## **Cases & Projects**



#### CP 1-1 Ethics and professional conduct in business

#### **Group Project**

Vince Hunt, president of Sabre Enterprises, applied for a \$200,000 loan from First National Bank. The bank requested financial statements from Sabre Enterprises as a basis for granting the loan. Vince has told his accountant to provide the bank with a balance sheet. Vince has decided to omit the other financial statements because there was a net loss during the past year.

In groups of three or four, discuss the following questions:

- 1. Is Vince behaving in a professional manner by omitting some of the financial statements?
- 2. a. What types of information about their businesses would owners be willing to provide bankers? What types of information would owners not be willing to provide?
  - b. What types of information about a business would bankers want before extending a loan?
  - c. What common interests are shared by bankers and business owners?

#### CP 1-2 Net income

On July 1, 2011, Dr. Heather Dewitt established Life Medical, a medical practice organized as a professional corporation. The following conversation occurred the following January between Dr. Dewitt and a former medical school classmate, Dr. Naomi Kennedy, at an American Medical Association convention in Boston.

Dr. Kennedy: Heather, good to see you again. Why didn't you call when you were in Chicago? We could have had dinner together.

*Dr. Dewitt:* Actually, I never made it to Chicago this year. My husband and kids went up to our Vail condo twice, but I got stuck in Fort Lauderdale. I opened a new consulting practice this July and haven't had any time for myself since.

*Dr. Kennedy:* I heard about it . . . Life . . . something . . . right?

Dr. Dewitt: Yes, Life Medical. My husband chose the name.

Dr. Kennedy: I've thought about doing something like that. Are you making any money? I mean, is it worth your time?

*Dr. Dewitt:* You wouldn't believe it. I started by opening a bank account with \$40,000, and my December bank statement has a balance of \$90,000. Not bad for six months—all pure profit.

Dr. Kennedy: Maybe I'll try it in Chicago! Let's have breakfast together tomorrow and you can fill me in on the details.

Comment on Dr. Dewitt's statement that the difference between the opening bank balance (\$40,000) and the December statement balance (\$90,000) is pure profit.

#### **CP 1-3** Transactions and financial statements

Jan Martinelli, a junior in college, has been seeking ways to earn extra spending money. As an active sports enthusiast, Jan plays tennis regularly at the Naples Tennis Club, where her family has a membership. The president of the club recently approached Jan with the proposal that she manage the club's tennis courts. Jan's primary duty would be to supervise the operation of the club's four indoor and 10 outdoor courts, including court reservations.

In return for her services, the club would pay Jan \$300 per week, plus Jan could keep whatever she earned from lessons and the fees from the use of the ball machine. The club and Jan agreed to a one-month trial, after which both would consider an arrangement for the remaining two years of Jan's college career. On this basis, Jan organized Topspin. During April 2012, Jan managed the tennis courts and entered into the following transactions:

- a. Opened a business account by depositing \$1,000.
- b. Paid \$300 for tennis supplies (practice tennis balls, etc.).
- c. Paid \$200 for the rental of video equipment to be used in offering lessons during April.
- d. Arranged for the rental of two ball machines during April for \$250. Paid \$100 in advance, with the remaining \$150 due May 1.

- e. Received \$1,600 for lessons given during April.
- f. Received \$500 in fees from the use of the ball machines during April.
- g. Paid \$800 for salaries of part-time employees who answered the telephone and took reservations while Jan was giving lessons.
- h. Paid \$225 for miscellaneous expenses.
- i. Received \$1,200 from the club for managing the tennis courts during April.
- j. Determined that the cost of supplies on hand at the end of the month totaled \$180; therefore, the cost of supplies used was \$120.
- k. Withdrew \$250 for personal use on April 30.

As a friend and accounting student, you have been asked by Jan to aid her in assessing the venture.

1. Indicate the effect of each transaction and the balances after each transaction, using the following tabular headings:

Assets	= _	Liabilities	+	Owner's Equity								
				Jan		Jan						
		Accounts		Martinelli,		Martinelli,		Service	Salary	Rent	Supplies	Misc.
Cash + Supplies :	=	Payable	+	Capital	-	Drawing	+	Revenue	- Expense -	Expense -	Expense	<ul><li>Expense</li></ul>

- 2. Prepare an income statement for April.
- 3. Prepare a statement of owner's equity for April. The statement of owner's equity for a proprietorship is similar to the retained earnings statement for a corporation. The balance of the owner's capital as of the beginning of the period is listed first. Any investments made by the owner during the period are then listed and the net income (net loss) is added (subtracted) to determine a subtotal. From this subtotal, the owner's withdrawals are subtracted to determine the increase (decrease) in owner's equity for the period. This increase (decrease) is then added to (subtracted from) the beginning owner's equity to determine the owner's equity as of the end of the period.
- 4. Prepare a balance sheet as of April 30.
- 5. a. Assume that Jan Martinelli could earn \$9 per hour working 30 hours a week as a waitress. Evaluate which of the two alternatives, working as a waitress or operating Topspin, would provide Jan with the most income per month.
  - b. Discuss any other factors that you believe Jan should consider before discussing a long-term arrangement with the Naples Tennis Club.

**Internet Project** 

#### CP 1-4 Certification requirements for accountants

By satisfying certain specific requirements, accountants may become certified as public accountants (CPAs), management accountants (CMAs), or internal auditors (CIAs). Find the certification requirements for one of these accounting groups by accessing the appropriate Internet site listed below.

Site	Description
http://www.ais-cpa.com	This site lists the address and/or Internet link for each state's board of accoun-
	tancy. Find your state's requirements.
http://www.imanet.org	This site lists the requirements for becoming a CMA.
http://www.theiia.org	This site lists the requirements for becoming a CIA.



#### CP 1-5 Cash flows

Amazon.com, an Internet retailer, was incorporated and began operation in the mid-90s. On the statement of cash flows, would you expect Amazon.com's net cash flows from operating, investing, and financing activities to be positive or negative for its first three years of operations? Use the following format for your answers, and briefly explain your logic.

	First Year	Second Year	Third Year
Net cash flows from operating activities	negative		
Net cash flows from investing activities			
Net cash flows from financing activities			



Internet Project

#### **CP 1-6** Financial analysis of Enron Corporation



The now defunct Enron Corporation, once headquartered in Houston, Texas, provided products and services for natural gas, electricity, and communications to wholesale and retail customers. Enron's operations were conducted through a variety of subsidiaries and affiliates that involved transporting gas through pipelines, transmitting electricity, and managing energy commodities. The following data was taken from Enron's financial statements:

	In millions
Total revenues	\$100,789
Total costs and expenses	98,836
Operating income	1,953
Net income	979
Total assets	65,503
Total liabilities	54,033
Total stockholders' equity	11,470
Net cash flows from operating activities	4,779
Net cash flows from investing activities	(4,264)
Net cash flows from financing activities	571
Net increase in cash	1,086

The market price of Enron's stock was approximately \$83 per share when the prior financial statement data was taken. Before it went bankrupt, Enron's stock sold for \$0.22 per share.

Review the preceding financial statement data and search the Internet for articles on Enron Corporation. Briefly explain why Enron's stock dropped so dramatically.

Enter the following transactions on Page 2 of the two-column journal.

- July 16. Received \$2,100 for serving as a disc jockey for a wedding reception.
  - 18. Purchased supplies on account, \$1,080.
  - 21. Paid \$620 to Upload Music for use of its current music demos in making various music sets.
  - 22. Paid \$800 to a local radio station to advertise the services of PS Music twice daily for the remainder of July.
  - 23. Served as disc jockey for a party for \$2,500. Received \$750, with the remainder due August 4, 2012.
  - 27. Paid electric bill, \$760.
  - 28. Paid wages of \$1,200 to receptionist and part-time assistant.
  - 29. Paid miscellaneous expenses, \$370.
  - 30. Served as a disc jockey for a charity ball for \$1,800. Received \$400, with the remainder due on August 9, 2012.
  - 31. Received \$2,800 for serving as a disc jockey for a party.
  - 31. Paid \$1,400 royalties (music expense) to National Music Clearing for use of various artists' music during July.
  - 31. Paid dividends of \$1,500.

PS Music's chart of accounts and the balance of accounts as of July 1, 2012 (all normal balances), are as follows:

11 Cash	\$5,310	41 Fees Earned	\$6,650
12 Accounts Receivable	1,250	50 Wages Expense	400
14 Supplies	170	51 Office Rent Expense	750
15 Prepaid Insurance	_	52 Equipment Rent Expense	700
17 Office Equipment	_	53 Utilities Expense	300
21 Accounts Payable	250	54 Music Expense	1,590
23 Unearned Revenue	_	55 Advertising Expense	450
31 Capital Stock	5,000	56 Supplies Expense	180
33 Dividends	500	59 Miscellaneous Expense	300

#### **Instructions**

- 1. Enter the July 1, 2012, account balances in the appropriate balance column of a four-column account. Write *Balance* in the Item column, and place a check mark (✓) in the Posting Reference column. (*Hint:* Verify the equality of the debit and credit balances in the ledger before proceeding with the next instruction.)
- Analyze and journalize each transaction in a two-column journal beginning on Page 1, omitting journal entry explanations.
- 3. Post the journal to the ledger, extending the account balance to the appropriate balance column after each posting.
- 4. Prepare an unadjusted trial balance as of July 31, 2012.

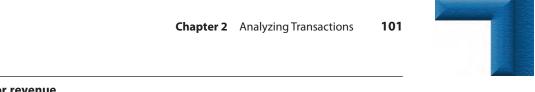
## **Cases & Projects**



#### CP 2-1 Ethics and professional conduct in business

At the end of the current month, Jonni Rembert prepared a trial balance for Star Rescue Service. The credit side of the trial balance exceeds the debit side by a significant amount. Jonni has decided to add the difference to the balance of the miscellaneous expense account in order to complete the preparation of the current month's financial statements by a 5 o'clock deadline. Jonni will look for the difference next week when she has more time.

Discuss whether Jonni is behaving in a professional manner.



#### CP 2-2 Account for revenue

Tucson College requires students to pay tuition each term before classes begin. Students who have not paid their tuition are not allowed to enroll or to attend classes.

What journal entry do you think Tucson College would use to record the receipt of the students' tuition payments? Describe the nature of each account in the entry.

#### CP 2-3 Record transactions

The following discussion took place between Erin Carr, the office manager of Panda Data Company, and a new accountant, Mark Goodell.

Mark: I've been thinking about our method of recording entries. It seems that it's inefficient.

Erin: In what way?

Mark: Well—correct me if I'm wrong—it seems like we have unnecessary steps in the process. We could easily develop a trial balance by posting our transactions directly into the ledger and bypassing the journal altogether. In this way, we could combine the recording and posting process into one step and save ourselves a lot of time. What do you think?

Erin: We need to have a talk.



What should Erin say to Mark?

#### CP 2-4 Debits and credits

#### **Group Project**

The following excerpt is from a conversation between Boris Harris, the president and chief operating officer of Chesapeake Company, and his neighbor, Neil Liven.

Neil: Boris, I'm taking a course in night school, "Intro to Accounting." I was wondering—could you answer a couple of questions for me?

Boris: Well, I will if I can.

*Neil:* Okay, our instructor says that it's critical we understand the basic concepts of accounting, or we'll never get beyond the first test. My problem is with those rules of debit and credit . . . you know, assets increase with debits, decrease with credits, etc.

Boris: Yes, pretty basic stuff. You just have to memorize the rules. It shouldn't be too difficult.

Neil: Sure, I can memorize the rules, but my problem is I want to be sure I understand the basic concepts behind the rules. For example, why can't assets be increased with credits and decreased with debits like revenue? As long as everyone did it that way, why not? It would seem easier if we had the same rules for all increases and decreases in accounts. Also, why is the left side of an account called the debit side? Why couldn't it be called something simple . . . like the "LE" for Left Entry? The right side could be called just "RE" for Right Entry. Finally, why are there just two sides to an entry? Why can't there be three or four sides to an entry?

In a group of four or five, select one person to play the role of Boris and one person to play the role of Neil.

- 1. After listening to the conversation between Boris and Neil, help Boris answer Neil's questions.
- 2. What information (other than just debit and credit journal entries) could the accounting system gather that might be useful to Boris in managing Chesapeake Company?

#### CP 2-5 Transactions and income statement

Anwar Askari is planning to manage and operate AA Caddy Service at Mission Valley Golf and Country Club during June through August 2012. Anwar will rent a small maintenance building from the country club for \$700 per month and will offer caddy services, including cart rentals, to golfers. Anwar has had no formal training in record keeping.

Anwar keeps notes of all receipts and expenses in a shoe box. An examination of Anwar's shoe box records for June revealed the following:

- June 1. Transferred \$3,500 from personal bank account to be used to operate the caddy service.
  - 1. Paid rent expense to Mission Valley Golf and Country Club, \$700.
  - 2. Paid for golf supplies (practice balls, etc.), \$800.
  - 3. Arranged for the rental of 25 regular (pulling) golf carts and 10 gasoline-driven carts for \$3,000 per month. Paid \$500 in advance, with the remaining \$2,500 due June 20.
  - 7. Purchased supplies, including gasoline, for the golf carts on account, \$600. Mission Valley Golf and Country Club has agreed to allow Anwar to store the gasoline in one of its fuel tanks at no cost.
  - 15. Received cash for services from June 1-15, \$4,150.
  - 17. Paid cash to creditors on account, \$600.
  - 20. Paid remaining rental on golf carts, \$2,500.
  - 22. Purchased supplies, including gasoline, on account, \$400.
  - 25. Accepted IOUs from customers on account, \$1,800.
  - 28. Paid miscellaneous expenses, \$350.
  - 30. Received cash for services from June 16-30, \$6,350.
  - 30. Paid telephone and electricity (utilities) expenses, \$340.
  - 30. Paid wages of part-time employees, \$850.
  - 30. Received cash in payment of IOUs on account, \$1,200.
  - 30. Determined the amount of supplies on hand at the end of June, \$500.

Anwar has asked you several questions concerning his financial affairs to date, and he has asked you to assist with his record keeping and reporting of financial data.

- a. To assist Anwar with his record keeping, prepare a chart of accounts that would be appropriate for AA Caddy Service. *Note:* Small businesses such as Ace Caddy Service are often organized as proprietorships. The accounting for proprietorships is similar to that for a corporation, except that the owner's equity accounts differ. Specifically, instead of the account for Capital Stock, a capital account entitled Anwar Askari, Capital is used to record investments in the business. In addition, instead of a dividends account, withdrawals from the business are debited to Anwar Askari, Drawing. A proprietorship has no retained earnings account.
- b. Prepare an income statement for June in order to help Anwar assess the profitability of AA Caddy Service. For this purpose, the use of T accounts may be helpful in analyzing the effects of each June transaction.
- c. Based on Anwar's records of receipts and payments, compute the amount of cash on hand on June 30. For this purpose, a T account for cash may be useful.
- d. A count of the cash on hand on June 30 totaled \$8,390. Briefly discuss the possible causes of the difference between the amount of cash computed in (c) and the actual amount of cash on hand.

Internet Project

### **CP 2-6** Opportunities for accountants

The increasing complexity of the current business and regulatory environment has created an increased demand for accountants who can analyze business transactions and interpret their effects on the financial statements. In addition, a basic ability to analyze the effects of transactions is necessary to be successful in all fields of business as well as in other disciplines, such as law. To better understand the importance of accounting in today's environment, search the Internet or your local newspaper for job opportunities. One possible Internet site is <a href="http://www.careerbuilder.com">http://www.careerbuilder.com</a>. Then do one of the following:

- 1. Print a listing of one or two ads for accounting jobs. Alternatively, bring to class one or two newspaper ads for accounting jobs.
- Print a listing of one or two ads for nonaccounting jobs for which some knowledge of accounting is preferred or necessary. Alternatively, bring to class one or two newspaper ads for such jobs.

#### **Chapter 3** The Adjusting Process



#### PS Music Unadjusted Trial Balance July 31, 2012

	Debit Balances	Credit Balances
Cash	10,510	
Accounts Receivable	3,150	
Supplies	1,250	
Prepaid Insurance	2,700	
Office Equipment	6,000	
Accounts Payable		7,080
Unearned Revenue		7,200
Capital Stock		9,000
Dividends	2,000	
Fees Earned		16,750
Music Expense	3,610	
Wages Expense	2,800	
Office Rent Expense	2,550	
Advertising Expense	1,450	
Equipment Rent Expense	1,300	
Utilities Expense	1,060	
Supplies Expense	180	
Miscellaneous Expense	1,470	
	40,030	40,030

The data needed to determine adjustments for the two-month period ending July 31, 2012, are as follows:

- a. During July, PS Music provided guest disc jockeys for WHBD for a total of 120 hours. For information on the amount of the accrued revenue to be billed to WHBD, see the contract described in the July 3, 2012, transaction at the end of Chapter 2.
- b. Supplies on hand at July 31, \$400.
- c. The balance of the prepaid insurance account relates to the July 1, 2012, transaction at the end of Chapter 2.
- d. Depreciation of the office equipment is \$75.
- e. The balance of the unearned revenue account relates to the contract between PS Music and WHBD, described in the July 3, 2012, transaction at the end of Chapter 2.
- f. Accrued wages as of July 31, 2012, were \$170.

#### **Instructions**

- 1. Prepare adjusting journal entries. You will need the following additional accounts:
  - 18 Accumulated Depreciation—Office Equipment
  - 22 Wages Payable
  - 57 Insurance Expense
  - 58 Depreciation Expense
- 2. Post the adjusting entries, inserting balances in the accounts affected.
- 3. Prepare an adjusted trial balance.

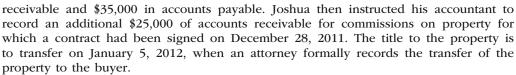
## **Cases & Projects**



#### CP 3-1 Ethics and professional conduct in business

Joshua Thorp opened Laser Co. on January 1, 2011. At the end of the first year, the business needed additional funds. On behalf of Laser, Joshua applied to Vermont National Bank for a loan of \$500,000. Based on Laser financial statements, which had been prepared on a cash basis, the Vermont National Bank loan officer rejected the loan as too risky.

After receiving the rejection notice, Joshua instructed his accountant to prepare the financial statements on an accrual basis. These statements included \$90,000 in accounts



Joshua then applied for a \$500,000 loan from NYC Bank, using the revised financial statements. On this application, Joshua indicated that he had not previously been rejected for credit. Discuss the ethical and professional conduct of Joshua Thorp in applying for the loan from NYC Bank.



#### **CP 3-2** Accrued expense

On December 30, 2012, you buy a Ford 350F truck. It comes with a three-year, 48,000-mile warranty. On March 5, 2013, you return the truck to the dealership for some basic repairs covered under the warranty. The cost of the repairs to the dealership is \$2,400. Assume that based upon past history, Ford Motor Company can reasonably estimate the cost of repairs for each model year for its Ford 350F. In what year, 2012 or 2013, should Ford recognize the cost of the warranty repairs as an expense?



#### CP 3-3 Accrued revenue

The following is an excerpt from a conversation between Kay Scott and Jeff Lee just before they boarded a flight to London on Delta Air Lines. They are going to London to attend their company's annual sales conference.

Kay: Jeff, aren't you taking an introductory accounting course at college?

*Jeff*: Yes, I decided it's about time I learned something about accounting. You know, our annual bonuses are based on the sales figures that come from the accounting department.

Kay: I guess I never really thought about it.

Jeff: You should think about it! Last year, I placed a \$1,000,000 order on December 28. But when I got my bonus, the \$1,000,000 sale wasn't included. They said it hadn't been shipped until January 5, so it would have to count in next year's bonus.

Kay: A real bummer!

Jeff: Right! I was counting on that bonus including the \$1,000,000 sale.

Kay: Did you complain?

Jeff: Yes, but it didn't do any good. Lori, the head accountant, said something about matching revenues and expenses. Also, something about not recording revenues until the sale is final. I figure I'd take the accounting course and find out whether she's just messing with me.

Kay: I never really thought about it. When do you think Delta Air Lines will record its revenues from this flight?

