

# Chapter 1 : Introduction To Types Of Organizations And The Management Accountant

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## LEARNING OBJECTIVES

After studying this chapter, you should be able to:

- 1 Describe the changes in how accountants work in the most advanced organizations
- 2 Describe the four types of organizations that are served by management accounting.
- 3 Explain the relationship of management accounting to financial and cost accounting.
- 4 Present the major trends in the new manufacturing environment and discuss the role of modern management accountants in organizations.
- 5 Explain how to become a professional management accountant.

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## INTRODUCTION

During your career you will see large changes in how you do your work as an accountant. Many of these changes appeared first in Japan due to the fiercely competitive environment there, but they are moving into most organizations. In particular the largest accounting firms have adopted these changes rapidly. The main change is that almost all employees are expected to be improving their jobs not just doing their jobs. This change in expectations adds a great deal of stress to the workplace, but ensures survival in tough times.

**Traditional definitions of Management and Financial Accounting.** **Management accounting** provides information to people within organizations who improve, plan, monitor and control their operations, and evaluate performance to ensure the success of these organizations. Management accounting can be contrasted with **financial accounting**, which is concerned with providing financial statements to stockholders, creditors, investment analysts, and others who are outside organizations.

Although these definitions seem reasonable, they indicate that management accountants should be essentially passive information providers. These old definitions are mainly a sign of limited vision and need to be discarded. In the present business environment of

intense competition we need a commitment to improvement not to giving good information. As part of this commitment, management accounting changed from a focus on providing information to others, to an active role in changing business operations. During your career perhaps your most important obligation will be to introduce change into your organization.

The rise of management accountants to professional status has paralleled the growth and acceptance of their professional organizations. For example, in North America, the Institute of Management Accountants (IMA) in the USA, and Society of Management Accountants (SMA) in Canada, the Chartered Institute of Management Accountants [CIMA] in the UK, and the Institute of Chartered Management Accountants [ICMA] in Australia. All of these organizations provide management accountants with several important services:

- The certification itself: CMA in the US and Canada. [Although they have the same name the programs are very different], FCMA in the UK, CMA in Australia
- Standards of Management Accounting
- Standards of ethical conduct
- Continuing education programs
- Professional publications

These bodies and others around the world work constantly to improve the knowledge and value of management accountants.

The purpose of this chapter is to establish a framework for studying the remaining chapters. The chapter begins by describing the enormous changes in work expectations that are seen in the most advanced organizations. Next, we describe the four types of organizations that management accountants work for. Then, we explain the relationship of management accounting to financial and cost accounting and the major trends taking place in the new manufacturing environment. Later sections examine the role of management accountants in organizations. And, finally, the chapter concludes with a discussion of the management accountant as a professional.

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## CHANGES IN HOW WE WORK IN ADVANCED ORGANIZATIONS

There have been a huge number of changes in business practices over the last 30 years. Over that time we have seen three significant innovations in Japanese<sup>1</sup> practice that seem to be valid across national boundaries:

- the IKM operating doctrine,
- the use of cross-functional teams, and
- job rotation across functional boundaries.

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1. A note on Japan: All of these practices are seen elsewhere, and some even earlier than we see them in Japan, but because of the way Japanese professors studied the methods we have a fairly clear description of how the Japanese versions work, while the descriptions from other countries are more difficult to bring together. So, do not misinterpret the many references to Japanese practices as a belief in Japanese superiority. It is just that their story is more available.

In this section we discuss the IKM operating doctrine since it appears to be the driving force in improving many areas of business practice. The use of cross functional teams and job rotation are discussed in a later section that is devoted to other recent improvements in business operations.

Although we have seen much change in the last 30 years, there is one area that has seen little change: the expectations of people on the job. In the western countries there has been intense study about how to get people to work harder, or better, but little improvement was attained. In Japan, on the other hand, there was a significant change that happened, almost undetected, in the 1960s: a change in the operating doctrine of the best and most aggressive companies.

What is an operating doctrine? It is the set of role expectations that people have of each other and of themselves while at work. Our traditional operating doctrine is so simple and obvious that we usually do not even think about it. It is: *Come to work as directed and follow instructions*. If you do this very well you will be regarded as a good employee. We can call this the Maintenance level of operating doctrine because the focus is on maintaining the system created by the bosses. Although this may seem trivial to us, it actually took our culture several hundred years to create this set of beliefs.

In the 1950s and 1960s in Japan, the level of competition had become so intense that this was not enough and gradually the major companies, probably led by Toyota, evolved a new role: *you MUST improve the design of your job and its relations to other jobs as well as following instructions*. Only if you do this will you be considered a good employee. Notice that improvement comes first in this statement. The impact of this demand is that each employee must maintain a record of improvement suggestions [several per year] to maintain employment. Now, most of the larger Japanese companies will not actually fire you, but they will transfer you to a low-paying, dead-end job in a subsidiary company in a remote part of the country without any delay. So, the level of job stress can be quite high. We can call this the Kaizen, or continuous improvement, level of operating doctrine.

Notice that this does NOT mean doing your job better or faster. It means changing your job tasks so that the goal is accomplished better or faster.

In the 1980s the level of competition increased to such a level that even this improvement-demand was not enough, so a number of the top Japanese companies began demanding substantial innovations in addition to the smaller improvements already the norm. In these companies you must come up with a substantial innovation every 1.5-2 years or so to be considered a good employee. This is now the norm for a small number of companies in Japan such as Toyota, NEC, Matsushita [i.e., Panasonic] and some others. In these companies the level of job stress is extremely high, and has led to a number of bad outcomes, including an increase in job-related deaths. These problems are so extreme that the Japanese have a special word, *karoshi*, death from overwork. We can call this the Innovation level of operating doctrine.

It is clear that these escalating demands are filtering into the economies of most countries. There are a number of possible reasons, but the intensification of competition is probably the most important. Currently there are few North American or European companies that are firmly in the K level and probably none in the I level. However, a few

more years of tough competition from China will likely change ideas about what people should do at work, even in smaller firms. One exception is the large accounting/auditing firms which now require even low-level employees to make improvement suggestions after each engagement in a way that seems to be a solid K-level operating doctrine.

These three levels [I, K, and M] are sequential and all organizations must be at least M. If solidly M, then they can be elevated to K, and once fairly solidly K, they might be elevated to I. The reason that sequencing is needed, is that you must have a basic set of skills before you can improve those skills [M to K] and your entire organization must be able to manage small improvements before it can reliably manage large improvements [K to I]. Asking people with weak skills [weak M level] to come up with, and implement, improvements is a recipe for disaster.

Also, and very important for us, is that using an M-level operating doctrine and asking employees for improvements is also looking for problems. If you want improvements, then improvements must be the focus of the operating doctrine employed and the basis for most, or all, rewards.

Finally, the IKM operating doctrine puts substantial burdens on the company. For the system to be perceived as valid, almost ALL improvement suggestions MUST be implemented. In fact, all suggestions that are not *proven* to be detrimental must be implemented to maintain the trust of the employees. In other words, a K-level operating doctrine means that each time an employee makes a suggestion, the company is *obligated* to follow it. So, K means a transfer of rights to employees from management as well as a transfer of responsibilities. This aspect of the K doctrine is extremely difficult for North American companies to even understand, much less manage. Some Toyota plants average 24 implemented improvement suggestions per employee per year.

The level of misunderstanding of Kaizen by North American managers is so pervasive that you can often hear that “continuous improvement is too slow”, perhaps these managers are thinking of 10 or 20 small improvements per plant per year, not the 12 000<sup>2</sup> improvements per plant per year that Toyota would experience in a plant with 500 employees. Toyota implements many more than 1 000 000 employee improvement suggestions each year.

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2. This book uses a mixture of traditional US and international conventions for displaying numbers. The international display is based on International Standard ISO 31, Quantities and Units. One thing you will notice is that commas are not used to separate thousands. This leads to 1 000,00 instead of 1,000.00. If you take a look at your Excel number display, this is one of the selections. Typically in the US and UK, commas separate thousands and periods separate wholes from decimal fractions, however in the bulk of Europe they use the comma to separate wholes from the decimal fractions. The ISO 31 standard follows traditional European practice for the decimal separator, but recently there has been an exception created for English-language documents. However, the desired thousands separator is a blank space, which you will see often in this book. Take a look at the wikipedia listing for ISO 31 for more information. For managerial accountants these seemingly irrelevant issues become critical in international business. You cannot send your products to a country if they do not meet the standards of that country. The cost to change documentation and display conventions is substantial.

We call this general approach to understanding the operating doctrine the IKM model, and use it throughout the book to evaluate how our accounting techniques can be used in different situations.

An additional, and crucial point for our development as business innovators is to realize that most of the new techniques from Japan [which are studied throughout this book] rely on having people working at the K level. M level employees are not realistically capable of using most of the modern cost management methods. In all likelihood the advanced methods and the K and I level operating doctrine developed together in Japan. Unfortunately when we in the west attempted to learn from the Japanese and try their methods, we did not realize the concurrent need for the correct operating doctrine. We suspect that this is one reason that many, if not most, attempts to improve business processes with the advanced Japanese methods fail.

| INSIGHTS AND APPLICATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <p><i>A Management Accounting Framework</i></p> <p>The Institute of Management Accountants in the USA, in their journal Strategic Finance, has recently published a new type of framework for management accounting. The overall goal of management accountants is to “add stakeholder value” by Leadership, Strategic Management, operational Alignment, and Continuous Learning and Improvement. Each of these four factors has a number of parts, but none of them is what people expect when they think of accounting.</p> <p>As you can see from the list on the next column, most items are pretty explicitly focused on improving or changing operations rather than measuring things.</p> | <p><b>For example:</b></p> <p><b>Leadership</b></p> <ul style="list-style-type: none"> <li>• creating and infusing shared beliefs</li> <li>• creating and infusing shared boundaries</li> <li>• facilitating effective decision making</li> <li>• enabling organizations change/innovation</li> </ul> <p><b>Strategic Management</b></p> <ul style="list-style-type: none"> <li>• formulating and communicating strategy</li> <li>• identifying and managing risks</li> <li>• assessing performance</li> <li>• analyzing decision alternatives</li> </ul> <p><b>Operational alignment</b></p> <ul style="list-style-type: none"> <li>• planning for the future</li> <li>• communicating vertically</li> <li>• coordinating horizontally</li> <li>• evaluating and regarding employees</li> </ul> <p><b>Continuous Learning and Improvement</b></p> <ul style="list-style-type: none"> <li>• enabling individual and organizational learning</li> <li>• acquiring process improvement skills</li> <li>• streamlining compliance duties</li> <li>• partnering to improve operations</li> </ul> |

## TYPES OF ORGANIZATIONS SERVED BY MANAGEMENT ACCOUNTANTS

Management accountants serve any of four types of organizations:

- Manufacturing organizations
- Merchandising firms (also called wholesalers and retailers)
- Profit-oriented service firms
- Not-for-profit service entities

## LEARNING OBJECTIVE 2

Describe the four types of organizations that are served by management accounting.

## MANUFACTURING ORGANIZATION

A **manufacturing organization** is an enterprise that converts raw materials, which it purchases, into finished goods (i.e., products) through the use of labor, machines, technology, and various facilities. Within the manufacturing category are a wide variety of production characteristics that call for different management accounting systems.

**Manufacturing Cost Elements.** The cost of a manufactured product is made up of the following manufacturing cost elements: direct materials, direct labor, and variable and fixed overhead. These cost elements can be assigned to an individual product's cost in two ways: direct tracing and allocation. For example, appliances (and their costs) can be directly traced to each house built by a building contractor. In contrast, the nails used are not traced to each house. Instead the total cost of nails is often divided (**allocated**) among all the houses built in a month. Cost elements that need to be allocated into a product's cost are called indirect product costs or overhead.

- **Direct materials** are those materials (and their costs) that can be easily traced to (and costs charged to) the product. For example, cement is charged to the manufacture of concrete blocks, or so many yards or meters of woolen cloth go into the manufacture of dresses and suits.

Other materials may be an integral part of a finished product, but are directly traceable to the product only at great cost and effort. Such items include bolts used to connect pieces of steel together to make trucks or the glue that holds a box together. These materials are referred to as **indirect materials** and are included as part of overhead so they can be allocated into the product's cost.

- **Direct labor**, also called **touch labor**, includes labor costs that are directly traceable to the products those people work on. Examples of employees who generate direct labor costs include machine operators, assembly line workers, carpenters, and bricklayers; that is, those people who are in direct contact with the production of the product. In service firms, direct labor includes, for example, surgeons, engineers, architects, Certified Public Accountants (CPAs) and Chartered Accountants (CAs).

Labor costs that cannot be traced directly to the products are called **indirect labor** and are treated as part of overhead. These costs include the wages of workers such as janitors, forklift operators, inventory clerks, and materials handlers.

- **Overhead** includes all costs of manufacturing that are not directly traced to the product. Thus, overhead includes all the indirect costs of production such as indirect materials, indirect labor, factory utilities, plant building taxes and insurance, machinery repairs and maintenance, and factory depreciation.

If using traditional forms of planning, controlling, and evaluating overhead items, the management accountant must separate them into variable and fixed categories. For example, the more mobile homes a manufacturer plans to build, the more nails it will need. These are variable costs because the total amount needed increases with the number of homes planned. On the other hand, the factory's depreciation is the same each month (assuming a straight-line method) regardless of how many homes are planned.

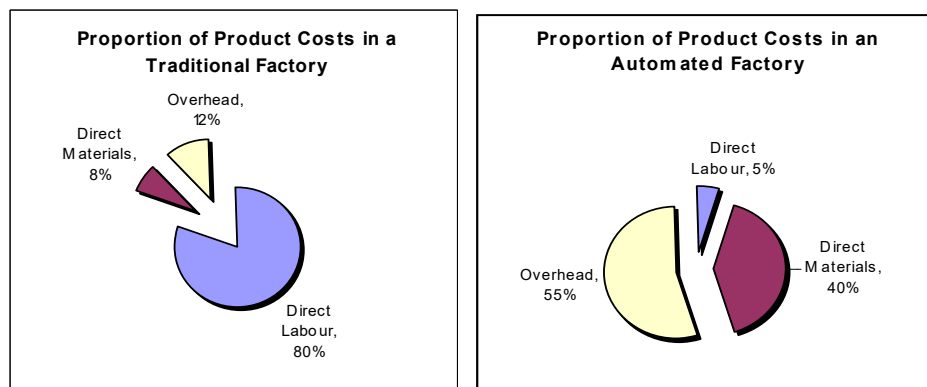
More will be said about how to distinguish between variable and fixed overhead costs in Chapter 7.

There are many different approaches to traditional analysis. For example, overhead combined with direct labor is often known as **conversion cost**. This term stems from the fact that direct labor costs and overhead costs are incurred in the conversion of direct materials into finished products. Also, the combination of direct labor and direct materials is known as **prime cost**.

**Proportion Of Manufacturing Cost Elements In Traditional And Automated Factories.** Exhibit 1-1 shows how the proportions of manufacturing cost elements differ in traditional (labor-intensive) and automated (machinery-intensive) manufacturing environments. The percentages in the exhibit are approximations simply to show magnitude.

