and entertainment	13,380
Advertising and promotion	15,050
Utilities	18,390

Solutions:

1.a. & 1.b.

Chez Marie
Comparative Income Statement
Period Ending December 31

	1981		1980		1979	
Sales						
Food	$1,097,873	71.0%	$1,074,130	74.0%	$ 998,605	68.0%
Beverage	448,427	29.0%	377,395	26.0%	469,920	32.0%
Total Sales	$1,546,300	100.0%	$1,451,525	100.0%	$1,468,525	100.0%
Cost of Sales						
Food	510,279	33.0%	490,615	33.8%	404,095	27.5%
Beverage	173,186	11.2%	150,955	10.4%	196,780	13.4%
Total Cost of Sales	$ 683,465	44.2%	$ 641,570	44.2%	$ 600,875	40.9%
Gross Profit	$ 862,835	55.8%	$ 809,955	55.8%	$ 867,650	50.1%
Controllable Expenses						
Payroll	542,751	35.1%	489,165	33.7%	486,080	33.1%
Employee Benefits	64,945	4.2%	59,510	4.1%	63,150	4.3%
Direct Operating Expenses	91,232	5.9%	69,670	4.8%	70,490	4.8%
Music & Entertainment	15,463	1.0%	15,965	1.1%	17,620	1.2%
Advertising & Promotion	18,556	1.2%	15,970	1.1%	30,840	2.1%
Utilities	43,296	2.8%	34,835	2.4%	35,245	2.4%
Administrative & General	78,861	5.1%	55,155	3.8%	49,675	3.4%
Repairs & Maintenance	18,560	1.2%	21,710	1.5%	19,090	1.3%
Total Controllable Expenses	$ 873,664	56.5%	$ 761,980	52.5%	$ 772,190	52.6%
Non-Controllable Expenses						
Depreciation	69,584	4.5%	69,584	4.8%	69,584	4.7%
Total Non-Controllable Expenses	$ 69,584	4.5%	$ 69,584	4.8%	$ 69,584	4.7%
Net Income (Loss) Before Taxes	$ (80,413)	(5.2%)	$ (21,609)	(1.5%)	$ 25,876	1.8%

Solutions: (con't)

A.2.

	1981	1980	1979
Multiplier	1.00	1.09	1.22
Total Sales	$1,546,300	$1,582,162	$1,791,601
Net Income (Loss)	$ (80,413)	$ (23,554)	$ 31,569

NOTE: If the student did not round the CPI multiplier to two decimal places, the solutions would appear as follows:

	1981	1980	1979
Multiplier	1.00	1.0893962	1.2244454
Total Sales	$1,546,300	$1,581,286	$1,798,129
Net Income (Loss)	$ (80,413)	$ (23,541)	$ 31,684

3. The student should have commented on the following trends:

   - dollar sales may have increased since 1979, but actual sales (and profits) have declined. There was negative "real growth."

   - cost of sales, as a percentage of revenues, increased dramatically in 1980.

Solutions: (con't)

B.1.

Comparative Income Statement

For Period Ending December 31, 1981

	Chez Marie (%)	Chez Henri (%)
Sales		
Food	71.0	81.8
Beverage	29.0	18.2
Total Sales	100.0	100.0
Cost of Sales		
Food	33.0	30.1
Beverage	11.2	6.4
Total Cost of Sales	44.2	36.5
Gross Profit	55.8	63.5
Controllable Expenses		
Payroll	35.1	32.7
Employee Benefits	4.2	4.3
Direct Operating Expenses	5.9	3.9
Music and Entertainment	1.0	1.6
Advertising and Promotion	1.2	1.8
Utilities	2.8	2.2
Administrative and General	5.1	3.6
Repairs and Maintenance	1.2	1.7
Total Controllable Expenses	56.5	51.8
Non-Controllable Expenses		
Depreciation	4.5	4.2
Total Non-Controllable Expenses	4.5	4.2
Net Income (Loss) Before Taxes	(5.2)	7.5

Problem #3: Payroll and Scheduling

Learning Objectives:

1. To initiate the student in preparing staff schedules that both maximize employee utilization and conform to a budget.

2. To teach the student to freely convert payroll dollars to payroll hours and vice versa.

3. To increase the student's awareness of factors that, if left uncontrolled, will raise payroll expenses. A few of these factors are high turnover, absenteeism, and overtime or over-scheduling.

4. To give the student practice in assessing how changes in labor economics will affect the business.

Suggested Readings:

Fay et al. Chapter 14
Buchanan Parts 1, 2, 3
Keiser and Kallio Chapters 1, 2, 3

A. Refer to the work schedule on pages 3-5, 3-6, and 3-7; the number of meals served; and the general information on page 3-3.

1. What was last week's payroll percentage if total sales were $30,000? Use last week's schedule and average wage.

2. What was last week's meals per labor-hour ratio if 3,000 meals were prepared?

3. Prepare a Sales and Labor forecast and report (forecast only). Use predicted sales given in the general information.

4. Using this forecast and strategies learned in class, prepare a new schedule. Use the same format as given on the last week's work schedule.

B. The following questions refer to general control of payroll cost.

1. In general, how do the following affect payroll costs:

   a) high turnover rate
   b) absenteeism
   c) overtime

2. It is not at all inconceivable that a restaurant the size of Chez Marie would have an average of 30 hours of overtime every week. If the employees received time and a half for overtime, how much would 30 hours a week be? How much in a year? What percentage of total sales is this? Would it significantly affect profit?