Jeff: Hmmm...I guess it could record the revenue when it sells the ticket...or... when the boarding passes are scanned at the door...or... when we get off the plane...or when our company pays for the tickets...or...I don't know. I'll ask my accounting instructor.

Discuss when Delta Air Lines should recognize the revenue from ticket sales to properly match revenues and expenses.

#### CP 3-4 Adjustments and financial statements

Several years ago, your brother opened Granite Appliance Repairs. He made a small initial investment and added money from his personal bank account as needed. He withdrew money for living expenses at irregular intervals. As the business grew, he hired an assistant. He is now considering adding more employees, purchasing additional service trucks, and purchasing the building he now rents. To secure funds for the expansion, your brother submitted a loan application to the bank and included the most recent financial statements (shown below) prepared from accounts maintained by a part-time bookkeeper.



#### Granite Appliance Repairs Income Statement For the Year Ended July 31, 2012

For the rear Ended 3	uly 31, 2012	
Service revenue		\$225,000
Less: Rent paid	\$62,400	
Wages paid	49,500	
Supplies paid	14,000	
Utilities paid	13,000	
Insurance paid	7,200	
Miscellaneous payments	18,200	164,300
Net income		\$ 60,700
Granite Appliance Balance She July 31, 201	et	
Assets		
Cash		\$ 31,800
Amounts due from customers		37,500
Truck		110,700
Total assets		\$180,000
Equities		
Owner's equity		\$180,000

After reviewing the financial statements, the loan officer at the bank asked your brother if he used the accrual basis of accounting for revenues and expenses. Your brother responded that he did and that is why he included an account for "Amounts Due from Customers." The loan officer then asked whether or not the accounts were adjusted prior to the preparation of the statements. Your brother answered that they had not been adjusted.

- a. Why do you think the loan officer suspected that the accounts had not been adjusted prior to the preparation of the statements?
- b. Indicate possible accounts that might need to be adjusted before an accurate set of financial statements could be prepared.



#### **CP 3-5** Codes of ethics

Obtain a copy of your college or university's student code of conduct. In groups of three or four, answer the following questions:

- 1. Compare this code of conduct with the accountant's Codes of Professional Conduct, which is linked to the text Web site at www.cengage.com/accounting/warren.
- 2. One of your classmates asks you for permission to copy your homework, which your instructor will be collecting and grading for part of your overall term grade. Although your instructor has not stated whether one student may or may not copy another student's homework, is it ethical for you to allow your classmate to copy your homework? Is it ethical for your classmate to copy your homework?

- d. Accrued receptionist salary on May 31 is \$300.
- e. Rent expired during May is \$1,600.
- f. Unearned fees on May 31 are \$1,500.
- 5. **Optional:** Enter the unadjusted trial balance on an end-of-period spreadsheet (work sheet) and complete the spreadsheet.
- 6. Journalize and post the adjusting entries. Record the adjusting entries on Page 7 of the journal.
- 7. Prepare an adjusted trial balance.
- 8. Prepare an income statement, a retained earnings statement, and a balance sheet.
- 9. Prepare and post the closing entries. Record the closing entries on Page 8 of the journal. (Income Summary is account #34 in the chart of accounts.) Indicate closed accounts by inserting a line in both the Balance columns opposite the closing entry.
- 10. Prepare a post-closing trial balance.

## Cases & Projects



#### CP 4-1 Ethics and professional conduct in business

Laser Graphics is a graphics arts design consulting firm. Spencer Lowry, its treasurer and vice president of finance, has prepared a classified balance sheet as of March 31, 2012, the end of its fiscal year. This balance sheet will be submitted with Laser Graphics' loan application to American Trust & Savings Bank.

In the Current Assets section of the balance sheet, Spencer reported a \$90,000 receivable from Jackie Doyle, the president of Laser Graphics, as a trade account receivable. Jackie borrowed the money from Laser Graphics in April 2010 for a down payment on a new home. She has orally assured Spencer that she will pay off the account receivable within the next year. Spencer reported the \$90,000 in the same manner on the preceding year's balance sheet.

Evaluate whether it is acceptable for Spencer to prepare the March 31, 2012, balance sheet in the manner indicated above.

#### **CP 4-2** Financial statements

The following is an excerpt from a telephone conversation between Jared Bodine, president of Hometown Supplies Co., and Julie Sims, owner of Express Employment Co. *Jared:* Julie, you're going to have to do a better job of finding me a new computer programmer. That last guy was great at programming, but he didn't have any common sense.

Julie: What do you mean? The guy had a master's degree with straight A's.

Jared: Yes, well, last month he developed a new financial reporting system. He said we could do away with manually preparing an end-of-period spreadsheet (work sheet) and financial statements. The computer would automatically generate our financial statements with "a push of a button."

Julie: So what's the big deal? Sounds to me like it would save you time and effort.

Jared: Right! The balance sheet showed a minus for supplies!

Julie: Minus supplies? How can that be?

Jared: That's what I asked.

Julie: So, what did he say?

 $\it Jared$ : Well, after he checked the program, he said that it must be right. The minuses were greater than the pluses.  $\dots$ 

Julie: Didn't he know that Supplies can't have a credit balance—it must have a debit balance?

Jared: He asked me what a debit and credit were.

Julie: I see your point.

- 1. Comment on (a) the desirability of computerizing Hometown Supplies Co.'s financial reporting system, (b) the elimination of the end-of-period spreadsheet (work sheet) in a computerized accounting system, and (c) the computer programmer's lack of accounting knowledge.
- 2. Explain to the programmer why Supplies could not have a credit balance.



#### CP 4-3 Financial statements

Assume that you recently accepted a position with Frontier National Bank as an assistant loan officer. As one of your first duties, you have been assigned the responsibility of evaluating a loan request for \$150,000 from Icancreateart.com, a small corporation. In support of the loan application, Tess Ramey, owner and sole stockholder, submitted a "Statement of Accounts" (trial balance) for the first year of operations ended July 31, 2012.

#### Icancreateart.com **Statement of Accounts**

July 31, 2012			
Cash	5,000		
Billings Due from Others	40,000		
Supplies (chemicals, etc.)	7,500		
Building	122,300		
Equipment	25,000		
Amounts Owed to Others		11,000	
Investment in Business		74,000	
Service Revenue		215,000	
Wages Expense	75,000		
Utilities Expense	10,000		
Rent Expense	8,000		
Insurance Expense	6,000		
Other Expenses	1,200		
	300,000	300,000	

- 1. Explain to Tess Ramey why a set of financial statements (income statement, retained earnings statement, and balance sheet) would be useful to you in evaluating the loan request.
- 2. In discussing the "Statement of Accounts" with Tess Ramey, you discovered that the accounts had not been adjusted at July 31. Analyze the "Statement of Accounts" and indicate possible adjusting entries that might be necessary before an accurate set of financial statements could be prepared.
- Assuming that an accurate set of financial statements will be submitted by Tess Ramey in a few days, what other considerations or information would you require before making a decision on the loan request?

#### **Internet Project**

#### CP 4-4 Compare balance sheets

#### **Group Project**

In groups of three or four, compare the balance sheets of two different companies, and present to the class a summary of the similarities and differences of the two companies. You may obtain the balance sheets you need from one of the following sources:

- 1. Your school or local library.
- 2. The investor relations department of each company.
- 3. The company's Web site on the Internet.
- 4. EDGAR (Electronic Data Gathering, Analysis, and Retrieval), the electronic archives of financial statements filed with the Securities and Exchange Commission.

SEC documents can be retrieved using the EdgarScan™ service at http://sec.gov. To obtain annual report information, click on "Search for Company Filing," click on "Companies & Other Filers," type in the company name, and then click on "Find Companies." Click on the CIK related to the company name, search for Form 10-K, and click on "Retrieve Selected Findings." Finally, click on the "html" for the latest period and the related document.

- July 24. Returned \$5,000 of damaged merchandise purchased on July 21, receiving credit from the seller.
  - 26. Refunded cash on sales made for cash, \$12,000. The cost of the merchandise returned was \$7,200.
  - 28. Paid sales salaries of \$22,800 and office salaries of \$15,200.
  - 29. Purchased store supplies for cash, \$2,400.
  - 30. Sold merchandise on account to Dix Co., terms 2/10, n/30, FOB shipping point, \$18,750. The cost of the merchandise sold was \$11,250.
  - 30. Received cash from sale of July 20, less discount, plus freight paid on July 21.
  - 31. Paid for purchase of July 21, less return of July 24 and discount.

#### **Instructions**

- 1. Enter the balances of each of the accounts in the appropriate balance column of a four-column account. Write *Balance* in the item section, and place a check mark (✓) in the Posting Reference column. Journalize the transactions for July starting on page 20 of the journal.
- Post the journal to the general ledger, extending the month-end balances to the appropriate balance columns after all posting is completed. In this problem, you are not required to update or post to the accounts receivable and accounts payable subsidiary ledgers.
- 3. Prepare an unadjusted trial balance.
- 4. At the end of July, the following adjustment data were assembled. Analyze and use these data to complete (5) and (6).

a.	Merchandise inventory on July 31		\$565,000
b.	Insurance expired during the year		13,400
c.	Store supplies on hand on July 31		3,900
d.	Depreciation for the current year		11,500
e.	Accrued salaries on July 31:		
	Sales salaries	\$3,200	
	Office salaries	1,300	4,500

- 5. **Optional:** Enter the unadjusted trial balance on a 10-column end-of-period spreadsheet (work sheet), and complete the spreadsheet.
- 6. Journalize and post the adjusting entries. Record the adjusting entries on page 22 of the journal.
- 7. Prepare an adjusted trial balance.
- 8. Prepare an income statement, a retained earnings statement, and a balance sheet.
- 9. Prepare and post the closing entries. Record the closing entries on page 23 of the journal. Indicate closed accounts by inserting a line in both the Balance columns opposite the closing entry. Insert the new balance in the retained earnings account.
- 10. Prepare a post-closing trial balance.

## **Cases & Projects**



#### CP 5-1 Ethics and professional conduct in business

On March 13, 2012, Plant-Wise Company, a garden retailer, purchased \$18,000 of seed, terms 2/10, n/30, from Premium Seed Co. Even though the discount period had expired, Brendan Morton subtracted the discount of \$360 when he processed the documents for payment on March 26, 2012.

Discuss whether Brendan Morton behaved in a professional manner by subtracting the discount, even though the discount period had expired.



#### CP 5-2 Purchases discounts and accounts payable

Bud's Video Store Co. is owned and operated by Jim Budeski. The following is an excerpt from a conversation between Jim Budeski and Ann Pavik, the chief accountant for Bud's Video Store.

Jim: Ann, I've got a question about this recent balance sheet.

Ann: Sure, what's your question?

Jim: Well, as you know, I'm applying for a bank loan to finance our new store in Coronado, and I noticed that the accounts payable are listed as \$235,000.

*Ann:* That's right. Approximately \$190,000 of that represents amounts due our suppliers, and the remainder is miscellaneous payables to creditors for utilities, office equipment, supplies, etc.

Jim: That's what I thought. But as you know, we normally receive a 2% discount from our suppliers for earlier payment, and we always try to take the discount.

Ann: That's right. I can't remember the last time we missed a discount.

Jim: Well, in that case, it seems to me the accounts payable should be listed minus the 2% discount. Let's list the accounts payable due suppliers as \$186,200, rather than \$190,000. Every little bit helps. You never know. It might make the difference between getting the loan and not.



How would you respond to Jim Budeski's request?

#### **CP 5-3** Determining cost of purchase

The following is an excerpt from a conversation between Jon Akers and Deb Flack. Jon is debating whether to buy a stereo system from Old Town Audio, a locally owned electronics store, or Sound Pro, an online electronics company.

Jon: Deb, I don't know what to do about buying my new stereo.

Deb: What's the problem?

Jon: Well, I can buy it locally at Old Town Audio for \$1,400.00. However, Sound Pro has the same system listed for \$1,150.00.

Deb: So what's the big deal? Buy it from Sound Pro.

Jon: It's not quite that simple. Sound Pro charges \$39.99 for shipping and handling. If I have them send it next-day air, it'll cost \$69.99 for shipping and handling.

Deb: I guess it is a little confusing.

Jon: That's not all. Old Town Audio will give an additional 2% discount if I pay cash. Otherwise, they will let me use my VISA, or I can pay it off in three monthly installments. In addition, if I buy it from Old Town Audio I have to pay 8% sales tax. I won't have to pay sales tax if I buy it from Sound Pro since they are out of state.

Deb: Anything else???

Jon: Well ... Sound Pro says I have to charge it on my VISA. They don't accept checks.

Deb: I am not surprised. Many online stores don't accept checks.

Jon: I give up. What would you do?

- 1. Assuming that Sound Pro doesn't charge sales tax on the sale to Jon, which company is offering the best buy?
- 2. What might be some considerations other than price that might influence Jon's decision on where to buy the stereo system?

#### CP 5-4 Sales discounts

Your sister operates Budget Parts Company, an online boat parts distributorship that is in its third year of operation. The income statement is shown below and was recently prepared for the year ended July 31, 2012.



Revenues:		
Net sales		\$600,000
Interest revenue		7,500
Total revenues		\$607,500
Expenses:		
Cost of merchandise sold	\$360,000	
Selling expenses	67,500	
Administrative expenses	36,000	
Interest expense	11,250	
Total expenses		474,750
Net income		\$132,750

Your sister is considering a proposal to increase net income by offering sales discounts of 2/15, n/30, and by shipping all merchandise FOB shipping point. Currently, no sales discounts are allowed and merchandise is shipped FOB destination. It is estimated that these credit terms will increase net sales by 15%. The ratio of the cost of merchandise sold to net sales is expected to be 60%. All selling and administrative expenses are expected to remain unchanged, except for store supplies, miscellaneous selling, office supplies, and miscellaneous administrative expenses, which are expected to increase proportionately with increased net sales. The amounts of these preceding items for the year ended July 31, 2012, were as follows:

Store supplies expense	\$9,000
Miscellaneous selling expense	2,400
Office supplies expense	2,000
Miscellaneous administrative expense	1,000

The other income and other expense items will remain unchanged. The shipment of all merchandise FOB shipping point will eliminate all delivery expenses, which for the year ended July 31, 2012, were \$12,000.

- 1. Prepare a projected single-step income statement for the year ending July 31, 2013, based on the proposal. Assume all sales are collected within the discount period.
- 2. a. Based on the projected income statement in (1), would you recommend the implementation of the proposed changes?
  - b. Describe any possible concerns you may have related to the proposed changes described in (1).

#### CP 5-5 Shopping for a television

#### Group Project

Assume that you are planning to purchase a 52-inch LCD, flat screen television. In groups of three or four, determine the lowest cost for the television, considering the available alternatives and the advantages and disadvantages of each alternative. For example, you could purchase locally, through mail order, or through an Internet shopping service. Consider such factors as delivery charges, interest-free financing, discounts, coupons, and availability of warranty services. Prepare a report for presentation to the class.

- 1. Draw a line through the quantity, and insert the quantity and unit cost of the last purchase.
- 2. On the following line, insert the quantity and unit cost of the next-to-the-last purchase.
- 3. Total the cost and market columns and insert the lower of the two totals in the Lower of C or M column. The first item on the inventory sheet has been completed as an example.

#### √ 1. \$409,500

#### **Appendix**

#### PR 6-5B Retail method; gross profit method

Selected data on merchandise inventory, purchases, and sales for Segal Co. and Iroquois Co. are as follows:

	Cost	Retail
Segal Co.		
Merchandise inventory, March 1	\$ 298,000	\$ 375,000
Transactions during March:		
Purchases (net)	4,850,000	6,225,000
Sales		6,320,000
Sales returns and allowances		245,000
Iroquois Co.		
Merchandise inventory, January 1	\$ 300,000	
Transactions during January thru March:		
Purchases (net)	4,150,000	
Sales	6,900,000	
Sales returns and allowances	175,000	
Estimated gross profit rate	40%	

#### **Instructions**

- 1. Determine the estimated cost of the merchandise inventory of Segal Co. on March 31 by the retail method, presenting details of the computations.
- 2. a. Estimate the cost of the merchandise inventory of Iroquois Co. on March 31 by the gross profit method, presenting details of the computations.
  - b. Assume that Iroquois Co. took a physical inventory on March 31 and discovered that \$396,500 of merchandise was on hand. What was the estimated loss of inventory due to theft or damage during January thru March?

## **Cases & Projects**



#### CP 6-1 Ethics and professional conduct in business

Contours Co. is experiencing a decrease in sales and operating income for the fiscal year ending July 31, 2012. Mark Irwin, controller of Contours Co., has suggested that all orders received before the end of the fiscal year be shipped by midnight, July 31, 2012, even if the shipping department must work overtime. Since Contours Co. ships all merchandise FOB shipping point, it would record all such shipments as sales for the year ending July 31, 2012, thereby offsetting some of the decreases in sales and operating income.

Discuss whether Mark Irwin is behaving in a professional manner.

#### **CP 6-2** LIFO and inventory flow

The following is an excerpt from a conversation between Gary Ortiz, the warehouse manager for Ivey Foods Wholesale Co., and its accountant, Lori Cray. Ivey Foods operates a large regional warehouse that supplies produce and other grocery products to grocery stores in smaller communities.



Gary: Lori, can you explain what's going on here with these monthly statements?

Lori: Sure, Gary. How can I help you?

Gary: I don't understand this last-in, first-out inventory procedure. It just doesn't make sense.

Lori: Well, what it means is that we assume that the last goods we receive are the first ones sold. So the inventory consists of the items we purchased first.

Gary: Yes, but that's my problem. It doesn't work that way! We always distribute the oldest produce first. Some of that produce is perishable! We can't keep any of it very long or it'll spoil.

Lori: Gary, you don't understand. We only assume that the products we distribute are the last ones received. We don't actually have to distribute the goods in this way.

Gary: I always thought that accounting was supposed to show what really happened. It all sounds like "make believe" to me! Why not report what really happens?

Respond to Gary's concerns.

## **CP 6-3** Costing inventory

White Dove Company began operations in 2012 by selling a single product. Data on purchases and sales for the year were as follows:

Date	<b>Units Purchased</b>	Unit Cost	<b>Total Cost</b>
April 6	62,000	\$12.20	\$ 756,400
May 18	66,000	13.00	858,000
June 6	80,000	13.20	1,056,000
July 10	80,000	14.00	1,120,000
August 10	54,400	14.25	775,200
October 25	25,600	14.50	371,200
November 4	16,000	14.95	239,200
December 10	_16,000	16.00	256,000
	400,000		\$5,432,000

Sales:	
April	32,000 units
May	32,000
June	40,000
July	48,000
August	56,000
September	56,000
October	36,000
November	20,000
December	16,000
Total units	336,000
Total sales	\$5,200,000

On January 4, 2013, the president of the company, Joel McLees, asked for your advice on costing the 64,000-unit physical inventory that was taken on December 31, 2012. Moreover, since the firm plans to expand its product line, he asked for your advice on the use of a perpetual inventory system in the future.

- 1. Determine the cost of the December 31, 2012, inventory under the periodic system, using the (a) first-in, first-out method, (b) last-in, first-out method, and (c) average cost method.
- 2. Determine the gross profit for the year under each of the three methods in (1).
- 3. a. Explain varying viewpoints why each of the three inventory costing methods may best reflect the results of operations for 2012.
  - b. Which of the three inventory costing methods may best reflect the replacement cost of the inventory on the balance sheet as of December 31, 2012?
  - c. Which inventory costing method would you choose to use for income tax purposes? Why?
  - Discuss the advantages and disadvantages of using a perpetual inventory system. From the data presented in this case, is there any indication of the adequacy of inventory levels during the year?





#### CP 6-4 Inventory ratios for Dell and HP

Dell Inc. and Hewlett-Packard Development Company, L.P. (HP) are both manufacturers of computer equipment and peripherals. However, the two companies follow two different strategies. Dell follows primarily a build-to-order strategy, where the consumer orders the computer from a Web page. The order is then manufactured and shipped to the customer within days of the order. In contrast, HP follows a build-to-stock strategy, where the computer is first built for inventory, then sold from inventory to retailers, such as Best Buy. The two strategies can be seen in the difference between the inventory turnover and number of days' sales in inventory ratios for the two companies. The following financial statement information is provided for Dell and HP for a recent fiscal year (in millions):

	Dell	HP
Inventory, beginning of period	\$ 1,180	\$ 7,879
Inventory, end of period	867	6,128
Cost of goods sold	50,144	87,524

- a. Determine the inventory turnover ratio and number of days' sales in inventory ratio for each company. Round to one decimal place.
- b. Interpret the difference between the ratios for the two companies.