As enterprises introduce more automated machinery, workers are increasingly engaged in setup and supervisory functions rather than actually working directly on the product. Often, labor's main tasks are to load the machines and act as troubleshooters. Machines perform most of the tasks once performed by direct labor in traditional factories. Thus, in automated factories overhead is becoming a larger and larger share of total manufacturing costs. This creates a serious problem when we try to find the cost of a product because overhead is an indirect cost that has to be allocated (divided up) in some way rather than traced. And...allocation is bad. There is no other word for it, but bad. In cost analysis the word “allocation” means that we do not understand why the cost exists or how it changes, but we have to do something so we “spray numbers around”. Over the last 30 years a great deal of accounting work has been done to reduce the amount of allocation in our systems. Both ABC and other modern methods can greatly reduce the amount of allocation by increasing the amount of tracing. You would not know this from your financial accounting courses because in financial accounting the goal is to know the results for an organization for a period, not to know the cost of performing a task, or making a choice. Therefore, for financial accounting allocation is ok [still not great, but not terrible], while for anyone who wants to make decisions based on numerical analysis it is a disaster.

**Exhibit 1-1 Magnitude of product cost elements differ in traditional and automated factories**



If all cost elements could be directly traced to each product, then accurately calculating the product's cost and profitability would be relatively simple. The more costs that must be allocated, though, the less accurate the product's cost will be. The need for accurate product cost information has led to the development of new methods such as activity-based costing and activity-based management (Chapters 10 and 11).

**Direct Technology As A Fourth Manufacturing Cost Element.** Some management accounting authorities believe that a fourth manufacturing cost element called **direct technology** should be added to reflect the growing dependence of manufacturing on automation. This technology includes computers, software, and telecommunications, which control processes and provide the intelligence for machines, and various pieces of equipment and robots used to convert raw materials into finished products. Rather than lumping the costs for this technology into overhead, these costs could be traced and charged directly to the product.

**Types Of Manufacturing Systems.** Manufacturing systems can be divided into two broad types:

- **Job order systems** produce products as special orders. In some systems each order has one or more features that are different from those of any other order; a custom jeweller or printer is an example of such a system. Other manufacturing enterprises may produce a variety of standard products, but produce only one or a few products at a time; examples include a furniture manufacturer and a maker of oil well drilling equipment.
- **Process systems** manufacture products in a continuous stream. Appliance manufacturers, paint manufacturers, cement plants, flour mills, and petroleum refineries are examples of enterprises that convert materials into finished goods using a process system. Clearly, a job order system is not applicable in these firms because there is no separate job or unique product. Instead, a stream of homogeneous products flows through various processes and departments.

## MERCHANDISING FIRM

A **merchandising firm** is a retailer or wholesaler that buys completed products for resale. Retailing activities involve the selling of goods to ultimate consumers for personal or household consumption. International Shoe Corporation, a manufacturing organization, buys leather and other raw materials and converts them into shoes that are sold in large quantities to wholesalers like Shiprite Distributors. Shiprite, in turn, sells shoes to retailers like Matilda's Shoe Store.

## MERCHANDISING FIRM AND MANUFACTURING ORGANIZATION FINANCIAL STATEMENTS COMPARED

From an accounting viewpoint, the best way to differentiate merchandising firms from manufacturing organizations is to look at their respective financial statements. The financial statements prepared by a manufacturing organization are more complex than the statements prepared by a merchandising firm. The production process gives rise to many costs that do not exist in a merchandising firm.

**Balance Sheets Compared.** Exhibit 1-2 compares the current asset sections of a merchandising firm and a manufacturing firm. A merchandising firm has only one class of

inventory. This is **merchandise inventory**, which is composed of products purchased from vendors awaiting resale to consumers. By contrast, manufacturing firms have three classes of inventory:

- **Raw materials** is the inventory of direct and indirect materials awaiting input to the production process. In traditional manufacturing enterprises, raw materials normally are stored in a stockyard or storeroom until requisitioned into the factory. In many firms, separate inventory records are kept for direct and indirect materials because they are controlled and accounted for differently.
- **Work-in-process** or **work-in-progress (WIP)** is the inventory account within the general ledger that is used to accumulate production costs while products are being manufactured. The ending balance shown on the balance sheet represents products only partially complete at the end of a period.

**Finished goods** are products that are complete as to manufacturing but have not yet been sold to customers. This is the same as a retailer's merchandise inventory.

#### **Exhibit 1-2 Current Assets of the Balance Sheets of a Merchandising Firm and a Manufacturing**

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| Maurice's Merchandising Firm                                       |                       |           |
|--------------------------------------------------------------------|-----------------------|-----------|
| Balance Sheet                                                      |                       |           |
| December 31, 20X5                                                  |                       |           |
|                                                                    | Current assets:       |           |
|                                                                    | Cash                  | \$ 5,000  |
|                                                                    | Accounts receivable   | 35,000    |
| This is the amount of inventory in stock at the balance sheet date | Merchandise inventory | \$ 17,000 |

### Exhibit 1-2 Current Assets of the Balance Sheets of a Merchandising Firm and a Manufacturing

|                                                                                                                                                                   |                 |           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|
| Total assets                                                                                                                                                      |                 | \$ 57,000 |
| Metalcraft Manufacturing Firm                                                                                                                                     |                 |           |
| Balance Sheet                                                                                                                                                     |                 |           |
| December 31, 20X5                                                                                                                                                 |                 |           |
| Current assets:                                                                                                                                                   |                 |           |
| Cash                                                                                                                                                              |                 | \$ 20,000 |
| Accounts receivable                                                                                                                                               |                 | 80,000    |
| These three inventory accounts consist of raw materials to be used in production, products partially processed, and completed products at the balance sheet date. | Inventories:    |           |
|                                                                                                                                                                   | Raw materials   | \$ 66,000 |
|                                                                                                                                                                   | Work-in-process | 144,000   |
|                                                                                                                                                                   | Finished goods  | 120,000   |
|                                                                                                                                                                   |                 | 330,000   |
| Total assets                                                                                                                                                      |                 | \$430,000 |

**INCOME STATEMENTS COMPARED.** Exhibit 1-3 compares the income statement of a merchandising firm to that of a manufacturing organization. The cost of goods sold for merchandising firms is simply the purchase cost of inventory items received from an outside supplier that have been sold. In contrast, the cost of goods sold in a manufacturing firm consists of many different costs that have been incurred in the process of manufacturing those products. The income statement of a manufacturing firm is supported by a **Schedule of Cost of Goods Manufactured**, which reflects the cost of completed production work. This schedule includes the specific cost elements that have gone into the products a company has manufactured during a period. Basically, to determine the cost of goods manufactured, this statement adds the manufacturing costs incurred during the time period (e.g., a month) to the beginning work-in-process inventory and then subtracts the ending work-in-process inventory.

### REPORTING FINISHED GOODS INVENTORY INFORMATION FOR MANAGEMENT IN MERCHANDISING AND MANUFACTURING FIRMS

In this book you will be introduced to a number of methods to use to display and income statement information. Probably the most effective is in Chapter 15 where we discuss Theory of Constraints management and income statements. We also look at an ABC-style presentation in Chapter 10 and a traditional variable-costing style in Chapters 18 and 19. Although the TOC method is probably the best for advanced firms, they all have their place and are all superior to the traditional financial accounting that we study in the early chapters of this book. Since we do not choose how sophisticated our employers are you will often find yourself in an organization that uses very traditional methods and if

you hope to help them move to more advanced methods you must know their current system expertly in order to make suggestion for improvement that fit within their framework. No matter what you or I think about the older methods we cannot change them effectively without understanding them thoroughly.

Finished goods for manufacturers are equivalent to merchandise for merchandising firms in that they both await customer sales. Management accountants can use electronic spreadsheets to generate both numerical and graphical sales information for people who manage and sell this inventory.

Assume that Ace Company wants to tie its TV commercials to shoe sales revenue. The electronic spreadsheet screen in Exhibit 1-4 and its accompanying bar and line graph depict this relationship clearly. Bear in mind that such information is useful for sales managers of both a merchandising firm and a manufacturing firm.

Exhibit 1-5 shows a spreadsheet with data values ranging over six months for raw materials, work-in-process, and finished goods inventories at Achilles Company, a manufacturer of shoes. The accompanying stacked-line graph shows fluctuations in these data over time. As in all stacked-line graphs, the top line represents the total of all the lines, and each line takes as its zero point the data point on the line below it.

Various colors and patterns can be used in such graphs to differentiate categories of finished goods or merchandise inventory. Indeed, the computer and various software packages, including spreadsheet software, are strong management accounting tools that can be used to produce meaningful management information.

## PROFIT-ORIENTED SERVICE FIRM

A **profit-oriented service firm** is an enterprise that sells knowledge, functions, or some other benefits, rather than products, to its customers. Examples of profit-oriented service firms are banks, law firms, advertising agencies, medical centers, and accounting firms. Unlike manufacturing and merchandising organizations, service firms do not have inventories. Nevertheless, a profit-oriented service firm needs management accounting just as much as a manufacturing or merchandising organization does. For example, when an advertising agency or accounting firm takes on a client or audit engagement, it should use the same basic techniques for cost accounting, cost management, and performance measurement that a manufacturing organization would use in costing and managing its production jobs. To the law or public accounting firm, a client is a job.

An income statement for Bighype Advertising Agency, a typical profit-oriented service firm, is shown in Exhibit 1-6. Bighype's balance sheet appears in Exhibit 1-7. A balance sheet for a typical service organization, such as Bighype Advertising Agency, is normally very simple compared to the balance sheets of manufacturing and merchandising organizations.

## NOT-FOR-PROFIT SERVICE ENTITY

A **not-for-profit service entity** offers a benefit to its clients for free or for a minimal fee. Like profit-oriented service firms, not-for-profit service entities do not have inventories. Governmental agencies, some hospitals, and various charitable organizations are examples of not-for-profit service entities. Again, management accounting is just as important

### Exhibit 1-3 Comparison of a Merchandising Firm Income Statement with a Manufacturing Firm Income Statement

| Maurice's Merchandising Firm<br>Income Statement<br>For the Year Ended December 31, 20X5 |                       |                       |                  |
|------------------------------------------------------------------------------------------|-----------------------|-----------------------|------------------|
| Sales                                                                                    |                       |                       | \$100,000        |
| Cost of goods sold:                                                                      |                       |                       |                  |
| Beginning inventory                                                                      | \$15,000              |                       |                  |
| Add purchases                                                                            | <u>60,000</u>         |                       |                  |
| Goods available for sale                                                                 | 75,000                |                       |                  |
| Ending inventory                                                                         | <u>&lt;17,000&gt;</u> | <u>&lt;58,000&gt;</u> |                  |
| Gross margin                                                                             |                       |                       | 42,000           |
| Less Operating expenses                                                                  | 14,000                |                       |                  |
| Less administrative and<br>selling expenses                                              | <u>18,000</u>         | <u>&lt;32,000&gt;</u> |                  |
| Net income                                                                               |                       |                       | <u>\$ 10,000</u> |

| Metalcraft Manufacturing Firm<br>Income Statement<br>For the Year Ended December 31, 20X5 |                        |                        |                  |
|-------------------------------------------------------------------------------------------|------------------------|------------------------|------------------|
| Sales                                                                                     |                        |                        | \$800,000        |
| Beginning finished goods                                                                  | \$100,000              |                        |                  |
| Add cost of goods<br>manufactured                                                         | <u>500,000</u>         |                        |                  |
| Goods available for sale                                                                  | 600,000                |                        |                  |
| Less ending finished goods                                                                | <u>&lt;120,000&gt;</u> | <u>&lt;480,000&gt;</u> |                  |
| Gross margin                                                                              |                        |                        | 320,000          |
| Less operating expenses                                                                   | 100,000                |                        |                  |
| Less administrative and<br>selling expenses                                               | <u>130,000</u>         | <u>&lt;240,000&gt;</u> |                  |
| Net income                                                                                |                        |                        | <u>\$ 80,000</u> |

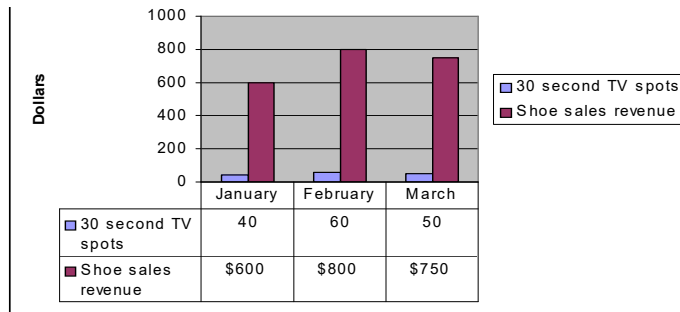
| Schedule of Cost of Goods Manufactured |               |                        |                  |
|----------------------------------------|---------------|------------------------|------------------|
| Direct materials                       |               |                        | \$150,000        |
| Direct labor                           |               |                        | \$200,000        |
| Manufacturing overhead:                |               |                        |                  |
| Indirect materials                     | \$30,000      |                        |                  |
| Indirect labor                         | 60,000        |                        |                  |
| Lubricants                             | 5,000         |                        |                  |
| Utilities                              | 15,000        |                        |                  |
| Insurance                              | 14,000        |                        |                  |
| Depreciation, plant                    | 50,000        |                        |                  |
| Property taxes                         | <u>20,000</u> | <u>194,000</u>         |                  |
| Total manufacturing costs              |               |                        | 544,000          |
| Add beginning work-in-process          |               |                        | 100,000          |
| Ending work-in-process                 |               | <u>&lt;144,000&gt;</u> |                  |
| Cost of goods manufactured             |               |                        | <u>\$500,000</u> |



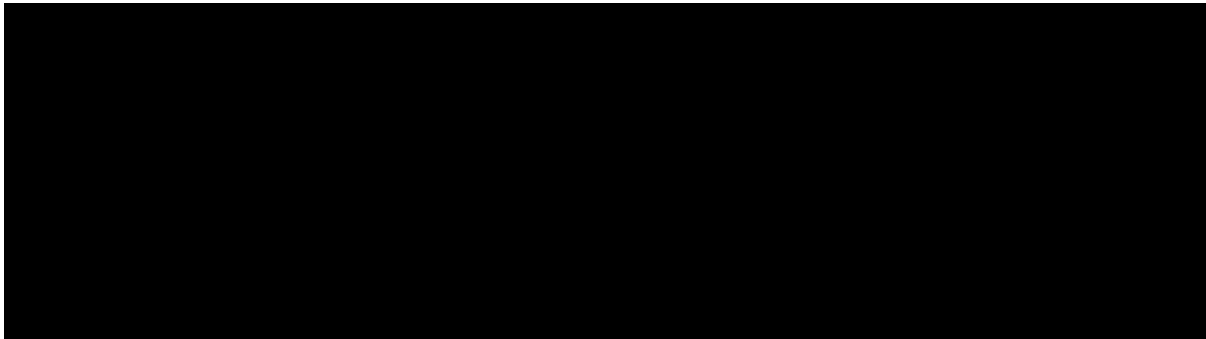
to not-for-profit service entities as it is to other organizations. For example, costing various services, managing costs, and measuring performance for welfare cases, imprisonment, patient care, and the like are critical for the proper management of not-for-profit service entities. Just because they don't make a profit doesn't mean that these organizations should not be managed effectively and efficiently.

