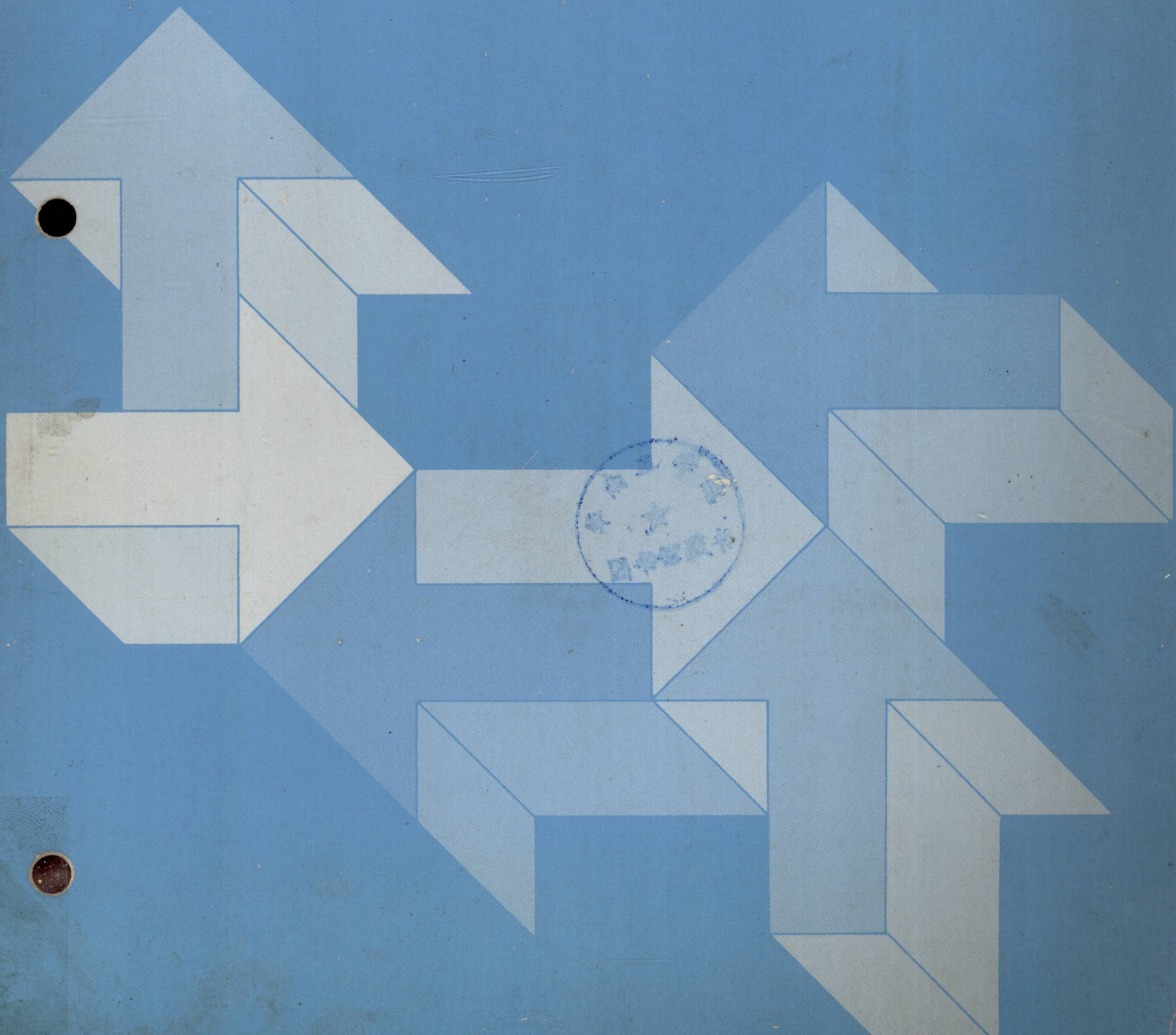


INSTRUCTOR'S RESOURCE MANUAL TO ACCOMPANY COST AND MANAGERIAL ACCOUNTING

RONALD V. HARTLEY



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INSTRUCTOR'S RESOURCE MANUAL
TO ACCOMPANY

Cost and Managerial Accounting

Ronald V. Hartley

BOWLING GREEN STATE UNIVERSITY



Allyn and Bacon, Inc.