3. How could increasing the skill level of the employees affect payroll costs?

4. How would payroll costs be affected if a full-time employee got a 25¢/hour raise?

5. How would an increase in minimum wage affect payroll costs? What could you do to offset this increase?

General Information

Budget: $8,325 per week (28%)

Serving Hours: 11 AM to 10 PM

Average Wage: $4.35 per hour

Sales:

	Predicted
Sunday	$4320.00
Monday	3535.00
Tuesday	3655.00
Wednesday	3830.00
Thursday	4420.00
Friday	4860.00
Saturday	4880.00
Total:	$29,500.00

Number of Meals Served Each Hour,
Each Day of the Week*

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
11 AM	36	20	20	20	24	24	18
12 noon	62	32	33	34	38	42	24
1 PM	40	28	30	31	38	38	28
2 PM	14	13	12	14	22	21	22
3 PM	12	5	7	7	8	10	10
4 PM	24	12	13	13	10	9	8
5 PM	80	30	31	34	32	36	54
6 PM	86	62	64	67	78	92	96
7 PM	50	78	82	86	92	101	107
8 PM	16	65	65	66	68	70	72
9 PM	10	15	15	18	40	42	48
10 PM							
TOTAL	440	360	372	390	450	495	497

*Averages that have been computed from historical data.

Sales and Labor Forecast and Report

*Use the budget on the General Information Sheet to forecast the labor cost in ($) and (%).

Week Ending 4/7/82 Average Hourly Rate $4.35

Date	4-1	4-2	4-3	4-4	4-5	4-6	4-7
Day of Week	Sun	Mon	Tue	Wed	Thur	Fri	Sat
(A) Sales							
Today							
Week-to-Date							
Month-to-Date							
(B) No. Meals Served							
Today							
Week-to-Date							
Month-to-Date							
(C) Labor-Hours							
Today							
Week-to-Date							
Month-to-Date							
(D) Labor Cost ($)*							
Today							
Week-to-Date							
Month-to-Date							
(E) Labor Cost (%)*							
Today							
Week-to-Date							
Month-to-Date							
(F) Meals/Labor-Hour							
Today							
Week-to-Date							
Month-to-Date							

Last Week's Work Schedule

Approved by: _____ Period: 3-24 to 3-31

Name	Position	S	M	T	W	T	F	S	Total Hours
1	Chef	10/6	X	X	2/10	10/6	10/6	2/10	40
2	Chef	2/10	2/10	2/10	X	2/10	2/10	X	40
3	Cook	X	X	2/10	2/10	10/6	10/6	10/6	40
4	Cook	2/10	2/10	X	X	2/10	2/10	2/10	40
5	Cook	10/2	X	10/2	10/2	10/2	10/2	X	20
6	Cook	5/9	5/9	X	X	5/9	5/9	5/9	20
7	Cook	X	10/2	5/9	5/9	5/9	X	10/2	20
8	Cook	5/9	X	X	5/9	X	5/9	5/9	16
9	Salad	10/6	X	X	10/6	10/6	10/6	10/6	40
10	Salad	X	2/10	2/10	2/10	2/10	2/10	X	40
11	Salad	2/10	10/6	10/6	X	X	X	2/10	32
12	Store	10/6	X	X	10/6	10/6	10/6	10/6	40
13	Store	X	2/10	2/10	2/10	2/10	2/10	X	40
14	Store	2/10	10/6	10/6	X	X	X	2/10	32
15	Baker	10/6	X	X	10/6	10/6	10/6	10/6	40
16	Baker	X	2/10	2/10	2/10	2/10	2/10	X	40
17	Baker	2/10	10/6	10/6	X	X	X	2/10	32
	Total Hours	84	72	72	76	92	92	84	572

Last Week's Work Schedule

Approved by:_____ Period: 3-24 to 3-31

Name	Position	S	M	T	W	T	F	S	Total Hours
18	Dish			3/11	3/11	11/7	11/7	11/7	40
19	Dish	3/11	3/11			3/11	3/11	3/11	40
20	Dish	11/3		11/3	11/3	11/3	11/3		20
21	Dish	6/10	6/10			6/10	6/10	6/10	20
22	Dish		11/3	6/10	6/10	6/10		11/3	20
23	Dish	6/10			6/10		6/10	6/10	16
24	Pot	11/7			11/7	11/7	11/7	11/7	40
25	Pot		3/11	3/11	3/11	3/11	3/11		40
26	Pot	3/11	10/6	10/6				3/11	32
27	Clean	11/7			11/7	11/7	11/7	11/7	40
28	Clean		3/11	3/11	3/11	3/11	3/11		40
29	Clean	3/11	10/6	10/6				3/11	32
	Total Hours	52	48	48	52	60	60	60	380

Last Week's Work Schedule

Approved by:_____ Period: 3-24 to 3-31

Name	Position	S	M	T	W	T	F	S	Total Hours
30	Host	11/7				11/7	11/7	11/7	32
31	Host		11/7	11/7	11/7				24
32	Host	7/11				7/11	7/11	7/11	16
33	Host		7/11	7/11	7/11				12
34-37	Waitress	11/7	11/7			11/7	11/7	11/7	160
38-41	Waitress			3/11	3/11	3/11	3/11	3/11	160
42-45	Waitress	3/11	3/11	11/7	11/7				128
46-49	Waitress	11/3	11/3			11/3	11/3	11/3	80
50-53	Waitress			5/9	5/9	5/9	5/9	5/9	80
54-57	Waitress	5/9	5/9	11/3	11/3				64
58-61	Waitress			5/9	5/9	5/9	5/9	5/9	80
62-65	Waitress	5/9				11/3	11/3	11/3	64
66-67	Bus	11/7	11/7			11/7	11/7	11/7	80
68-69	Bus			3/11	3/11	3/11	3/11	3/11	80
70-71	Bus	3/11	3/11	11/7	11/7				64
72-73	Bus	11/3	11/3			11/3	11/3	11/3	40
74-75	Bus			5/9	5/9	5/9	5/9	5/9	40
76-77	Bus	5/9	5/9	11/3	11/3				32
78-79	Bus			5/9	5/9	5/9	5/9	5/9	40
80-81	Bus	5/9				11/3	11/3	11/3	32
82	Bar	11/7			11/7	11/7	11/7	11/7	40
83	Bar		11/7	11/7			3/11	3/11	32
84	Bar	3/11	3/11	3/11	3/11	3/11			40
85	Bar	5/9				5/9	5/9	5/9	16
86	Bar			5/9	5/9		5/9	5/9	16
	Total Hours	200	172	200	200	224	228	228	1452

SOLUTIONS:

Part A

1. Payroll Percentage = 34.9% $\frac{\$10,457.40}{\$30,000.00}$

2. Meals/Labor-hour Ratio = 1.25

4. While there is no "ideal" schedule, the following methods should be apparent in the student's work:

   - conformance to budget (NOTE: There is a tendency for the students to under-schedule labor.)
   - use of part-time employees.
   - reduction in the number of full-time employees.
   - irregular scheduling to allow for daily peak periods and slow periods.
   - job combining during slow periods.