Another way of looking at not-for-profit service firms is to compare them with profit-oriented service firms. A CPA firm, for example, has direct control over its revenues. The

## Exhibit 1-4 TV Ads and Sales Revenue



## Exhibit 1-5 Inventory Report for Achilles Company



## Exhibit 1-6 Income Statement for a Profit Oriented Service Firm

|                                      |                  |             |                  |
|--------------------------------------|------------------|-------------|------------------|
| Bighype Advertising Agency           |                  |             |                  |
| Income Statement                     |                  |             |                  |
| For the Year Ended December 31, 20X3 |                  |             |                  |
| Advertising, revenue                 |                  |             | \$10,400,000     |
| Cost of services rendered:           |                  |             |                  |
| Direct labor                         | \$5,000,000      |             |                  |
| Supplies                             | 300,000          |             |                  |
| Overhead                             | <u>2,000,000</u> | <7,300,000> |                  |
| Gross margin on services             |                  |             | 3,100,000        |
| Operating expenses:                  | \$ 500,000       |             |                  |
| Selling expenses                     |                  |             |                  |
| Administrative expenses              | <u>1,000,000</u> | <1,500,000> |                  |
| Income from operations               |                  |             | <u>1,600,000</u> |

partners set billing rates and choose their customers. Thus, they need management accounting information to help them better plan, control, and evaluate revenues. They also need information to control client (job) costs and profits.

Not-for-profit firms, such as a welfare agency, do not have the same level of direct control over “revenues.” Revenues to the welfare agency are the funds provided by various

## Exhibit 1-7 Balance Sheet for a Profit-Oriented Service Firm

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Bighype Advertising Agency  
Balance Sheet  
December 31, 20X3

| ASSETS                                     |                     |
|--------------------------------------------|---------------------|
| Cash                                       | \$11,800,000        |
| Accounts receivable                        | 4,900,000           |
| Prepaid rent                               | 50,000              |
| Prepaid insurance                          | 40,000              |
| Supplies                                   | 100,000             |
| Other assets                               | <u>80,000</u>       |
| Total assets                               | <u>\$16,970,000</u> |
| LIABILITIES AND STOCKHOLDERS' EQUITY       |                     |
| Accounts payable                           | \$ 1,000,000        |
| Stockholders' equity                       | <u>15,970,000</u>   |
| Total liabilities and stockholders' equity | <u>\$16,970,000</u> |

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governmental agencies. Nevertheless, the welfare agency has the same need to control client (job) costs as the CPA firm or a shoe manufacturer.

The real difference, from the management accountant's perspective, is only the amount of profit planned for. The shoe manufacturer, shoe retailer, and CPA firm all have positive profit goals. The not-for-profit service firm has a zero profit ("break-even") goal. The point is that each type of firm (merchandising, manufacturing, for-profit service, and not-for-profit service) needs the same basic management accounting information.

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## MANAGEMENT ACCOUNTING: A PERSPECTIVE

Management accounting systems evolved in the late 1800s to provide inventory cost information. For nearly 90 years, management accounting, often referred to more narrowly as cost accounting, employed procedures designed primarily to accumulate inventory valuation information for preparing balance sheets and income statements. The accumulated information was used in reporting the financial position and the financial results of the organization's operations as a whole to external users. This information, although necessary and helpful to financial accountants, is not very helpful to managers running the day-to-day affairs of these organizations.

### LEARNING OBJECTIVE 3

Explain the relationship of management accounting to financial and cost accounting.

Today's management accountants are measuring and reporting on all major facets of their company's operations, financial and non-financial. Management accounting has broadened its scope to serve a wide variety of users. Management accounting systems now provide information for improving managerial decisions involving all of the following:

- Production cost reduction (cost budgeting, cost accounting, and performance evaluation)
- Performance measurement and control over revenues and profits
- Investment planning, control, and capital project evaluation

Higher-quality products and services and total customer satisfaction are the driving forces behind today's service and manufacturing industries. Such an emphasis requires management accountants to identify and address many non-financial areas that measure quality, service, and cost as well as the usual financial areas. Emphasis is also placed on production lead time. **Lead time** (or **cycle time**) is the time a service or product takes to get through the process.

Management accountants not only need a knowledge of cost and management accounting, they also need a strong familiarity with all organizational activities, especially product and service development, production systems, and logistics. It is very difficult to measure what one does not understand. As a novelist once said, "The office is a very dangerous place from which to observe the world." A management accounting system that is comprehensive and relevant to the enterprise and management it serves will not by itself make an enterprise great. But an inadequate, irrelevant, and misleading management accounting system will keep the enterprise from becoming great or, worse, cause it to fail.

### MANAGEMENT ACCOUNTING: NOT SUBSERVIENT TO FINANCIAL ACCOUNTING

In the past, financial accountants, many of whom are certified public accountants (CPAs), "regard(ed) information from the financial accounts as the backbone of a management system."<sup>3</sup> **Financial accountants** record financial transactions and prepare balance sheets, income statements, and cash flow statements for stockholders, investment analysts, and other users external to the enterprise, all in accordance with generally accepted accounting principles (GAAP). Financial accounting's main purpose is to report to various interested parties what has happened to the enterprise in the past. Although the financial accounting function is important for external users and for financial stewardship and control, its value to the enterprise's management is limited. Management must know what their products and services cost and must understand the underlying causes of costs, in order to perform the following functions:

- Develop strategic plans for the enterprise
- Translate those plans into budgets
- Make day-to-day control decisions about operations
- Evaluate how well operations were performed and continually strive to improve performance
- Make an array of other special decisions for which financial accounting information may be irrelevant and, in very many cases, misleading

As Johnson states, "... fixation on financial accounting, as the primary source of management accounting information, has kept managers, until recently, from attending to the demands of global competition."<sup>4</sup>

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3. H. Thomas Johnson, "Let's Return the Controller to Relevance: A Historical Perspective," in *Cost Accounting for the '90s: Responding to Technological Change Conference Proceedings*, ed. Alfred M. King and Norman E. Hadad (Montvale, N.J.: Institute of Management Accountants, formerly the National Association of Accountants, 1988), p. 195.

4. Ibid., p. 198.

Compliance with GAAP and the reporting requirements of the national tax and financial reporting authorities [In the USA: Internal Revenue Service (IRS), Securities and Exchange Commission (SEC), and Financial Accounting Standards Board (FASB)] is a necessary part of doing business. But the financial accounting system that meets these reporting requirements is not the chief source of the relevant information required to manage sources of competitiveness, customer value, and cost.

The only reason why management accountants should allow their measurements for management purposes to be the dog the GAAP tail wags is that dual measurement systems (i.e., a financial accounting system and a management accounting system) are uneconomically expensive. However, the cost of accumulating and processing data has been decreasing at an astounding rate. What was unfeasible 20, 10, or even 5 years ago is clearly feasible now.

## THE COST ACCOUNTING FUNCTION AND ITS RELATIONSHIP TO FINANCIAL AND MANAGEMENT ACCOUNTING

**Cost accounting** is defined as “a technique or method for determining the cost of a project, process or thing.... This cost is determined by direct measurement, arbitrary assignment, or systematic and rational allocation.” The cost accounting system performs a vital function within an enterprise, providing information for two primary purposes:

- Valuing ending inventories and determining cost of goods sold for financial reporting purposes
- Costing products and services for management control purposes (planning, monitoring and controlling operations, and performance evaluation)

Today, some management accountants believe that separate cost accounting systems should be used for financial reporting and management reporting purposes. With computers and various information technologies available at relatively low costs, the creation of separate systems is now feasible.

Why two systems? As alluded to in the previous section, financial accounting needs inventory values and cost of goods manufactured and sold information for preparing the balance sheet and income statement. Such information is historical and aggregated. The same information for managers attempting to manage costs and improve productivity is “too dated, too aggregated, and too distorted to be relevant.”

Costs get distributed to products by simplistic measures, usually direct labor based, that do not represent the demands made by each product on the firm's resources. While simplistic and aggregate product costing methods are adequate for financial reporting requirements—the methods yield values for inventory and the cost of goods sold that satisfy external reporting and auditing requirements—these methods systematically bias and distort product costs at the individual product level....

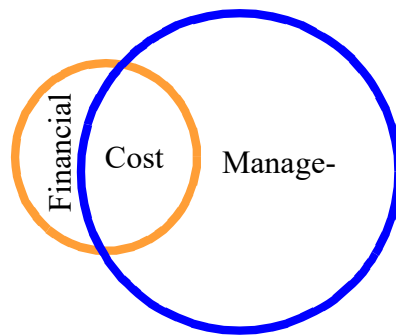
An organization's management accounting system must provide timely and accurate information to facilitate efforts to control costs, to measure and improve productivity, and to devise improved production processes. The management accounting system also needs to report accurate product costs so that pricing decisions, introduction of new products, abandonments of obsolete products, and responses to the appearance of rival products can be made with the best possible information on product resource demands. Finally, large decentralized organizations require systems to motivate and evaluate the performance of their managers. These systems should provide appropriate incentives and signals to managers working in different functions, with diverse products and processes, amid globally dispersed operations.

Cost accounting, therefore, must serve both financial and management accounting. Cost accounting will continue to provide inventory values and cost of goods manufactured and sold in compliance with GAAP. Cost accounting will also be an integral part of the broader field of management accounting, providing product and service costing information that is more relevant to managers. This dual role is illustrated in Exhibit 1-8. The

cost accounting function permits a linkage between financial and management accounting that results in a fully integrated information system—one part (financial accounting) serving external users and another part (management accounting) serving internal users. Whether two separate systems are required will depend on the information technology in use within a particular enterprise. For example, with the advent of sophisticated database management systems and integrated computer-based information systems, one system may be able to serve both the financial and management accounting objectives. This will be further discussed below and in the next two chapters.

**Exhibit 1-8 Cost Accounting's Integrating Relationship between Financial and Management Accounting**

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## MAJOR TRENDS IN THE NEW BUSINESS ENVIRONMENT

Traditional methods of manufacturing, based on large blue-collar, muscle-power work forces, are giving way to new manufacturing practices. Manufacturing organizations today are focusing on several trends:

- High quality
- Customer service
- Low inventory
- Flexibility
- Automation
- Cross-functional team \*
- Job rotation \*
- Integrated computer-based information system (ICBIS)

\* mentioned earlier as part of three Japanese innovations. The IKM operating doctrine is so important that it was mentioned in the first section of the book.

For now, we will introduce these trends. In the next chapter, we will examine them in more detail because understanding them will put you in a good position to be a successful management accountant.

**WHAT IS HIGH QUALITY?** **High quality** is an elevated level of excellence in product reliability and performance.

### LEARNING OBJECTIVE 4

Present the major trends in the new manufacturing environment and discuss the role of modern management accountants in organizations.

Rather than inspecting the product *after* it has been produced, companies are building quality into the product *before* it is produced; that is, in the design and prototyping stages (a prototype is the first full-scale functional model of a new product) of the product. This approach seems to make more sense than trying to ensure quality by employing after-the-fact inspection. At that time, it is very difficult to increase product quality without a great many engineering changes and much rework.

High quality requires coordination among everyone in the company—production people, engineers, marketing personnel, logistics people, service departments, and vendors. Quality output requires quality input and quality work in manufacturing a product or providing a service. Thus, quality starts with the vendor of raw materials, proceeds to work-in-process quality controls, and finally continues through delivery and service to the customer. Management accountants should play a significant role in developing quality control measures and implementing their use throughout this process.

Modern companies realize that they can provide *higher quality at a lower cost*. In the past, many companies believed that higher quality meant higher costs. Moreover, the way cost accounting information was used in performance evaluation contributed to this fallacy. For example, purchasing was typically evaluated with only a purchase price variance. Consider a situation in which the budgeted price for a direct material was \$2 per pound. If the actual price was lower, then a “favorable price variance” resulted. Conversely, if the actual price was higher, there was an “unfavorable price variance.” If the only performance evaluation criterion was “maximize favorable variances,” then material quality could be sacrificed for lower price.

This evaluation motivated purchasers to buy raw materials from vendors at the lowest price. However, lower-quality materials often resulted in problems “down-the-line” such as excess scrap, rework, production schedule disruptions, field service, and product warranty claims. Purchasing was rarely held accountable for these costs. By motivating Purchasing to pursue only the “best price,” the rest of the company incurred these costs of non-quality that often were far greater than the cost savings achieved by the lower purchase price. As modern organizations change their emphasis to “total quality management” (covered in Chapter 12), the challenge to the management accountant is to identify and link these nonquality costs back to their real causes.

**WHAT IS CUSTOMER SERVICE?** **Customer service** gets the right product to the right customer at the right time and at the right price. Customer service and satisfaction are paramount. How well customer service is being met can be measured in terms of the number of customer complaints. Keeping track of the number and kind of customer complaints provides information that indicates how well quality objectives are being met in addition to how well other operations are being performed. Many companies today are achieving 100 percent on-time delivery and zero customer complaints.

**WHAT IS LOW INVENTORY?** **Low inventory** is the minimum amount of raw materials, work-in-process, and finished goods necessary to meet production and marketing needs. Many companies regard large stocks of inventory as “evil” because they require storage and warehouse facilities and result in excessive handling costs. Moreover, inventory is more subject to obsolescence today than in the past because many competitors are bringing out new products almost overnight. By preparing detailed information about inven-

tory, its location, and how often it's being used, management accountants can help management reduce inventory and the costs associated with holding it.

**WHAT IS FLEXIBILITY?** **Flexibility** is the ready capability to adapt to new, different, or changing requirements. The ability to set up and change production lines quickly increases production flexibility. This increased flexibility decreases lead times; that is, the time it takes to produce a product or complete a service from start to finish. Flexibility enables a company to offer a greater variety of products and get them into customers' hands quicker.

**WHAT IS AUTOMATION?** **Automation** is the implementation of highly technical machines that are designed to follow, with little human intervention, a predetermined sequence of operations or respond to computer-generated instructions. The implementation of automating technologies, such as robots and computer-controlled equipment, potentially enables companies to achieve higher quality, greater customer service, lower inventory, and flexibility. Thus, automation has the power to improve the overall competitiveness of organizations.

Automating outdated production processes only adds to existing problems. The first thing to do when considering automation is to analyze, redesign, and simplify the production process and *then* determine if automation will provide the benefits desired. In some cases, companies may achieve benefits by simply eliminating nonvalue-added activities, such as inventory handling and storage.

Management accountants help identify nonvalue-added activities. Moreover, if an organization is considering automation, management accountants evaluate whether an investment in automated technologies will generate returns in excess of costs. Returns to the company are based on how automated technologies improve quality and customer service, decrease inventories, and provide flexibility, which are nonfinancial factors. Financial accountants may not have to deal with these factors for external reporting purposes, but to be helpful to managers, modern management accountants must provide both financial and nonfinancial information.

**WHAT IS THE CROSS-FUNCTIONAL TEAM?** **The cross-functional team** fosters an organization of people who work together in a coordinated, cooperative manner to ensure the enterprise's success. The ultimate purpose of the team concept is create teams that express strategic needs, so that the strategy can flow across departmental boundaries.