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EXPLANATION OF INSTRUCTOR'S RESOURCE MANUAL

The materials in this manual and the companion test bank manual have been prepared by the author (not by someone else) to help you in designing a course that will be interesting, challenging, thought provoking, and rewarding, both for you and your students. It is always my goal to offer a course that is among the best at the university: one that helps the student to enter the accounting profession as a potential decision maker and change agent as well as increasing their powers of reasoning. Below is a brief description of the type of materials you will find in this manual.

PROBLEM SOLUTIONS

Obviously, this manual contains suggested solutions to every problem in the text. The solutions are detailed and contain the logic and support computations. Transparencies can be made for classroom discussion. Several problems are meant to be provocative and perhaps will not have a single best solution. You should be prepared to consider alternative solutions.

KEY FIGURE CHECKLIST

At the back of this manual you will find a checklist of key figures for selected problems. These might be reproduced and distributed to your students if you so desire.

PROBLEM ANALYSIS

As part of each chapter's resource materials there is a problem analysis (see page 5, for example). For each problem there is:

1. A two part code that classifies the problem. The first letter in the code indicates the difficulty level:

- B = basic
- I = intermediate
- A = advanced

The second code letter indicates how essential the problem is to enhancing the student's comprehension of the subject:

- E = essential
- F = first level of optional problems
- S = second level of optional problems

2. A "rough" time estimate that the student should be expected to spend in solving the problem. This, of course, is very much dependent on the student.

3. A "comment" about the problem. The comments will include a statement about the objective of the problem, its citation if it is from the CMA or CPA exam, and difficulties you can expect the student to have in working it.

The problem analyses have been arranged by chapter so that you can quickly assess what is available to work with in each chapter. You should find these analyses very convenient as you prepare your course assignments.

LECTURE SUGGESTIONS

Also, arranged by chapter, are some suggestions of things you can do in presenting and supplementing the text. Obviously you have your own ideas and, thus, these lists are not exhaustive. In fact, I would appreciate learning of other ways of presenting the material that you have found useful.

Among the suggestions are possible demonstration "problems" that differ from those in the book. They will contain some different "ruffles."

TRANSPARENCY MASTERS

Where appropriate, transparency masters are included (see page 2). These can be used in your lectures and are provided as a convenience.

USING THE TEXTBOOK

At the front of this manual there is an explanation of the possible ways in which you can use the textbook. A table of chapter prerequisites is given so you know what to expect if you choose to follow a different order in covering the chapters.

POSSIBLE COURSE OUTLINES

Also at the front of the manual you will find suggestions for course outlines. There are several "variables," including the calendar you are on (semester vs. quarter), the type of student (accounting major vs. MBA), and the number of intermediate level courses (one vs. two). Several combinations of "variables" are considered in making course outline suggestions.

TEST BANK

The companion manual to this one is a test bank that is available to adoptors. Arranged by chapter, there are two types of test suggestions. First is a set of possible multiple choice questions. Second, there are

selected problem type suggestions. Some of the problems will require integration of other chapter materials; some are exclusively on a given chapter. For the most part the problem type suggestions are on the challenging side as opposed to "basic."

REQUEST FOR YOUR SUGGESTIONS

I am very interested in advancing management/cost accounting education. If you have any suggestions about approaches to the course, problems, the book, or whatever, feel free to contact me. I would enjoy hearing from you.

USING THE TEXTBOOK

I realize that everyone has their own ideas about how to approach the cost/management accounting course. Prior to doing this book a survey was done that included preferences on positioning topics. Obviously there was no consensus. However the order used in this book had a great deal of support.

Even though the order of the book is preferred by the author, the chapters are written to provide a great deal of flexibility. Integration of material is also considered important by the author and has not been avoided. This, of course, reduces flexibility. A lot of integrating is done through problem materials. These, of course, can be assigned at any point in your course. In order to alert you about flexibility problems the following table was prepared indicating prerequisite material.