#### **CP 6-5** Comparing inventory ratios for two companies

Tiffany Co. is a high-end jewelry retailer, while Amazon.com uses its e-commerce services, features, and technologies to sell its products through the Internet. Recent balance sheet inventory disclosures for Tiffany and Amazon.com (in millons) are as follows:

	End-of-Period Inventory	Beginning-of-Period Inventory
Tiffany Co.	\$1,601	\$1,242
Amazon.com	1,399	1,200

The cost of merchandise sold reported by each company was as follows:

	Tiffany Co.	Amazon.com
Cost of merchandise sold	\$1,215	\$14,896

- a. Determine the inventory turnover and number of days' sales in inventory for Tiffany and Amazon.com. Round to two decimal places and nearest day.
- b. Interpret your results.





#### CP 6-6 Comparing inventory ratios for three companies

The general merchandise retail industry has a number of segments represented by the following companies:

Company Name	Merchandise Concept	
Costco Wholesale Corporation	Membership warehouse	
Wal-Mart	Discount general merchandise	
JCPenney	Department store	

For a recent year, the following cost of merchandise sold and beginning and ending inventories have been provided from corporate annual reports (in millions) for these three companies:

	Costco	Wal-Mart	JCPenney
Cost of merchandise sold	\$62,335	\$306,158	\$11,571
Merchandise inventory, beginning	5,039	35,180	3,641
Merchandise inventory, ending	5.405	34.511	3,259

- a. Determine the inventory turnover ratio for all three companies. Round to one decimal place.
- b. Determine the number of days' sales in inventory for all three companies. Round to one decimal place.
- c. Interpret these results based on each company's merchandise concept.





#### CP 7-1 Ethics and professional conduct in business

During the preparation of the bank reconciliation for Regal Concepts Co., Misty Watts, the assistant controller, discovered that Windsor National Bank incorrectly recorded a \$15,750 check written by Regal Concepts Co. as \$1,575. Misty has decided not to notify the bank but wait for the bank to detect the error. Misty plans to record the \$14,175 error as Other Income if the bank fails to detect the error within the next three months.

Discuss whether Misty is behaving in a professional manner.

#### **CP 7-2** Internal controls

The following is an excerpt from a conversation between two sales clerks, Craig Rice and Jill Allen. Craig and Jill are employed by Ogden Electronics, a locally owned and operated electronics retail store.

Craig: Did you hear the news?

Jill: What news?

Craig: Kate and Steve were both arrested this morning.

Jill: What? Arrested? You're putting me on!

*Craig:* No, really! The police arrested them first thing this morning. Put them in handcuffs, read them their rights—the whole works. It was unreal!

Jill: What did they do?

Craig: Well, apparently they were filling out merchandise refund forms for fictitious customers and then taking the cash.

Jill: I guess I never thought of that. How did they catch them?

*Craig:* The store manager noticed that returns were twice that of last year and seemed to be increasing. When he confronted Kate, she became flustered and admitted to taking the cash, apparently over \$10,000 in just three months. They're going over the last six months' transactions to try to determine how much Steve stole. He apparently started stealing first.

Suggest appropriate control procedures that would have prevented or detected the theft of cash.

#### **CP 7-3** Internal controls

The following is an excerpt from a conversation between the store manager of Dozier Brothers Grocery Stores, Amy Blankenship, and Mike Ulrich, president of Dozier Brothers Grocery Stores.

Mike: Amy, I'm concerned about this new scanning system.

Amy: What's the problem?

Mike: Well, how do we know the clerks are ringing up all the merchandise?

Amy: That's one of the strong points about the system. The scanner automatically rings up each item, based on its bar code. We update the prices daily, so we're sure that the sale is rung up for the right price.

Mike: That's not my concern. What keeps a clerk from pretending to scan items and then simply not charging his friends? If his friends were buying 10-15 items, it would be easy for the clerk to pass through several items with his finger over the bar code or just pass the merchandise through the scanner with the wrong side showing. It would look normal for anyone observing. In the old days, we at least could hear the cash register ringing up each sale.

Amy: I see your point.

Suggest ways that Dozier Brothers Grocery Stores could prevent or detect the theft of merchandise as described.





#### CP 7-4 Ethics and professional conduct in business

Eric Inman and Darcy Getz are both cash register clerks for Farmer John's Markets. Nancy McNeil is the store manager for Farmer John's Markets. The following is an excerpt of a conversation between Eric and Darcy:

Eric: Darcy, how long have you been working for Farmer John's Markets?

Darcy: Almost five years this June. You just started two weeks ago . . . right?

Eric: Yes. Do you mind if I ask you a question?

Darcy: No, go ahead.

Eric: What I want to know is, have they always had this rule that if your cash register is short at the end of the day, you have to make up the shortage out of your own pocket?

Darcy: Yes, as long as I've been working here.

Eric: Well, it's the pits. Last week I had to pay in almost \$25.

Darcy: It's not that big a deal. I just make sure that I'm not short at the end of the day.

Eric: How do you do that?

Darcy: I just shortchange a few customers early in the day. There are a few jerks that deserve it anyway. Most of the time, their attention is elsewhere and they don't think to check their change.

Eric: What happens if you're over at the end of the day?

Darcy: Nancy lets me keep it as long as it doesn't get to be too large. I've not been short in over a year. I usually clear about \$10 to \$15 extra per day.

Discuss this case from the viewpoint of proper controls and professional behavior.

#### CP 7-5 Bank reconciliation and internal control

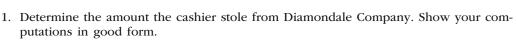
The records of Diamondale Company indicate a May 31 cash balance of \$10,550, which includes undeposited receipts for May 30 and 31. The cash balance on the bank statement as of May 31 is \$8,575. This balance includes a note of \$5,000 plus \$200 interest collected by the bank but not recorded in the journal. Checks outstanding on May 31 were as follows: No. 670, \$900; No. 679, \$750; No. 690, \$1,650; No. 1148, \$225; No. 1149, \$300; and No. 1151, \$600.

On May 3, the cashier resigned, effective at the end of the month. Before leaving on May 31, the cashier prepared the following bank reconciliation:

Cash balance per books, May 31		\$10,550
Add outstanding checks:		
No. 1148	\$225	
1149	300	
1151	600	1,025
		\$11,575
Less undeposited receipts		3,000
Cash balance per bank, May 31		\$ 8,575
Deduct unrecorded note with interest		5,200
True cash, May 31		\$ 3,375

Calculator Tape of Outstanding Checks: 0*	
225+	
300+	
600+	
1,025*	

Subsequently, the owner of Diamondale Company discovered that the cashier had stolen an unknown amount of undeposited receipts, leaving only \$1,000 to be deposited on May 31. The owner, a close family friend, has asked your help in determining the amount that the former cashier has stolen.



- 2. How did the cashier attempt to conceal the theft?
- 3. a. Identify two major weaknesses in internal controls, which allowed the cashier to steal the undeposited cash receipts.
  - b. Recommend improvements in internal controls, so that similar types of thefts of undeposited cash receipts can be prevented.

#### CP 7-6 Observe internal controls over cash

#### **Group Project**

Select a business in your community and observe its internal controls over cash receipts and cash payments. The business could be a bank or a bookstore, restaurant, department store, or other retailer. In groups of three or four, identify and discuss the similarities and differences in each business's cash internal controls.





#### CP 7-7 Cash to monthly cash expenses ratio

OccuLogix, Inc., is a health care company that specializes in developing diagnostic devices for eye disease. OccuLogix reported the following data (in thousands) for the years ending December 31, 2008, 2007, and 2006:

	For Years Ending December 31		
	2008	2007	2006
Cash and cash equivalents	\$ 2,565	\$ 2,236	\$ 5,741
Net cash flows from operations	(9,434)	(17,217)	(14,548)

- 1. Determine the monthly cash expenses for 2008, 2007, and 2006. Round to one decimal place.
- 2. Determine the ratio of cash to monthly cash expenses as of December 31, 2008, 2007, and 2006. Round to one decimal place.
- 3. Based on (1) and (2), comment on OccuLogix's ratio of cash to monthly operating expenses for 2008, 2007, and 2006.

- June 23. Received \$10,100 on note of March 25.
  - 30. Received \$25,125 on note of May 31.
- July 1. Received a \$28,000, 9%, 30-day note on account.
  - 31. Received \$28,210 on note of July 1.
- Aug. 14. Received \$36,630 on note of May 16.

#### **Instructions**

Journalize the entries to record the transactions.

#### OBJ. 6



#### PR 8-6B Sales and notes receivable transactions

The following were selected from among the transactions completed during the current year by Indigo Co., an appliance wholesale company:

- Jan. 13. Sold merchandise on account to Boylan Co., \$32,000. The cost of merchandise sold was \$19,200.
- Mar. 10. Accepted a 60-day, 6% note for \$32,000 from Boylan Co. on account.
- May 9. Received from Boylan Co. the amount due on the note of March 10.
- June 10. Sold merchandise on account to Holen for \$18,000. The cost of merchandise sold was \$10,000.
  - 15. Loaned \$24,000 cash to Angie Jones, receiving a 30-day, 7% note.
  - Received from Holen the amount due on the invoice of June 10, less 2% discount.
- July 15. Received the interest due from Angie Jones and a new 60-day, 9% note as a renewal of the loan of June 15. (Record both the debit and the credit to the notes receivable account.)
- Sept. 13. Received from Angie Jones the amount due on her note of July 15.
  - 13. Sold merchandise on account to Aztec Co., \$40,000. The cost of merchandise sold was \$25,000.
- Oct. 12. Accepted a 60-day, 6% note for \$40,000 from Aztec Co. on account.
- Dec. 11. Aztec Co. dishonored the note dated October 12.
  - 26. Received from Aztec Co. the amount owed on the dishonored note, plus interest for 15 days at 12% computed on the maturity value of the note.

#### Instructions

Journalize the transactions.

## **Cases & Projects**



### **CP 8-1** Ethics and professional conduct in business

Stacey Ball, vice president of operations for Clinton County Bank, has instructed the bank's computer programmer to use a 365-day year to compute interest on depository accounts (liabilities). Stacey also instructed the programmer to use a 360-day year to compute interest on loans (assets).

Discuss whether Stacey is behaving in a professional manner.

#### **CP 8-2** Estimate uncollectible accounts

For several years, Dolphin Co.'s sales have been on a "cash only" basis. On January 1, 2009, however, Dolphin Co. began offering credit on terms of n/30. The amount of the adjusting entry to record the estimated uncollectible receivables at the end of each year

has been 1/4 of 1% of credit sales, which is the rate reported as the average for the industry. Credit sales and the year-end credit balances in Allowance for Doubtful Accounts for the past four years are as follows:

Year	Credit Sales	Allowance for Doubtful Accounts
2009	\$3,000,000	\$ 3,200
2010	3,150,000	5,500
2011	3,400,000	8,000
2012	3,800,000	10,300

Hugh Lopez, president of Dolphin Co., is concerned that the method used to account for and write off uncollectible receivables is unsatisfactory. He has asked for your advice in the analysis of past operations in this area and for recommendations for change.

- 1. Determine the amount of (a) the addition to Allowance for Doubtful Accounts and (b) the accounts written off for each of the four years.
- Advise Hugh Lopez as to whether the estimate of ¼ of 1% of credit sales appears reasonable.
  - Assume that after discussing (a) with Hugh Lopez, he asked you what action might be taken to determine what the balance of Allowance for Doubtful Accounts should be at December 31, 2012, and what possible changes, if any, you might recommend in accounting for uncollectible receivables. How would you respond?



#### CP 8-3 Accounts receivable turnover and days' sales in receivables

Best Buy is a specialty retailer of consumer electronics, including personal computers, entertainment software, and appliances. Best Buy operates retail stores in addition to the Best Buy, Media Play, On Cue, and Magnolia Hi-Fi Web sites. For two recent years, Best Buy reported the following (in millions):

	Year Ending	
	Feb. 28, 2009	Mar. 1, 2008
Net sales	\$45,015	\$40,023
Accounts receivable at end of year	1,868	549

Assume that the accounts receivable (in millions) were \$548 at the beginning of fiscal year 2008.

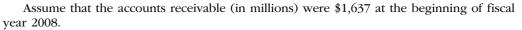
- 1. Compute the accounts receivable turnover for 2009 and 2008. Round to one decimal place.
- 2. Compute the days' sales in receivables at the end of 2009 and 2008. Round to one decimal place.
- What conclusions can be drawn from (1) and (2) regarding Best Buy's efficiency in collecting receivables?
- What assumption did we make about sales for the Best Buy ratio computations that might distort the ratios and therefore cause the ratios not to be comparable for 2009 and 2008?



#### CP 8-4 Accounts receivable turnover and days' sales in receivables

Apple Inc. designs, manufactures, and markets personal computers and related personal computing and communicating solutions for sale primarily to education, creative, consumer, and business customers. Substantially all of the company's net sales over the last five years are from sales of its Macs, iPods, iPads, and related software and peripherals. For two recent fiscal years, Apple reported the following (in millions):

	Year Ending	
	Sept. 26, 2009	Sept. 27, 2008
Net sales	\$36,537	\$32,479
Accounts receivable at end of year	3,361	2,422



- 1. Compute the accounts receivable turnover for 2009 and 2008. Round to one decimal place.
- 2. Compute the days' sales in receivables at the end of 2009 and 2008. Round to one decimal place.
- 3. What conclusions can be drawn from (1) and (2) regarding Apple's efficiency in collecting receivables?





#### CP 8-5 Accounts receivable turnover and days' sales in receivables

EarthLink, Inc., is a nationwide Internet Service Provider (ISP). EarthLink provides a variety of services to its customers, including narrowband access, broadband or high-speed access, and Web hosting services. For two recent years, EarthLink reported the following (in thousands):

	Year Ending	
	Dec. 31, 2009	Dec. 31, 2008
Net sales	\$723,729	\$955,577
Accounts receivable at end of year	66,623	50,823

Assume that the accounts receivable (in thousands) were \$41,483 at January 1, 2008.

- 1. Compute the accounts receivable turnover for 2009 and 2008. Round to one decimal place.
- 2. Compute the days' sales in receivables at the end of 2009 and 2008. Round to one decimal place.
- 3. What conclusions can be drawn from (1) and (2) regarding EarthLink's efficiency in collecting receivables?
- 4. Given the nature of EarthLink's operations, do you believe EarthLink's accounts receivable turnover ratio would be higher or lower than a typical manufacturing company, such as Boeing or Kellogg Company? Explain.





#### CP 8-6 Accounts receivable turnover

The accounts receivable turnover ratio will vary across companies, depending on the nature of the company's operations. For example, an accounts receivable turnover of 6 for an Internet Service Provider is unacceptable but might be excellent for a manufacturer of specialty milling equipment. A list of well-known companies follows.

Alcoa Inc. The Coca-Cola Company Kroger

AutoZone, Inc. Delta Air Lines Procter & Gamble
Barnes & Noble, Inc. The Home Depot Wal-Mart

Caterpillar IBM Whirlpool Corporation

- 1. Categorize each of the preceding companies as to whether its turnover ratio is likely to be above or below 15.
- 2. Based on (1), identify a characteristic of companies with accounts receivable turnover ratios above 15.

2012

- July 1. Purchased a new truck for \$64,000, paying cash.
- Oct. 7. Sold the truck purchased January 3, 2011, for \$45,000. (Record depreciation for the year.)
- Dec. 31. Recorded depreciation on the remaining truck. It has an estimated residual value of \$17,500 and an estimated useful life of 10 years.

#### Instructions

Journalize the transactions and the adjusting entries.

#### **OBJ. 4, 5**

**✓** b. \$45,000

#### PR 9-6B Amortization and depletion entries

Data related to the acquisition of timber rights and intangible assets during the current year ended December 31 are as follows:

- a. On December 31, the company determined that \$1,800,000 of goodwill was impaired.
- b. Governmental and legal costs of \$900,000 were incurred on June 30 in obtaining a patent with an estimated economic life of 10 years. Amortization is to be for one-half year.
- c. Timber rights on a tract of land were purchased for \$1,560,000 on February 4. The stand of timber is estimated at 12,000,000 board feet. During the current year, 3,200,000 board feet of timber were cut and sold.

#### **Instructions**

- 1. Determine the amount of the amortization, depletion, or impairment for the current year for each of the foregoing items.
- 2. Journalize the adjusting entries to record the amortization, depletion, or impairment for each item.

## Cases & Projects



#### **CP 9-1** Ethics and professional conduct in business

Rosa Salinas, CPA, is an assistant to the controller of Zebra Consulting Co. In her spare time, Rosa also prepares tax returns and performs general accounting services for clients. Frequently, Rosa performs these services after her normal working hours, using Zebra Consulting Co.'s computers and laser printers. Occasionally, Rosa's clients will call her at the office during regular working hours.

Discuss whether Rosa is performing in a professional manner.

#### CP 9-2 Financial vs. tax depreciation

The following is an excerpt from a conversation between two employees of Omni Technologies, Jay Bach and Cora Hardaway. Jay is the accounts payable clerk, and Cora is the cashier.

Jay: Cora, could I get your opinion on something?

Cora: Sure, Jay.

Jay: Do you know Jo, the fixed assets clerk?

Cora: I know who she is, but I don't know her real well. Why?

Jay: Well, I was talking to her at lunch last Monday about how she liked her job, etc. You know, the usual... and she mentioned something about having to keep two sets of books... one for taxes and one for the financial statements. That can't be good accounting, can it? What do you think?

Cora: Two sets of books? It doesn't sound right.

Jay: It doesn't seem right to me either. I was always taught that you had to use generally accepted accounting principles. How can there be two sets of books? What can be the difference between the two?

How would you respond to Jay and Cora if you were Jo?



#### **CP 9-3** Effect of depreciation on net income

Atlas Construction Co. specializes in building replicas of historic houses. Paul Raines, president of Atlas Construction, is considering the purchase of various items of equipment on July 1, 2010, for \$500,000. The equipment would have a useful life of five years and no residual value. In the past, all equipment has been leased. For tax purposes, Paul is considering depreciating the equipment by the straight-line method. He discussed the matter with his CPA and learned that, although the straight-line method could be elected, it was to his advantage to use the Modified Accelerated Cost Recovery System (MACRS) for tax purposes. He asked for your advice as to which method to use for tax purposes.

- 1. Compute depreciation for each of the years (2010, 2011, 2012, 2013, 2014, and 2015) of useful life by (a) the straight-line method and (b) MACRS. In using the straight-line method, one-half year's depreciation should be computed for 2010 and 2015. Use the MACRS rates presented on page 415.
- 2. Assuming that income before depreciation and income tax is estimated to be \$900,000 uniformly per year and that the income tax rate is 40%, compute the net income for each of the years 2010, 2011, 2012, 2013, 2014, and 2015 if (a) the straight-line method is used and (b) MACRS is used.
- 3. What factors would you present for Paul's consideration in the selection of a depreciation method?

**Internet Project** 

#### CP 9-4 Applying for patents, copyrights, and trademarks

#### **Group Project**

Go to the Internet and review the procedures for applying for a patent, a copyright, and a trademark. You may find information available on Wikipedia (Wikipedia.org) useful for this purpose. Prepare a brief written summary of these procedures.





#### CP 9-5 Fixed asset turnover: Three industries

The following table shows the revenues and average net fixed assets for a recent fiscal year for three different companies from three different industries: retailing, manufacturing, and communications.

	Revenues (in millions)	Average Net Fixed Assets (in millions)
Wal-Mart	\$405,607	\$96,335
Occidental Petroleum Corporation	15,403	32,856
Comcast Corporation	34,256	24,034

- a. For each company, determine the fixed asset turnover ratio. Round to two decimal places.
- b. Explain Wal-Mart's ratio relative to the other two companies.