In the past most business organization was based on departments such as marketing, production, purchasing, etc., and even today these departments are essential because of the specialized knowledgebase each has developed. However it is also clear that the only way to express strategy at the operating level is through cross-functional teams. In Japan the high-profile companies maintain both a strong departmental structure, as well as a strong cross-functional team approach to strategically important issues like product development and cost reduction. Managers can only get promoted if they are successful at leading both a department as well as a cross-functional team.

Companies that are successfully competing on a global basis all share a common philosophy of providing the best possible products at the best possible price to their customers

on time. To make this philosophy a reality requires a team approach in which all workers from top managers to production workers are directly involved.

The team concept is to a large extent based on a grass-roots, employee-directed movement whose results come from employee innovation. Companies demand meaningful worker participation, which in turn heightens worker morale. Supervisory personnel and some middle management jobs are eliminated. Workers share in the benefits of their good work, continuous improvement, and own ideas. Top management commitment is absolutely critical, however, for the team concept to work.

**WHAT IS JOB ROTATION?** Transferring employees across department boundaries as a normal part of their career development ensures that middle-level managers have the knowledge of company strategy to make decisions that help that strategy rather than making decisions based only on their departmental experience.

In Japan the Human Resources department is one of the strongest of all the functional departments<sup>5</sup>. The director of HR can normally transfer any employee without consultation with division managers, and does so regularly. Based on their assessment of the manager's career, and needs of the company, the HR director will transfer managers from Production to Marketing to Finance to HR for 3 year assignments. By the time a manager is in his mid-thirties he will have had substantial experience in three or four departments, and at different levels, sometimes being in a department as a junior manager and then back 10 years later as a middle-level manager [Japan lags the west in gender equality by 50 years or more, so it is *he*]. This experience gives middle-level managers an extraordinary grasp of company strategy and also the ability to work with other departments to improve effectiveness. It is easier to ask another department to make a change in their operations to help your department if you have been in the other department and know what they can and cannot do.

**WHAT IS AN INTEGRATED COMPUTER-BASED INFORMATION SYSTEM AND ITS ROLE IN ORGANIZATIONS?** An **integrated computer-based information system (ICBIS)** is an enterprisewide interconnection of computers and related information technology that provides a multilevel, cross-functional flow of information to all managers and workers in the enterprise. Such information systems support the team concept and produce synergy rather than departments working against one another.

ICBISs are developed starting with manager and worker requirements. The information system is then designed to meet these requirements in the most efficient and effective manner possible. In this way, the information system can be designed to mirror the way the enterprise operates.

Lack of integration among an organization's segments or departments tends to create suboptimal behaviors. **Suboptimal behavior** results when a person attempts to optimize his or her own (limited) goals rather than those of the overall organization, and these goals are in conflict with each other. This often happens when department personnel consider only their own jobs while ignoring other departments affected by their actions. For

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5. This is the exact opposite to normal US and Canadian practice, where the HR department is one of the weakest departments. The difference can cause big misunderstandings between Japanese and North American managers when discussing practices such as job rotation.

example, a marketing manager may take orders for nonstandard products to the detriment of the production manager's job. For his part, the production manager may plan long production runs to minimize setups and changeovers. These behaviors result in unacceptable deliveries and excessively high inventories of some products and out-of-stock conditions for others.

As a final example, consider a common situation in decentralized, multinational companies. A manager of a large division buys parts from an outside supplier who quoted a lower price than an associated division of the manager's parent company. If the parts had been purchased from the associated division, however, the overall profits of the parent company would have been higher. By purchasing outside, the division manager maximized her division's profits, but the overall business suffered.

The preceding suboptimizing situations occur because of the “silo effect” in which each segment of the organization erects tall, cylindrical boundaries to seal itself off from other segments. Facilitated by an ICBIS, the other trends of high quality, customer service, low inventory, flexibility, automation, and the team concept can help to penetrate these artificial boundaries, reduce suboptimization, and build a goal congruent organization. **Goal congruence** is making decisions for the greater good. It is the opposite of suboptimal behavior.

Today, management accountants are involved in developing ICBISs for a variety of enterprises in which they are employed. Others are employed as information system consultants in CA/CPA firms, such as PriceWaterhouseCoopers, Deloitte & Touche, Ernst and Young, and KPMG Peat Marwick.

Management accountants have the ability to design and install innovative ICBISs that significantly improve management accounting information. Transactions can be captured when they occur and the results communicated to management instantly. One of the major criticisms of management accounting in the past was after-the-fact reporting. For example, a report about variances in a production process prepared one month after the variances occurred will not be much help in correcting them because retracing variances to their root cause is very difficult after this much time has passed. Monitoring and controlling operations is a very short-term activity. Managers need to know immediately which operations are not performing as expected and why. Managers need to look at the task, operator, machine, and units affected and be able to determine what the cost consequences are *when* they occur; in other words, managers need information in real-time. The chief attribute of today's information technology is its ability to provide information in real-time.

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## MODERN MANAGEMENT ACCOUNTANTS

The chief job of modern management accountants is to push forward in the directions we just described, and help managers to perform successfully. Modern management accountants take an active role in the operation of the enterprise. Moreover, aspiring management accountants who view management accounting as a completed discipline are looking at the past, not the future. Like all other disciplines, management accounting must change if it is to help society.

Today, effectiveness and efficiency are more than company goals, they are now societal needs. One of our most important societal contributions is to pay the taxes that support our health care, security, education, transportation and other public systems. As we are all aware, the cost of these systems is growing larger. As an example, all advanced countries have made the commitment to good health for senior members of society. The costs of the advanced technology implied by this commitment and the low birth rate means that our ability to pay increased taxes is essential to our society.

In general terms, management accountants' key role in an enterprise, now and in the future, is to push management to improve the way the enterprise runs. Notice that we did not say, "run the enterprise in an optimum manner". One word you should try to eliminate from your thinking is "optimum". In organizations this is a meaningless word that is used only to make the speaker seem "business-like". Any real thought about what we do reveals that it is a phantom. Yet, you will be surrounded by it, especially in your business classes.

When more quantitative methods were introduced in business classes in the 1960s [and later] this word was introduced because calculus can find minimums and maximums on curves. Well, so what. No serious business thinker can make this facet of quantitative analysis extend to actual situations, but a lot of inexperienced business professors are enamoured of this type of language<sup>6</sup>.

## PROVIDING QUALITY INFORMATION

The nemesis of management is uncertainty. **Quality information** decreases uncertainty. The need for quality information has never been more apparent than in today's highly competitive global market.

Management accounting information is necessary for driving key strategic, operating, and financial decisions. By providing quality information, management accountants can help managers understand their businesses, and this knowledge in turn will enable managers to make the right decisions at the right time and thus become more competitive and productive.

Quality information that management accountants must keep in mind includes, but is not limited to, the following five attributes:

- Accuracy
- Relevancy
- Timeliness
- Fairness
- Usability

**WHAT IS ACCURACY?** **Accuracy** means that information must be free from mistakes and errors. The information must correctly reflect the data on which it is based. If inaccuracies occur, management accountants quickly lose their credibility.

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6. Sometimes in class even I find myself using this language because of how much I hear it. Usually I do not go back and correct myself, but I cringe inside at how my thinking has been influenced by nonsense.

**WHAT IS RELEVANCY?** **Relevancy** of information relates to the matter at hand or the purpose intended. The information must be applicable or pertinent to what is being considered. Authorities who stress the need for relevant management accounting information often say, “It’s better to be approximately right than precisely wrong.” For example, someone may state that the cost of product X is \$4.197832 per unit, but if this cost figure is based on improper costing procedures, it is irrelevant and worse than useless because management may rely on it and reach incorrect decisions. Its precision (i.e., calculation to six decimal places) is contrived complexity. On the other hand, someone else may use costing procedures that are appropriate but require some degree of estimation to determine that the cost of product X is approximately \$18.95. This \$18.95 figure is far more relevant than the “precise” \$4.197832 figure.

**WHAT IS TIMELINESS?** **Timeliness** means getting information to managers and workers within the needed time frame. Obviously, this is a key attribute of quality information and one that has been missing in traditional financial and cost accounting systems. Information must be made available to the right people at the right time so they can react to it. Receiving a report about processes or operations one or two months after they occurred is normally of little benefit to managers. Managers need information today to make decisions for tomorrow. Yesterday’s “information” rarely matters.

#### INSIGHTS & APPLICATIONS

##### *Self-Managing Teams*

Worthington Industries and Chaparral Steel produce steel of superb quality-but have no quality inspectors. “Our people in the plants are responsible for their own product and its quality,” says Chaparral’s Gordon Forward. “We expect them to act like owners.”

The modest-sized, task-oriented, semi-autonomous, mainly self-managing team should be the basic organizational building block. Structure kills. We need to radically reduce layers of management. We are being strangled by bloated staffs, made up of carping experts filling too many layers on the organization chart. Good intentions and brilliant proposals are deadened, delayed, sabotaged, massaged to death, or revised beyond recognition or usefulness by the over-layered structures at most large and all too many smaller firms.

**WHAT IS FAIRNESS?** **Fairness** means that information is impartial and free from self-interest, prejudice, or favoritism. The following are examples where fairness is lacking. A superintendent on a construction project may ask the management accountant to reassign costs arbitrarily to make some project items look good and others look bad. Or, performance measurements may be manipulated in favor of department A’s inept manager so he will be able to retain his job. Or, product B, which was championed by the chief executive officer, is unprofitable, but costs are assigned to other products to make product B appear profitable

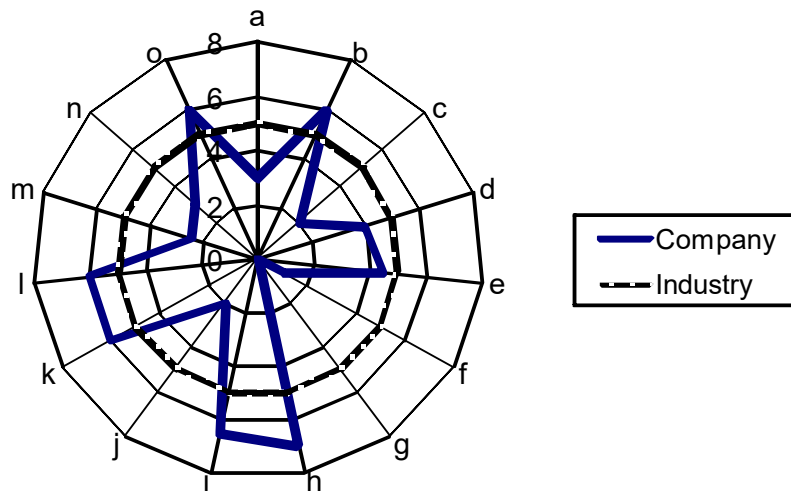
**WHAT IS USABILITY?** **Usability** is the final test of information quality. Managers and workers should be able to get information and understand it instantly without any special instructions. Too much detail or precision may actually obscure the substance of the information. For example, a report containing page after page of single-spaced computer

printouts without meaningful headings and breaks may contain relevant, accurate, timely, and fair information but be so overwhelming in its volume and complexity that managers are discouraged from even looking at the information. Including numbers four or five places to the right of the decimal point for financial values, especially if the values are based on estimates to begin with, is misleading.

Divisional managers in a major coal company frequently complained that they spent three to four hours each week reviewing cumbersome accounting reports. The new management accountant analyzed the situation and eliminated accounting jargon and reduced the detail with no loss in substance. Now, managers can review the reports in 30 minutes per week.

At the university where I work the accounting reports are so awkward that even the accounting professors cannot interpret them without a great deal of effort. If precise,

**Exhibit 1-9 Radar Chart Comparing Corporate Values with industry Averages<sup>a b</sup>**



a. Source: Adapted from Takashi Kanatsu, *TQC for Accounting: A New Role in Company wide Improvement* (Cambridge, Mass. Productivity Press, 1990), p. 187. With permission.

b. a. Earnings per share of Common Stock. b. ROI. c. P-E ratio. d. Dividend yield rate. e. Profit Margin. f. Times interest earned. g. Debt-to-equity ratio. h. Current ratio. i. Quick ratio. j. Receivable turnover. k. Sales per employee. l. Rate of profit to labour cost. m. inventory turnover. n. Production lead time. o. Sales per square foot.

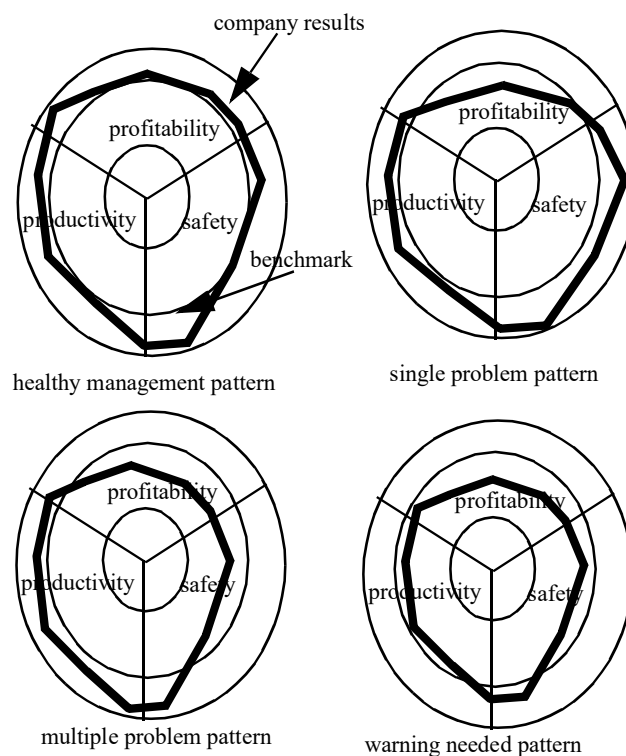
detailed readings of information are critical, then conventional reports containing columns of numbers and meaningful headings and descriptions are appropriate. On the other hand, graphs can be used in a number of situations to turn thousands of numbers into a “picture” that will enable managers to quickly “see” the problem or situation.

Graphs, which are easily produced by computers, provide a way for management accountants to illustrate numerical data and convert them into information that can be quickly comprehended. Graphs make relationships between numbers visible by turning quantities into shapes, thus increasing the information's usability. Indeed, presenting information in graphical form reinforces the cliché that “a picture is worth a thousand computer printouts.” For example, Exhibit 1-9 presents a sample radar chart that com-

compares key success factors of a corporation with the industry average. The key success factors are profitability, financial safety, and productivity.

Management can see at a glance how well the corporation stacks up against the industry average. Profitability is low. Action must be taken to increase profits. Although the liquidity ratios are fairly strong, the corporation may have some problems servicing debt. Moreover, the collections on accounts receivable need substantial improvement. Labor performance is slightly better than the industry average. However, inventory turn-over needs to be increased, and production lead time needs to be decreased to bring these two productivity measurements in line with the industry. Sales per square foot of facilities (e.g., warehouses and sales outlets) is slightly above the industry average.

#### Exhibit 1-10 Performance Patterns for Management Action<sup>a</sup>



a. Source: Takashi Kanatsu, *TQC for Accounting: A New Role in Companywide Improvement* (Cambridge, Mass.: Productivity Press, 1990), p. 192. With permission.