CH	Title	Section(s)	Prerequisites
1	The Role of Cost and Managerial Accounting	All	None
2	Cost Concepts and Behavior	All	Chapter 1
2A	Enrichment of the Regression Model	All	Chapter 2
3	Job Order Systems	All	Chapter 2
4	Process Cost Accounting	All	Chapter 2
5	Standard Cost Systems	All	Chapt. 3 (for divisor activity concept)
		Accounting Systems with Standards	} Chapt. 4 (for equivalent unit concept)
		Year End Disposal of Cost Variances	
6	The Variable (Direct) Costing System	All	Chapter 5
7	Spoilage and the Cost Accounting System	Spoilage in a Job Order System	Chapter 3
		Spoilage in a Process Cost System	Chapter 4
		Spoilage in a Standard Cost System	Chapter 5
		Shrinkage and Accretion Rework, etc.	Chapter 4 Chapters 3, 4, 5
8	Allocation of Indirect Costs	All	At least CH 3 (to provide some feel for how this fits into a complete system)

CH	Title	Section(s)	Prerequisites
9	Joint and By-Product Accounting	All Standards for Joint Production	Chapter 4 and/or 5 Chapter 5
10	Cost Accounting Applied to Nonmanufacturing Costs	All	Chs. 3 or 4 or 5 (for a general awareness of cost systems)
11	Operating Budgets	All	Chapter 5
12	Cost-Volume-Profit Analysis	All	Chapter 2
13	Concept of Relevant Data	All Decisions when Joint Products are Involved	Chapter 2 Chapter 9
14	Capital Budgeting	All	Chapter 13
15	Advanced Considerations in Capital Budgeting	All Capital Budgeting when there are Constraints Breakeven Analysis with Imputed Interest	Chapter 14 Chapter 11 (the linear programming material) Chapter 12
16	Management Accounting's Relationship with Quantitative Decision Models	All Mathematical Programming Continuation of CH 11 Budgeting Problem Continuation of Joint Products Problem	Chapter 2 Chapter 11 (the linear programming material) Chapter 11 CHs 9 and 13
17	Control: Basic Concepts and Systems	All Internal Control	Chapter 2 Chapter 3
18	Variances from Standards: Interpretation, Alternatives and Significance	All Ex-post Variances Making Variance Investigation Decisions Using the Expected Value Criterion	CHs 2, 5 and 17 CH 11 (the LP material) Chapter 16
19	Evaluating Performance in a Decentralized Organization	All	CHs 13 and 17
20	Transfer Pricing	All Shadow Prices	Chapter 19 Chapter 16

POSSIBLE COURSE OUTLINES

Below are my suggestions for six possible courses of study using the text. The "variables" of each of these courses are as follows:

Course 1: A required two semester sequence (15 weeks each) for accounting majors.

Course 2: A required two quarter sequence (10 weeks each) for accounting majors.

Course 3: A required one semester course for accounting majors and a second elective course.

Course 4: A required one quarter course for accounting majors and a second elective course.

Course 5: A one semester sequence for MBAs.

Course 6: A one quarter sequence for MBAs.

COURSE 1

Semester I		Semester II	
<u>Chapter</u>	<u>Class Hours</u>	<u>Chapter</u>	<u>Class Hours</u>
1	2	11	7 ^b
2 & 2A	9 ^a	12	4
3	3	13	4
4	4	14	5
5	7	15	4
6	4	16	5
7	4	17	2
8	3	18	3
9	4	19	4
10	2	20	4
Exams	<u>3</u>	Exams	<u>3</u>
	45		45

^aInclude computer exercises using SAS, SPSS, or other package.

^bI now try to include some corporate planning models (specifically, IFPS). If you don't do this you will need less than 7 hours here.