   A staffing guide for restaurants can be found in the Buchanan readings suggested for this problem. The present meals/labor-hour is 1.25. The budgeted meals/labor-hour is approximately 1.57.

Part B

1. a) High Turnover Rate - possible overtime until former employee is replaced
   - recruiting costs
   - cost of training a new employee
   - low average wage for newer employees
   - morale affected

   b) Absenteeism - possible overtime for other employees
   - loss of sales because of customer dissatisfaction
   - morale affected

   c) Overtime - expensive
   - most is avoidable

2. One week = 30 hours x \$6.525 (1.5 x average wage) = \$195.75
   One year = 1560 hours x \$6.525 = \$10,170.00
   Percentage of Total Sales = $\frac{\$\ 10,179}{\$1,546,300} = 0.66\%$

   YES, IT IS SIGNIFICANT!!!

3. - average hourly wage could increase
   - quality of service would increase
   - it could require fewer labor-hours to maintain the present standards of operation

   NOTE: Each manager must decide on a balance between the number of employees and the quality of employees that falls within budgetary guidelines and satisfies the staffing needs of the business.

SOLUTIONS: (con't)

Part B

4. 25¢ raise x 40 hours = $10.00 weekly increase

   $10 x 52 weeks = $520

$$\frac{\$520}{\$1,546,300} = 0.03\% \text{ increase in payroll costs}$$

5. An increase in the minimum wage would force up payroll costs.

   Options:
   a) decrease the number of labor hours
   b) increase menu prices
   c) increase sales volume
   d) any combination of the above
   e) labor-saving equipment

SOLUTIONS: (con't)

Part A 3. Sales and Labor Forecast and Report

*Use the budget on the General Information Sheet to forecast the labor cost in ($) and (%).

Week Ending 4/7/82 Average Hourly Rate $4.35

Date / Day of Week	4-1 Sun	4-2 Mon	4-3 Tue	4-4 Wed	4-5 Thur	4-6 Fri	4-7 Sat
(A) Sales							
Today	$4,320	$3,535	$ 3,655	$ 3,830	$ 4,420	$ 4,860	$ 4,880
Week-to-Date	4,320	7,855	11,510	15,340	19,760	24,620	29,500
Month-to-Date	4,320	7,855	11,510	15,340	19,760	24,620	29,500
(B) No. Meals Served							
Today	440	360	372	390	450	495	497
Week-to-Date	440	800	1,172	1,562	2,012	2,507	3,004
Month-to-Date	440	800	1,172	1,562	2,012	2,507	3,004
(C) Labor-Hours							
Today	278	227	235	246	284	312	314
Week-to-Date	278	505	740	986	1,270	1,582	1,896
Month-to-Date	278	505	740	986	1,270	1,582	1,896
(D) Labor Cost ($)*							
Today	$1,210	$ 990	$1,023	$1,070	$1,235	$1,360	$1,365
Week-to-Date	1,210	2,200	3,223	4,293	5,528	6,888	8,253
Month-to-Date	1,210	2,200	3,223	4,293	5,528	6,888	8,253
(E) Labor Cost (%)*							
Today	28.0	28.0	28.0	27.9	28.0	28.0	28.0
Week-to-Date	28.0	28.0	28.0	28.0	28.0	28.0	28.0
Month-to-Date	28.0	28.0	28.0	28.0	28.0	28.0	28.0
(F) Meals/Labor-Hour							
Today	1.58	1.59	1.58	1.59	1.58	1.59	1.58
Week-to-Date	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Month-to-Date	1.58	1.58	1.58	1.58	1.58		

Problem #4: Food and Beverage Cost Control

Learning Objectives:

1. To increase the student's awareness of basic operating procedures that can be used to control food and beverage costs.

2. To introduce the student to worksheets that could efficiently monitor daily food costs and could provide for immediate detection of lapses in control standards.

3. To require the student to identify these lapses in control and to encourage possible solutions to the problems.

Suggested Readings:

Fay et al. Chapter 13

A. 1. There are eight basic sequential steps in the flow of foodstuffs through an operation:

a) Purchasing
b) Receiving
c) Storing
d) Issuing
e) Pre-preparation and portioning
f) Preparation
g) Service
h) Sales

Briefly describe the basic operating procedures that could be used to control costs at each of these eight points.

2. Complete the cost of menu selection schedule for the filet mignon (page 4-4).

3. Apply the figures in #2 to the food cost worksheet on page 4-5. Complete the necessary calculations.

4. Identify all problem areas. Suggest possible solutions.

B. Beverage cost control.

1. What three things must be standardized for a beverage control system to be successful?

2. Describe two controls for issues to the bar.

3. Prepare a reconciliation statement for the beverage storeroom.

Opening physical inventory: $2,683.50
Closing physical inventory: $2,208.25
Purchases: $1,462.00

Issues:	#Bottles	Cost
Rum	10	6.50
Gin	31	9.25
Canadian	25	8.00
Bourbon	21	8.25
Scotch	64	9.25
Vodka	43	5.75
Various secondary ingredients:		$234.50

4. Determine the sales value of a 1-quart bottle of rum if the standard amount used for a drink is 1-1/2 oz., and the standard price for a drink is $1.50 (allow 1 oz. for overpouring).