To extend the idea further, radar chart-based presentations can give rise to the four performance patterns shown in Exhibit 1-10:

- Healthy management pattern, indicating above-average performance in all key success factor areas
- Single problem pattern, signalling that more focus and action are needed in one key success factor area
- Multiple problem pattern, signalling that a wider focus and coordinated action are needed in two key success factor areas

- Warning needed pattern, signalling below-average performance in *all* key success factor areas and requiring across-the-board management action

## GETTING INVOLVED IN THE ENTERPRISE'S OPERATIONS

To become more helpful, management accountants are increasing their knowledge about operations and production processes of the enterprise. They're part of the work environment. They put on their hard hats and get out in the field or on the factory floor to gain insight into what's going on in the enterprise. They not only know *how* to gather and report information, but they understand the *what* and the *why* of what they're doing. There's no substitute for actually seeing how concrete is being mixed and poured on a construction project, how trucks are being assembled in a plant, or how patients are being processed in an emergency ward of a hospital to gain a deeper understanding of the need for a viable management accounting system.

## BEHAVIORAL ASPECTS RELATIVE TO MANAGEMENT ACCOUNTING

Management accounting plays both an *informing* and an *influencing* role. Probably nothing dictates the behavior of people more than the information they receive or information reported about them. Someone yelling “fire” in a building will evoke survival behavior from the people in the building. If a fire is underway, the message is indeed appropriate and causes the desired behavior. Conversely, if there is no fire, then the message is wrong and causes undesirable, even dysfunctional, behavior.

Likewise, management accountants must be very careful about the information they report and the behaviors it produces. Generally, what is measured is what is considered important. A management accountant in Company A may be spending a great deal of time reporting labor cost. In turn, management's focus is directed to labor cost and its control. This intense focus on labor cost may be the wrong behavior, however, because labor cost may not be the critical area especially if labor represents less than 5 percent of total production costs.

In another company, a management accountant may be reporting on how efficiently a particular process is being performed. Because everyone is so focused on the efficiency of the process, the value of the process itself is never questioned.

In another situation, the performance of a department supervisor may be evaluated in terms of cost reduction, especially maintenance costs. In turn, the supervisor's behavior is directed toward reducing maintenance costs, which may be the behavior sought. If, however, oil and filters are not changed in the equipment as recommended, the savings in short-term costs may have disastrous consequences in the long term. New motors may have to be purchased because the old ones were not properly maintained.

An old saying in business is that “what gets measured gets done.” For example, a newly hired management accountant, working for a mid-size manufacturer, found that past reports had focused almost entirely on measuring equipment maintenance costs. Therefore, maintenance personnel cut maintenance costs drastically. Equipment downtime problems were rampant. As an experiment, the management accountant developed a report focusing on efforts to improve equipment productivity. The resulting measure, equipment uptime, prompted a vastly different approach to managing the highly auto-

mated production facility. Replacing a somewhat negative measure with a positive measure changed behavior and led to a significant improvement in manufacturing productivity.

## BECOMING A MANAGEMENT ACCOUNTANT

### LEARNING OBJECTIVE 5

Explain how to become a professional management accountant.

In some countries professional certification is very important. In particular, in Canada and the UK it is extremely important. In the USA slightly less so. In most of Europe and Asia it is not as important as a university degree. For example, in Canada about 90% of CFOs have an accounting designation, mostly CA/CPA and in the USA it is slightly less than 50%. Germany has one of the strongest management accounting traditions of any country and there are essentially no certifications in general use.

In general there are two different types of professional certification: exam-based, and course-based.

In the USA, almost all the main certifications are exam-based. This means that there is a body of knowledge that can be studied either in university programs or self-studied and then an exam is taken. Either before or after the exam there are usually requirements of experience in the field under the direction of a certified person. However, the experience requirements are not always strongly enforced.

In most of the world formerly owned by Britain there is a more apprenticeship-based method that involves courses offered by the professional association as well as written papers, exams and supervised experience. For example in Ontario Canada supervising CPAs [Chartered Public Accountants that oversee the work of entry-level “students”] must be pre-qualified by CPA Ontario and attend special professional training in supervising “students”. Additional important certifications using this model come from the UK. The two most important are CGMA (offered by CIMA (Chartered Institute of Management Accountants) [cmaglobal.com](http://cmaglobal.com)) and ACCA (Association of Chartered Certified Accountants. [accaglobal.com](http://accaglobal.com)). CIMA is primarily Management accounting focused and ACCA is primarily financially focused. CIMA is the largest accounting organization in the world.

### WHAT IS THE CERTIFIED MANAGEMENT ACCOUNTANT PROGRAM?

There are several certification programs across the world for managerial accounting. The best known in North America is the CMA (USA). Up until recently there was also a CMA (Canada). In Canada the CAs and CMAs merged and created a common certification called Chartered Professional Accountant (CPA). The CMA (USA) and CMA (Canada) were completely different programs--even though they have the same name.

Both programs were developed with similar goals: to improve management accounting status and to provide a means for management accountants to demonstrate their educational attainment and competency in specific areas of knowledge. The CMA is recognized as a professional, similar to a certified public accountant (CPA), chartered

accountant (CA) or professional engineer (PE). Most Fortune 500 companies regard the CMA and CPA/CA as equivalent for promotion purposes.

The CMA (USA) designation is offered by the **Institute of Certified Management Accountants (ICMA)**. The ICMA was established by the **Institute of Management Accountants (IMA)**. This is a US-style exam-based program with a loose experience component. The IMA allows anyone world-wide to take the exam and use the certification. In fact, it is possible to take the exam in various international locations. It is an international certification.

The old CMA (Canada) designation was offered by The **Society of Management Accountants (SMA)**. This is a full program of courses and interim exams, including written papers and apprenticeship program. It takes about 3 years of continuous study after university [while working in accounting]. It was a more intensive program than the US CMA and the difference is known in Canada, so that a US CMA is less highly regarded by Canadian employers. The Canadian CMA is also intended to be a Canadian program -- not an international one, so it was difficult, or impossible to get this certification outside Canada.

## THE CMA IN YOUR CAREER

What will the CMA or CGMA designation mean to you? A wide range of companies actively support these programs and focuses recruiting on CMA or CGMA holders. One need only look at the employment ads in major newspapers to see that they appear frequently as a desired credential for employment.

Many companies also pay for review courses and examination fees through educational reimbursement programs. Several *Fortune 500* companies offer in-house development courses to help their employees prepare for the CMA examination.

## STANDARDS OF ETHICAL CONDUCT FOR MANAGEMENT ACCOUNTANTS

The *Standards of Ethical Conduct for Management Accountants* is a written code of ethics that provides formal guidance to management accountants who must deal with ethical dilemmas in their work environment. A large number of business improprieties, such as insider trading, bribery, cover-ups, fraud, and other illegal and immoral acts have occurred throughout organizations. "Crime in business is a sad fact of life. And, unfortunately, more than 70 percent of all of the crimes encountered by businesses-fraud, embezzlement, bribery and conflicts of interest-are committed by people who work for them." Because management accountants play a significant role in these organizations, both as a consultant to management and a provider of information, the IMA believed it was necessary to establish a set of standards of ethical conduct.

Management accountants have an obligation to the organizations they serve, their profession, the public, and themselves to maintain the highest standards of ethical conduct. In recognition of this obligation, the IMA has promulgated the following standards of ethical conduct for management accountants. Management accountants shall not commit acts contrary to these standards nor shall they condone the commission of such acts by others within their organizations. These ethical standards are in four areas:<sup>15</sup>

- Competence

- Confidentiality
- Integrity
- Objectivity

**WHAT IS COMPETENCE?** **Competence** means that management accountants have requisite or adequate abilities to perform their work. Management accountants have a responsibility to:

- Maintain an appropriate level of professional competence by ongoing development of their knowledge and skills
- Perform their professional duties in accordance with relevant laws, regulations, and technical standards
- Prepare complete and clear reports and recommendations after appropriate analyses of relevant and reliable information

**WHAT IS CONFIDENTIALITY?** Management accountants, due to the nature of their work, are entrusted with sensitive information. **Confidentiality** means that management accountants honor this trust. Management accountants have a responsibility to:

- Refrain from disclosing confidential information acquired in the course of their work except when authorized, unless legally obligated to do so
- Inform subordinates as appropriate regarding the confidentiality of information acquired in the course of their work and monitor their activities to assure that confidentiality is maintained
- Refrain from using or appearing to use confidential information acquired in the course of their work for unethical or illegal advantage either personally or through third parties

**WHAT IS INTEGRITY?** **Integrity** means management accountants are honest. Management accountants have a responsibility to:

- Avoid actual or apparent conflicts of interest and advise all appropriate parties of any potential conflict
- Refrain from engaging in any activity that would prejudice their ability to carry out their duties ethically
- Refuse any gift, favor, or hospitality that would influence or would appear to influence their actions
- Refrain from either actively or passively subverting the attainment of the organization's legitimate and ethical objectives
- Recognize and communicate professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity
- Communicate unfavorable as well as favorable information and professional judgments or opinions
- Refrain from engaging in or supporting any activity that would discredit the profession

**WHAT IS OBJECTIVITY?** **Objectivity** means that management accountants deal with data and conditions as perceived without distortion by personal feelings, prejudices, or interpretations. Management accountants have a responsibility to:

- Communicate information fairly and objectively
- Disclose fully all relevant information that could reasonably be expected to influence

## INSIGHTS & APPLICATIONS

### *Demanding Ethical Behavior*

Demand total integrity of the “squeaky clean” sort- in all dealings, with people, inside the firm and out. Eliminate Mickey Mouse rules that induce cheating and game playing, which then spread to all the firm's affairs.

Set absurdly high standards for integrity and then live them, with no fuzzy margins. A deal made on a milestone which is subsequently missed is grounds for dismissal, especially when it involves support for another function, vendor, or customer. If a promise is not kept, if ethics are compromised, and if management behaves inconsistently, then the strategies necessary to survive today simply can't be executed.

an intended user's understanding of the reports, comments, and recommendations presented

Management accountants need to make these standards of ethical conduct an ongoing part of everyday performance. Every management accountant has a responsibility not only to *be* above reproach, but to establish the *perception* that he or she is above reproach and expects the same ethical standards from others.

## DEALING WITH ETHICAL DILEMMAS

Good intentions do not necessarily resolve ethical dilemmas or provide automatic immunity from wrongdoing.” Among the more common ethical dilemmas for which management accountants should be on the lookout are the following:

- Cover-ups and misrepresentations in reporting
- Poor quality, ineptness, and improper operations
- Lockstep obedience to authority however improper it may be
- Conflict of interest
- Prejudice and favoritism
- Failure to speak up when unethical practices occur
- Exaggeration to achieve certain results
- Failure to be accountable and take responsibility for personal actions

The first professional credo, the Hippocratic oath, which was adopted by physicians in the fifth century B.C., states in part, “Never willingly do injury.” Assessing whether an act deliberately causes injury to others can provide great insight into otherwise condoned wrongdoings. Indeed, a philosophy of never willingly doing injury to others is a good, effective way to deal with many ethical dilemmas. The consistent question to ask is, “Whom could my decisions or actions injure?” Several other questions will also provide guidance for dealing with ethical problems

Am I confident that my decisions or actions will be as proper over a long period of time as they seem now?

- Can I in good conscience defend these decisions or actions to my boss, my colleagues, my family, and society?
- What is the appearance of my decisions or actions if understood? If misunderstood?

**INSIGHTS & APPLICATIONS***Dealing with Demands for Unethical Behavior*

A project management accountant for a large construction firm was asked by the project manager to use petty cash to purchase a refrigerator and camping favorable equipment for one of the inspectors to encourage inspection decisions for work being performed. Such a request put the project management accountant in an ethical quandary. If she refused, she could lose her job. Or, the inspector might give the project manager a “hard time” by refusing to approve any of the construction work, thus jeopardizing the company. What to do?

The project management accountant called company headquarters and talked to the controller about her ethical dilemma.

Based on this situation, the company installed a telephone hot line so all project management accountants in the field can contact the controller at any time to discuss an ethical problem. The controller now gives advice and involves other top managers in reviewing and discussing written summaries of each case. These cases are, in turn, used for educational exercises for both newly hired and experienced project management accountants. Top management of this company views open communication as one of the best ways to ensure continuing sensitivity to ethical dilemmas. They believe that ethical misconduct should not be tolerated, so any ethical problem is solved immediately and explicitly. They also think that a “look-the-other-way” climate invites ethical abuses.

Because ethics vary among people and organizations, tests can be devised to measure ethical activities. One test that helps determine if an unethical boundary has been crossed is to ask a simple question: What would a third party say about the matter? If this third party takes a negative position, what would that person find to criticize? If the disgruntled third party could find nothing to say, then there is a good chance that an unethical boundary has not been crossed. Another test of an ethical decision is whether the person making the decision would want the full details of the activity discussed in the local newspaper or aired on a television show viewed by family, friends, and employers.

When faced with a significant ethical dilemma, a management accountant should follow the policies of the company that are pertinent to dealing with such a situation. If the policies do not help resolve the ethical dilemma, the management accountant should consider the following courses of action:

- Discuss the problem with the immediate superior except when it appears that the superior is involved, in which case the problem should be presented initially to the next higher managerial level. If a satisfactory resolution cannot be achieved when the problem is initially presented, submit the issues to the next higher managerial level. If the immediate superior is the chief executive officer, or the equivalent, the acceptable reviewing authority may be a group such as the audit committee, executive committee, board of directors, board of trustees, or owners. Contact with levels above the immediate superior should be initiated only with the superior's knowledge, assuming the superior is not involved.
- Clarify relevant concepts by confidential discussion with an objective adviser to obtain an understanding of possible courses of action.

## INSIGHTS & APPLICATIONS

### *Ethical Quandary at Precision Parts*

Shirley Ford is a management accountant at Precision Parts (a hypothetical company), which is a maker of key components for rockets. She asked, "Where are the quality control and testing data for the order of valves going to NASA?"

"Don't worry," replied Harvey Haddox, production supervisor, "It's nothing. We haven't had any problems with these valves. Anyway, we're behind schedule. NASA needs the valves now. We can't afford to delay shipment."

"Are you sure? Can you guarantee me they're OK?" asked Shirley.

"Sure. No problem," replied Harvey. "Everything's going to be just fine."

Six months later, a rocket was launched at Cape Kennedy and exploded while in flight. Investigations into the disaster revealed the untested valves from Precision Parts did not operate properly, thus causing the explosion. The attempt to achieve a short-term goal by cutting corners and participating in various improprieties resulted in indictments and long-term problems for Precision Parts.

- If the ethical conflict still exists after exhausting all levels of internal review, the management accountant may have no other recourse on significant matters than to resign from the organization and to submit an informative memorandum to an appropriate representative of the organization. Except where legally prescribed, communication of such problems to authorities or individuals not employed or engaged by the organization is not considered appropriate.

Now stop and think about that last sentence. You probably read it and it seemed reasonable, but is it? The belief expressed in that sentence is a very clear part of both the Canadian and US CMA ethical codes. The Canadian wording is: "C. A Member Shall (i). not disclose or use any confidential information concerning the affairs of his employer or client unless acting in the course of his duties or except when such information is required to be disclosed in the course of any defense of himself or any associate or employee in any lawsuit ...." The US wording is: "Refrain from disclosing confidential information acquired in the course of their work except when authorized, unless legally obligated to do so."