## **Cases & Projects**



#### CP 10-1 Ethics and professional conduct in business

Lisa Deuel is a certified public accountant (CPA) and staff accountant for Bratz and Bratz, a local CPA firm. It had been the policy of the firm to provide a holiday bonus equal to two weeks' salary to all employees. The firm's new management team announced on November 15 that a bonus equal to only one week's salary would be made available to employees this year. Lisa thought that this policy was unfair because she and her coworkers planned on the full two-week bonus. The two-week bonus had been given for 10 straight years, so it seemed as though the firm had breached an implied commitment. Thus, Lisa decided that she would make up the lost bonus week by working an extra six hours of overtime per week over the next five weeks until the end of the year. Bratz and Bratz's policy is to pay overtime at 150% of straight time.

Lisa's supervisor was surprised to see overtime being reported, since there is generally very little additional or unusual client service demands at the end of the calendar year. However, the overtime was not questioned, since firm employees are on the "honor system" in reporting their overtime.

Discuss whether the firm is acting in an ethical manner by changing the bonus. Is Lisa behaving in an ethical manner?

#### **CP 10-2** Recognizing pension expense

The annual examination of Wave Company's financial statements by its external public accounting firm (auditors) is nearing completion. The following conversation took place between the controller of Wave Company (Tommy) and the audit manager from the public accounting firm (Jaclyn).

Jaclyn: You know, Tommy, we are about to wrap up our audit for this fiscal year. Yet, there is one item still to be resolved.

Tommy: What's that?

Jaclyn: Well, as you know, at the beginning of the year, Wave began a defined benefit pension plan. This plan promises your employees an annual payment when they retire, using a formula based on their salaries at retirement and their years of service. I believe that a pension expense should be recognized this year, equal to the amount of pension earned by your employees.

Tommy: Wait a minute. I think you have it all wrong. The company doesn't have a pension expense until it actually pays the pension in cash when the employee retires. After all, some of these employees may not reach retirement, and if they don't, the company doesn't owe them anything.

Jaclyn: You're not really seeing this the right way. The pension is earned by your employees during their working years. You actually make the payment much later—when they retire. It's like one long accrual—much like incurring wages in one period and paying them in the next. Thus, I think that you should recognize the expense in the period the pension is earned by the employees.

Tommy: Let me see if I've got this straight. I should recognize an expense this period for something that may or may not be paid to the employees in 20 or 30 years, when they finally retire. How am I supposed to determine what the expense is for the current year? The amount of the final retirement depends on many uncertainties: salary levels, employee longevity, mortality rates, and interest earned on investments to fund the pension. I don't think that an amount can be determined, even if I accepted your arguments.





#### CP 10-3 Ethics and professional conduct in business

Gloria Seuss was discussing summer employment with Ella Kitt, president of Hotel California Construction Service:

Ella: I'm glad that you're thinking about joining us for the summer. We could certainly use the help.

Gloria: Sounds good. I enjoy outdoor work, and I could use the money to help with next year's school expenses.

Ella: I've got a plan that can help you out on that. As you know, I'll pay you \$14 per hour, but in addition, I'd like to pay you with cash. Since you're only working for the summer, it really doesn't make sense for me to go to the trouble of formally putting you on our payroll system. In fact, I do some jobs for my clients on a strictly cash basis, so it would be easy to just pay you that way.

Gloria: Well, that's a bit unusual, but I guess money is money.

Ella: Yeah, not only that, it's tax-free!

Gloria: What do you mean?

*Ella:* Didn't you know? Any money that you receive in cash is not reported to the IRS on a W-2 form; therefore, the IRS doesn't know about the income—hence, it's the same as tax-free earnings.

- a. Why does Ella Kitt want to conduct business transactions using cash (not check or credit card)?
- b. How should Gloria respond to Ella's suggestion?

**Internet Project** 

#### CP 10-4 Payroll forms

#### **Group Project**

Payroll accounting involves the use of government-supplied forms to account for payroll taxes. Three common forms are the W-2, Form 940, and Form 941. Form a team with three of your classmates and retrieve copies of each of these forms. They may be obtained from a local IRS office, a library, or downloaded from the Internet at http://www.irs.gov (go to forms and publications).

Briefly describe the purpose of each of the three forms.

Internet Project

## **CP 10-5** Contingent liabilities



Altria Group, Inc., has over 12 pages dedicated to describing contingent liabilities in the notes to recent financial statements. These pages include extensive descriptions of multiple contingent liabilities. Use the Internet to research Altria Group, Inc., at http://www.altria.com.

- a. What are the major business units of Altria Group?
- b. Based on your understanding of this company, why would Altria Group require 11 pages of contingency disclosure?

## Cases & Projects





#### CP 11-1 Board of directors' actions

Bernie Ebbers, the CEO of WorldCom, a major telecommunications company, was having personal financial troubles. Ebbers pledged a large stake of his WorldCom stock as security for some personal loans. As the price of WorldCom stock sank, Ebbers' bankers threatened to sell his stock in order to protect their loans. To avoid having his stock sold, Ebbers asked the board of directors of WorldCom to loan him nearly \$400 million of corporate assets at 2.5% interest to pay off his bankers. The board agreed to lend him the money.

Comment on the decision of the board of directors in this situation.



#### CP 11-2 Ethics and professional conduct in business

Hazel Holden and Cedric Dalton are organizing Calgary Metals Unlimited Inc. to undertake a high-risk gold-mining venture in Canada. Hazel and Cedric tentatively plan to request authorization for 100,000,000 shares of common stock to be sold to the general public. Hazel and Cedric have decided to establish par of \$0.02 per share in order to appeal to a wide variety of potential investors. Hazel and Cedric feel that investors would be more willing to invest in the company if they received a large quantity of shares for what might appear to be a "bargain" price.

Discuss whether Hazel and Cedric are behaving in a professional manner.

#### CP 11-3 Issuing stock

Bio Engineering Inc. began operations on January 2, 2012, with the issuance of 250,000 shares of \$80 par common stock. The sole stockholders of Bio Engineering Inc. are Jean Cushing and Dr. Louis Fong, who organized Bio Engineering Inc. with the objective of developing a new flu vaccine. Dr. Fong claims that the flu vaccine, which is nearing the final development stage, will protect individuals against 95% of the flu types that have been medically identified. To complete the project, Bio Engineering Inc. needs \$40,000,000 of additional funds. The local banks have been unwilling to loan the funds because of the lack of sufficient collateral and the riskiness of the business.

The following is a conversation between Jean Cushing, the chief executive officer of Bio Engineering Inc., and Louis Fong, the leading researcher.

Jean: What are we going to do? The banks won't loan us any more money, and we've got to have \$40 million to complete the project. We are so close! It would be a disaster to quit now. The only thing I can think of is to issue additional stock. Do you have any suggestions?

Louis: I guess you're right. But if the banks won't loan us any more money, how do you think we can find any investors to buy stock?

*Jean:* I've been thinking about that. What if we promise the investors that we will pay them 5% of net sales until they have received an amount equal to what they paid for the stock?

Louis: What happens when we pay back the \$40 million? Do the investors get to keep the stock? If they do, it'll dilute our ownership.

Jean: How about, if after we pay back the \$40 million, we make them turn in their stock for \$120 per share? That's one and one-half times what they paid for it, plus they would have already gotten all their money back. That's a \$120 profit per share for the investors.

Louis: It could work. We get our money, but don't have to pay any interest, dividends, or the \$80 per share until we start generating net sales. At the same time, the investors could get their money back plus \$120 per share profit.

*Jean:* We'll need current financial statements for the new investors. I'll get our accountant working on them and contact our attorney to draw up a legally binding contract for the new investors. Yes, this could work.

In late 2012, the attorney and the various regulatory authorities approved the new stock offering, and 500,000 shares of common stock were privately sold to new investors at the stock's par of \$80.

In preparing financial statements for 2012, Jean Cushing and Todd Nash, the controller for Bio Engineering Inc., have the following conversation:

Todd: Jean, I've got a problem.

Jean: What's that, Todd?

Todd: Issuing common stock to raise that additional \$40 million was a great idea. But . . .

Jean: But what?

Todd: I've got to prepare the 2012 annual financial statements, and I am not sure how to classify the common stock.

Jean: What do you mean? It's common stock.

Todd: I'm not so sure. I called the auditor and explained how we are contractually obligated to pay the new stock-holders 5% of net sales until \$80 per share is paid. Then, we may be obligated to pay them \$120 per share.

Jean: So . . .

Todd: So the auditor thinks that we should classify the additional issuance of \$40 million as debt, not stock! And, if we put the \$40 million on the balance sheet as debt, we will violate our other loan agreements with the banks. And, if these agreements are violated, the banks may call in all our debt immediately. If they do that, we are in deep trouble. We'll probably have to file for bankruptcy. We just don't have the cash to pay off the banks.

- 1. Discuss the arguments for and against classifying the issuance of the \$40 million of stock as debt.
- What do you think might be a practical solution to this classification problem?





#### CP 11-4 Interpret stock exchange listing

The following stock exchange data for General Electric (GE) were taken from the Yahoo! Finance Web site on April 29, 2010:

Gen Electric Co (1	NYSE: GE)		
Last Trade:	19.49	Prev. Clos:	18.95
Trade Time:	4:00 PM EST	1y Target Est:	22.09
Change:	0.54	Day's Range:	19.03-19.49
	(2.85%)	52wk Range:	10.50-19.69
		Volume:	70,066,312
		Div & Yield:	0.40 (2.40%)

- a. If you owned 500 shares of GE, what amount would you receive as a quarterly dividend?
- b. Compute the percentage increase in price from the Previous Close to the Last Trade. Round to two decimal places.
- c. What is GE's percentage change in market price from the 52-week low to the Previous Close on April 28, 2010? Round to one decimal place.
- d. If you bought 500 shares of GE at the Last Trade price on April 29, 2010, how much would it cost, and who gets the money?

#### CP 11-5 Dividends

Cikan Designs Inc. has paid quarterly cash dividends since 2001. These dividends have steadily increased from \$0.02 per share to the latest dividend declaration of \$0.40 per share. The board of directors would like to continue this trend and is hesitant to suspend or decrease the amount of quarterly dividends. Unfortunately, sales dropped sharply in the fourth quarter of 2012 because of worsening economic conditions and increased competition. As a result, the board is uncertain as to whether it should declare a dividend for the last quarter of 2012.

On November 1, 2012, Cikan Designs Inc. borrowed \$3,600,000 from Metro National Bank to use in modernizing its retail stores and to expand its product line in reaction to its competition. The terms of the 10-year, 6% loan require Cikan Designs Inc. to:

- a. Pay monthly interest on the last day of the month.
- b. Pay \$360,000 of the principal each November 1, beginning in 2013.
- c. Maintain a current ratio (current assets/current liabilities) of 2.
- d. Maintain a minimum balance (a compensating balance) of \$100,000 in its Metro National Bank account.

On December 31, 2012, \$900,000 of the \$3,600,000 loan had been disbursed in modernization of the retail stores and in expansion of the product line. Cikan Designs Inc.'s balance sheet as of December 31, 2012, is shown below.

#### Cikan Designs Inc. Balance Sheet December 31, 2012

December 31,	, 2012		
Assets			
Current assets:			
Cash		\$ 250,000	
Marketable securities		2,700,000	
Accounts receivable	\$ 700,000		
Less allowance for doubtful accounts	50,000	650,000	
Merchandise inventory		2,680,000	
Prepaid expenses		20,000	
Total current assets			\$ 6,300,000
Property, plant, and equipment:			
Land		\$ 500,000	
Buildings	\$4,750,000		
Less accumulated depreciation	1,140,000	3,610,000	
Equipment	\$2,320,000		
Less accumulated depreciation	730,000	1,590,000	
Total property, plant, and equipment			5,700,000
Total assets			\$12,000,000
Liabilitie	s		
Current liabilities:			
Accounts payable	\$1,430,000		
Notes payable (Metro National Bank)	360,000		
Salaries payable	10,000		
Total current liabilities		\$1,800,000	
Long-term liabilities:			
Notes payable (Metro National Bank)		3,240,000	
Total liabilities			\$5,040,000
Stockholders'	Equity		
Paid-in capital:			
Common stock, \$25 par (200,000 shares			
authorized, 180,000 shares issued)	\$4,500,000		
Excess of issue price over par	270,000		
Total paid-in capital		\$4,770,000	
Retained earnings		2,190,000	
Total stockholders' equity			6,960,000
Total liabilities and stockholders' equity			\$12,000,000

The board of directors is scheduled to meet January 8, 2013, to discuss the results of operations for 2012 and to consider the declaration of dividends for the fourth quarter of 2012. The chairman of the board has asked for your advice on the declaration of dividends.

- 1. What factors should the board consider in deciding whether to declare a cash dividend?
- 2. The board is considering the declaration of a stock dividend instead of a cash dividend. Discuss the issuance of a stock dividend from the point of view of (a) a stockholder and (b) the board of directors.

## Internet Project

#### **CP 11-6** Profiling a corporation

#### **Group Project**

Select a public corporation you are familiar with or which interests you. Using the Internet, your school library, and other sources, develop a short (1 to 2 pages) profile of the corporation. Include in your profile the following information:

- 1. Name of the corporation.
- 2. State of incorporation.
- 3. Nature of its operations.
- 4. Total assets for the most recent balance sheet.
- 5. Total revenues for the most recent income statement.
- 6. Net income for the most recent income statement.
- 7. Classes of stock outstanding.
- 8. Market price of the stock outstanding.
- 9. High and low price of the stock for the past year.
- 10. Dividends paid for each share of stock during the past year.

In groups of three or four, discuss each corporate profile. Select one of the corporations, assuming that your group has \$100,000 to invest in its stock. Summarize why your group selected the corporation it did and how financial accounting information may have affected your decision. Keep track of the performance of your corporation's stock for the remainder of the term.

*Note:* Most major corporations maintain "home pages" on the Internet. This home page provides a variety of information on the corporation and often includes the corporation's financial statements. In addition, the New York Stock Exchange Web site (http://www.nyse.com) includes links to the home pages of many listed companies. Financial statements can also be accessed using EDGAR, the electronic archives of financial statements filed with the Securities and Exchange Commission (SEC).

SEC documents can also be retrieved using the EdgarScan<sup>™</sup> service at http://www.sec.gov/edgar/searchedgar/companysearch.html. To obtain annual report information, key in a company name in the appropriate space. Edgar will list the reports available to you for the company you've selected. Select the most recent annual report filing, identified as a 10-K or 10-K405.

Chapter 12 Long-Term Liabilities: Bonds and Notes

## Cases & Projects





#### CP 12-1 General Electric bond issuance

General Electric Capital, a division of General Electric, uses long-term debt extensively. In a recent year, GE Capital issued \$11 billion in long-term debt to investors, then within days filed legal documents to prepare for another \$50 billion long-term debt issue. As a result of the \$50 billion filing, the price of the initial \$11 billion offering declined (due to higher risk of more debt).

Bill Gross, a manager of a bond investment fund, "denounced a 'lack in candor' related to GE's recent debt deal. 'It was the most recent and most egregious example of how bondholders are mistreated.' Gross argued that GE was not forthright when GE Capital recently issued \$11 billion in bonds, one of the largest issues ever from a U.S. corporation. What bothered Gross is that three days after the issue the company announced its intention to sell as much as \$50 billion in additional debt, warrants, preferred stock, guarantees, letters of credit and promissory notes at some future date."

In your opinion, did GE Capital act unethically by selling \$11 billion of long-term debt without telling those investors that a few days later it would be filing documents to prepare for another \$50 billion debt offering?

Source: Jennifer Ablan, "Gross Shakes the Bond Market; GE Calms It, a Bit," Barron's, March 25, 2002.



#### CP 12-2 Ethics and professional conduct in business

Juicy Energy Industries develops and produces biomass, an alternative energy source. The company has an outstanding \$10,000,000, 30-year, 10% bond issue dated July 1, 2007. The bond issue is due June 30, 2037. Some bond indentures require the corporation issuing the bonds to transfer cash to a special cash fund, called a sinking fund, over the life of the bond. Such funds help assure investors that there will be adequate cash to pay the bonds at their maturity date.

The bond indenture requires a bond sinking fund, which has a balance of \$1,200,000 as of July 1, 2012. The company is currently experiencing a shortage of funds due to a recent acquisition. Dillip Fogel, the company's treasurer, is considering using the funds from the bond sinking fund to cover payroll and other bills that are coming due at the end of the month. Dillip's brother-in-law, a trustee in a sinking fund, has indicated willingness to allow Dillip to use the funds from the sinking fund to temporarily meet the company's cash needs.

Discuss whether Dillip's proposal is appropriate.

#### CP 12-3 Present values

Bailey Mills recently won the jackpot in the New Jersey lottery while he was visiting his parents. When he arrived at the lottery office to collect his winnings, he was offered the following three payout options:

- a. Receive \$40,000,000 in cash today.
- b. Receive \$10,000,000 today and \$3,600,000 per year for 10 years, with the first payment being received one year from today.
- c. Receive \$5,000,000 per year for 20 years, with the first payment being received one year from today.

Assuming that the effective rate of interest is 10%, which payout option should Bailey select? Explain your answer and provide any necessary supporting calculations.

#### CP 12-4 Preferred stock vs. bonds

Accusport Inc. has decided to expand its operations to owning and operating golf courses. The following is an excerpt from a conversation between the chief executive officer, Tucker Thorup, and the vice president of finance, Don Clark.

Tucker: Don, have you given any thought to how we're going to finance the acquisition of Knotty Pines Golf Course?

Don: Well, the two basic options, as I see it, are to issue either preferred stock or bonds. The equity market is a little depressed right now. The rumor is that the Federal Reserve Bank's going to increase the interest rates either this month or next.

*Tucker*: Yes, I've heard the rumor. The problem is that we can't wait around to see what's going to happen. We'll have to move on this next week if we want any chance to complete the acquisition of Knotty Pines Golf Course.

Don: Well, the bond market is strong right now. Maybe we should issue debt this time around.

*Tucker:* That's what I would have guessed as well. Knotty Pines Golf Course's financial statements look pretty good, except for the volatility of its income and cash flows. But that's characteristic of the industry.

Discuss the advantages and disadvantages of issuing preferred stock versus bonds.

#### CP 12-5 Financing business expansion

You hold a 25% common stock interest in the family-owned business, a construction equipment company. Your sister, who is the manager, has proposed an expansion of plant facilities at an expected cost of \$10,000,000. Two alternative plans have been suggested as methods of financing the expansion. Each plan is briefly described as follows:

- Plan 1. Issue \$10,000,000 of 20-year, 10% notes at face amount.
- Plan 2. Issue an additional 200,000 shares of \$10 par common stock at \$20 per share, and \$6,000,000 of 20-year, 10% notes at face amount.

The balance sheet as of the end of the previous fiscal year is as follows:

#### Thacker, Inc. Balance Sheet December 31, 2012

December 51/2012		
_		
\$ 6,000,000		
9,000,000		
\$15,000,000		
Liabilities and Stockholders' Equity		
\$ 4,500,000		
1,600,000		
200,000		
8,700,000		
\$15,000,000		

Net income has remained relatively constant over the past several years. The expansion program is expected to increase yearly income before bond interest and income tax from \$800,000 in the previous year to \$1,500,000 for this year. Your sister has asked you, as the company treasurer, to prepare an analysis of each financing plan.

- 1. Prepare a table indicating the expected earnings per share on the common stock under each plan. Assume an income tax rate of 40%. Round to the nearest cent.
- 2. a. Discuss the factors that should be considered in evaluating the two plans.
- b. Which plan offers the greater benefit to the present stockholders? Give reasons for your opinion.

# F-A-

#### CP 12-6 Number of times interest charges are earned

The following financial data were taken from the financial statements of Williams-Sonoma, Inc.

		Fiscal Year		
	2009	2008	2007	
Interest expense	\$ 1,480	\$ 2,099	\$ 2,125	
Earnings before taxes	41,953	316,340	337,186	

- 1. What is the number of times interest charges are earned for Williams-Sonoma in 2009, 2008, and 2007? (Round your answers to one decimal place.)
- 2. Evaluate this ratio for Williams-Sonoma.