COURSE 2

Quarter I	
<u>Chapter</u>	<u>Class Hours</u>
1	2
2 & 2A	7
3	3
4	4
5	8
6	4
7	4
8	3
10	2
Exams	3
	<u>40</u>

Quarter II	
<u>Chapter</u>	<u>Class Hours</u>
9	3
11	4
12	4
13	4
14	5
15	3
17	2
18	4
19	4
20	4
Exams	3
	<u>40</u>

COURSE 3

Required	
<u>Chapter</u>	<u>Class Hours</u>
1	2
2	3
3	3
4	3
5	7
6	4
8	3
11	3
12	4
13 ^c	4
17	2
19	4
Exams	3
	<u>45</u>

Elective	
<u>Chapter</u>	<u>Class Hours</u>
2A ^d	6
7	4
9	4
10	2
11 ^e	5
14	5
15	4
16	5
18	3
20	4
Exams	3
	<u>45</u>

^cOmit section on Joint Products

^dInclude computer exercises using SAS or SPSS or some other package.

^eDo not redo Chapter 11 but supplement with corporate planning model such as IFPS.

COURSE 4

Required	
Chapter	Class Hours
1	2
2	3
3	3
4	4
5	8
6	4
8	2 ^f
11	3
12	4
13	4
Exams	3
	<u>40</u>

Elective	
Chapter	Class Hours
2A	4
7	4
8 ^f	1
9	3
11 ^g	5
14	5
15	4
18	3
19	4
20	4
Exams	3
	<u>40</u>

^fExclude matrix algebra in required course; cover it in elective course.

^gDo not redo Chapter 11 but supplement with corporate planning model such as IFPS or cover Chapters 10 and 16.

COURSE 5

Chapter	Class Hours
1	2
2 & 2A ^h	7
3	3
5 ⁱ	7
6 ^j	4
11 ^k	5
12	4
13	4
17	2
19	4
Exams	3
	<u>45</u>

COURSE 6

Chapter	Class Hours
1	2
2	4
3	3
5 ⁱ	7
6 ^j	4
11	3
12	4
13	4
17	2
19	4
Exams	3
	<u>40</u>

^hMight want to reduce this time and include Chapter 20 on transfer pricing.

ⁱExclude section on variance allocations.

^jExclude section on working paper adjustments.

^kTry to include some corporate planning models such as IFPS.

	<u>Page</u>
Explanation of Instructor's Resource Manual.	iv
Using the Textbook	viii
Possible Course Outlines	x

Chapter Materials (Lecture Suggestions, Transparency Masters,
Problem Analysis, Problem Solutions in that order)

1. The Role of Cost and Managerial Accounting . . .	1	2	5	7
2. Cost Concepts and Behavior	13	16	23	25
2A. Enrichment of the Regression Model	13	16	35	36
3. Job Order Systems.	45	47	50	52
4. Process Cost Accounting.	65	66	70	72
5. Standard Cost Systems.	89	92	99	101
6. The Variable (Direct) Costing System	121	127	132	134
7. Spoilage and the Cost Accounting System.	152	153	158	160
8. Allocation of Indirect Costs	180	181	182	184
9. Joint and By-Product Accounting.	200	---	201	203
10. Cost Accounting Applied to Nonmanufacturing Costs	218	---	219	220
11. Operating Budgets.	235	236	237	239
12. Cost-Volume-Profit Analysis.	257	259	262	264
13. Concept of Relevant Data	280	---	281	283
14. Capital Budgeting.	296	---	297	299
15. Advanced Considerations in Capital Budgeting . .	315	317	318	320
16. Management Accounting's Relationship with Quantitative Decision Models.	335	339	343	345
17. Control: Basic Concepts and Systems.	361	---	362	364
18. Variances from Standards: Interpretation, Alternatives and Significance	377	---	378	380
19. Evaluating Performance in a Decentralized Organization.	391	---	392	394
20. Transfer Pricing	412	---	413	415
Checklist of Key Figures for Selected Problems				431



CHAPTER 1

LECTURE SUGGESTIONS AND TRANSPARENCY MASTERS

1. Explain the variety of cost concepts:
 - a. for financial reporting.
 - b. for decision making (including price setting and/or price evaluation).
 - c. for control.
 - d. for cost-plus contracts.
2. Bring in some real world cases that involve the need for cost knowledge (if the cases show a possible misuse of cost data, it is even more interesting). For example, I like to use a Wall Street Journal article such as "Hospitals Unite to Recover more Cash from Medicare," January 19, 1981, p. 21.
3. Emphasize and give examples of usefulness of cost management accounting in nonmanufacturing firms.
4. Use the data on transparency master (TM) 1.1 to discuss the cost flow for a manufacturing firm that is only interested in product cost determination. (The amounts have been omitted from the flowchart on the TM so that you can develop the results in class.) This example allows you to:
 - a. develop a product costing system,
 - b. demonstrate the differences needed to incorporate control (when used with TM 1.2),
 - c. review accrual concepts.
 - d. Answers (in thousands):