These provisions and the guidance and interpretations prepared by the SMA and IMA both make clear that it is considered an ethical violation to report an act you believe is illegal or improper to people outside your organization. The question I pose to you is: Who do you owe the higher obligation, your company or your fellow citizens? To me the answer is clear: my duty to my fellow citizens is greater than to my company. In fact I find it ludicrous to imagine that I have an ethical obligation to a company.

But, you must exercise great caution in doing your duty. As a professor of accounting for many years my former students have told me many times that they have acted in secret in informing police agencies of suspected wrong-doing in their companies. Why in secret? Self-preservation. Your senior managers have much to lose if it is learned that the wrong-doing occurred under their watch, even if they had nothing to do with it. These senior managers know very well that the easiest way for top management to pretend to do something is to fire someone. So to protect their jobs they will look for the most plausible person to ditch and announce "we have fixed the problem".

Remember that the IMA and SMA are more interested in extending their influence than almost anything else. To that end it is necessary that they become closely allied with the company management that they want to hire their members. No one would hire a CMA if they had a code of ethics that encouraged disclosure of possible illegal activities.

Before the chapter closes, a cautionary note on change:

“It must be considered that there is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things. For the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in all those who would profit by the new order, this lukewarmness arising partly from fear of their adversaries, who have the laws in their favour; and partly from the incredulity of mankind, who do not truly believe in anything new until they have had actual experience of it. Thus it arises that on every opportunity for attacking the reformer, his opponents do so with the zeal of partisans, the others only defend him half-heartedly, so that between them he runs great danger.”

This statement by Nicolo Machiavelli in about 1518 would fit in well with the climate in many large organizations today. No matter what the possible benefit to the organization as a whole, some powerful people in the organization benefit by the old ways of doing business. So, be warned.

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## SUMMARY OF LEARNING OBJECTIVES

*The major goals of this chapter were to enable you to achieve four learning objectives:*

### **Learning objective 1. Describe the changes in how accountants work in the most advanced organizations**

The newly evolved operating doctrine of Innovation, Kaizen, Maintenance [IKM] seen in Japan is making inroads into the developing countries as competition increases dramatically.

The features are as follows:

I: substantial, disruptive changes

K: incremental improvements in process or organization of work. NOT doing existing tasks better.

M: following instructions properly and efficiently

The IKM operating doctrine places burdens on employee and employer alike. If an employee MUST suggest improvements, then the company MUST implement them at a very high rate [90% or more] for the system to have any real validity.

### **Learning objective 2. Describe the four types of organizations that are served by management accounting.**

There are four types of organizations:

- Manufacturing
- Merchandising
- Profit-oriented service
- Not-for-profit service

A manufacturing organization converts raw materials (inputs) into finished products (outputs). Merchandising firms sell their inventory “as is.” Manufacturers and merchan-

disers are both in business to make a profit from the sale of inventory. Merchandisers have only one type of inventory-merchandise inventory. Manufacturers have three types of inventory:

- Raw materials (both direct and indirect materials) inventory
- Work-in-process inventory
- Finished goods inventory

A manufacturer has the following product costs:

- Direct materials
- Direct labor
- Overhead (variable and fixed)

The balance sheet for merchandisers displays inventory as merchandise inventory. The balance sheet for manufacturers shows all three inventories-raw materials, work-in-process, and finished goods.

The basic format of the income statement is the same for both the merchandiser and the manufacturer. The cost of goods sold for a manufacturer, however, is much more detailed than it is for a merchandiser. For a manufacturer, the cost of goods manufactured must be calculated. This figure is determined by first adding together direct materials, direct labor, and overhead. Then, the beginning balance of work-in-process inventory is added to this total, and the work-in-process ending balance is subtracted, yielding cost of goods manufactured. Cost of goods sold is then determined by adding the finished goods inventory beginning balance to the cost of goods manufactured, and then subtracting the ending finished goods inventory balance.

Profit-oriented service firms convert labor and other resource inputs into completed works, jobs, or benefits, such as demand deposit accounting services, legal defenses, advertisements, health care, audit reports, and blueprints, for a profit. Not-for-profit service firms also convert labor and other resources into completed works, jobs, or benefits. The output of both types of service firms may be tangible, such as a blueprint, or intangible, such as health care.

### **Learning objective 3. Explain the relationship of management accounting to financial and cost accounting.**

Financial accounting's focus is on providing financial statements to users outside the organization, such as stockholders, investment analysts, creditors, and various regulatory agencies. Financial accountants process financial data and aggregate it over some period of time. Their work is governed primarily by GAAP.

Cost accounting, serving its financial accounting objective, provides inventory valuations and cost of goods manufactured and sold for financial statements. In today's environment, however, where the objective is to maintain minimal inventories, the focus on inventory valuation is not as important as it once was. Cost accounting, serving its management accounting objective, provides detailed costs at the product or service level so managers can make informed decisions about cost control and productivity improvement. In this respect, the cost accounting function is an integral and important part of the broader field of management accounting.

**Learning objective 4. Present the major trends in the new manufacturing environment and discuss the role of modern management accountants in organizations.**

The following major trends, which are occurring in manufacturing, merchandising, and service organizations, are increasing the role of the management accountant in running the firm:

- High quality
- Customer service
- Low inventory
- Flexibility
- Automation
- Team concept
- Job rotation
- Integrated computer-based information system (ICBIS)

Management accountants do not have to adhere to GAAP in producing quality information for management. Quality information is based on the following attributes:

- Accuracy
- Relevancy
- Timeliness
- Fairness
- Usability

Management accountants get out of the office and go into the field or onto the factory floor to understand operations better. Only by understanding how enterprises work can management accountants produce high-quality information for management.

Information produced by management accountants influences behavior. Therefore, management accountants must be sure that what they are reporting achieves the correct behavior.

**Learning objective 5. Explain how to become a professional management accountant.**

To become a professional management accountant, a person must:

- Pass an examination offered by the ICMA (USA) or SMA (Canada) to qualified candidates and be designated as a CMA. These are very different designations even though they use the same initials.
- Adopt and abide by the standards of ethical conduct promulgated by the ICMA/SMA
- Obtain adequate professional experience
- Maintain a program of continuing learning (certified professional education)

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## IMPORTANT TERMS

**Accuracy** An attribute of quality information, which means that such information is free from mistake or error.

**Allocation** One of the two ways a cost element can be assigned to a product cost. It is the dividing up of overhead (indirect) costs among the products made. The other,

preferred, way to assign costs is to trace them directly to individual products.

**Automation** The implementation of self-acting or self-regulating mechanisms. It is a technique of automatically controlling the operation of equipment, processes, or systems by mechanical or electronic devices that take the place of human observation, effort, and decision. Automation is a trend in modern organizations to help them become more efficient and effective.

**Certified management accountant (CMA)** A professional management accountant who has demonstrated educational attainment and competency in specific areas of management accounting knowledge. People aspiring to become CMAs must qualify by passing a certification exam, gaining professional work experience, and maintaining certain continuing education requirements.

**Competence** The ability to perform the work of a management accountant. It is a standard of ethical conduct that is integral in achieving the objectives of management accounting.

**Confidentiality** The act of containing and protecting information from unauthorized disclosure. It is a standard of ethical conduct that is integral in achieving the objectives of management accounting.

**Conversion cost** The total of direct labor and overhead costs; the cost necessary to transform direct materials into a finished good (product) or service.

**Cost accounting** The information system for determining the cost of a project, process, product, service, or other cost object through the use of direct cost measurement and allocation techniques.

**Customer service** Methods used to satisfy customer needs. It is a trend in modern organizations to get the right product or service to the right customer at the right time at the right price in order to meet or beat the competition.

**Direct labor (touch labor)** People who work specifically on manufacturing a product or performing a service, and whose time can be directly traced to that product or service.

**Direct materials** A substance that is a readily identifiable part of a product and whose cost is conveniently and directly traceable to that product.

**Direct technology** Computers, software, and telecommunications equipment that control production processes, and production equipment and robots used in the manufacturing process.

**Fairness** An attribute of quality information, which means that such information is equitable, impartial, and unbiased.

**Financial accountants** People who process financial transactions and prepare financial statements for external reporting, which emphasize historical, custodial, and stewardship aspects of financial accounting. Financial accountants must adhere to generally accepted accounting principles (GAAP). A large number of financial accountants are certified public accountants (CPAs).

**Financial accounting** The information system used to produce financial statements.

**Finished goods** Product inventory items that are fully complete but not yet sold.

**Flexibility** The ability of an organization to adapt to new, different, or changing requirements quickly and efficiently. It is a trend in modern organizations to offer new products or services to customers in a timely fashion or to change the mix of products or services rapidly.

**Goal congruence** Making decisions that are in the best interests of the overall group or organization.

**High quality** Methods and techniques used to design, develop, build, and deliver a product or service of elevated excellence. It is a trend in modern organizations to provide high-quality products and services to customers in order to be competitive.

**Indirect labor** All manufacturing labor other than direct labor that is not directly traceable to the product or service.

**Indirect materials** The raw materials that are not directly traced to a cost object (a product or service).

**Institute of Certified Management Accountants (ICMA)** An organization established by the Institute of Management Accountants (IMA) and governed by a nine-member board of regents. The ICMA evaluates the credentials of candidates, administers the examination, grants certificates, and ensures that CMAs continue to meet the professional development requirements necessary to retain their certificates in good standing.

**Institute of Management Accountants (IMA)** The largest management accounting association in the world, which was founded in 1919 as an educational organization. The IMA actively promotes management accounting; supports the certified management accountant program through the Institute of Certified Management Accountants; sponsors research reports and educational programs; and produces *Statements on Management Accounting*, conferences, technical information services, library services, and *Management Accounting* magazine.

**Integrated computer-based information system (ICBIS)** The interconnection of computers and related information technology that provides a multi-level, cross-functional flow of information to all managers and workers throughout the enterprise.

**Integrity** The quality or state of personal and professional honesty. It is a standard of ethical conduct that is integral in achieving the objectives of management accounting.

**Job order systems** Production systems in which products or services are readily identified by individual units, jobs, or batches, each of which receives varying inputs of direct materials, direct labor, and overhead.

**Lead time (cycle time)** The time it takes to convert a raw material to a finished product. Defined more broadly, it is the time it takes to convert an input to an output.

**Low inventory** A sharp reduction in inventory levels while maintaining or even improving production lead times, delivery schedules, and customer service. It is a trend in modern organizations to reduce inventory in order to decrease or eliminate the costs of carrying inventory, including financial cost, obsolescence, shrinkage, storage costs, materials handling costs, record-keeping costs, insurance and tax obligations, slower lead times, and scrap.

**Management accountants** Those people who are responsible for the management accounting system, and who perform cost, profit, and investment analyses.

**Management accounting** An information system that includes the cost accounting system (i.e., product and service costing for management), the profit accounting system, and the investment accounting system. A system used to motivate, coordinate, and evaluate the effectiveness and efficiency of operations. A system that

measures performance and produces quality information for managers to use as an aid in planning, controlling, and evaluating. (All definitions of management accounting are tentative, including this one, because the field of management accounting is dynamic and constantly adapting to changing needs and operations in organizations.)

**Manufacturing organization** An enterprise engaged in converting raw materials to finished goods.

**Merchandise inventory** The inventory of completed products awaiting sale to a firm's customers. *See also* finished goods.

**Merchandising firm** An enterprise that sells products without changing their basic form.

**Not-for-profit service entity** An organization engaged in a high or moderate degree of converting labor and resources into a service output for a small fee or for free. Such entities do not have a profit motive in offering their services.

**Objectivity** The state of expressing or dealing with facts or conditions as perceived without distortion by personal feelings, prejudices, or interpretations. It is a standard of ethical conduct that is integral in achieving the objectives of management accounting.

**Overhead** Any manufacturing cost that is indirectly traced (allocated) to the product or service.

**Prime cost** The total of direct materials cost and direct labor cost.

**Process systems** Production systems in which products are mass produced in a continuous manner through a series of stages called processes.

**Profit-oriented service firm** An enterprise engaged in a high or moderate degree of conversion that results in service outputs that are sold for a profit.

**Quality information** Data converted into meaningful form and substance that reduce uncertainty and contain the attributes of accuracy, relevancy, timeliness, fairness, and usability.

**Raw materials** Direct and indirect materials waiting to be converted into finished goods.

**Relevancy** An attribute of quality information, which means that such information is germane to the matter at hand or the issue under consideration.

**Schedule of Cost of Goods Manufactured** A supporting report for the income statement that details the computation of the cost of goods produced during the period.

**Society of Management Accountants (SMA)** The sponsoring organization of the Canadian CMA program. No longer active after merger with CAs to form a new CPA organization. This is not the same as the US CMA.

**Standards of Ethical Conduct for Management Accountants** Rules and principles adopted to guide members in their professional life and work. The standards are competence, confidentiality, integrity, and objectivity.

**Suboptimal behavior** Doing things (making decisions, taking actions) that benefit an individual or segment of an organization, but cause harm to others.

**Team concept** The idea behind getting all employees in an organization actively involved in improving operations. It is a trend in modern organizations to operate the enterprise from the bottom up rather than from the top down and in a participative, democratic manner in order to improve morale, productivity, and quality.

**Timeliness** An attribute of quality information, which means that managers and workers receive such information at the time they can use it to take action.

**Usability** An attribute of quality information, which means that such information fits the cognitive style of the manager or worker receiving it.

**Work-in-process or work-in-progress (WIP)** The inventory account for products undergoing a conversion process but not yet fully completed.