5. Complete the computation for potential sales and cost of beverages consumed as shown on page 4-6.

How does the total beverage cost percentage compare with industry averages?

How does the potential percentage compare with the actual beverage cost percentage? Can you see where there might be problems? What actions would you take to remedy these problems?

Cost of Menu Selection			
Item: Filet Mignon			
Price	$8	95	Date:
Total Cost			
Cost Per $ Sale			Comments:
Selling price to realize % gross profit			
Difference			

Portion Size	Description	Raw Cost	Cost Factor	Cost to Serve
8 oz.	Filet Mignon	4.80/lb.		
2 oz.	Frozen Peas	.60/lb.		
1/2 oz.	Fresh Mushrooms	2.00/lb.	1.4*	
1 ea.	Baked Potato (8 oz.)	.35/lb.		
	Garniture			05.0
	Make-up Cost**			95.0
	Total			

*Adjustment for preparation loss.

**Includes salad, rolls, butter, and condiments.

FOOD COST WORKSHEET

Item	Total Item Cost	Item Sales Price	Number Port's Issued	Number Meals Sold	Total Cost	Total Sales	Planned Cost Ratio	Actual Cost Ratio	Comments
Filet Mignon			112						
Frozen Peas			105						
Fresh Mushrooms			100						
Baked Potato			108						
Garniture			106						
Make-up Cost			106						Fillet Mignon:
Total				106					3 lbs. of meat spoiled in refrigerator
Fried Chicken	.87		65						
French Fries	.18		74						Over portioned fries
Frozen veg. medley	.09		60						
Garniture	.05		65						
Make-up Cost	.95		62						Chicken: 3 portions sent
Total	2.14	5.95		62					back - rare
Seafood Platter:									
Deep Fried But.Shrimp	1.34		58						
Scallops	1.09		58						Customers said flounder tasted
Broiled Flounder	.46		58						"fishy" - 3 sent back
Fried Rice	.11		60						
Peas (Frozen)	.075		54						
Fresh Mushrooms	.088		52						
Garniture	.05		58						
Make-up Cost	.95		55						
Total	4.16	10.95		55					
Overall									

Potential Sales and Cost of Beverages Consumed Computation
For Week Ending December 31, 1981

Item	Size	# drinks per bottle	Price per drink	Sales value per bottle	Cost per bottle	Issues	Total sales value	Total cost	Cost %
Rum	Q	25	1.45		6.50	10			
Gin, imported	Q	25	1.80		9.25	31			
Canadian	F		1.80		8.00	25			
Bourbon, bonded	F		1.80		8.25	21			
Scotch	Q	25	1.80		9.25	64			
Vodka	Q	25	1.45		5.75	43			
Bourbon, 86 proof	Q	25	1.45		6.75	68			
Gin, domestic	Q	25	1.45		6.50	75			
Vermouth, dry	30 oz.		-		2.50	33			
Creme de cacao	F		.15		5.75	15			
Creme de menthe	F		.15		5.75	11			
Beer, lite	12 oz.		.75		.20	287			
Beer, regular	12 oz.		.75		.20	145			
Beer, imported	12 oz.		.90		.25	51			
Soft drinks and minerals for mixing								250.00	
Food to bar								425.00	
Bottle sales adjustment							(408.00)		
Total									

Notes: 1. Standard drink size = 1.25 oz.
2. Martini formula = 2 oz. domestic gin or vodka, 1/2 oz. dry vermouth; selling price $1.80.
3. Q = quart = 32 oz., F = fifths = 26 oz. (allow approximately 1 oz. for overpouring).
4. Bottle sales adjustment: catered to a private party.

Solutions:

Part A

1. Some suggested answers:

Purchasing
- detailed purchase specifications
- orders to satisfy only immediate needs
- use of competitive bidding procedures
- establishment of purchase authorization procedures

Receiving
- delivery inspection
- formal written acceptance
- formal (written) notification to the vendor of shipment errors
- spot-checks on receiving procedures

Storage
- one person should have the responsibility for the merchandise in storage
- put food stuffs away promptly and in their proper places
- date incoming merchandise
- rotate stock
- prepare a formal reconciliation statement at least once a month

Issuing
- do not allow food stuffs to be removed from the storeroom without proper authorization
- allow only the quantity authorized to be removed

Pre-preparation and portioning
- minimize excess costs by securing careful, sufficiently skilled employees who adhere to established standards
- periodically weigh portions (if standardized by weight)
- spot-check for adherence to standards

Preparation
- use production sheets
- use standardized recipes and procedures

Service
- use standard portion charts

Sales
- have a system to control the issuance of sales checks
- charge proper prices
- insure that all checks are settled
- use a control system that requires all portions served to appear on a sales check
- avoid allowances whenever possible

4. Problem areas and some suggested solutions:

Food spoilage - is stock being rotated?
- is stock being stored properly?
- were too many portions ordered?

Solutions: (con't)

Fries over-portioned - spot-check portioning
- retrain employees in portioning standards

Rare chicken - adequate cooking time given in standards?
- is the cooking temperature high enough?
- are employees following standards for cooking?

"Fishy" flounder - revise purchasing specifications
- revise receiving standards
- possibly switch vendors

2.

Cost of Menu Selection			
Item: Filet Mignon			
Price	$8	95	Date:
Total Cost	3	74	
Cost Per $ Sale	0	418	Comments:
Selling price to realize % gross profit			
Difference			

Portion Size	Description	Raw Cost	Cost Factor	Cost to Serve	
8 oz.	Filet Mignon	4.80/lb.		2	40
2 oz.	Frozen Peas	.60/lb.		0	075
1/2 oz.	Fresh Mushrooms	2.00/lb.	1.4*	0	088
1 ea.	Baked Potato (8 oz.)	.35/lb.		0	175
	Garniture				05.0
	Make-up Cost**				95.0
	Total			3	738

*Adjustment for preparation loss
**Includes salad, rolls, butter, and condiments.