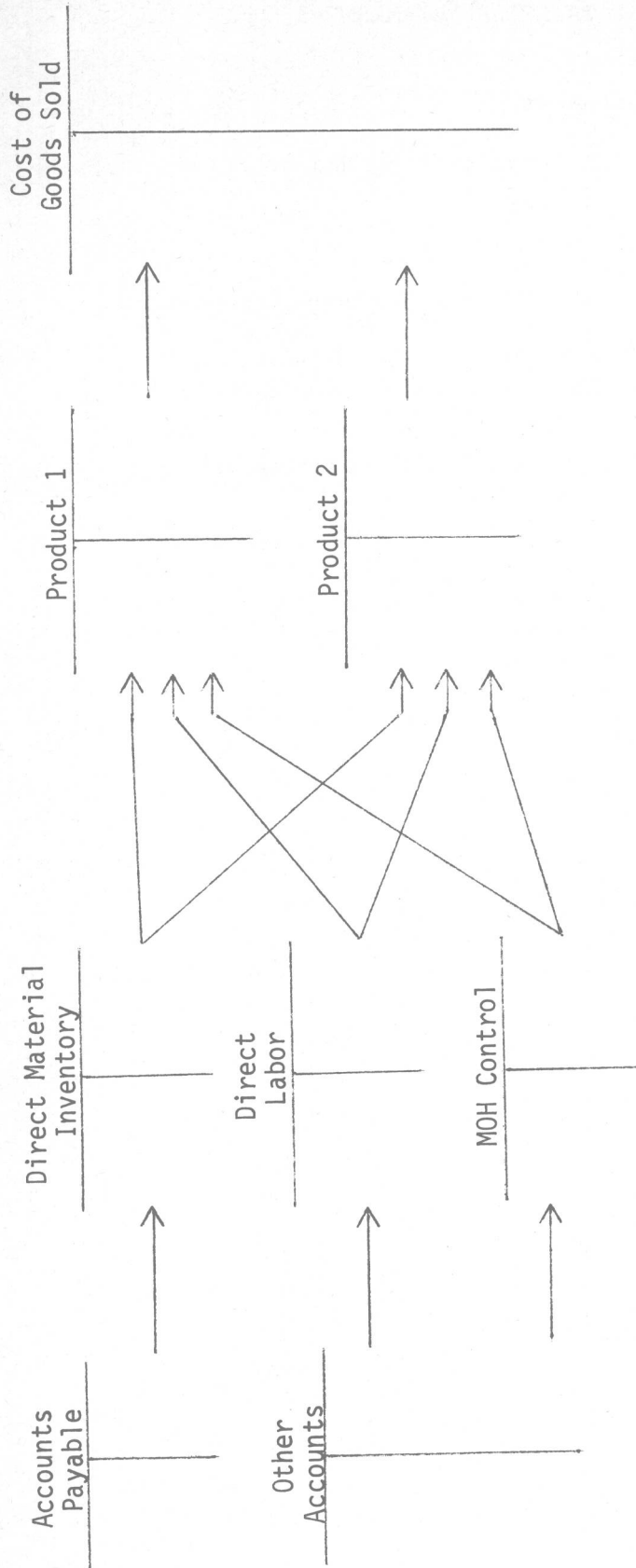
A/P to DM Inv.	\$103	DL to Prod. 1	\$140
Other to DL	200	DL to Prod. 2	60
Other to MOH	100	MOH to Prod. 1	70
DM Inv. to Prod. 1	60	MOH to Prod. 2	30
DM Inv. to Prod. 2	40	Prod. 1 to COGS	269
		Prod. 2 to COGS	132

5. Use the data on TM 1.2 to discuss the cost flow for a manufacturing firm that is also interested in cost control as well as product cost determination. This example allows you to discuss the cost accumulation process through several responsibility centers.