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## DEMONSTRATION PROBLEMS

**DEMONSTRATION PROBLEM 1** *Schedule of cost of goods manufactured and an income statement for the Corerail Manufacturing Company.*

The following exhibit presents data pertaining to the operations of the Corerail Manufacturing Company for the year 20x5. Corerail maintains separate accounts for direct and indirect material within raw materials inventory

**Corrail Trial Balance**

|                                        |             |
|----------------------------------------|-------------|
| Sales revenue                          | \$1,000,000 |
| Direct materials inventory, 01/01/X5   | 20,000      |
| Direct labor                           | 250,000     |
| Depreciation, plant                    | 50,000      |
| Depreciation, factory equipment        | 30,000      |
| Cutting tools used                     | 12,000      |
| Indirect labor                         | 10,000      |
| Utilities, plant                       | 8,000       |
| Supervisor salaries, plant             | 30,000      |
| Indirect materials used                | 7,000       |
| Property taxes, administrative offices | 5,000       |
| Administrative salaries                | 100,000     |
| Salesperson salaries                   | 150,000     |
| Work-in-process inventory, 12/31/X5    | 20,000      |
| Finished goods inventory, 01/01 /X5    | 30,000      |
| Property taxes, plant                  | 11,000      |
| Supplies, administrative offices       | 8,000       |
| Finished goods inventory, 12/31/X5     | 40,000      |
| Direct materials inventory, 12/31/X5   | 30,000      |
| Work-in-process inventory, 01/01/X5    | 40,000      |
| Direct materials purchases             | 120,000     |
| Depreciation, administrative offices   | 60,000      |

Required: Prepare a schedule of cost of goods manufactured and an income statement

**DEMONSTRATION PROBLEM 2** *Ethics.*

**CORERAIL MANUFACTURING COMPANY**  
**SCHEDULE OF COST OF GOODS MANUFACTURED**  
**FOR THE YEAR ENDED DECEMBER 31, 20X5**

|                                           |                       |                       |
|-------------------------------------------|-----------------------|-----------------------|
| Direct materials:                         |                       |                       |
| Direct materials inventory, 01 /01 /X5    | \$ 20,000             |                       |
| Purchases of direct materials             | <u>120,000</u>        |                       |
| Total direct materials available          | 140,000               |                       |
| Less direct materials inventory, 12/31/X5 | <u>&lt;30,000&gt;</u> |                       |
| Direct materials used                     |                       | \$110,000             |
| Direct labor                              |                       | 250,000               |
| Overhead:                                 |                       |                       |
| Depreciation, plant                       | \$ 50,000             |                       |
| Depreciation, factory equipment           | 30,000                |                       |
| Supervisor salaries, plant                | 30,000                |                       |
| Indirect labor                            | 10,000                |                       |
| Utilities, plant                          | 8,000                 |                       |
| Indirect materials used                   | 7,000                 |                       |
| Cutting tools used                        | 12,000                |                       |
| Property taxes, plant                     | <u>11,000</u>         |                       |
| Total manufacturing overhead              |                       | <u>158,000</u>        |
| Total manufacturing costs                 |                       | \$518,000             |
| Work-in-process inventory, 01/01/X5       |                       | 40,000                |
| Less work-in-process inventory, 12/31/X5  |                       | <u>&lt;20,000&gt;</u> |
| Cost of goods manufactured                |                       | <u>\$538,000</u>      |

**CORERAIL MANUFACTURING COMPANY**  
**INCOME STATEMENT**  
**FOR THE YEAR ENDED DECEMBER 31, 20X5**

|                                            |                       |                        |
|--------------------------------------------|-----------------------|------------------------|
| Sales revenue                              |                       | \$1,000,000            |
| Cost of goods sold:                        |                       |                        |
| Finished goods inventory, 01/01/X5         | 30,000                |                        |
| Cost of goods manufactured                 | <u>538,000</u>        |                        |
| Total goods available for sale             | 568,000               |                        |
| Less finished goods inventory, 12 / 31 /X5 | <u>&lt;40,000&gt;</u> |                        |
| Cost of goods sold                         |                       | <u>&lt;528,000&gt;</u> |
| Gross profit                               |                       | \$ 472,000             |
| Selling and administrative expenses:       |                       |                        |
| Salesperson salaries                       | \$150,000             |                        |
| Administrative salaries                    | 100,000               |                        |
| Supplies, administrative offices           | 8,000                 |                        |
| Depreciation, administrative offices       | 60,000                |                        |
| Property taxes, administrative offices     | <u>5,000</u>          |                        |
| Total selling and administrative expenses  |                       | <u>&lt;323,000&gt;</u> |
| Net income before taxes                    |                       | <u>\$ 149,000</u>      |

Dora Pliske is a newly hired management accountant who is facing the following unethical situations:

- The company is in violation of environmental regulations.
- An immediate superior has misstated inventory and refuses to correct it.
- A cost report to be prepared by Dora will show very poor performance in the division where she works. Her boss wants her not to report certain costs.
- Dora is prevented from gathering cost data on a pet project of the division manager.
- Fearing that the division she works for will be discontinued, Dora is pursuing a position in another firm. The position calls for a management accountant with experience in

world-class manufacturing, just-in-time (JIT) systems, computer-based information systems development, and activity-based costing. Dora does not have experience in any of these areas; however, wanting the job very badly, she states in the job application that she has the necessary experience. She even indicates that she worked on a systems project team that developed an integrated computer-based information system. She also states that she has installed an activity-based costing system.

Required: Consider each situation separately. What action(s) should Dora take?

#### SOLUTION TO DEMONSTRATION PROBLEM 2

- a. The proper action when the management accountant's immediate superior is involved is to present the matter to the next higher management level. If her immediate superior and the firm's chief executive officer know about the situation and refuse to correct it, then Dora should report the circumstances to the audit committee and/or the board of directors. Observing the standard of confidentiality, Dora should refrain from disclosing confidential information acquired in the course of her work, except when authorized, unless legally obligated to do so. In this case, a strong argument can be made that Dora is legally obligated. Moreover, such disclosure would not be in conflict with the confidentiality standard.
- b. Apparently, Dora has discussed this problem with her immediate superior without resolution. Therefore, Dora should take the problem to the next higher management level. If Dora goes along with her immediate superior, then she is in conflict with the objectivity standard, which requires the fair and objective communication of information.
- c. The management accountant must communicate unfavorable as well as favorable information and professional judgments or opinions.
- d. Under the integrity standard, Dora should recognize and communicate professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity.
- e. The management accountant's responsibility under the competence standard is to maintain an appropriate level of professional competence through ongoing development of his or her knowledge and skills. Under the integrity standard, the management accountant should be honest and refrain from engaging in any activity that would discredit the profession. It appears that Dora is therefore in conflict with both the competence and the integrity standards.

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## REVIEW QUESTIONS

**1.1** The following quotation is adapted from a letter by W. Michael Donovan, CMA, that appeared in *Management Accounting*, as far back as February 1992, p. 8:

Wake up! Look at the world that is passing you by. Engineers and operations professionals can readily use the analytical tools of management accounting. Those are the people with whom we should be working. Recognize that CPAs have legal justification for their existence as suppliers of audits and tax advice. You will not overcome their position in the business world. Don't compete with them. Ignore

them. The Institute of Management Accountants in the USA has made a fatal strategic error by even linking itself to the world of financial accountants. You must return to your engineering and costing roots and envision the organization as something totally different, the integration of strategy, finance, and economics within the world of engineering, cost, and operations.

Look back and reread Kaplan's *the Rise and Fall of Management Accounting*, Hayes and Abernathy's *Managing Ourselves to Economic Decline*, Vollman and Miller's *The Hidden Factory*. You will see that their observations are linked to the everyday issues of operations and cost management, not to GAAP or the tax code.

Evaluate Mr. Donovan's comments. Do you believe they are still justified? Why? Why not? Give your opinion as to the proper relationship between financial and management accounting.

**1.2** Contrast financial and management accounting.

**1.3** List and briefly describe the four types of organizations that management accountants serve.

**1.4** List and define the cost elements of a manufacturing organization.

**1.5** Define conversion cost and prime cost.

**1.6** Is the proportion of direct labor cost increasing or decreasing in modern manufacturing organizations? Explain.

**1.7** Is the proportion of overhead cost increasing or decreasing in automated factories? Explain.

**1.8** Explain why some management accounting authorities believe that “direct technology” should be a direct cost element in automated factories.

**1.9** List and briefly define the two broad types of manufacturing organizations.

**1.10** Contrast merchandising firms and manufacturing organizations.

**1.11** Describe how the income statement of a merchandising firm differs from the income statement of a manufacturing firm.

**1.12** Of what value is the schedule of cost of goods manufactured? How does it tie into the income statement?

**1.13** Describe how the balance sheet of a merchandising firm differs from the balance sheet of a manufacturing company insofar as current assets are concerned.

**1.14** Contrast service firms and manufacturing companies. Can the same cost elements be used for both?

**1.15** Is cost accounting a subset of management accounting or is management accounting a subset of cost accounting? Explain.

**1.16** Is the body of knowledge of management accounting dynamic or static? Explain.

**1.17** List the three managerial decision-making areas for which management accounting is the informational basis.

**1.18** Define lead time.

**1.19** Explain why financial accounting information is considered irrelevant for management.

**1.20** Define cost accounting.

**1.21** Explain how cost accounting serves financial accounting. Explain how cost accounting serves management accounting.

**1.22** List and briefly describe the trends in the new manufacturing environment. Are the trends easily adaptable to service firms? Explain.

- 1.23 Define and give an example of suboptimal behavior.
- 1.24 Define quality information and list and describe its attributes.
- 1.25 Why is it important for the management accountant to get involved in the enterprise's operations?
- 1.26 "Management accounting plays both an *informing* and an *influencing* role." Explain this statement.
- 1.27 List the characteristics of a profession. Explain how the certified management accountant (CMA) exhibits these characteristics.
- 1.28 What are the four steps necessary to become a CMA?
- 1.29 List and summarize the areas of ethical standards.
- 1.30 Give three examples of ethical dilemmas that might affect the management accountant.
- 1.31 What questions should a management accountant ask himself or herself in dealing with ethical dilemmas?

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## CHAPTER-SPECIFIC PROBLEMS

These problems require responses based directly on concepts and techniques presented in the text.

**1.32 *Financial and management accounting tasks.*** Following is a list of tasks:

- Providing financial statements to stockholders and creditors.
- Preparing a balance sheet.
- Determining conversion costs of a product.
- Determining prime costs of a product.
- Preparing a schedule of cost of goods manufactured.
- Preparing reports for the Securities and Exchange Commission.
- Reporting lead time for a production process.

Identify the name of the kind of accountant, financial or management, who is most likely to perform each task.

**1.33 *Schedule of cost of goods manufactured.*** The CleanPac Company manufactures cleaning kits for PCs. Following are accounts from its year-end adjusted trial balance and other data: Prepare the schedule of cost of goods manufactured for CleanPac.

**1.34 *Schedules of cost of goods manufactured and cost of goods sold.*** The following data are taken from the cost records of Lenox Company for June 20x8:

- 1 Prepare a schedule of cost of goods manufactured for June 20x8.
- 2 Prepare the cost of goods sold section for Lenox's income statement for June 20x8.

**1.35 *Schedules of cost of goods manufactured and cost of goods sold.*** The following cost and inventory data are taken from the books of Starr Company for the year 20x6:

:

- 1 Prepare a schedule of cost of goods manufactured.
- 2 Prepare the cost of goods sold section of Starr Company's income statement for the year.

|                                | JANUARY 1 | DECEMBER 31 |
|--------------------------------|-----------|-------------|
| Inventories:                   |           |             |
| Finished goods                 | \$40000   | \$ 60000    |
| Work-in-process                | 16,000    | 14,000      |
| Direct materials               | 9000      | 15000       |
| Direct material purchases      |           | 240,000     |
| Payroll costs:                 |           |             |
| Production line workers        |           | 100,000     |
| Material handling              |           | 50,000      |
| Maintenance                    |           | 30,000      |
| Plant supervision              |           | 60,000      |
| Sales salaries                 |           | 120,000     |
| Property taxes (70% for plant) |           | 10,000      |
| Depreciation (80% for plant)   |           | 90,000      |
| Plant equipment repairs        |           | 20,000      |
| Utilities (80% for plant)      |           | 16,000      |
| Income taxes                   |           | 50,000      |

|                                     |          |
|-------------------------------------|----------|
| Maintenance, plant equipment        | \$ 4,000 |
| Rent, plant facilities              | 30,000   |
| Insurance, plant equipment          | 1,000    |
| Insurance, office equipment         | 800      |
| Direct labor cost                   | 150,000  |
| Purchase of direct materials        | 280,000  |
| Depreciation, office equipment      | 5,000    |
| Indirect materials cost             | 10,000   |
| Indirect labor cost                 | 50,000   |
| Depreciation, plant equipment       | 22,000   |
| Advertising expense                 | 120,000  |
| Sales salaries                      | 100,000  |
| Administrative salaries             | 150,000  |
| Direct materials inventory, June 1  | 40,000   |
| Direct materials inventory, June 30 | 20,000   |
| Work-in-process inventory, June 1   | 60,000   |
| Work-in-process inventory, June 30  | 80,000   |
| Finished goods inventory, June 1    | 110,000  |
| Finished goods inventory, June 30   | 85,000   |

|                  | JANUARY 1, 19X6 | DECEMBER 31, 19X6 |
|------------------|-----------------|-------------------|
| Inventories:     |                 |                   |
| Direct materials | \$14,000        | \$30,000          |
| Work-in-process  | 20,000          | 10,000            |
| Finished goods   | 40,000          | 70,000            |

|                                |            |
|--------------------------------|------------|
| Costs incurred:                |            |
| Direct labor cost              | \$ 150,000 |
| Direct material purchases      | 250,000    |
| Indirect labor                 | 70,000     |
| Maintenance, plant equipment   | 15,000     |
| Advertising expense            | 120,000    |
| Insurance, plant equipment     | 2,000      |
| Sales salaries                 | 100,000    |
| Property taxes, plant          | 40,000     |
| Rent, plant                    | 10,000     |
| Indirect materials             | 8,000      |
| Depreciation, office equipment | 10,000     |
| Depreciation, plant equipment  | 40,000     |

**1.36 Schedules of cost of goods manufactured, cost of goods sold, prime cost, and conversion cost.** Cost of goods sold for the Stables Corporation for the month of May 20x7 was \$700,000. Work-in-process inventory at the end of May was 90% of work-in-process inventory at the beginning of May. Overhead is 80% of direct labor cost. During May, \$250,000 of direct materials were purchased. Other data about Stables's inventory and production for May are as follows:

|                               |           |
|-------------------------------|-----------|
| Beginning inventories, May 1: |           |
| Direct materials              | \$ 45,000 |
| Work-in-process               | 80,000    |
| Finished goods                | 210,000   |
| Ending inventories, May 31:   |           |
| Direct materials              | \$ 40,000 |
| Work-in-process               | ?         |
| Finished goods                | 210,000   |

Required:

- Prepare a schedule of cost of goods manufactured for May.
- Prepare a schedule to calculate the prime cost incurred during May.
- Prepare a schedule to calculate the conversion cost charged to work-in-process during May.
- Prepare a schedule of cost of goods sold for May.

**1.37 Direct materials purchased, direct labor costs, and cost of goods sold.** The following inventory data relate to the Manifold Company: costs incurred during the period are

|                            | ENDING   | BEGINNING |
|----------------------------|----------|-----------|
| Finished goods inventory   | \$95,000 | \$110,000 |
| Work-in-process inventory  | 80,000   | 70,000    |
| Direct materials inventory | 95,000   | 90,000    |

as follows:

|                                  |           |
|----------------------------------|-----------|
| Cost of goods available for sale | \$754,000 |
| Total manufacturing costs        | 654,000   |
| Manufacturing overhead           | 167,000   |
| Direct materials used            | 193,000   |

Required: Calculate direct materials purchased, direct labor costs, and cost of goods sold. [AICPA adapted]

**1.38 Characteristics of quality information.** Following is a list of complaints about reports received from users of the accounting system:

The cost of the new project was estimated at \$500,000, almost 100% less than what it actually cost.

The reports may contain good information, but they are so detailed and poorly prepared, we don't even look at them.

We can't use these reports because we received them 60 days too late.

This report has nothing to do with the decision I'm trying to make.

This report shows that all the property taxes and utility costs are being charged to my department. Why?

Required: Identify the attributes of quality information most affected by these complaints.

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## THINK-TANK PROBLEMS

Although these problems are based on chapter material, reading extra material and using creativity may be required to develop workable solutions.