## **Cases & Projects**

#### CP 13-1 Benefits of fair value

On August 16, 1997, Parson Corp. purchased 20 acres of land for \$500,000. The land has been held for a future plant site until the current date, December 31, 2012. On December 5, 2012, Overland, Inc., purchased 20 acres of land for \$3,000,000 to be used for a distribution center. The Overland land is located next to the Parson Corp. land. Thus, both Parson Corp. and Overland, Inc., own nearly identical pieces of land.

- 1. What are the valuations of land on the balance sheets of Parson Corp. and Overland, Inc., using generally accepted accounting principles?
- 2. How might fair value accounting aid comparability when evaluating these two companies?

#### CP 13-2 International fair value accounting

International Accounting Standard No. 16 provides companies the option of valuing property, plant, and equipment at either historical cost or fair value. If fair value is selected, then the property, plant, and equipment must be revalued periodically to fair value. Under fair value, if there is an increase in the value of the property, plant, and equipment over the reporting period, then the increase is credited to stockholders' equity. However, if there is a decrease in fair value, then the decrease is reported as an expense for the period.

- 1. Why do International Accounting Standards influence U.S. GAAP?
- 2. What would be some of the disadvantages of using fair value accounting for property, plant, and equipment?
- 3. How is the international accounting treatment for changes in fair value for property, plant, and equipment similar to investments?



#### CP 13-3 Ethics and fair value measurement

Financial assets include stocks and bonds. These are fairly simple securities that can often be valued using quoted market prices. However, Wall Street has created many complex and exotic securities that do not have quoted market prices. These complex securities must still be valued on the balance sheet at fair value. Generally accepted accounting principles require that the reporting entity use assumptions in valuing investments when market prices or critical valuation inputs are unobservable.

What are the ethical considerations in making subjective valuations of complex and exotic investments?



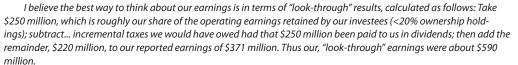
#### CP 13-4 Warren Buffett and "look-through" earnings

Berkshire Hathaway, the investment holding company of Warren Buffett, reports its "less than 20% ownership" investments according to generally accepted accounting principles. However, it also provides additional disclosures that it terms "look-through" earnings.

#### Warren Buffett states,

Many of these companies (in the less than 20% owned category) pay out relatively small proportions of their earnings in dividends. This means that only a small proportion of their earning power is recorded in our own current operating earnings. But, while our reported operating earnings reflect only the dividends received from such companies, our economic well-being is determined by their earnings, not their dividends.

The value to Berkshire Hathaway of retained earnings (of our investees) is not determined by whether we own 100%, 50%, 20%, or 1% of the businesses in which they reside.... Our perspective on such "forgotten-but-not-gone" earnings is simple: the way they are accounted for is of no importance, but their ownership and subsequent utilization is all-important. We care not whether the auditors hear a tree fall in the forest; we do care who owns the tree and what's next done with it.



Source: Warren Buffett, *The Essays of Warren Buffett: Lessons for Corporate America*, edited by Lawrence A. Cunningham, pp. 180–183 (excerpted).

- 1. What are "look-through" earnings?
- 2. Why does Warren Buffett favor "look-through" earnings?

#### Internet Project

#### **CP 13-5** Reporting investments

#### **Group Project**

In groups of three or four, find the latest annual report for Microsoft Corporation. The annual report can be found on the company's Web site at http://www.microsoft.com/msft/default.mspx.

The notes to the financial statements include details of Microsoft's investments. Find the notes that provide details of its investments (Note 4) and the income from its investments (Note 3).

From these disclosures, answer the following questions:

- 1. What is the total cost of investments?
- 2. What is the fair value (recorded value) of investments?
- 3. What is the total unrealized gain from investments?
- 4. What is the total unrealized loss from investments?
- 5. What percent of total investments (at fair value) are:
  - a. Cash and equivalents
  - b. Short-term investments
  - c. Equity and other investments (long term)
- 6. What was the total combined dividend and interest revenue?
- 7. What was the recognized net gain or loss from sale of investments?

#### Chapter 14 Statement of Cash Flows

OBJ. 3

✓ Net cash flow from operating activities, \$246,720



#### PR 14-5B Statement of cash flows—direct method applied to PR 14-1B

The comparative balance sheet of Juras Equipment Co. for Dec. 31, 2013 and 2012, is:

	Dec. 31, 2013	Dec. 31, 2012
Assets		
Cash	\$ 99,840	\$ 67,680
Accounts receivable (net)	292,560	265,680
Inventories	421,440	409,200
Investments	0	144,000
Land	417,600	0
Equipment	619,200	505,440
Accumulated depreciation	(139,920)	(119,040)
	\$1,710,720	\$1,272,960
Liabilities and Stockholders' Equity		
Accounts payable (merchandise creditors)	\$ 290,400	\$ 274,080
Accrued expenses payable (operating expenses)	43,200	37,920
Dividends payable	36,000	28,800
Common stock, \$1 par	162,000	144,000
Paid-in capital in excess of par—common stock	594,000	288,000
Retained earnings	585,120	500,160
	\$1,710,720	\$1,272,960

The income statement for the year ended December 31, 2013, is as follows:

Sales		\$3,246,048
Cost of merchandise sold		1,997,568
Gross profit		\$1,248,480
Operating expenses:		
Depreciation expense	\$ 20,880	
Other operating expenses	831,600	
Total operating expenses		852,480
Operating income		\$ 396,000
Other expenses:		
Loss on sale of investments		(14,400)
Income before income tax		\$ 381,600
Income tax expense		152,640
Net income		\$ 228,960

The following additional information was taken from the records:

- a. Equipment and land were acquired for cash.
- b. There were no disposals of equipment during the year.
- c. The investments were sold for \$129,600 cash.
- d. The common stock was issued for cash.
- e. There was a \$144,000 debit to Retained Earnings for cash dividends declared.

#### **Instructions**

Prepare a statement of cash flows, using the direct method of presenting cash flows from operating activities.

## **Cases & Projects**



#### CP 14-1 Ethics and professional conduct in business

Chris Ruth, president of Fairazon Industries Inc., believes that reporting operating cash flow per share on the income statement would be a useful addition to the company's just completed financial statements. The following discussion took place between Chris Ruth and Fairazon controller, Phil Tungsten, in January, after the close of the fiscal year.

Chris: I've been reviewing our financial statements for the last year. I am disappointed that our net income per share has dropped by 10% from last year. This won't look good to our shareholders. Is there anything we can do about this?

*Phil:* What do you mean? The past is the past, and the numbers are in. There isn't much that can be done about it. Our financial statements were prepared according to generally accepted accounting principles, and I don't see much leeway for significant change at this point.

Chris: No, no. I'm not suggesting that we "cook the books." But look at the cash flow from operating activities on the statement of cash flows. The cash flow from operating activities has increased by 20%. This is very good news—and, I might add, useful information. The higher cash flow from operating activities will give our creditors comfort.

*Phil:* Well, the cash flow from operating activities is on the statement of cash flows, so I guess users will be able to see the improved cash flow figures there.

Chris: This is true, but somehow I feel that this information should be given a much higher profile. I don't like this information being "buried" in the statement of cash flows. You know as well as I do that many users will focus on the income statement. Therefore, I think we ought to include an operating cash flow per share number on the face of the income statement—someplace under the earnings per share number. In this way, users will get the complete picture of our operating performance. Yes, our earnings per share dropped this year, but our cash flow from operating activities improved! And all the information is in one place where users can see and compare the figures. What do you think?

*Phil:* I've never really thought about it like that before. I guess we could put the operating cash flow per share on the income statement, under the earnings per share. Users would really benefit from this disclosure. Thanks for the idea—I'll start working on it.

Chris: Glad to be of service.

How would you interpret this situation? Is Phil behaving in an ethical and professional manner?

#### CP 14-2 Using the statement of cash flows

You are considering an investment in a new start-up company, Over Armour Inc., an Internet service provider. A review of the company's financial statements reveals a negative retained earnings. In addition, it appears as though the company has been running a negative cash flow from operating activities since the company's inception.

How is the company staying in business under these circumstances? Could this be a good investment?

#### CP 14-3 Analysis of cash flow from operations

The Retailing Division of Argon Clothing Inc. provided the following information on its cash flow from operations:

Net income	\$	675,000
Increase in accounts receivable		(810,000)
Increase in inventory		(900,000)
Decrease in accounts payable		(135,000)
Depreciation		150,000
Cash flow from operating activities	\$(	1,020,000)

The manager of the Retailing Division provided the accompanying memo with this report:

From: Senior Vice President, Retailing Division

I am pleased to report that we had earnings of \$675,000 over the last period. This resulted in a return on invested capital of 10%, which is near our targets for this division. I have been aggressive in building the revenue volume in the division. As a result, I am happy to report that we have increased the number of new credit card customers as a result of an aggressive marketing campaign. In addition, we have found some excellent merchandise opportunities. Some of our suppliers have made some of their apparel merchandise available at a deep discount. We have purchased as much of these goods as possible in order to improve profitability. I'm also happy to report that our vendor payment problems have improved. We are nearly caught up on our overdue payables balances.

Comment on the senior vice president's memo in light of the cash flow information.

#### CP 14-4 Analysis of statement of cash flows

Dave Chuck is the president and majority shareholder of Xenon Inc., a small retail store chain. Recently, Dave submitted a loan application for Xenon Inc. to Chemistry Bank. It called for a \$450,000, 9%, 10-year loan to help finance the construction of a building and the purchase of store equipment, costing a total of \$562,500, to enable Xenon Inc. to open a store in Chemistry. Land for this purpose was acquired last year. The bank's loan officer requested a statement of cash flows in addition to the most recent income statement, balance sheet, and retained earnings statement that Dave had submitted with the loan application.

As a close family friend, Dave asked you to prepare a statement of cash flows. From the records provided, you prepared the following statement:

#### Xenon Inc. Statement of Cash Flows For the Year Ended December 31, 2012

For the Year Ended December 31, 2012		
Cash flows from operating activities:		
Net income	\$225,000	
Adjustments to reconcile net income to net cash flow from operating activities:		
Depreciation	63,000	
Gain on sale of investments	(22,500)	
Changes in current operating assets and liabilities:		
Decrease in accounts receivable	15,750	
Increase in inventories	(31,500)	
Increase in accounts payable	22,500	
Decrease in accrued expenses payable	(4,500)	
Net cash flow from operating activities		\$267,750
Cash flows from investing activities:		
Cash received from investments sold	\$135,000	
Less cash paid for purchase of store equipment	(90,000)	
Net cash flow provided by investing activities		45,000
Cash flows from financing activities:		
Cash paid for dividends	\$ (94,500)	
Net cash flow used for financing activities		(94,500)
Increase in cash		\$218,250
Cash at the beginning of the year		81,000
Cash at the end of the year		\$299,250

#### **Schedule of Noncash Financing and Investing Activities:**

Issued common stock for land

After reviewing the statement, Dave telephoned you and commented, "Are you sure this statement is right?" Dave then raised the following questions:

\$180,000

- 1. "How can depreciation be a cash flow?"
- 2. "Issuing common stock for the land is listed in a separate schedule. This transaction has nothing to do with cash! Shouldn't this transaction be eliminated from the statement?"
- 3. "How can the gain on sale of investments be a deduction from net income in determining the cash flow from operating activities?"
- 4. "Why does the bank need this statement anyway? They can compute the increase in cash from the balance sheets for the last two years."

After jotting down Dave's questions, you assured him that this statement was "right." But to alleviate Dave's concern, you arranged a meeting for the following day.

- a. How would you respond to each of Dave's questions?
- b. Do you think that the statement of cash flows enhances the chances of Xenon Inc. receiving the loan? Discuss.

Internet Project

#### CP 14-5 Statement of cash flows



#### **Group Project**

This activity will require two teams to retrieve cash flow statement information from the Internet. One team is to obtain the most recent year's statement of cash flows for Johnson & Johnson, and the other team the most recent year's statement of cash flows for AMR Corp.

The statement of cash flows is included as part of the annual report information that is a required disclosure to the Securities and Exchange Commission (SEC). SEC documents can be retrieved using the EdgarScan™ service at http://www.sec.gov/edgar/searchedgar/webusers.htm.

To obtain annual report information, type in a company name in the appropriate space. EdgarScan will list the reports available to you for the company you've selected. Select the most recent annual report filing, identified as a 10-K or 10-K405. EdgarScan provides an outline of the report, including the separate financial statements. You can double-click the income statement and balance sheet for the selected company into an Excel<sup>TM</sup> spreadsheet for further analysis.

As a group, compare the two statements of cash flows.

- a. How are Johnson & Johnson and AMR Corp. similar or different regarding cash flows?
- b. Compute and compare the free cash flow for each company, assuming additions to property, plant, and equipment replace current capacity.

## **Cases & Projects**

#### CP 15-1 Analysis of financing corporate growth

Assume that the president of Smokey Mountain Brewery made the following statement in the Annual Report to Shareholders:

"The founding family and majority shareholders of the company do not believe in using debt to finance future growth. The founding family learned from hard experience during Prohibition and the Great Depression that debt can cause loss of flexibility and eventual loss of corporate control. The company will not place itself at such risk. As such, all future growth will be financed either by stock sales to the public or by internally generated resources."

As a public shareholder of this company, how would you respond to this policy?

#### CP 15-2 Receivables and inventory turnover

Lewis Industries, Inc., has completed its fiscal year on December 31, 2012. The auditor, Bill Brewer, has approached the CFO, Rob Beets, regarding the year-end receivables and inventory levels of Lewis Industries. The following conversation takes place:

*Bill:* We are beginning our audit of Lewis Industries and have prepared ratio analyses to determine if there have been significant changes in operations or financial position. This helps us guide the audit process. This analysis indicates that the inventory turnover has decreased from 5.1 to 2.7, while the accounts receivable turnover has decreased from 11 to 7. I was wondering if you could explain this change in operations.

Rob: There is little need for concern. The inventory represents computers that we were unable to sell during the holiday buying season. We are confident, however, that we will be able to sell these computers as we move into the next fiscal year.

Bill: What gives you this confidence?

*Rob:* We will increase our advertising and provide some very attractive price concessions to move these machines. We have no choice. Newer technology is already out there, and we have to unload this inventory.

Bill: ... and the receivables?

*Rob:* As you may be aware, the company is under tremendous pressure to expand sales and profits. As a result, we lowered our credit standards to our commercial customers so that we would be able to sell products to a broader customer base. As a result of this policy change, we have been able to expand sales by 35%.

Bill: Your responses have not been reassuring to me.

Rob: I'm a little confused. Assets are good, right? Why don't you look at our current ratio? It has improved, hasn't it? I would think that you would view that very favorably.

Why is Bill concerned about the inventory and accounts receivable turnover ratios and Rob's responses to them? What action may Bill need to take? How would you respond to Rob's last comment?



#### CP 15-3 Vertical analysis

The condensed income statements through income from operations for Dell Inc. and Apple Inc. are reproduced below for recent fiscal years (numbers in millions of dollars).

	Dell Inc.	Apple Inc.
Sales (net)	\$61,101	\$36,537
Cost of sales	50,144	23,397
Gross profit	\$10,957	\$13,140
Selling, general, and administrative expenses	\$ 7,104	\$ 4,149
Research and development	663	1,333
Operating expenses	\$ 7,767	\$ 5,482
Income from operations	\$ 3,190	\$ 7,658

Prepare comparative common-sized statements, rounding percents to one decimal place. Interpret the analyses.



#### CP 15-4 Profitability and stockholder ratios

Harley-Davidson, Inc., is a leading motorcycle manufacturer in the United States. The company manufactures and sells a number of different types of motorcycles, a complete line of motorcycle parts, and brand-related accessories, clothing, and collectibles. In recent years, Harley-Davidson has attempted to expand its dealer network and product lines internationally.

The following information is available for three recent years (in millions except pershare amounts):

	2008	2007	2006
Net income (loss)	\$655	\$934	\$1,043
Preferred dividends	\$0.00	\$0.00	\$0.00
Interest expense	\$4.50	\$0.00	\$0.00
Shares outstanding for			
computing earnings per share	233	238	258
Cash dividend per share	\$1.29	\$1.06	\$0.81
Average total assets	\$6,743	\$5,595	\$5,394
Average stockholders' equity	\$2,246	\$2,566	\$2,921
Average stock price per share	\$31.29	\$58.44	\$60.98

- 1. Calculate the following ratios for each year:
  - a. Rate earned on total assets
  - b. Rate earned on stockholders' equity
  - c. Earnings per share
  - d. Dividend yield
  - e. Price-earnings ratio
- 2. What is the ratio of average liabilities to average stockholders' equity for 2008?
- 3. Explain the direction of the dividend yield and price-earnings ratio in light of Harley-Davidson's profitability trend.
- 4. Based on these data, evaluate Harley-Davidson's strategy to expand to international markets.



#### CP 15-5 Comprehensive profitability and solvency analysis

Marriott International, Inc., and Starwood Hotels and Resorts Worldwide, Inc. are two major owners and managers of lodging and resort properties in the United States. Abstracted income statement information for the two companies is as follows for a recent year:

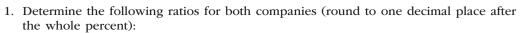
	Marriott (in millions)	Starwood (in millions)
Operating profit before other expenses and interest	\$815	\$ 635
Other income (expenses)	57	(95)
Interest expense	(163)	(210)
Income before income taxes	\$ 709	\$ 330
Income tax expense	350	76
Net income	\$ 359	\$ 254

Balance sheet information is as follows:

	Marriott (in millions)	Starwood (in millions)
Total liabilities	\$7,523	\$8,082
Total stockholders' equity	_1,380	1,621
Total liabilities and stockholders' equity	\$8,903	\$9,703

The average liabilities, stockholders' equity, and total assets were as follows:

	Marriott (in millions)	Starwood (in millions)
Average total liabilities	\$7,518	\$7,814
Average total stockholders' equity	1,405	1,849
Average total assets	7,494	9,663



- a. Rate earned on total assets
- b. Rate earned on total stockholders' equity
- c. Number of times interest charges are earned
- d. Ratio of liabilities to stockholders' equity
- 2. Analyze and compare the two companies, using the information in (1).

## **Cases & Projects**



#### CP 16-1 Ethics and professional conduct in business

Jarrett Manufacturing Company allows employees to purchase, at cost, manufacturing materials, such as metal and lumber, for personal use. To purchase materials for personal use, an employee must complete a materials requisition form, which must then be approved by the employee's immediate supervisor. Felix Thecat, an assistant cost accountant, charges the employee an amount based on Jarrett's net purchase cost.

Felix Thecat is in the process of replacing a deck on his home and has requisitioned lumber for personal use, which has been approved in accordance with company policy. In computing the cost of the lumber, Felix reviewed all the purchase invoices for the past year. He then used the lowest price to compute the amount due the company for the lumber.

Discuss whether Felix behaved in an ethical manner.

#### CP 16-2 Financial vs. managerial accounting

The following statement was made by the vice president of finance of The Electric Company: "The managers of a company should use the same information as the shareholders of the firm. When managers use the same information in guiding their internal operations as shareholders use in evaluating their investments, the managers will be aligned with the stockholders' profit objectives."

Respond to the vice president's statement.

#### CP 16-3 Managerial accounting in the management process

For each of the following managers, describe how managerial accounting could be used to satisfy strategic or operational objectives:

- 1. The vice president of the Information Systems Division of a bank.
- 2. A hospital administrator.
- 3. The chief executive officer of a food company. The food company is divided into three divisions: Nonalcoholic Beverages, Snack Foods, and Fast Food Restaurants.
- 4. The manager of the local campus copy shop.

