

# **CREATING A PROBLEM FORMAT THAT CAPTURES THE INTERCONNECTIONS OF MANAGERIAL ACCOUNTING TERMINOLOGY**

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## **ABSTRACT**

This paper focuses on developing a comprehensive problem to help managerial accounting students better understand the interconnections of basic new terms in managerial accounting and how these terms relate to the financial statements. These terms include direct materials, direct labor, manufacturing overhead, product costs, period costs, prime costs, and conversion costs. Also presented are the three inventories of raw materials, work-in-process and finished goods. Using one set of numbers to see the broader picture of how the introductory managerial accounting material interconnects should better prepare students to then take these cost items and first journalize them and then later break them into their variable and fixed components for cost-volume-profit analysis.

## **INTRODUCTION**

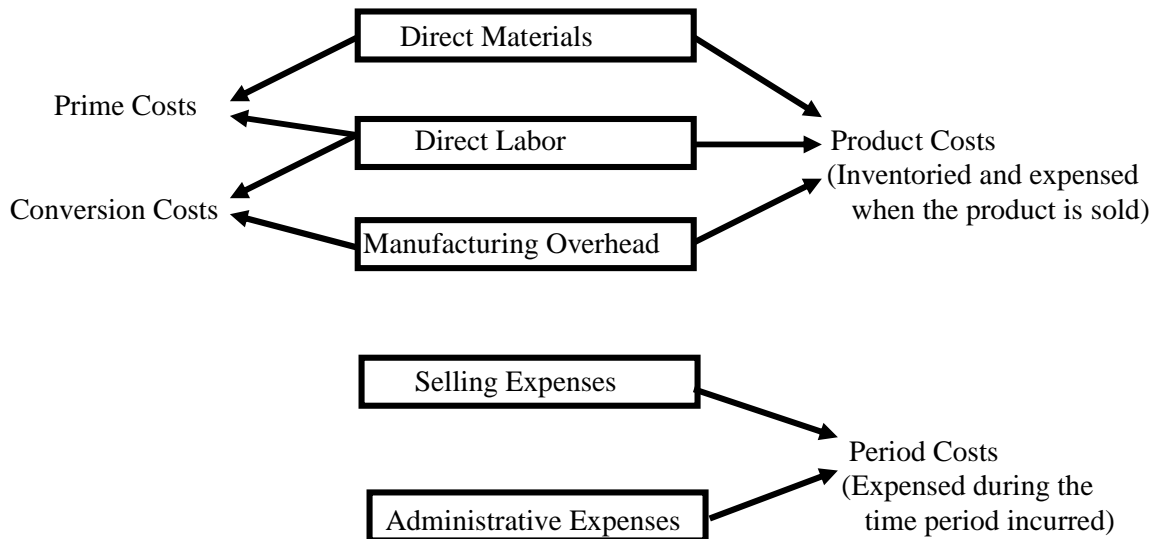
Managerial accounting is usually the second course in a two-course sequence for principles of accounting required for college of business graduates at most major colleges and universities. (If managerial accounting is not the entire second course, it is usually at least two-thirds of the second course.) The first chapter in managerial accounting textbooks defines and discusses the basic managerial accounting terminology. This usually includes a discussion of direct materials, direct labor, manufacturing overhead, product costs, period costs, prime costs, and conversion costs. Also presented are the three inventories of raw materials, work-in-process and finished goods. The chapter usually concludes by first presenting an income statement for a merchandising concern (from the principles I course), followed by the new income statement for a manufacturing concern with its cost of goods manufactured and sold statement (or schedule). The problems for the chapters usually provide many opportunities to calculate various subtotals and schedules and statements. However, there is rarely a comprehensive or capstone problem for identifying all the new terms and seeing how they interrelate with other topics in the chapter. This paper develops such a comprehensive problem which should help managerial accounting students better understand the interconnections of basic new terms in managerial accounting and how these terms relate to the financial statements. Using one set of numbers to see the broader picture of how the introductory managerial accounting material interconnects should better prepare students to then take these cost items and first journalize them and then later break them into their variable and fixed components for cost-volume-profit analysis.

## **DEFINING THE TERMS**

The first step is to define the terms and to show that there is flexibility in managerial accounting definitions and procedures. For example, the first item often defined is direct materials – or raw materials – with the names being interchangeable and either name being equally acceptable. Direct materials are defined as materials that are conveniently and economically traceable to the finished product and that become a part of the finished product. Accordingly, in making wooden tables, the wood would be considered direct materials. The nails and glue, however, might be considered direct materials at one company (where they are conveniently and economically traceable) but not at another company.

Direct labor is similarly defined as labor that is conveniently and economically traceable to the finished product. Manufacturing overhead is defined as everything else in the factory besides direct materials and direct labor. This would include such things as indirect materials (the nails and glue if not considered direct materials), indirect labor (supervisors or other non-“hands-on” factory labor), factory depreciation, factory utilities, factory property taxes, factory security, and many other factory (or manufacturing or plant) costs. The combination of direct materials and direct labor is called “prime costs,” and the combination of direct labor and manufacturing overhead is called “conversion costs.” All three costs combined – direct materials, direct labor and manufacturing overhead – are called “product costs.”

At this point, it is important to remind students that since a company is now making its own products, it has new manufacturing costs – but it still has the non-manufacturing costs of selling and administrative expenses as well. The selling and administrative expenses are called “period costs” since they are not inventoried, but are expensed in the time period that the costs are incurred. The following illustration shows the interrelationships:



### TERMINOLOGY PROBLEM

This problem has two parts. First a list of total costs is broken down into the subcategories identified by the new cost terminology. Next, these same cost items are used to prepare the Income Statement (with a Cost of Goods Manufactured and Sold Schedule) for the company.