Answers:

A/P to DM Inv.	\$100	DL to Dept. 1	\$140
Other to DL	200	DL to Dept. 2	60
Other to MOH 20 +	80	MOH to Dept. 1	70
DM to Dept. 1	60	MOH to Dept. 2	10
DM to Dept. 2	40	Dept. 1 to Dept. 2	270
		Dept. 2 to Prod. 1	320 (& to COGS)
		Dept. 2 to Prod. 2	80 (& to COGS)

6. Review financial statements of a manufacturing firm. Transparency master 1.3 contains the example from Chapter 1 that can be used for this purpose.



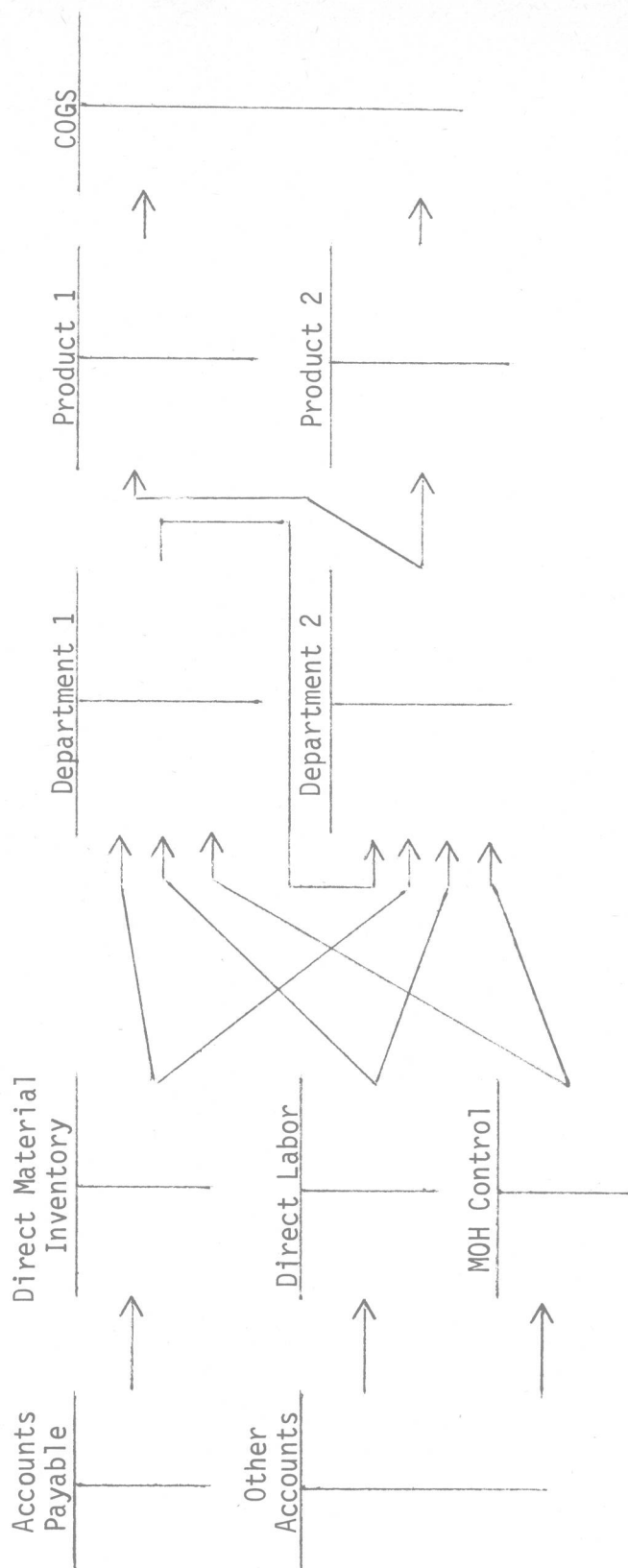
For Month	
\$98,000	
60%	
40%	
\$200,000	
\$100,000	

Cash payments for material
 Analysis of material usage:
 Product 1
 Product 2
 Direct labor (70% for product 1;
 30% for product 2)
 Manufacturing overhead (70% for
 product 1; 30% for #2)

Jan. 1	Jan. 31
\$20,000	\$25,000
5,000	8,000
-0-	1,000
2,000	-0-

Accounts payable for material
 Material inventory
 Product 1 inventory
 Product 2 inventory

SYSTEM FOR PRODUCT COST DETERMINATION



1. No beginning or ending inventories.

2. No beginning or ending accounts payable.

3. Depreciation expense on plant & equipment: \$20,000

4. Assume product 1 requires twice as much material

and work as product 2. Produced 10,000 units

of product 1 and 5,000 units of product 2.