#### CP 16-4 Classifying costs

Forest & Tree Company provides computer repair services for the community. Jack Dee's computer was not working, and he called Forest & Tree for a home repair visit. Forest & Tree Company's technician arrived at 2:00 p.m. to begin work. By 4:00 p.m. the problem was diagnosed as a failed circuit board. Unfortunately, the technician did not have a new circuit board in the truck, since the technician's previous customer had the same problem, and a board was used on that visit. Replacement boards were available back at Forest & Tree Company's shop. Therefore, the technician drove back to the shop to retrieve a replacement board. From 4:00 to 5:00 p.m., Forest & Tree Company's technician drove the round trip to retrieve the replacement board from the shop.

At 5:00 P.M. the technician was back on the job at Jack's home. The replacement procedure is somewhat complex, since a variety of tests must be performed once the board is installed. The job was completed at 6:00 P.M.

Jack's repair bill showed the following:

Circuit board	\$ 85
Labor charges	285
Total	\$370

Jack was surprised at the size of the bill and asked for some greater detail supporting the calculations. Forest & Tree Company responded with the following explanations:

	•			
Cost	ot	mat	eria	ls:

Purchase price of circuit board	\$60
Markup on purchase price to cover storage and handling	25
Total materials charge	\$85

The labor charge per hour is detailed as follows:

2:00-3:00 P.M.	\$ 60
3:00-4:00 P.M.	50
4:00-5:00 P.M.	75
5:00-6:00 p.m.	100
Total labor charge	\$285

Further explanations in the differences in the hourly rates are as follows:

First hour:	
Base labor rate	\$ 30
Fringe benefits	12
Overhead (other than storage and handling)	8
Total base labor rate	\$ 50
Additional charge for first hour of any job to cover the	
cost of vehicle depreciation, fuel, and employee time in	
transit. A 30-minute transit time is assumed	10
	\$ 60
Third hour:	
Base labor rate	\$ 50
The trip back to the shop includes vehicle depreciation	
and fuel; therefore, a charge was added to the hourly rate	
to cover these costs. The round trip took an hour	25
	\$ 75
Fourth hour:	
Base labor rate	\$ 50
Overtime premium for time worked in excess of an eight-	
hour day (starting at 5:00 P.M.) is equal to the base rate	50
· · · · · · · · · · · · · · · · · · ·	\$100
	<u> </u>

- 1. If you were in Jack's position, how would you respond to the bill? Are there parts of the bill that appear incorrect to you? If so, what argument would you employ to convince Forest & Tree Company that the bill is too high?
- 2. Use the headings below to construct a table. Fill in the table by first listing the costs identified in the activity in the left-hand column. For each cost, place a check mark in the appropriate column identifying the correct cost classification. Assume that each service call is a job.

Cost	Direct Materials	Direct Labor	Overhead
COSE	Direct Materials	Dilect Labor	Overneau

#### CP 16-5 Using managerial accounting information

The following situations describe decision scenarios that could use managerial accounting information:

- 1. The manager of Barney's BBQ wishes to determine the price to charge for various lunch plates.
- 2. By evaluating the cost of leftover materials, the plant manager of a precision tool facility wishes to determine how effectively the plant is being run.
- 3. The division controller of Quality Plumbing Supplies needs to determine the cost of products left in inventory.

4. The manager of the Maintenance Department of a large manufacturing company wishes to plan next year's anticipated expenditures.

For each situation, discuss how managerial accounting information could be used.

#### CP 16-6 Classifying costs

#### **Group Project**

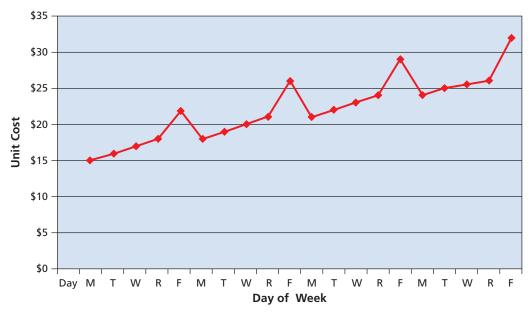
With a group of students, visit a local copy and graphics shop or a pizza restaurant. As you observe the operation, consider the costs associated with running the business. As a group, identify as many costs as you can and classify them according to the following table headings:

Cost Direct Materials Direct Labor Overhead Selling Expenses

## **Cases & Projects**

#### CP 17-1 Managerial analysis

The controller of the plant of Simmons Building Supplies prepared a graph of the unit costs from the job cost reports for Product Alpha. The graph appeared as follows:



► How would you interpret this information? What further information would you request?

#### CP 17-2 Job order decision making and rate deficiencies

Jackalope Company makes attachments, such as backhoes and grader and bulldozer blades, for construction equipment. The company uses a job order cost system. Management is concerned about cost performance and evaluates the job cost sheets to learn more about the cost effectiveness of the operations. To facilitate a comparison, the cost sheet for Job 206 (40 backhoe buckets completed in May) was compared with Job 228, which was for 60 backhoe buckets completed in December. The two job cost sheets follow.

Item: 40 backhoe buckets							
Direct Materials Quantity	×	Direct Materials Price	=	Amount			
70		\$800		\$56,000			
420		5		2,100			
				\$58,100			
Direct Labor Hours	×	Direct Labor Rate	=	Amount			
270		\$15		\$ 4,050			
370		18		6,660			
120		12		1,440			
760				\$12,150			
Direct Total Labor Cost	×	Factory Overhead Rate	=	Amount			
\$12,150	×	200%		\$24,300			
				\$94,550			
				÷ 40			
				\$ 2,364			
	Direct Materials Quantity  70 420  Direct Labor Hours  270 370 120 760  Direct Total Labor Cost	Direct Materials Quantity × 70 420  Direct Labor Hours × 270 370 120 760  Direct Total Labor Cost ×	Direct Materials         Direct Materials           Quantity         x         Price           70         \$800           420         5           Direct Labor         x         Direct Labor Rate           270         \$15           370         18           120         12           760         Testory           Direct Total Labor Cost         Factory Overhead Rate	Direct Materials         Direct Materials           Quantity         x         Price         =           70         \$800           420         5           Direct Labor         x         Direct           Labor Rate         =           270         \$15           370         18           120         12           760         12           Direct Total Labor Cost         Factory Overhead Rate         =           Rate         =			

Job 228

	Item: 60 ba	ckhoe b	uckets		
	Direct Materials Quantity	×	Direct Materials Price	=	Amount
Materials:					
Steel (tons)	150		\$780		\$117,000
Steel components (pieces)	720		5		3,600
Total materials					\$120,600
	Direct Labor Hours	×	Direct Labor Rate	=	Amount
Direct labor:					
Foundry	600		\$15		\$ 9,000
Welding	840		18		15,120
Shipping	250		12		3,000
Total direct labor	1,690				\$27,120
	Direct Total Labor Cost	×	Factory Overhead Rate	=	Amount
Factory overhead			nate		711104111
(200% of direct labor dollars) Total cost Total units	\$27,120	×	200%		\$ 54,420 \$201,960 ÷ 60
Unit cost					\$ 3,360

Management is concerned with the increase in unit costs over the months from May to December. To understand what has occurred, management interviewed the purchasing manager and quality manager.

Purchasing Manager: Prices have been holding steady for our raw materials during the first half of the year. I found a new supplier for our bulk steel that was willing to offer a better price than we received in the past. I saw these lower steel prices and jumped at them, knowing that a reduction in steel prices would have a very favorable impact on our costs.

Quality Manager: Something happened around mid-year. All of a sudden, we were experiencing problems with respect to the quality of our steel. As a result, we've been having all sorts of problems on the shop floor in our foundry and welding operation.

1. Analyze the two job cost sheets, and identify why the unit costs have changed for the backhoe buckets. Complete the following schedule to help you in your analysis:

Item	Input Quantity per Unit—Job 206	Input Quantity per Unit—Job 228
Steel		
Foundry labor		
Welding labor		

2. How would you interpret what has happened in light of your analysis and the interviews?

#### CP 17-3 Factory overhead rate

Saltry Inc., a specialized equipment manufacturer, uses a job order costing system. The overhead is allocated to jobs on the basis of direct labor hours. The overhead rate is now \$2,000 per direct labor hour. The design engineer thinks that this is illogical. The design engineer has stated the following:

Our accounting system doesn't make any sense to me. It tells me that every labor hour carries an additional burden of \$2,000. This means that direct labor makes up only 5%

of our total product cost, yet it drives all our costs. In addition, these rates give my design engineers incentives to "design out" direct labor by using machine technology. Yet, over the past years as we have had less and less direct labor, the overhead rate keeps going up and up. I won't be surprised if next year the rate is \$2,500 per direct labor hour. I'm also concerned because small errors in our estimates of the direct labor content can have a large impact on our estimated costs. Just a 30-minute error in our estimate of assembly time is worth \$1,000. Small mistakes in our direct labor time estimates really swing our bids around. I think this puts us at a disadvantage when we are going after business.

- 1. What is the engineer's concern about the overhead rate going "up and up"?
- 2. What did the engineer mean about the large overhead rate being a disadvantage when placing bids and seeking new business?
- 3. What do you think is a possible solution?

#### CP 17-4 Recording manufacturing costs

Sven Olaf just began working as a cost accountant for COLD Industries Inc., which manufactures gift items. Sven is preparing to record summary journal entries for the month. Sven begins by recording the factory wages as follows:

Wages Expense	50,000
Wages Payable	50,000

Then the factory depreciation:

Depreciation Expense—Factory Machinery 15,000
Accumulated Depreciation—Factory Machinery 15,000

Sven's supervisor, Boris Gingrich, walks by and notices the entries. The following conversation takes place:

Boris: That's a very unusual way to record our factory wages and depreciation for the month.

Sven: What do you mean? This is exactly the way we were taught to record wages and depreciation in school. You know, debit an expense and credit Cash or payables, or in the case of depreciation, credit Accumulated Depreciation.

Boris: Well, it's not the credits I'm concerned about. It's the debits—I don't think you've recorded the debits correctly. I wouldn't mind if you were recording the administrative wages or office equipment depreciation this way, but I've got real questions about recording factory wages and factory machinery depreciation this way.

Sven: Now I'm really confused. You mean this is correct for administrative costs, but not for factory costs? Well, what am I supposed to do—and why?

- 1. Play the role of Boris and answer Sven's questions.
- 2. Why would Boris accept the journal entries if they were for administrative costs?

#### CP 17-5 Predetermined overhead rates

As an assistant cost accountant for Vonn Industries, you have been assigned to review the activity base for the predetermined factory overhead rate. The president, Tony Favre, has expressed concern that the over- or underapplied overhead has fluctuated excessively over the years.

An analysis of the company's operations and use of the current overhead rate (direct materials usage) has narrowed the possible alternative overhead bases to direct labor cost and machine hours. For the past five years, the following data have been gathered:

	2012	2011	2010	2009	2008
Actual overhead	\$1,062,500	\$1,250,000	\$1,025,000	\$ 975,000	\$ 937,500
Applied overhead	1,057,500	1,255,000	1,021,000	977,500	938,750
(Over-) underapplied overhead	\$ 5,000	\$ (5,000)	\$ 4,000	\$ (2,500)	\$ (1,250)
Direct labor cost	\$3,560,000	\$4,160,000	\$3,400,000	\$3,240,000	\$3,140,000
Machine hours	126,250	149,000	122,000	116,000	111,750

- 1. Calculate a predetermined factory overhead rate for each alternative base, assuming that rates would have been determined by relating the total amount of factory overhead for the past five years to the base.
- 2. For each of the past five years, determine the over- or underapplied overhead, based on the two predetermined overhead rates developed in part (1).
- 3. Which predetermined overhead rate would you recommend? Discuss the basis for your recommendation.

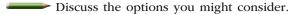
## Cases & Projects



#### CP 18-1 Ethics and professional conduct in business

Assume you are the division controller for Auntie M's Cookie Company. Auntie M has introduced a new chocolate chip cookie called Full of Chips, and it is a success. As a result, the product manager responsible for the launch of this new cookie was promoted to division vice president and became your boss. A new product manager, Morgan, has been brought in to replace the promoted manager. Morgan notices that the Full of Chips cookie uses a lot of chips, which increases the cost of the cookie. As a result, Morgan has ordered that the amount of chips used in the cookies be reduced by 10%. The manager believes that a 10% reduction in chips will not adversely affect sales, but will reduce costs, and hence improve margins. The increased margins would help Morgan meet profit targets for the period.

You are looking over some cost of production reports segmented by cookie line. You notice that there is a drop in the materials costs for Full of Chips. On further investigation, you discover why the chip costs have declined (fewer chips). Both you and Morgan report to the division vice president, who was the original product manager for Full of Chips. You are trying to decide what to do, if anything.





#### **CP 18-2** Accounting for materials costs

In papermaking operations for companies such as International Paper Company, wet pulp is fed into paper machines, which press and dry pulp into a continuous sheet of paper. The paper is formed at very high speeds (60 mph). Once the paper is formed, the paper is rolled onto a reel at the back end of the paper machine. One of the characteristics of papermaking is the creation of "broke" paper. Broke is paper that fails to satisfy quality standards and is therefore rejected for final shipment to customers. Broke is recycled back to the beginning of the process by combining the recycled paper with virgin (new) pulp material. The combination of virgin pulp and recycled broke is sent to the paper machine for papermaking. Broke is fed into this recycle process continuously from all over the facility.

In this industry, it is typical to charge the papermaking operation with the cost of direct materials, which is a mixture of virgin materials and broke. Broke has a much lower cost than does virgin pulp. Therefore, the more broke in the mixture, the lower the average cost of direct materials to the department. Papermaking managers will frequently comment on the importance of broke for keeping their direct materials costs down.

- a. How do you react to this accounting procedure?
- b. What "hidden costs" are not considered when accounting for broke as described above?

#### CP 18-3 Analyzing unit costs

Continental Containers Inc. manufactures cans for the canned food industry. The operations manager of a can manufacturing operation wants to conduct a cost study investigating the relationship of tin content in the material (can stock) to the energy cost for enameling the cans. The enameling was necessary to prepare the cans for labeling. A higher percentage of tin content in the can stock increases the cost of material. The operations manager believed that a higher tin content in the can stock would reduce the amount of energy used in enameling. During the analysis period, the amount of tin content in the steel can stock was increased for every month, from April to September. The following operating reports were available from the controller:

	А	В	С	D	Е	F	G
1		April	May	June	July	August	September
2	Energy	\$ 19,500	\$ 43,200	\$ 36,300	\$ 21,000	\$ 24,300	\$ 24,000
3	Materials	18,000	45,000	42,900	28,350	37,800	43,500
4	Total cost	\$ 37,500	\$ 88,200	\$ 79,200	\$ 49,350	\$ 62,100	\$ 67,500
5	Units produced	÷75,000	÷180,000	÷165,000	÷105,000	÷135,000	÷150,000
6	Cost per unit	\$ 0.50	\$ 0.49	\$ 0.48	\$ 0.47	\$ 0.46	\$ 0.45
7							

Differences in materials unit costs were entirely related to the amount of tin content.

Interpret this information and report to the operations manager your recommendations with respect to tin content.

#### CP 18-4 Decision making

Damion Lott, plant manager of Albany Paper Company's papermaking mill, was looking over the cost of production reports for July and August for the Papermaking Department. The reports revealed the following:

	July	August
Pulp and chemicals	\$295,600	\$306,800
Conversion cost	146,000	150,900
Total cost	\$441,600	\$457,700
Number of tons	÷ 1,200	÷ 1,150
Cost per ton	\$ 368	\$ 398

Damion was concerned about the increased cost per ton from the output of the department. As a result, he asked the plant controller to perform a study to help explain these results. The controller, Lexi Hammond, began the analysis by performing some interviews of key plant personnel in order to understand what the problem might be. Excerpts from an interview with Chase Wilson, a paper machine operator, follow:

*Chase:* We have two papermaking machines in the department. I have no data, but I think paper machine No. 1 is applying too much pulp, and thus is wasting both conversion and materials resources. We haven't had repairs on paper machine No. 1 in a while. Maybe this is the problem.

Lexi: How does too much pulp result in wasted resources?

Chase: Well, you see, if too much pulp is applied, then we will waste pulp material. The customer will not pay for the extra weight. Thus, we just lose that amount of material. Also, when there is too much pulp, the machine must be slowed down in order to complete the drying process. This results in a waste of conversion costs.

Lexi: Do you have any other suspicions?

Chase: Well, as you know, we have two products—green paper and yellow paper. They are identical except for the color. The color is added to the papermaking process in the paper machine. I think that during August these two color papers have been behaving very differently. I don't have any data, but it just seems as though the amount of waste associated with the green paper has increased.

Lexi: Why is this?

Chase: I understand that there has been a change in specifications for the green paper, starting near the beginning of August. This change could be causing the machines to run poorly when making green paper. If this is the case, the cost per ton would increase for green paper.

Lexi also asked for a database printout providing greater detail on August's operating results.

September 9

Requested by: Lexi Hammond

Papermaking Department—August detail

	А	В	С	D	Е	F
1	Production					
2	Run	Paper		Material	Conversion	
3	Number	Machine	Color	Costs	Costs	Tons
4	1	1	Green	41,250	19,100	160
5	2	1	Yellow	41,700	21,200	140
6	3	1	Green	44,600	22,500	150
7	4	1	Yellow	36,100	18,100	120
8	5	2	Green	38,300	18,900	160
9	6	2	Yellow	35,650	15,700	150
10	7	2	Green	35,600	18,400	130
11	8	2	Yellow	33,600	17,000	140
12		Total		306,800	150,900	1,150
13						

Assuming that you're Lexi Hammond, write a memo to Damion Lott with a recommendation to management. You should analyze the August data to determine whether the paper machine or the paper color explains the increase in the unit cost from July. Include any supporting schedules that are appropriate. Internet Project

#### **CP 18-5** Process costing companies

#### **Group Project**

The following categories represent typical process manufacturing industries:

Beverages Metals

Chemicals Petroleum refining
Food Pharmaceuticals
Forest and paper products Soap and cosmetics

In groups of two or three, for each category identify one company (following your instructor's specific instructions) and determine the following:

- 1. Typical products manufactured by the selected company, including brand names.
- 2. Typical raw materials used by the selected company.
- 3. Types of processes used by the selected company.

Use annual reports, the Internet, or library resources in doing this activity.

## **Cases & Projects**



#### CP 19-1 Ethics and professional conduct in business

Carrie Skilling is a financial consultant to Ron En Trust Inc., a real estate syndicate. Ron En Trust Inc. finances and develops commercial real estate (office buildings). The completed projects are then sold as limited partnership interests to individual investors. The syndicate makes a profit on the sale of these partnership interests. Carrie provides financial information for the offering prospectus, which is a document that provides the financial and legal details of the limited partnership offerings. In one of the projects, the bank has financed the construction of a commercial office building at a rate of 10% for the first four years, after which time the rate jumps to 15% for the remaining 20 years of the mortgage. The interest costs are one of the major ongoing costs of a real estate project. Carrie has reported prominently in the prospectus that the break-even occupancy for the first four years is 65%. This is the amount of office space that must be leased to cover the interest and general upkeep costs over the first four years. The 65% break-even is very low and thus communicates a low risk to potential investors. Carrie uses the 65% break-even rate as a major marketing tool in selling the limited partnership interests. Buried in the fine print of the prospectus is additional information that would allow an astute investor to determine that the break-even occupancy will jump to 95% after the fourth year because of the contracted increase in the mortgage interest rate. Carrie believes prospective investors are adequately informed as to the risk of the investment.

Comment on the ethical considerations of this situation.



#### CP 19-2 Break-even sales, contribution margin

"For a student, a grade of 65 percent is nothing to write home about. But for the airline . . . [industry], filling 65 percent of the seats . . . is the difference between profit and loss.

The [economy] might be just strong enough to sustain all the carriers on a cash basis, but not strong enough to bring any significant profitability to the industry. . . . For the airlines . . ., the emphasis will be on trying to consolidate routes and raise ticket prices. . . ."

The airline industry is notorious for boom and bust cycles. Why is airline profitable of the control of the control

ability very sensitive to these cycles? Do you think that during a down cycle the strategy to consolidate routes and raise ticket prices is reasonable? What would make this strategy succeed or fail? Why?

Source: Edwin McDowell, "Empty Seats, Empty Beds, Empty Pockets," *The New York Times*, January 6, 1992, p. C3.