**1.39 Suboptimizing situation.** Gatestone Tire Company has invested millions of dollars in tire-making equipment. Jim Stoner, newly retired management accountant, had established a maintenance cost report emphasizing minimization of maintenance costs. Each year, the maintenance crews with the lowest maintenance costs received awards. But lately, most of the tire-making equipment is down 40% to 60% of the time. Suzy Wong was recently hired to replace Jim Stoner.

- a. What do you believe is a major cause of Gatestone's excessive equipment downtime?
- b. Describe the kind of reporting system you believe would be appropriate concerning equipment maintenance costs.

**1.40 Standards and ethical conduct.** Following is a list of situations that have ethical ramifications:

Tracy Bickford, management accountant, accepted a golf cart from a potential vendor who wanted to persuade her to provide some favorable treatment.

Tim Witherspoon, management accountant for Xorax Corporation, has become a major stock-holder in Thompson Equipment, a major vendor of Xorax.

Agnes Lee, management accountant for Miteson Industries, has compiled and provided sensitive pricing information to her friend at Bandig Company, a major competitor of Miteson.

Benny Chemparathy, management accountant at Thorson Associates, has omitted some significant cost data in hopes that a new project will be accepted by senior management at Thorson. If accepted, this new project will be headed by Darcy Coffee, Benny's sister-in-law.

Betty Wilkerson, management accountant at Bridgeton Corporation, has withheld some favorable performance information concerning a department managed by Teri Sanchez, a person Betty does not like.

Tim Flores, newly hired management accountant for Tensas Industries, stated that he had been a management accountant for Ducet Cosmetics, a company located in France. Tim has never worked as a management accountant for Ducet or any other company.

Required: Identify the ethical standard with which each of the preceding situations is in non-compliance. Some situations may be in conflict with more than one ethical standard.

**1.41 Ethical dilemma.** Cinco Manufacturing Company has received a loan from First Interstate Bank. A key stipulation in the loan agreement is that Cinco must maintain a gross margin of at least 30% of sales and net income of 15% of sales. The bank is to receive an income statement quarterly. Looking at this quarter's income statement, Joe Stearns, president of Cinco, notices that the gross margin is only 25% of sales while net income is 20% of sales. He tells Cory Martinez, accountant for Cinco, to shift some of the product costs included in cost of goods sold to the selling and administrative expenses section of the income statement so that the gross margin and net income figures will conform to the stipulation in the bank loan agreement.

- a. What type of product cost would be easiest to reassign to the selling and administrative section?
- b. Because Joe Stearns is not suggesting that any expenses be removed from the income statement, is there an ethical dilemma? If so, which ethical standards would be violated?
- c. Write a short letter to convince the loan officer that the loan should not be terminated in spite of Cinco's non-compliance with the loan agreement stipulation.

**1.42 Ethical dilemma.** Masco Enterprises is a publicly owned corporation that makes various electronic control devices. Ken Polk has been the president and chief executive officer (CEO) of Masco for about five years. Martha Glakowski has been management accountant for about two years. Terry Brinker has been purchasing agent for about five years. Dianne Kim has been executive assistant to Ken Polk for about three years. Following is a conversation that Martha had with Ken recently:

“Good morning, Martha, come on in,” said Ken, “Dianne said that you had a confidential matter to discuss. What's on your mind?”

“I've been reviewing our increased purchases from Aapex Electronics and wondered why our volume has tripled in the past year. When I spoke with Terry about this, he seemed a bit evasive and tried to dismiss the issue by stating that we can get one-day delivery on our orders,” Martha responded.

“That's true,” said Ken. “We get excellent delivery.”

“But we could get the same electronic components from Stanley Products for 40% less. This cost differential would have saved us \$900,000 so far this year,” said Martha.

“Now look, Martha, we get quick delivery on some items, and who knows how much we are saving by not having to stock these components in advance or worry about them becoming obsolete. Is there anything else on your mind?”

“Well, Ken, as a matter of fact, there is,” said Martha. “I ordered a Dun & Bradstreet credit report on Aapex and discovered that Tom Rasmussen is the principal owner. Isn't he your brother-in-law?”

“Sure he is. That's why we get good service,” said Ken, a little heatedly. “Now, I've got a meeting with some people downtown. So, you'll have to excuse me.” “OK. Thanks for your time,” said Martha.

As she left Ken's office, Martha wondered what her obligations were in this matter.

- a. Which standards of ethical conduct may be violated?

- b. What kind of cost information should Martha develop to help resolve any apparent conflicts? Evaluate this information's quality with respect to the 5 attributes of quality information.
- c. Should Martha legally or ethically ignore the apparent conflict of interest?
- d. What actions should Martha take?

**1.43 Ethical dilemma.** Zludge Products makes dyes and metal etching compounds. Steve Gould, a manager at Zludge, recently discovered that the company is using a nearby residential landfill to dump toxic waste. Steve has gathered sufficient documentation about Zludge's dumping of toxic waste. Steve has determined that he has three options:

- Seek the advice of his boss, the controller
- Anonymously release the information to the local newspaper and television station
- Bring the information to the attention of an outside member of the board of directors

- a. Does Steve have an ethical responsibility to take some action in the matter of the dumping of toxic waste?
- b. Explain whether each of the three options that Steve has considered is proper.
- c. Without prejudice to your answer in Requirement (b), assume that Steve sought the advice of the controller and discovered that he was involved in the dumping of toxic waste. Describe the steps that Steve should take in proceeding to resolve the conflict in this situation.

**1.44 Working in an unethical environment.** Following is an excerpt from a letter written by Nate Miles of the University of Idaho that appeared in *Management Accounting*, March 1992, p. 9.

“Unethical behavior usually occurs slowly in increments. As with any type of learning, unethical behavior is learned step by step. There are probably very few, if any, cases of those who go from performing judicious business one day to making major fabrications on financial statements or embezzling the next. It occurs more slowly and rationally for those involved, oftentimes beginning with the encouragement of an employer.

... working in an environment where unethical behavior is encouraged, if it appears to serve the clients' or the firm's needs, is likely to wear down even the strongest people. Working for a firm [that] has this characteristic can be self-destructive where ethics are concerned.”

Required: Should an emphasis be placed on working in an ethical business environment? Is unethical behavior learned step by step? Describe a situation where unethical behavior is encouraged by an employer. Explain how working in an unethical environment may wear down even the most ethical person. Give an example of how unethical behavior can be self-destructive.

**1.45 Working in an unethical environment.** [CMA adapted] Tom Savin has recently been hired as a cost accountant by the Offset Press Company, a privately held company that produces a line of offset printing presses and lithograph machines. During his first few months on the job, Savin discovered that Offset has been recording some overhead costs as selling and administrative expenses. This understated manufacturing costs and the value of the (substantial) ending finished goods inventory. By increasing expenses,

net income was understated. This practice has been going on since the start of the company, which is in its sixth year of operation. The effect in each year has been favorable, having a material impact on the company's tax position. No internal audit function exists at Offset, and the external auditors have not yet discovered the understated factory overhead.

Prior to the sixth-year audit, Savin had pointed out the practice and its effect to Mary Brown, the corporate controller, and had asked her to let him make the necessary adjustments. Brown directed him not to make the adjustments but to wait until the external auditors had completed their work and see what they uncovered.

The sixth-year audit has now been completed, and the external auditors have once more failed to discover the understated factory overhead. Savin again asked Brown if he could make the required adjustments and was again told not to make them. Savin, however, believes that the adjustments should be made and that the external auditors should be informed of the situation.

Since Offset Press Company has no established policies for resolving ethical conflicts, Savin is considering following one of the three alternative courses of action listed below.

- Follow Brown's directive and do nothing further.
- Attempt to convince Brown to make the proper adjustments and to tell the external auditors.
- Tell the Audit Committee of the board of directors about the problem and give them the appropriate accounting data.

a. Explain whether or not each of the three alternative courses of action that Tom Savin is considering is appropriate. Refer to specific standards of *Standards of Ethical Conduct for Management Accountants* to support your answer.

b. Without prejudice to your answer in Requirement (a), assume that Tom Savin again approaches Mary Brown to make the necessary adjustments and is unsuccessful. Describe the steps that Savin should take in proceeding to resolve this situation.

**1.46 Handling software license agreements.** [CMA adapted] Ward Corporation is a manufacturer of cleaning products with three wholly owned subsidiaries that are operated as separate divisions. Ward's corporate headquarters are located in an industrial park in a Chicago suburb. The Industrial Products Division is located in the same industrial park but in its own building. The other two divisions are located in Milwaukee and Indianapolis.

The corporation's operating and financial records are maintained on a main-frame computer at corporate headquarters. Each division has a small accounting department that submits operating and financial data to corporate headquarters on a regular basis.

The Profit Planning Department at corporate headquarters is responsible for preparing special analyses and reports for Ward. To facilitate its work, the Profit Planning Department has linked a microcomputer to the mainframe to download data. The special analyses are prepared using these data and a purchased spread-sheet software package.

Beth Simons recently joined the industrial Products Division as an accounting analyst. Simons is proficient in the use of microcomputers and spreadsheet software. She has

been given an assignment to work with Doug Laird, marketing manager of the Industrial Products Division, to develop analyses and reports. One week into the assignment, Simons suggested that the microcomputers used in the Marketing Department for word processing could be valuable analytical tools if spreadsheet software were acquired. Laird knows little about computers, but he has received some of the special analyses prepared by the Profit Planning Department at corporate headquarters. Laird wants Simons to try her idea but has suggested that she first borrow the software from the Profit Planning Department.

Simons has approached Tom Field, manager of Profit Planning, regarding the use of the software package. Field was very sympathetic to Simons's request, but the software is used extensively in his department. Therefore, he did not want to loan the original system disk. Furthermore, the software was copy-protected. However, Field did have a utility program that allowed him to make backup copies of most copy-protected software. Since there was no backup of the spreadsheet software, Field decided to make a copy and give it to Simons for her use. Simons indicated that she planned to use the software during regular business hours.

Upon giving the copy to Simons, Field said, "This is my only copy but you may borrow it for your use only. Don't give it to anyone else. Once you have tried the software for your assignment, you must return this copy to me. Industrial Product's Accounting or Marketing Department will have to purchase its own copy."

Field did not give Simons a copy of the licensing agreement that accompanied the original software package. The license agreement reproduced below was affixed to the original sealed disk package. While Simons was not aware of the specific provisions of the licensing agreement that pertained to the borrowed software, she knew that licensing agreements accompany computer software packages.

#### Software License Agreement

**IMPORTANT:** Please read this agreement before opening the envelope. Opening the disk envelope indicates the user's acceptance of the agreement to abide by these terms.

- The software may be used on any compatible hardware that the purchaser owns or uses.
- Backup copies of the software can be made provided that these copies are for exclusive use of the purchaser and only one copy of the software is in use at any one time.
- No alterations to the software or the documentation are permitted.
- The software may not be distributed to others on a permanent or temporary basis.
- This license and the software may be transferred to another party provided that all copies of the software and documentation are transferred and the original party ceases to use the software after the transfer.

a. Based upon the stipulations enumerated in the license agreement for the spreadsheet software, did Tom Field violate the agreement when he:

1. Made a copy of the software disk using the utility program?
2. Gave Beth Simons the copy of the software disk he had made?

Explain your answer in each case.

b. Ignoring your answer in Requirement (a), assume that Tom Field did violate the license agreement when he copied the software disk and gave it to Beth Simons. Identify the alternatives that Tom Field could have employed to determine the applicability of the spreadsheet software to the application of the Marketing Department of the Industrial Products Division without violating the license agreement.

c. Management accountants are expected to abide by the ethical standards set forth in the *Standards of Ethical Conduct for Management Accountants*. Were any of the standards violated by:

1. Tom Field when he copied the software disk and gave Beth Simons the copy for her use?
2. Beth Simons when she used the copy of the software to determine its usefulness in the applications for the Marketing Department of the Industrial Products Division?

Explain your answer in each case being sure to identify the standard(s) that is (are) violated or explaining why no standards were violated.

**1.47 Ethics and controls.** [CMA adapted] The Fore Corporation is an integrated food processing company that has operations in over two dozen countries. Fore's corporate headquarters are in Chicago, and the company's executives frequently travel to visit Fore's foreign and domestic facilities.

Fore has a fleet of aircraft that consists of two business jets with international range and six smaller turbine aircraft that are used on shorter flights. Company policy is to assign aircraft to trips on the basis of minimizing cost, but in practice the aircraft are assigned based on the organizational rank of the traveller. Fore offers its aircraft for short-term lease or for charter by other organizations whenever Fore itself does not plan to use the aircraft. Fore surveys the market often in order to keep its lease and charter rates competitive.

William Earle, Fore's vice-president of finance, has claimed that a third business jet can be justified financially. However, some people in the controller's office have surmised that the real reason for a third business jet was to upgrade the aircraft used by Earle. Currently, the people outranking Earle keep the two business jets busy, with the result that Earle usually flies in smaller turbine aircraft.

The third business jet would cost \$11 million. A capital expenditure of this magnitude requires a formal proposal with projected cash flows and net present value computations using Fore's minimum required rate of return. If Fore's president and the Finance Committee of the board of directors approve the proposal, it will be submitted to the full board of directors. The board has final approval on capital expenditures exceeding \$5 million, and has established a firm policy of rejecting any discretionary proposal that has a negative net present value.

Earle asked Rachel Arnett, assistant corporate controller, to prepare a proposal on a third business jet. Arnett gathered the following data:

- Acquisition cost of the aircraft, including instrumentation and interior furnishing
- Operating cost of the aircraft for company use
- Projected avoidable commercial airfare and other avoidable costs from company use of

the plane

- Projected value of executive time saved by using the third business jet
- Projected contribution margin from incremental lease and charter activity
- Estimated resale value of the aircraft
- Estimated income tax effects of the proposal

When Earle reviewed Arnett's complete proposal and saw the large negative net present value figure, he returned the proposal to her. With a glare, Earle commented. "You must have made an error. The proposal should look better than that."

Feeling some pressure, Arnett went back and checked her computations; she found no errors. However, Earle's message was clear. Arnett discarded her projections and estimates that she believed were reasonable and replaced them with figures that had a remote chance of actually occurring, but were more favorable to the proposal. For example, she used first-class airfares to refigure the avoidable commercial airfare costs, even though company policy was to fly coach. She found revising the proposal to be distressing.

The revised proposal still had a negative net present value. Earle's anger was evident as he told Arnett to revise the proposal again and to start with a \$100,000 positive net present value and work backward to compute supporting estimates and projections.

- a. Explain whether Rachel Arnett's revision of the proposal was in violation of the *Standards of Ethical Conduct for Management Accountants*.
- b. Did William Earle violate the *Standards of Ethical Conduct for Management Accountants* by telling Arnett specifically how to revise the proposal? Explain your answer.
- c. What aspects of the projection and estimation process would be compromised in preparing an analysis for which a preconceived result is sought?
- d. Identify specific internal controls that Fore Corporation could implement to prevent unethical behavior on the part of the vice-president of finance.

#### 1.48 IKM at University

Analyze your life as a University student in terms of IKM. Prepare a list of what the university administration expects of you and a separate list of what your professors expect of you. Assess each responsibility as either I, K, or M.