Part I: Seaside Company accumulated the following costs for October and wants to determine the amount of (a) Prime Costs, (b) Factory Overhead, (c) Conversion Costs, (d) Product Costs, and (e) period costs.

Company President's Salary.....	\$ 150,000
Security Costs for Sales and Administrative Offices..	20,000
Factory Security Costs.....	80,000
Sales Salaries.....	120,000
Direct Labor.....	200,000
Raw Materials Used.....	345,000
Indirect Labor.....	37,000

Depreciation on Delivery Trucks.....	15,000
Other Selling Expenses.....	70,000
Property Taxes on Factory.....	11,000
Factory Supplies Used.....	18,000
Plant Utilities.....	12,000
Other Factory Overhead.....	25,000
Depreciation on Factory Building.....	30,000
Depreciation on Office Equipment.....	14,000
Property Taxes on Administrative and Sales Offices...	1,000
Advertising.....	45,000
Non-Plant Utilities.....	22,000
Depreciation on Factory Equipment.....	35,000
Other Administrative Expenses.....	50,000

Solution:

(a) Prime Costs

Raw Materials Used.....	\$ 345,000
Direct Labor.....	200,000
	<u>\$ 545,000</u>

(b) Factory Overhead

Indirect Labor.....	\$ 37,000
Factory Security Costs.....	80,000
Property Taxes on Factory.....	11,000
Factory Supplies Used.....	18,000
Plant Utilities.....	12,000
Depreciation on Factory Building.....	30,000
Depreciation on Factory Equipment.....	35,000
Other Factory Overhead.....	25,000
	<u>\$ 248,000</u>

(c) Conversion Costs

Direct Labor.....	\$ 200,000
Factory Overhead (from B).....	248,000
	<u>\$ 448,000</u>

(d) Product Costs

Raw Materials Used.....	345,000
Direct Labor.....	\$ 200,000
Factory Overhead (from B).....	248,000
	<u>\$ 793,000</u>

(e) Period Costs

Company President's Salary.....	\$ 150,000
Security Costs for Sales and Administrative Offices..	20,000
Sales Salaries.....	120,000
Depreciation on Delivery Trucks.....	15,000
Depreciation on Office Equipment.....	14,000
Property Taxes on Administrative and Sales Offices...	1,000
Advertising.....	45,000
Non-Plant Utilities.....	22,000
Other Selling Expenses.....	70,000
Other Administrative Expenses.....	50,000
	<u>\$ 507,000</u>

Part II: Using the information from Part I and the following additional information for Seaside Company for the month of October, prepare an Income Statement (with a Cost of Goods Manufactured and Sold Schedule under the periodic inventory system) for October. Also identify where the Product Costs and Period Costs show up in the statements.

Sales.....	\$1,590,000
Beginning Inventory Raw Materials.....	40,000
Beginning Inventory Work-In-Process.....	60,000
Beginning Inventory Finished Goods.....	90,000
Ending Inventory Raw Materials.....	75,000
Ending Inventory Work-In-Process.....	10,000
Ending Inventory Finished Goods.....	110,000
Raw Materials Purchased.....	380,000

Solution:

Seaside Company  
Income Statement  
For the Month Ended October 31

Sales	\$1,590,000	
- Cost of Goods (see below)	- 823,000	
<u>Gross Profit</u>	<u>\$ 767,000</u>	
- Selling and Administrative Expenses	507,000	→ (Period Costs)
<u>Net Income</u>	<u>\$ 260,000</u>	

Seaside Company  
Schedule of the Cost of Goods Manufactured and Sold  
For the Month Ended October 31

Beginning Inventory Raw Materials	\$ 40,000	
+ Purchases of Raw Materials	+ 380,000	
<u>Raw Materials Available</u>	<u>\$ 420,000</u>	
- Ending Inventory Raw Materials	- 75,000	
<u>Raw Materials (or Direct Materials) Used</u>	<u>\$ 345,000</u>	
+ Direct Labor	+ 200,000	
+ Manufacturing Overhead: (With Each Item Listed Separately)	+ 248,000	
<u>Total Manufacturing Costs</u>	<u>\$ 793,000</u>	→ (Product Costs) for Goods Produced in October
+ Beginning Inventory Work-In-Process	+ 60,000	
- Ending Inventory Work-In-Process	- 10,000	
<u>Cost of Goods Manufactured</u>	<u>\$ 843,000</u>	
+ Beginning Inventory Finished Goods	+ 90,000	
- Ending Inventory Finished Goods	- 110,000	
<u>Cost of Goods Sold</u>	<u>\$ 823,000</u>	→ (Product Costs) for Goods Sold in October

## **SUMMARY AND CONCLUSIONS**

Managerial accounting textbooks usually have a rather disjointed approach of first presenting the new terms of direct materials, direct labor, manufacturing overhead, product costs, period costs, prime costs, and conversion costs followed by an expansion of the merchandising single-inventory system to capture the manufacturing system with its three inventories of raw materials, work-in-process and finished goods. Later, with a set of unrelated numbers and with no real connectivity to the previous topics, the chapter concludes by presenting the manufacturing income statement, including the calculation of cost of goods manufactured and sold. Even among the exercises and problems at the end of the chapter, there is rarely a capstone problem that includes all the new terminology and then interweaves it into the preparation of the new financial statements. Such a problem has been presented in this paper. Solving such a problem should help managerial accounting students see the broader picture of how all of the pieces fit into one puzzle and thus help clarify the linkages and interconnections of the introductory material in the managerial accounting course.