3.

FOOD COST WORKSHEET

Item	Total Item Cost	Item Sales Price	Number Port's Issued	Number Meals Sold	Total Cost	Total Sales	Planned Cost Ratio	Actual Cost Ratio	Comments
Filet Mignon	$2.40		112		$268.80				
Frozen Peas	0.075		105		7.88				
Fresh Mushrooms	0.088		100		8.80				
Baked Potato	0.175		108		18.90				
Garniture	0.05		106		5.30				
Make-up Cost	0.95		106		100.70				Fillet Mignon:
Total	$3.738	$8.95		106	$410.38	$948.70	41.8	43.3	3 lbs. of meat spoiled in refrigerator
Fried Chicken	.87		65		56.55				
French Fries	.18		74		13.32				Over portioned fries
Frozen veg. medley	.09		60		5.40				
Garniture	.05		65		3.25				
Make-up Cost	.95		62		58.90				Chicken: 3 portions sent
Total	2.14	5.95		62	$137.42	$368.90	36.0	37.25	back - rare
Seafood Platter:									
Deep Fried But.Shrimp	1.34		58		77.72				
Scallops	1.09		58		63.22				Customers said flounder tasted
Broiled Flounder	.46		58		26.68				"fishy" - 3 sent back
Fried Rice	.11		60		6.60				
Peas (Frozen)	.075		54		4.05				
Fresh Mushrooms	.088		52		4.58				
Garniture	.05		58		2.90				
Make-up Cost	.95		55		52.25				
Total	4.16	10.95		55	$238.00	$602.25	38.0	39.5	
Overall				223	$785.80	$1919.85	39.5	40.9	

Solutions:

Part B

1. Standardize: Recipes
   Glassware
   Prices

2. The solution to this question should be kept up-to-date. Two valuable resources are current publications and the experiences of class members.

3.

Opening Inventory	2683.50
Purchases	+ 1462.00
	4145.50
Issues	- 1798.75
Total value of beverages that should be on hand	2346.75
Closing Inventory	2208.25
Overage (Shortage)	(138.50)

4. Sales Value: $31.00 (NOTE: The student should be aware that there are 20.667 drinks in a 32-oz. bottle, after allowing 1 oz. for overpouring.)

5.

*Industry Average:	25.5%
Potential Beverage Cost %	28.9%
Actual Beverage Cost %	38.6%

Somebody's helping himself or herself to the bar!

*	Ind.Avg.	Potential	From Problem #1 Actual
Beverage Sales	17.8%	$12,188.05	$448,427
Beverage Cost	7.1%	3,519.40	173,186
Beverage Cost/ Beverage Sales x 100	25.5%	28.9%	38.6%

Part B
5.

Potential Sales and Cost of Beverages Consumed Computation
For Week Ending December 31, 1981

Item	Size	# drinks per bottle	Price per drink	Sales value per bottle	Cost per bottle	Issues	Total sales value	Total cost	Cost %
Rum	Q	25	1.45	36.25	6.50	10	362.50	65.00	17.9
Gin, imported	Q	25	1.80	45.00	9.25	31	1395.00	286.75	20.6
Canadian	F	20	1.80	36.00	8.00	25	900.00	200.00	22.2
Bourbon, bonded	F	20	1.80	36.00	8.25	21	756.00	173.25	22.9
Scotch	Q	25	1.80	45.00	9.25	64	2880.00	592.00	20.6
Vodka	Q	25	1.45	36.25	5.75	43	1558.75	247.25	15.9
Bourbon, 86 proof	Q	25	1.45	36.25	6.75	68	2465.00	459.00	18.6
Gin, domestic	Q	25	1.45	36.25	6.50	75	2718.75	487.50	17.9
Vermouth, dry	30 oz.	-	-	(30.45)	2.50	33	(1004.85)	85.00	-
Creme de cacao	F	-	.15	7.50	5.75	15	112.50	86.25	76.7
Creme de menthe	F	-	.15	7.50	5.75	11	82.50	63.25	76.7
Beer, lite	12 oz.	1	.75	.75	.20	287	215.25	57.40	26.7
Beer, regular	12 oz.	1	.75	.75	.20	145	108.75	29.00	26.7
Beer, imported	12 oz.	1	.90	.90	.25	51	45.90	12.75	27.8
Soft drinks and minerals for mixing								250.00	
Bottle sales adjustment								425.00	
Total							(408.00)		
							12188.05	3519.40	28.9

Notes 1. Standard drink size = 1.25 oz.
2. Martini formula = 2 oz. gin or vodka, 1/2 oz. dry vermouth; selling price $1.80.
3. Q = quarts = 32 oz; F = fifths = 26 oz (allow approximately 1 oz. for overpouring).
4. Bottle sales adjustment: catered to a private party.

Problem #5: Menu Pricing

Learning Objectives:

1. To introduce the student to various alternatives in pricing a menu item.

2. To make the student aware of the fact that no one pricing method is effective for each item on every restaurant menu.

3. To present to the student some of the many factors that need to be taken into account when pricing a menu item.

4. To emphasize that appropriate menu pricing is critical to profit realization.

Suggested Readings:

Dukas, Part 6
Balance Value, Cost and Profits (Institutions/Volume Feeding, December 1, 1974

A competitor has the following prices for items you also have on your menu:

Steak	8.75
Seafood Platter	9.75
Boeuf Bourguignon	5.75
Buttered Breast of Chicken	5.25

Since you would like to keep your restaurant competitive, you decide that you would like to adopt his prices. However, common sense tells you that you will first have to test them with your own data to see if Chez Marie can operate with those prices.

Use the following information when calculating the menu prices.

	Food Cost	Labor Intensive?
Steak	$3.74	No
Seafood Platter	4.16	No
Boeuf Bourguignon	2.28	Yes
Buttered Breast of Chicken	2.24	No

	# Sold	Sales*
Steak	5	43.75
Seafood Platter	5	48.75
Boeuf Bourguignon	5	28.75
Buttered Breast of Chicken	5	26.25
Total	20	147.50

*At competitor's price.