5. Cash disbursements:

	Total	% to Dept. 1	% to Dept. 2
Material	\$100,000	60%	40%
Direct labor	200,000	70	30
MOH	80,000	70	30

SYSTEM TO ENHANCE CONTROL AS WELL AS
PRODUCT COST DETERMINATION

BULKMAN ELECTRIC TRAIN COMPANY
COST OF GOODS MANUFACTURED STATEMENT
FOR THE YEAR ENDED DECEMBER 31, 19x1

TM 1.3

DIRECT MATERIAL USED

Materials inventory, January 1, 19x1		\$ 1,000
Purchases	\$50,000	
Freight in	4,000	
Total	<u>\$54,000</u>	
Purchase discounts	1,200	52,800
Cost of materials available		<u>\$53,800</u>
Less materials inventory, December 31, 19x1		3,000
Total material used		<u>\$50,800</u>

DIRECT LABOR

70,000

MANUFACTURING OVERHEAD

Factory supervisory salaries	\$15,000	
Indirect labor	5,000	
Depreciation--factory building	4,000	
Depreciation--factory equipment	7,000	
Power	8,000	
Indirect supplies	<u>9,000</u>	48,000

CURRENT COST OF MANUFACTURING

\$168,800

ADD WORK-IN-PROCESS, January 1, 19x1

8,000

Costs to be accounted for

\$176,800

LESS WORK-IN-PROCESS, December 31, 19x1

10,000

COST OF GOODS MANUFACTURED

\$166,800

INCOME STATEMENT
FOR THE YEAR ENDED, DECEMBER 31, 19x1

SALES

\$300,000

COST OF GOODS SOLD

Finished goods inventory, January 1, 19x1	\$ 20,000	
Cost of goods manufactured (above)	166,800	
Cost of goods available for sale	<u>\$186,800</u>	
Finished goods inventory, December 31, 19x1	15,000	171,800

GROSS MARGIN

\$128,200

SELLING AND ADMINISTRATIVE EXPENSES

Sales commissions and salaries	\$ 12,000	
Administrative salaries	50,000	
Advertising	10,000	
Depreciation expense--general office building	<u>8,000</u>	80,000

NET INCOME BEFORE INCOME TAXES

\$ 48,200

CHAPTER 1
PROBLEM ANALYSIS

<u>Number</u>	<u>Class*</u>	<u>Time</u>	<u>Comments</u>
1	B,S	15	Purpose is to get student thinking about the modern day role of management accounting.
2	I,S	15	Purpose is to get student thinking about what licensing would or would not do for management accounting.
3	B,S	15	Purpose is to get student to see that management accounting is not limited to manufacturing organizations.
4	I,F	15	Student is asked to consider some professional ethical issues.
5	B,E	15	Student must discriminate among definitions of direct material, direct labor, manufacturing overhead, and S&A costs.
6	I,F	15	Must flowchart an accounting system based on a verbal description of the relationships among four producing departments.
7	I,E	20	Must flowchart the flow of material costs and compute the dollar amounts of the flows. Stresses the cost accumulation feature from one department to another.
8	A,F	20	Similar to problem 1-7 except that the determination of the dollar flow must be "pieced" together based on the data given.
9	I,E	30	Must prepare a cost of goods manufactured statement and income statement. Depreciation must be analyzed and some irrelevant items excluded.
10	I,F	20	Cost of goods manufactured statement for a multiple department firm.
11	I,F	20	From November, 1974 CPA exam. Requires analysis of the relationships to reconstruct the cost of goods manufactured statement.