#### CP 19-3 Break-even analysis

Timbuk 3 Inc. has finished a new video game, *Snowboard Challenge*. Management is now considering its marketing strategies. The following information is available:

Anticipated sales price per unit	\$50
Variable cost per unit*	\$10
Anticipated volume	500,000 units
Production costs	\$14,000,000
Anticipated advertising	\$6,000,000

<sup>\*</sup>The cost of the video game, packaging, and copying costs.

Two managers, Michele Woodard and Mark Hobson, had the following discussion of ways to increase the profitability of this new offering:

Michele: I think we need to think of some way to increase our profitability. Do you have any ideas?

Mark: Well, I think the best strategy would be to become aggressive on price.

Michele: How aggressive?

Mark: If we drop the price to \$35 per unit and maintain our advertising budget at \$6,000,000, I think we will generate sales of 1,000,000 units.

Michele: I think that's the wrong way to go. You're giving too much up on price. Instead, I think we need to follow an aggressive advertising strategy.

Mark: How aggressive?

*Michele*: If we increase our advertising to a total of \$8,000,000, we should be able to increase sales volume to 750,000 units without any change in price.

Mark: I don't think that's reasonable. We'll never cover the increased advertising costs.

Which strategy is best: Do nothing? Follow the advice of Mark Hobson? Or follow Michele Woodard's strategy?

#### CP 19-4 Variable costs and activity bases in decision making

The owner of Varsity Printing, a printing company, is planning direct labor needs for the upcoming year. The owner has provided you with the following information for next year's plans:

	One Color	Two Color	Three Color	Four Color	Total
Number of banners	106	137	308	349	900

Each color on the banner must be printed one at a time. Thus, for example, a four-color banner will need to be run through the printing operation four separate times. The total production volume last year was 400 banners, as shown below.

	One Color	Two Color	Three Color	Total
Number of banners	90	120	190	400

As you can see, the four-color banner is a new product offering for the upcoming year. The owner believes that the expected 500-unit increase in volume from last year means that direct labor expenses should increase by 125% (500/400). What do you think?

#### CP 19-5 Variable costs and activity bases in decision making

Sales volume has been dropping at Textron Company. During this time, however, the Shipping Department manager has been under severe financial constraints. The manager knows that most of the Shipping Department's effort is related to pulling inventory from the warehouse for each order and performing the paperwork. The paperwork involves preparing shipping documents for each order. Thus, the pulling and paperwork effort associated with each sales order is essentially the same, regardless of the size of the order. The Shipping Department manager has discussed the financial situation with senior management. Senior management has responded by pointing out that sales volume has been dropping, so that the amount of work in the Shipping Department should be dropping. Thus, senior management told the Shipping Department manager that costs should be decreasing in the department.

The Shipping Department manager prepared the following information:

Month	Sales Volume	Number of Customer Orders	Sales Volume per Order
January	\$279,000	900	310
February	280,800	936	300
March	270,750	950	285
April	253,500	975	260
May	275,000	1,100	250
June	249,600	1,040	240
July	245,180	1,066	230
August	253,125	1,125	225

Given this information, how would you respond to senior management?

#### CP 19-6 Break-even analysis

#### **Group Project**

Break-even analysis is one of the most fundamental tools for managing any kind of business unit. Consider the management of your school. In a group, brainstorm some applications of break-even analysis at your school. Identify three areas where break-even analysis might be used. For each area, identify the revenues, variable costs, and fixed costs that would be used in the calculation.

Data for each style should be reported through contribution margin. The fixed costs should be deducted from the total contribution margin as reported in the "Total" column. For purposes of this problem, the additional expenditure of \$113,400 for the assistant brand manager's salary can be added to the fixed operating expenses.

4. By how much would total annual income increase above its present level if Proposal 3 is accepted? Explain.

#### OBJ. 5

✓ 1. Sales quantity factor, \$215,625



#### PR 20-6B Contribution margin analysis

Lawrence Company manufactures only one product. For the year ended December 31, 2012, the contribution margin decreased by \$87,500 from the planned level of \$375,000. The president of Lawrence Company has expressed some concern about this decrease and has requested a follow-up report.

The following data have been gathered from the accounting records for the year ended December 31, 2012:

			Difference— Increase or
	Actual	Planned	(Decrease)
Sales	\$1,581,250	\$1,437,500	\$143,750
Less:			
Variable cost of goods sold	\$ 718,750	\$ 687,500	\$ 31,250
Variable selling and administrative expenses	575,000	375,000	200,000
Total	\$1,293,750	\$1,062,500	\$231,250
Contribution margin	\$ 287,500	\$ 375,000	\$ (87,500)
Number of units sold	28,750	25,000	
Per unit:			
Sales price	\$55.00	\$57.50	
Variable cost of goods sold	25.00	27.50	
Variable selling and administrative expenses	20.00	15.00	

#### Instructions

- 1. Prepare a contribution margin analysis report for the year ended December 31, 2012.
- 2. At a meeting of the board of directors on January 30, 2013, the president, after reviewing the contribution margin analysis report, made the following comment:

"It looks as if the price decrease of \$2.50 had the effect of increasing sales. However, we lost control over the variable cost of goods sold and variable selling and administrative expenses. Let's look into these expenses and get them under control! Also, let's consider decreasing the sales price to \$50 to increase sales further."

Do you agree with the president's comment? Explain.

## **Cases & Projects**



#### CP 20-1 Ethics and professional conduct in business

The Northeast Division of Confield Inc. uses absorption costing for profit reporting. The general manager of the Northeast Division is concerned about meeting the income objectives of the division. At the beginning of the reporting period, the division had an adequate supply of inventory. The general manager has decided to increase production of goods in the plant in order to allocate fixed manufacturing cost over a greater number of units. Unfortunately, the increased production cannot be sold and will increase the inventory. However, the impact on earnings will be positive because the lower cost per unit will be matched against sales. The general manager has come to Palko Martin, the controller, to determine exactly how much additional production is required in order to increase net income enough to meet the division's profit objectives. Martin analyzes the data and determines that the inventory will need to be increased by 30% in order to absorb enough fixed costs and meet the income objective. Martin reports this information to the division manager.

Discuss whether Martin is acting in an ethical manner.

#### CP 20-2 Inventories under absorption costing

McCray, Inc. manufactures control panels for the electronics industry and has just completed its first year of operations. The following discussion took place between the controller, Charles Roehm, and the company president, Michelle Iacovou:

Michelle: I've been looking over our first year's performance by quarters. Our earnings have been increasing each quarter, even though our sales have been flat and our prices and costs have not changed. Why is this?

Charles: Our actual sales have stayed even throughout the year, but we've been increasing the utilization of our factory every quarter. By keeping our factory utilization high, we will keep our costs down by allocating the fixed plant costs over a greater number of units. Naturally, this causes our cost per unit to be lower than it would be otherwise.

Michelle: Yes, but what good is this if we have been unable to sell everything that we make? Our inventory is also increasing.

*Charles*: This is true. However, our unit costs are lower because of the additional production. When these lower costs are matched against sales, it has a positive impact on our earnings.

Michelle: Are you saying that we are able to create additional earnings merely by building inventory? Can this be

Charles: Well, I've never thought about it quite that way . . . but I guess so.

Michelle: And another thing. What will happen if we begin to reduce our production in order to liquidate the inventory? Don't tell me our earnings will go down even though our production effort drops!

Charles: Well . . .

Michelle: There must be a better way. I'd like our quarterly income statements to reflect what's really going on. I don't want our income reports to reward building inventory and penalize reducing inventory.

Charles: I'm not sure what I can do—we have to follow generally accepted accounting principles.

- 1. Why does reporting income under generally accepted accounting principles "reward" building inventory and "penalize" reducing inventory?
- 2. What advice would you give to Charles in responding to Michelle's concern about the present method of profit reporting?

#### CP 20-3 Segmented contribution margin analysis

Holly Inc. manufactures and sells devices used in cardiovascular surgery. The company has two salespersons, Bruce and Lewis.

A contribution margin by salesperson report was prepared as follows:

## Holly Inc. Contribution Margin by Salesperson

	Bruce	Lewis
Sales	\$250,000	\$300,000
Variable cost of goods sold	\$ 87,500	\$165,000
Manufacturing margin	\$162,500	\$135,000
Variable promotion expenses	\$ 62,500	\$ 15,000
Variable sales commission expenses	37,500	45,000
	\$100,000	\$ 60,000
Contribution margin	\$ 62,500	\$ 75,000
Manufacturing margin as a percent of sales		
(manufacturing margin ratio)	65%	45%
Contribution margin ratio	25%	25%

Interpret the report, and provide recommendations to the two salespersons for improving profitability.

#### CP 20-4 Margin analysis

Westerman Equipment Inc. manufactures and sells kitchen cooking products throughout the state. The company employs four salespersons. The following contribution margin by salesperson analysis was prepared:

Westerman Equipment Inc.				
Contribution Margi	n Anal	ysis by	/ Salesp	erson

	Beatty	Canace	Herbst	Saladin
Sales	\$150,000	\$170,000	\$160,000	\$120,000
Variable cost of goods sold	48,000	81,600	76,800	57,600
Manufacturing margin	\$102,000	\$ 88,400	\$ 83,200	\$ 62,400
Variable selling expenses				
Commissions	\$ 7,500	\$ 8,500	\$ 8,000	\$ 6,000
Promotion expenses	46,500	45,900	43,200	32,400
Total variable selling expenses	\$ 54,000	\$ 54,400	\$ 51,200	\$ 38,400
Contribution margin	\$ 48,000	\$ 34,000	\$ 32,000	\$ 24,000

- 1. Calculate the manufacturing margin as a percent of sales and the contribution margin ratio for each salesperson.
- 2. Explain the results of the analysis.

#### **CP 20-5** Contribution margin analysis

King Industrial Supply Company sells artistic supplies to retailers in three different states—Arizona, California, and Nevada. The following profit analysis by state was prepared by the company:

	Arizona	California	Nevada
Revenue	\$900,000	\$787,500	\$945,000
Cost of goods sold	450,000	427,500	450,000
Gross profit	\$450,000	\$360,000	\$495,000
Selling expenses	292,500	270,000	337,500
Income from operations	\$157,500	\$ 90,000	\$157,500

The following fixed costs have also been provided:

	Arizona	California	Nevada
Fixed manufacturing costs	\$90,000	\$180,000	\$101,250
Fixed selling expenses	67,500	108,000	90,900

In addition, assume that inventories have been negligible.

Management believes it could increase state sales by 20%, without increasing any of the fixed costs, by spending an additional \$33,750 per state on advertising.

- 1. Prepare a contribution margin by state report for King Industrial Supply Company.
- 2. Determine how much state operating profit will be generated for an additional \$33,750 per state on advertising.
- 3. Which state will provide the greatest profit return for a \$33,750 increase in advertising? Why?

#### CP 20-6 Absorption costing

#### **Group Project**

Patel Company is a family-owned business in which you own 20% of the common stock and your brothers and sisters own the remaining shares. The employment contract of Patel's new president, Ram Moss, stipulates a base salary of \$128,000 per year plus 10% of income from operations in excess of \$340,000. Moss uses the absorption costing method of reporting income from operations, which has averaged approximately \$480,000 for the past several years.

Sales for 2012, Moss's first year as president of Patel Company, are estimated at 40,000 units at a selling price of \$96 per unit. To maximize the use of Patel's productive capacity, Moss has decided to manufacture 50,000 units, rather than the 40,000 units of estimated sales. The beginning inventory at January 1, 2012, is insignificant in amount, and the manufacturing costs and selling and administrative expenses for the production of 40,000 and 50,000 units are as follows:

#### 40,000 Units to Be Manufactured

	Number of Units	Unit	
		Cost	<b>Total Cost</b>
Manufacturing costs:			
Variable	40,000	\$45	\$1,800,000
Fixed	40,000	10	400,000
Total		\$55	\$2,200,000
Selling and administrative expenses:		_	
Variable	\$ 960,000		
Fixed	320,000		
Total	\$1,280,000		

#### 50,000 Units to Be Manufactured

	Number of Units	Unit Cost	Total Cost
Manufacturing costs:			
Variable	50,000	\$45	\$2,250,000
Fixed	50,000	8	400,000
Total		\$53	\$2,650,000
Selling and administrative expenses:			
Variable	\$ 960,000		
Fixed	320,000		
Total	\$1,280,000		

- 1. In one group, prepare an absorption costing income statement for the year ending December 31, 2012, based on sales of 40,000 units and the manufacture of 40,000 units. In the other group, conduct the same analysis, assuming production of 50,000 units.
- 2. Explain the difference in the income from operations reported in (1).
- 3. Compute Moss's total salary for the year 2012, based on sales of 40,000 units and the manufacture of 40,000 units (Group 1) and 50,000 units (Group 2). Compare your answers.
- 4. In addition to maximizing the use of Patel Company's productive capacity, why might Moss wish to manufacture 50,000 units rather than 40,000 units?
- 5. Can you suggest an alternative way in which Moss's salary could be determined, using a base salary of \$128,000 and 10% of income from operations in excess of \$340,000, so that the salary could not be increased by simply manufacturing more units?

Budget estimates of manufacturing costs and operating expenses for the year are summarized as follows:

	Estimated Costs and Expenses	
	Fixed (Total for Year)	Variable (Per Unit Sold)
Cost of goods manufactured and sold:		
Direct materials	_	\$25.00
Direct labor	_	7.80
Factory overhead:		
Depreciation of plant and equipment	\$ 3,200	_
Other factory overhead	1,100	4.50
Selling expenses:		
Sales salaries and commissions	10,500	12.80
Advertising	11,800	_
Miscellaneous selling expense	900	2.00
Administrative expenses:		
Office and officers salaries	7,400	6.25
Supplies	400	1.00
Miscellaneous administrative expense	200	1.50

Balances of accounts receivable, prepaid expenses, and accounts payable at the end of the year are not expected to differ significantly from the beginning balances. Federal income tax of \$26,000 on 2013 taxable income will be paid during 2013. Regular quarterly cash dividends of \$0.15 per share are expected to be declared and paid in March, June, September, and December on 30,000 shares of common stock outstanding. It is anticipated that fixed assets will be purchased for \$17,500 cash in May.

#### **Instructions**

- 1. Prepare a budgeted income statement for 2013.
- 2. Prepare a budgeted balance sheet as of December 31, 2013, with supporting calculations.

## **Cases & Projects**



#### CP 21-1 Ethics and professional conduct in business

The director of marketing for Starr Computer Co., Sandi Keller, had the following discussion with the company controller, Tyler Johnson, on July 26 of the current year:

Sandi: Tyler, it looks like I'm going to spend much less than indicated on my July budget.

Tyler: I'm glad to hear it.

Sandi: Well, I'm not so sure it's good news. I'm concerned that the president will see that I'm under budget and reduce my budget in the future. The only reason that I look good is that we've delayed an advertising campaign. Once the campaign hits in September, I'm sure my actual expenditures will go up. You see, we are also having our sales convention in September. Having the advertising campaign and the convention at the same time is going to kill my September numbers.

Tyler: I don't think that's anything to worry about. We all expect some variation in actual spending month to month. What's really important is staying within the budgeted targets for the year. Does that look as if it's going to be a problem?

Sandi: I don't think so, but just the same, I'd like to be on the safe side.

Tyler: What do you mean?

Sandi: Well, this is what I'd like to do. I want to pay the convention-related costs in advance this month. I'll pay the hotel for room and convention space and purchase the airline tickets in advance. In this way, I can charge all these expenditures to July's budget. This would cause my actual expenses to come close to budget for July. Moreover, when the big advertising campaign hits in September, I won't have to worry about expenditures for the convention on my September budget as well. The convention costs will already be paid. Thus, my September expenses should be pretty close to budget.

*Tyler:* I can't tell you when to make your convention purchases, but I'm not too sure that it should be expensed on July's budget.

Sandi: What's the problem? It looks like "no harm, no foul" to me. I can't see that there's anything wrong with this—it's just smart management.

How should Tyler Johnson respond to Sandi Keller's request to expense the advanced payments for convention-related costs against July's budget?



#### CP 21-2 Evaluating budgeting systems

Children's Hospital of the King's Daughters Health System in Norfolk, Virginia, introduced a new budgeting method that allowed the hospital's annual plan to be updated for changes in operating plans. For example, if the budget was based on 400 patient-days (number of patients × number of days in the hospital) and the actual count rose to 450 patient-days, the variable costs of staffing, lab work, and medication costs could be adjusted to reflect this change. The budget manager stated, "I work with hospital directors to turn data into meaningful information and effect change before the month ends."

- a. What budgeting methods are being used under the new approach?
- b. Why are these methods superior to the former approaches?

#### CP 21-3 Service company static decision making

A bank manager of City Savings Bank Inc. uses the managerial accounting system to track the costs of operating the various departments within the bank. The departments include Cash Management, Trust, Commercial Loans, Mortgage Loans, Operations, Credit Card, and Branch Services. The budget and actual results for the Operations Department are as follows:

Resources	Budget	Actual
Salaries	\$200,000	\$200,000
Benefits	30,000	30,000
Supplies	45,000	42,000
Travel	20,000	30,000
Training	25,000	35,000
Overtime	25,000	20,000
Total	\$345,000	\$357,000
Excess of actual over budget		\$ 12,000

- What information is provided by the budget? Specifically, what questions can the bank manager ask of the Operations Department manager?
- b. What information does the budget fail to provide? Specifically, could the budget information be presented differently to provide even more insight for the bank manager?



#### **CP 21-4** Objectives of the master budget

Domino's Pizza L.L.C. operates pizza delivery and carry-out restaurants. The annual report describes its business as follows:

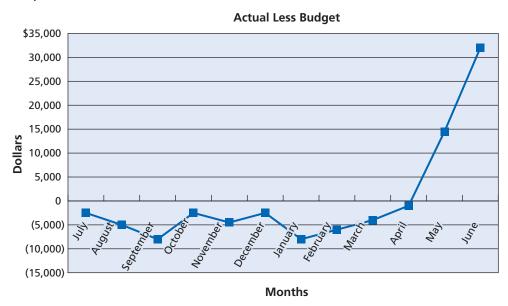
We offer a focused menu of high-quality, value-priced pizza with three types of crust (Hand-Tossed, Thin Crust, and Deep Dish), along with buffalo wings, bread sticks, cheesy bread, CinnaStix®, and Coca-Cola® products. Our hand-tossed pizza is made from fresh dough produced in our regional distribution centers. We prepare every pizza using real cheese, pizza sauce made from fresh tomatoes, and a choice of high-quality meat and vegetable toppings in generous portions. Our focused menu and use of premium ingredients enable us to consistently and efficiently produce the highest-quality pizza.

Over the 41 years since our founding, we have developed a simple, cost-efficient model. We offer a limited menu, our stores are designed for delivery and carry-out, and we do not generally offer dine-in service. As a result, our stores require relatively small, lower-rent locations and limited capital expenditures.

How would a master budget support planning, directing, and control for Domino's?

#### CP 21-5 Integrity and evaluating budgeting systems

The city of West Plaines has an annual budget cycle that begins on July 1 and ends on June 30. At the beginning of each budget year, an annual budget is established for each department. The annual budget is divided by 12 months to provide a constant monthly static budget. On June 30, all unspent budgeted monies for the budget year from the various city departments must be "returned" to the General Fund. Thus, if department heads fail to use their budget by year-end, they will lose it. A budget analyst prepared a chart of the difference between the monthly actual and budgeted amounts for the recent fiscal year. The chart was as follows:



- a. Interpret the chart.
- b. Suggest an improvement in the budget system.

Internet Project

#### CP 21-6 Budget for a state government

#### **Group Project**

In a group, find the home page of the state in which you presently live. The home page will be of the form *www.statename.gov*. For example, the state of Tennessee would be found at **www.tennessee.gov**. At the home page site, search for annual budget information.

- 1. What are the budgeted sources of revenue and their percentage breakdown?
- 2. What are the major categories of budgeted expenditures (or appropriations) and their percentage breakdown?
- 3. Is the projected budget in balance?