Percentages from profit and loss statements.

	Percent
Sales	100
Food Cost	38
Payroll	28
Other	25
Profit	9

1. Compute the menu price that would be produced by using the 38% food cost method with your present food costs. How would the food costs have to change if they were to be 38% of the competitor's prices? What are some possible effects of these changes?

2. Use the Dukas method of checking the proposed menu prices to see if they are concealing any items that, according to him, would be selling at a loss. Allocate 25% of the labor to the labor-intensive item as preparation labor.

3. Using your costs, what would the price factor be for the labor-intensive menu items? For the items that are not labor-intensive? Compute the ideal menu prices that the Dukas method produces.

4. Using the "Balance Value, Cost and Profits" article from Institutions/ Volume Feeding, calculate the menu prices. Assume the following sales mix:

	Percent
Steak	38
Seafood Platter	25
Boeuf Bourguignon	25
Buttered Breast of Chicken	12

Mark-up Percentages	Percent
High	25
Medium, high	20
Medium	16
Medium low	12
Low	10

5. Should you adopt your competitor's present prices?

6. Discuss the pros and cons of each method.

Solutions:

1. 38% Food Cost Method

	Your Price	Competitor Price
Steak	$ 9.84	$8.75
Seafood Platter	10.94	9.75
Boeuf Bourguignon	6.00	5.75
Buttered Breast of Chicken	5.89	5.75

Food Costs for the Competitor's Prices

	Your Present Food Cost	Your Competitor's Food Cost	Differences
Steak	3.74	3.33	-0.41
Seafood Platter	4.16	3.71	-0.45
Boeuf Bourguignon	2.28	2.19	-0.09
Buttered Breast of Chicken	2.24	2.00	-0.24

Possible ways to lower food costs:

1) lower food quality specifications
2) decrease portion size
3) cut out extra frills, if there are any

Possible effects of these changes:

- The customer may be dissatisfied.

Solutions:

2. Dukas Check (use competitor's menu prices)

	STEAK		SEAFOOD		BOEUF		CHICKEN		TOTAL	
Sales		43.75		48.75		28.75		26.25		147.50
38% Food Cost	16.62		18.53		10.92		9.97		56.05	
28% Labor	7.74		7.74		7.74		7.74			
					10.33				41.30	
25% Other	9.22	33.59	9.22	35.49	9.22	38.21	9.22	26.93	36.88	134.23
Profit (Loss)		10.16		13.26		(9.46)		(0.69)		13.27

3. Price Factor

	Food Group w/o prep (%)	Food Group with prep (%)
Sales	75.00	25.00
38% Food Cost	28.50	9.50
10.6% Prep Labor		10.60
17.4 Other Labor	13.05	4.35
25% Other	18.75	6.25
9% Profit	6.75	2.25
Total	67.05	32.95
Price Factor = Total / Group Food Cost =	2.35	3.47

	Prices*
Steak	$8.79
Seafood Platter	9.78
Boeuf Bourguignon	7.91
Buttered Breast of Chicken	5.26

*Before rounding

Solutions:

4. Author's Suggested Mark-up Percentages

Steak	16%
Seafood Platter	20%
Boeuf Bourguignon	12%
Buttered Breast of Chicken	16%

	True Raw Food Cost*	Food Cost / True Raw Food Cost	Price**
Steak	31%	3.74/0.31	$12.06
Seafood	27%	4.16/0.27	15.41
Boeuf Bourguignon	35%	2.28/0.35	6.51
Buttered Breast of Chicken	31%	2.24/0.31	7.23

* True Raw Food Cost = Total Cost - Cost of Labor - Other Costs - Markup
= 100% - 28% - 25% - X

**Before rounding

5. No.

6.

	Pro's	Con's
38% Method	Competitive prices	Doesn't consider labor, sales mix, or volume
Dukas Method	Includes prep labor; competitive prices	Only two labor categories
Value, Cost & Profits Method	Allows for management decision-making	Non-competitive; allows for management decision-making

Problem #6: Sales Mix

Learning Objectives:

1. To demonstrate the impact of sales mix on profit levels.

2. To teach the student the importance of buffering menu prices in such a way that a steady profit is maintained.

3. To present to the student various ways of influencing the sales mix in a restaurant.

Suggested Readings:

Dukas, Part 3
Fay et al. Pages 376, 444-448

Menu pricing decisions can be further influenced by your sales mix. Since it is not possible to accurately predict a future sales mix, it is important to understand how different sales mixes affect your profit.

1. Complete a sales mix schedule for each of the three methods of menu pricing. Use the menu prices you computed in Problem #5.

2. Compute the average check* for each sales mix of each method.

3. What percent profit is realized for each sales mix?

4. Which method of menu pricing would you use? Why?

5. Can you think of any ways you could influence the sales mix?

* Average check = Total Food and Beverage Sales/# covers.

Sales Mix Schedule

_____ Method

Item	Cost	Price	#Sold	Cost	Sales	#Sold	Cost	Sales	#Sold	Cost	Sales
Steak	3.74		5	18.70		8	29.92		2	7.48	
Seafood	4.16		5	20.80		8	33.28		2	8.32	
Boeuf	2.28		5	11.40		2	4.56		8	18.24	
Chicken	2.24		5	11.20		2	4.48		8	17.92	
Totals			20	62.10		20	72.24		20	51.96	
Payroll				45.00			45.00			45.00	
Other				41.00	148.10		41.00	158.24		41.00	137.96
Profit (loss)											

Solutions:
1, 2, & 3

Sales Mix Schedule

38% Food Cost Method

Item	Cost	Price	#Sold	Cost	Sales	#Sold	Cost	Sales	#Sold	Cost	Sales
Steak	3.74	9.84	5	18.70	49.20	8	29.92	78.72	2	7.48	19.68
Seafood	4.16	10.94	5	20.80	54.70	8	33.28	87.52	2	8.32	21.88
Boeuf	2.28	6.00	5	11.40	30.00	2	4.56	12.00	8	18.24	48.00
Chicken	2.24	5.89	5	11.20	29.45	2	4.48	11.78	8	17.92	47.12
Totals			20	62.10	163.35	20	72.24	190.02	20	51.96	136.68
Payroll				45.00			45.00			45.00	
Other				41.00	148.10		41.00	158.24		41.00	137.96
Profit (loss)					15.25			31.78			(1.28)
Average Check					8.17			9.50			6.83
Profit Percentage					9.3%			16.7%			(0.9%)

Sales Mix Schedule

Dukas Method

Item	Cost	Price	#Sold	Cost	Sales	#Sold	Cost	Sales	#Sold	Cost	Sales
Steak	3.74	8.79	5	18.70	43.95	8	29.92	70.32	2	7.48	17.58
Seafood	4.16	9.78	5	20.80	48.90	8	33.28	78.24	2	8.32	19.56
Boeuf	2.28	7.91	5	11.40	39.55	2	4.56	15.82	8	18.24	63.28
Chicken	2.24	5.26	5	11.20	26.30	2	4.48	10.52	8	17.92	42.08
Totals			20	62.10	158.70	20	72.24	174.90	20	51.96	142.50
Payroll				45.00			45.00			45.00	
Other				41.00	148.10		41.00	158.24		41.00	137.96
Profit (loss)					10.60			16.66			4.54
Average Check					$7.94			$8.75			$7.13
Profit Percentage					6.7%			9.5%			3.2%

Sales Mix Schedule

Cost, Volume, & Profit Method

Item	Cost	Price	#Sold	Cost	Sales	#Sold	Cost	Sales	#Sold	Cost	Sales
Steak	3.74	12.06	5	18.70	60.30	8	29.92	96.48	2	7.48	24.12
Seafood	4.16	15.41	5	20.80	77.05	8	33.28	123.28	2	8.32	30.82
Boeuf	2.28	6.51	5	11.40	32.55	2	4.56	13.02	8	18.24	52.08
Chicken	2.24	7.23	5	11.20	36.15	2	4.48	14.46	8	17.92	57.84
Totals			20	62.10	206.05	20	72.24	247.24	20	51.96	164.86
Payroll				45.00			45.00			45.00	
Other				41.00	148.10		41.00	158.24		41.00	137.96
Profit (loss)					57.95			89.00			26.90
Average Check					10.30			12.36			8.24
Profit Percentage					28.1%			36.0%			16.3%

Solutions: (con't)

4. There is no "right" answer for this question. Its purpose is to force the student to act as a manager would--force him to consider the alternatives and make a decision. The decision should be supported with logical reasoning.

5. Some examples of how the sales mix can be influenced are:

   - daily specials
   - advertising
   - coupon specials
   - an item's position on the menu and the size of the print it is written in.

Problem #7: Budgets

Learning Objectives:

1. To outline for the student the important reasons for using an operating budget.

2. To teach the student to use both historical data, as well as internal and external environmental factors to base budgetary decisions on.

3. To familiarize the student with flexible budgets.

Suggested Readings:

Eshbach, Chapter 10
Fay et al. Chapter 18

A. General questions.

1. What are the three functions of an operating budget?

2. Who should prepare the budget?

3. What are the two kinds of information that the operator should use to forecast sales for the upcoming year?

B. Consider the following information when answering questions B1-B4.

* Use Schedule A (on following page) to determine the total sales monthly breakdown.

* Assume that the trend of the food sales to beverage sales ratio is 2.5 to 1.

* You have fired the bartender who was stealing you blind, and you have also adopted much better control standards for both food and beverage handling. You can reasonably expect your food cost to be 40% of food sales, and your beverage cost to be 32% of beverage sales.

* You have found that you do operate very effectively with payroll costs at 28% of sales. (In this problem, assume that benefits are calculated as 4.2% of sales.)

* Expenses should be split between those that are affected by the sales level and those that are not.

  Affected by sales level (semi-variable):

  a) Direct operating expenses - use Schedule B for monthly breakdown.

  Not affected by sales level (fixed):

  a) Music and entertainment
  b) Advertising and promotion
  c) Utilities
  d) Administrative and general
  e) Repairs and maintenance - use Schedule C for monthly breakdown.

* One of your leading competitors has closed his restaurant. You expect your sales (# of covers) to increase by 10%. But, the unemployment rate has risen in your town (drastically!). You expect sales (# of covers) to drop by 8%.

* The rate of inflation for the past three years averages to be 10%. Apply this to the expenses listed in (5) and to dollar sales.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Schedule A: Monthly % of the year's total sales	6	9	9	11	11	7	5	5	9	10	10	8
Schedule B: Monthly % of the year's total semi-variable expenses	6.2	9.1	9.1	10.6	10.5	7.5	5.5	5.7	8.3	9.7	9.9	7.9
Schedule C: Monthly % of the year's total fixed expenses	7.5	8.8	8.7	9.0	9.0	7.8	7.5	7.5	8.1	8.7	8.8	8.6

1. What is the expected number of covers for 1982?

2. Prepare an annual budget.

3. Prepare proforma profit and loss statements for January, February and March. Use Schedules A, B and C.

4. Prepare a flexible budget for January. Use 90%, 100%, and 110% sales levels. (Remember which expenses vary with sales level. Payroll is one of them.)

Solutions:

A. 1. The three functions of a budget are:

1) To provide to management an organized way in which to do planning.

2) To provide a procedure for coordinating the activities of the business so they progress according to plan.

3) To offer a model (or ideal) on which to base control measures.

2. Every manager involved in each level of the business which is affected by the budget should help make it.

3. Two kinds of information:

1) historical information

2) assumptive information

B. 1. 159,064 meals served

2.

Chez Marie
Proforma Profit & Loss Statement
Year Ending December 31, 1982

Sales		
Food	1,239,563	
Beverage	495,825	
Total Sales	1,735,388	
Cost of Sales		
Food	495,825	
Beverage	158,664	
Total Cost of Sales	654,489	
Controllable Expenses		
Payroll	485,909	
Employee Benefits	72,886	
Direct Operating Expenses	100,355	
Music and Entertainment	17,009	
Advertising and Promotion	20,412	
Utilities	47,626	
Administrative and General	86,747	
Repairs and Maintenance	20,416	
Total Controllable Expenses	851,360	
Noncontrollable Expenses		
Depreciation	69,584	
Total Noncontrollable Expenses	69,584	
Net Income Before Taxes	159,955	92%

3.

Chez Marie
Proforma Profit and Loss Statements
For Months Ending Jan. 31, Feb. 28, Mar. 31, 1982

	Jan. 31		Feb. 28		Mar. 31	
Sales						
Food	$ 74,374		$111,561		$111,561	
Beverage	29,750		44,624		44,624	
Total Sales	$104,124		$156,185		$156,185	
Cost of Sales						
Food	$ 29,750		$ 44,624		$ 44,624	
Beverage	9,520		14,280		14,280	
Total Cost of Sales	$ 39,270		$ 58,904		$ 58,904	
Controllable Expenses						
Payroll	$ 29,155		$ 43,732		$ 43,732	
Employee Benefits	4,373		6,560		6,560	
Direct Operating Expenses	6,222		9,132		9,132	
Music and Entertainment	1,276		1,497		1,480	
Advertising and Promotion	1,531		1,796		1,776	
Utilities	3,572		4,191		4,143	
Administrative and General	6,506		7,634		7,547	
Repairs and Maintenance	1,531		1,797		1,776	
Total Controllable Expenses	$ 54,166		$ 76,339		$ 76,146	
Noncontrollable Expenses						
Depreciation	$ 5,800		$ 5,800		$ 5,800	
Total noncontrollable Expenses	$ 5,800		$ 5,800		$ 5,800	
Net Profit Before Taxes	$ 4,888	4.7%	$ 15,142	9.7%	$ 15,335	9.8%

4.

Chez Marie
Flexible Budget
For Month Ending Jan. 31, 1982

	90%		100%		110%	
Sales						
Food	$ 66,937		$ 74,374		$ 81,811	
Beverage	26,775		29,750		32,725	
Total Sales	$ 93,712		$104,124		$114,536	
Cost of Sales						
Food	$ 26,775		$ 29,750		$ 32,725	
Beverage	8,568		9,520		10,472	
Total Cost of Sales	$ 35,343		$ 39,270		$ 43,197	
Controllable Expenses						
Payroll	$ 26,240		$ 29,155		$ 32,071	
Employee Benefits	3,936		4,373		4,810	
Direct Operating Expenses	5,600		6,222		6,844	
Music and Entertainment	1,276		1,276		1,276	
Advertising and Promotion	1,531		1,531		1,531	
Utilities	3,572		3,572		3,572	
Administrative and General	6,506		6,506		6,506	
Repairs and Maintenance	1,531		1,531		1,531	
Total Controllable Expenses	$ 50,192		$ 54,166		$ 58,151	
Noncontrollable Expenses						
Depreciation	$ 5,800		$ 5,800		$ 5,800	
Total Noncontrollable Expenses	$ 5,800		$ 5,800		$ 5,800	
Net Profit Before Taxes	$ 2,377	2.5%	$ 4,888	4.7%	$ 7,398	6.5%

Problem #8: Break-Even Analysis

Learning Objectives:

1. To give the student practice in using break-even analysis in the decision-making process.

2. To demonstrate some of the uses of a break-even analysis in the field of Hospitality and Foodservice Management.

Suggested Readings:

Dukas, Part 4
Fay et al. Chapter 11

In computing the following break-even points, use the 1982 budgeted expenses, 9% as the desired profit, and $10.95 as the average total check (food and beverage). Variable costs are: Food and Beverage costs; Payroll; and Benefits. Fixed costs are: Direct Operating Expense; Music and Entertainment; Advertising and Promotion; Utilities; Administrative and General; Repairs and Maintenance; and Depreciation. Compute all break-even points as both dollar sales and number of meals sold, unless otherwise directed.

1. You would like to redesign the kitchen of Chez Marie to make it more labor efficient. The project will cost $25,000. What is the new break-even point?

2. You would like to buy a new salad prep machine for $1,000. By what percentage of sales would labor have to be decreased to make the purchase of this machine feasible? You will be paying it off in three months. If the average wage is $5.00 per hour, how many hours per month would this decrease be?

3. How many meals would have to be served to break even for each of the sales mixes for the Dukas method of pricing? Add $3.20 to each average food check as the average beverage check.

4. Minimum wage has increased, bringing your payroll costs up to 30% of sales. What is the new break-even point?

5. Do a break-even analysis for the months of January, February and March of 1982. Use the figures in Problem #7 (budgeting).

Solutions:

Break-Even Point for 1982: $1,731,618
158,149 meals

1. $1,843,567
   168,362 meals

2. Payroll would have to be decreased by 0.06% of Sales.
   Payroll = 28.0% - 0.06% = 27.94%
   The number of labor hours would decrease by 67 each month.

3. a) $7.94 + $3.20 = $11.14
      155,441 meals

   b) $8.75 + $3.20 = $11.95
      144,905 meals

   c) $7.13 + $3.20 = $10.33
      167,630 meals

4. Payroll = 30%
   Variable Costs = 81%
   Fixed Costs = 19% = $362,149
   100% = $1,906,047
   174,068 meals

5.

January	February	March
21% = $26,438	21% = $31,847	21% = $31,654
100% = $125,895	100% = $151,652	100% = $150,733
11,497 meals	13,850 meals	13,766 meals