## Cases & Projects



#### CP 22-1 Ethics and professional conduct in business using nonmanufacturing standards

Mackenzie Adamson is a cost analyst with Madison Insurance Company. Madison is applying standards to its claims payment operation. Claims payment is a repetitive operation that could be evaluated with standards. Mackenzie used time and motion studies to identify an ideal standard of 36 claims processed per hour. The Claims Processing Department manager, Jonathan Hall, has rejected this standard and has argued that the standard should be 30 claims processed per hour. Jonathan and Mackenzie were unable to agree, so they decided to discuss this matter openly at a joint meeting with the vice president of operations, who would arbitrate a final decision. Prior to the meeting, Mackenzie wrote the following memo to the VP.

To: Linda Clark, Vice President of Operations

From: Mackenzie Adamson

Re: Standards in the Claims Processing Department

As you know, Jonathan and I are scheduled to meet with you to discuss our disagreement with respect to the appropriate standards for the Claims Processing Department. I have conducted time and motion studies and have determined that the ideal standard is 36 claims processed per hour. Jonathan argues that 30 claims processed per hour would be more appropriate. I believe he is trying to "pad" the budget with some slack. I'm not sure what he is trying to get away with, but I believe a tight standard will drive efficiency up in his area. I hope you will agree when we meet with you next week.

Discuss the ethical and professional issues in this situation.

#### CP 22-2 Nonfinancial performance measures

The senior management of Caldwell Company has proposed the following three performance measures for the company:

- 1. Net income as a percent of stockholders' equity
- 2. Revenue growth
- 3. Employee satisfaction

Management believes these three measures combine both financial and nonfinancial measures and are thus superior to using just financial measures.

What advice would you give Caldwell Company for improving its performance measurement system?

#### **CP 22-3 Variance interpretation**

You have been asked to investigate some cost problems in the Assembly Department of Elgin Electronics Co., a consumer electronics company. To begin your investigation, you have obtained the following budget performance report for the department for the last quarter:

Elgin Electronics Co.—Assembly Department Quarterly Budget Performance Report

	Standard Quantity at Standard Rates	Actual Quantity at Standard Rates	Quantity Variances
Direct labor	\$ 78,750	\$113,750	\$35,000 U
Direct materials	148,750	192,500	43,750 U
Total	\$227,500	\$306,250	\$78,750 U

The following reports were also obtained:

#### Elgin Electronics Co.—Purchasing Department Quarterly Budget Performance Report

	Actual Quantity at Standard Rates	Actual Quantity at Actual Rates	Price Variance
Direct materials	\$218,750	\$192,500	-\$26,250 F

#### Elgin Electronics Co.—Fabrication Department Quarterly Budget Performance Report

	Standard Quantity at Standard Rates	Actual Quantity at Standard Rates	Quantity Variances
Direct labor	\$122,500	\$101,500	-\$21,000 F
Direct materials	70,000	70,000	0
Total	\$192,500	\$171,500	- <u>\$21,000</u> F

You also interviewed the Assembly Department supervisor. Excerpts from the interview follow.

- Q: What explains the poor performance in your department?
- A: Listen, you've got to understand what it's been like in this department recently. Lately, it seems no matter how hard we try, we can't seem to make the standards. I'm not sure what is going on, but we've been having a lot of problems lately.
- Q: What kind of problems?
- A: Well, for instance, all this quarter we've been requisitioning purchased parts from the material storeroom, and the parts just didn't fit together very well. I'm not sure what is going on, but during most of this quarter we've had to scrap and sort purchased parts—just to get our assemblies put together. Naturally, all this takes time and material. And that's not all.
- Q: Go on.
- A: All this quarter, the work that we've been receiving from the Fabrication Department has been shoddy. I mean, maybe around 20% of the stuff that comes in from Fabrication just can't be assembled. The fabrication is all wrong. As a result, we've had to scrap and rework a lot of the stuff. Naturally, this has just shot our quantity variances.

Interpret the variance reports in light of the comments by the Assembly Department supervisor.

#### **CP 22-4 Variance interpretation**

Master Audio Inc. is a small manufacturer of electronic musical instruments. The plant manager received the following variable factory overhead report for the period:

	Actual	Budgeted Variable Factory Overhead at Actual Production	Controllable Variance
Supplies	\$28,000	\$26,520	\$1,480 U
Power and light	35,000	33,990	1,010 U
Indirect factory wages	26,112	20,400	5,712 U
Total	\$89,112	\$80,910	\$8,202 U

Actual units produced: 10,200 (85% of practical capacity)

The plant manager is not pleased with the \$8,202 unfavorable variable factory overhead controllable variance and has come to discuss the matter with the controller. The following discussion occurred:

Plant Manager: I just received this factory report for the latest month of operation. I'm not very pleased with these figures. Before these numbers go to headquarters, you and I will need to reach an understanding.

Controller: Go ahead, what's the problem?

Plant Manager: What's the problem? Well, everything. Look at the variance. It's too large. If I understand the accounting approach being used here, you are assuming that my

costs are variable to the units produced. Thus, as the production volume declines, so should these costs. Well, I don't believe that these costs are variable at all. I think they are fixed costs. As a result, when we operate below capacity, the costs really don't go down at all. I'm being penalized for costs I have no control over at all. I need this report to be redone to reflect this fact. If anything, the difference between actual and budget is essentially a volume variance. Listen, I know that you're a team player. You really need to reconsider your assumptions on this one.

If you were in the controller's position, how would you respond to the plant manager?

**Internet Project** 

#### CP 22-5 Nonmanufacturing performance measures—government

#### **Group Project**

Municipal governments are discovering that you can control only what you measure. As a result, many municipal governments are introducing nonfinancial performance measures to help improve municipal services. In a group, use the Google search engine to perform a search for "municipal government performance measurement." Google will provide a list of Internet sites that outline various city efforts in using nonfinancial performance measures. As a group, report on the types of measures used by one of the cities from the search.

The Semiconductors Division is able to produce the components used by the Navigational Systems Division. Except for the possible transfer of materials between divisions, no changes are expected in sales and expenses.

#### Instructions

- 1. Would the market price of \$1,080 per unit be an appropriate transfer price for Lockhart Industries, Inc.? Explain.
- 2. If the Navigational Systems Division purchases 300 units from the Semiconductors Division, rather than externally, at a negotiated transfer price of \$775 per unit, how much would the income from operations of each division and total company income from operations increase?
- 3. Prepare condensed divisional income statements for Lockhart Industries, Inc., based on the data in part (2).
- 4. If a transfer price of \$850 per unit is negotiated, how much would the income from operations of each division and total company income from operations increase?
- 5. a. What is the range of possible negotiated transfer prices that would be acceptable for Lockhart Industries, Inc.?
  - b. Assuming that the managers of the two divisions cannot agree on a transfer price, what price would you suggest as the transfer price?

## **Cases & Projects**



#### CP 23-1 Ethics and professional conduct in business

C.S. Technology Company has two divisions, the Semiconductor Division and the PC Division. The PC Division may purchase semiconductors from the Semiconductor Division or from outside suppliers. The Semiconductor Division sells semiconductor products both internally and externally. The market price for semiconductors is \$100 per 100 semiconductors. Frank Hoffman is the controller of the PC Division, and Lisa Henderson is the controller of the Semiconductor Division. The following conversation took place between Frank and Lisa:

Frank: I hear you are having problems selling semiconductors out of your division. Maybe I can help.

Lisa: You've got that right. We're producing and selling at about 90% of our capacity to outsiders. Last year we were selling 100% of capacity. Would it be possible for your division to pick up some of our excess capacity? After all, we are part of the same company.

Frank: What kind of price could you give me?

Lisa: Well, you know as well as I that we are under strict profit responsibility in our divisions, so I would expect to get market price, \$100 for 100 semiconductors.

Frank: I'm not so sure we can swing that. I was expecting a price break from a "sister" division.

Lisa: Hey, I can only take this "sister" stuff so far. If I give you a price break, our profits will fall from last year's levels. I don't think I could explain that. I'm sorry, but I must remain firm—market price. After all, it's only fair—that's what you would have to pay from an external supplier.

Frank: Fair or not, I think we'll pass. Sorry we couldn't have helped.

Was Frank behaving ethically by trying to force the Semiconductor Division into a price break? Comment on Lisa's reactions.

#### **CP 23-2** Service department charges

The Customer Service Department of Morrison Industries asked the Publications Department to prepare a brochure for its training program. The Publications Department delivered the brochures and charged the Customer Service Department a rate that was 25% higher than could be obtained from an outside printing company. The policy of the company required the Customer Service Department to use the internal publications group for brochures. The Publications Department claimed that it had a drop in demand for its services during the fiscal year, so it had to charge higher prices in order to recover its payroll and fixed costs.

Should the cost of the brochure be transferred to the Customer Service Department in order to hold the Customer Service Department head accountable for the cost of the brochure? What changes in policy would you recommend?

#### **CP 23-3** Evaluating divisional performance

The three divisions of Tasty Goodness Foods are Snack Goods, Cereal, and Frozen Foods. The divisions are structured as investment centers. The following responsibility reports were prepared for the three divisions for the prior year:

	<b>Snack Goods</b>	Cereal	Frozen Foods
Revenues	\$1,800,000	\$2,100,000	\$1,650,000
Operating expenses	1,039,500	872,000	668,000
Income from operations before service department charges Service department charges:	\$ 760,500	\$1,228,000	\$ 982,000
Promotion	\$ 250,000	\$ 500,000	\$ 390,000
Legal	114,500 \$ 364,500	203,000 \$ 703,000	196,000 \$ 586,000
Income from operations	\$ 396,000	\$ 525,000	\$ 396,000
Invested assets	\$1,800,000	\$1,750,000	\$1,500,000

- 1. Which division is making the best use of invested assets and thus should be given priority for future capital investments?
- 2. Assuming that the minimum acceptable rate of return on new projects is 15%, would all investments that produce a return in excess of 15% be accepted by the divisions?
- 3. Can you identify opportunities for improving the company's financial performance?

#### CP 23-4 Evaluating division performance over time

The Luxury Vehicle Division of Bimmer Motors Inc. has been experiencing revenue and profit growth during the years 2010–2012. The divisional income statements are provided below.

Bimmer Motors Inc.
Divisional Income Statements, Luxury Vehicle Division
For the Years Ended December 31, 2010–2012

	2010	2011	2012
Sales	\$1,050,000	\$1,500,000	\$1,750,000
Cost of goods sold	760,000	1,070,000	1,200,000
Gross profit	\$ 290,000	\$ 430,000	\$ 550,000
Operating expenses	122,000	130,000	165,000
Income from operations	\$ 168,000	\$ 300,000	\$ 385,000

Assume that there are no charges from service departments. The vice president of the division, Ya-Wen Kelton, is proud of his division's performance over the last three years. The president of Bimmer Motors Inc., Andrea Canace, is discussing the division's performance with Ya-Wen, as follows:

Ya-Wen: As you can see, we've had a successful three years in the Luxury Vehicle Division.

Andrea: I'm not too sure.

Ya-Wen: What do you mean? Look at our results. Our income from operations has more than doubled, while our profit margins are improving.

Andrea: I am looking at your results. However, your income statements fail to include one very important piece of information; namely, the invested assets. You have been investing a great deal of assets into the division. You had \$600,000 in invested assets in 2010, \$1,250,000 in 2011, and \$1,750,000 in 2012.

*Ya-Wen*: You are right. I've needed the assets in order to upgrade our technologies and expand our operations. The additional assets are one reason we have been able to grow and improve our profit margins. I don't see that this is a problem.

Andrea: The problem is that we must maintain a 20% rate of return on invested assets.

- 1. Determine the profit margins for the Luxury Vehicle Division for 2010-2012.
- 2. Compute the investment turnover for the Luxury Vehicle Division for 2010–2012. Round to two decimal places.
- 3. Compute the rate of return on investment for the Luxury Vehicle Division for 2010–2012.
- 4. Evaluate the division's performance over the 2010–2012 time period. Why was Andrea concerned about the performance?

#### CP 23-5 Evaluating division performance

Tupelo Industries Inc. is a privately held diversified company with five separate divisions organized as investment centers. A condensed income statement for the Specialty Products Division for the past year, assuming no service department charges, is as follows:

# Tupelo Industries Inc.—Specialty Products Division Income Statement For the Year Ended December 31, 2012

Sales	\$27,000,000
Cost of goods sold	20,244,000
Gross profit	\$ 6,756,000
Operating expenses	546,000
Income from operations	\$ 6,210,000
Invested assets	\$33,750,000

The manager of the Specialty Products Division was recently presented with the opportunity to add an additional product line, which would require invested assets of \$14,400,000. A projected income statement for the new product line is as follows:

#### New Product Line Projected Income Statement For the Year Ended December 31, 2012

Sales	\$10,800,000
Cost of goods sold	6,253,500
Gross profit	\$ 4,546,500
Operating expenses	2,818,500
Income from operations	

The Specialty Products Division currently has \$33,750,000 in invested assets, and Tupelo Industries Inc.'s overall rate of return on investment, including all divisions, is 10%. Each division manager is evaluated on the basis of divisional rate of return on investment. A bonus is paid, in \$3,000 increments, for each whole percentage point that the division's rate of return on investment exceeds the company average.

The president is concerned that the manager of the Specialty Products Division rejected the addition of the new product line, even though all estimates indicated that the product line would be profitable and would increase overall company income. You have been asked to analyze the possible reasons why the Specialty Products Division manager rejected the new product line.

- 1. Determine the rate of return on investment for the Specialty Products Division for the past year.
- 2. Determine the Specialty Products Division manager's bonus for the past year.
- 3. Determine the estimated rate of return on investment for the new product line. Round whole percents to one decimal place and investment turnover to two decimal places.
- 4. Why might the manager of the Specialty Products Division decide to reject the new product line? Support your answer by determining the projected rate of return on investment for 2012, assuming that the new product line was launched in the Specialty Products Division, and 2012 actual operating results were similar to those of 2011.
- 5. Can you suggest an alternative performance measure for motivating division managers to accept new investment opportunities that would increase the overall company income and rate of return on investment?

Internet Project

#### CP 23-6 Economic value added



### **Group Project**

Divide into groups and go to the home page of Stern Stewart & Co. at http://www.eva.com. Stern Stewart & Co. is a consulting firm that developed the concept of economic value added (EVA), a measure of corporate and divisional performance, similar to residual income.

Go to the "intellectual property" tab on the Stern Stewart home page to learn about EVA. After reading about EVA, prepare a brief report describing EVA and its claimed advantages. Discuss this research and prepare a brief analysis of this approach to corporate and divisional performance measurement.

1156 Chapter 24 Differential Analysis and Product Pricing

additional business is not expected to affect the domestic sales of the halogen light, and the additional units could be produced using existing capacity.

- a. Prepare a differential analysis of the proposed sale to International Lighting Inc.
- b. Based on the differential analysis in part (a), should the proposal be accepted?

#### OBJ. 3

#### ✓ 1. Ethylene, \$24



#### PR 24-6B Product pricing and profit analysis with bottleneck operations

Dover Chemical Company produces three products: ethylene, butane, and ester. Each of these products has high demand in the market, and Dover Chemical is able to sell as much as it can produce of all three. The reaction operation is a bottleneck in the process and is running at 100% of capacity. Dover wants to improve chemical operation profitability. The variable conversion cost is \$8 per process hour. The fixed cost is \$550,000. In addition, the cost analyst was able to determine the following information about the three products:

	Ethylene	Butane	Ester
Budgeted units produced	9,000	9,000	9,000
Total process hours per unit	3	3	2
Reactor hours per unit	0.75	0.5	1.0
Unit selling price	\$165	\$132	\$128
Direct materials cost per unit	\$117	\$88	\$85

The reaction operation is part of the total process for each of these three products. Thus, for example, 1.0 of the 3 hours required to process ethylene is associated with the reactor.

#### **Instructions**

- 1. Determine the unit contribution margin for each product.
- 2. Provide an analysis to determine the relative product profitabilities, assuming that the reactor is a bottleneck.
- 3. Assume that management wishes to improve profitability by increasing prices on selected products. At what price would ethylene and ester need to be offered in order to produce the same relative profitability as butane?

## Cases & Projects



#### CP 24-1 Product pricing

Dominique Leone is a cost accountant for Black Box Systems Inc. Orlando Stevens, vice president of marketing, has asked Dominique to meet with representatives of Black Box Systems' major competitor to discuss product cost data. Orlando indicates that the sharing of these data will enable Black Box Systems to determine a fair and equitable price for its products.

Would it be ethical for Dominique to attend the meeting and share the relevant cost data?

#### CP 24-2 Decision on accepting additional business

A manager of Riviera Sporting Goods Company is considering accepting an order from an overseas customer. This customer has requested an order for 20,000 dozen golf balls at a price of \$24 per dozen. The variable cost to manufacture a dozen golf balls is \$19 per dozen. The full cost is \$26 per dozen. Riviera has a normal selling price of \$40 per dozen. Riviera's plant has just enough excess capacity on the second shift to make the overseas order.

What are some considerations in accepting or rejecting this order?



#### CP 24-3 Accept business at a special price

If you are not familiar with Priceline.com Inc., go to its Web site. Assume that an individual "names a price" of \$80 on Priceline.com for a room in Chicago, Illinois, on May 3. Assume that May 3 is a Saturday, with low expected room demand in Chicago at a Marriott International, Inc., hotel, so there is excess room capacity. The fully allocated cost per room per day is assumed from hotel records as follows:

Housekeeping labor cost*	\$ 36
Hotel depreciation expense	40
Cost of room supplies (soap, paper, etc.)	7
Laundry labor and material cost*	10
Cost of desk staff	6
Utility cost (mostly air conditioning)	4
Total cost per room per day	\$103

<sup>\*</sup>Both housekeeping and laundry staff include many part-time workers, so that the workload is variable to demand.

Should Marriott accept the customer bid for a night in Chicago on May 3 at a price of \$80?

#### CP 24-4 Cost-plus and target costing concepts

The following conversation took place between Morris Stein, vice president of marketing, and Cal Rentz, controller of Diamond Computer Company:

Morris: I am really excited about our new computer coming out. I think it will be a real market success.

Cal: I'm really glad you think so. I know that our success will be determined by our price. If our price is too high, our competitors will be the ones with the market success.

*Morris:* Don't worry about it. We'll just mark our product cost up by 25% and it will all work out. I know we'll make money at those markups. By the way, what does the estimated product cost look like?

*Cal*: Well, there's the rub. The product cost looks as if it's going to come in at around \$1,200. With a 25% markup, that will give us a selling price of \$1,500.

*Morris:* I see your concern. That's a little high. Our research indicates that computer prices are dropping and that this type of computer should be selling for around \$1,250 when we release it to the market.

Cal: I'm not sure what to do.

Morris: Let me see if I can help. How much of the \$1,200 is fixed cost?

Cal: About \$200.

*Morris:* There you go. The fixed cost is sunk. We don't need to consider it in our pricing decision. If we reduce the product cost by \$200, the new price with a 25% markup would be right at \$1,250. Boy, I was really worried for a minute there. I knew something wasn't right.

- a. If you were Cal, how would you respond to Morris's solution to the pricing problem?
- b. How might target costing be used to help solve this pricing dilemma?



Internet Project

#### CP 24-5 Pricing decisions and markup on variable costs

#### **Group Project**

Many businesses are offering their products and services over the Internet. Some of these companies and their Internet addresses are listed below.

Company Name	Internet Address (URL)	Product
<b>Delta Air Lines</b>	http://www.delta.com	Airline tickets
Amazon.com	http://www.amazon.com	Books
Dell Inc.	http://www.dell.com	Personal computers

- a. In groups of three, assign each person in your group to one of the Internet sites listed above. For each site, determine the following:
  - 1. A product (or service) description.
  - 2. A product price.
  - 3. A list of costs that are required to produce and sell the product selected in part (1) as listed in the annual report on SEC Form 10-K.
  - 4. Whether the costs identified in part (3) are fixed costs or variable costs.
- b. Which of the three products do you believe has the largest markup on variable cost?

Proposal	Cash Payback Period	Average Rate of Return	Accept for Further Analysis	Reject
A				
В				
C				
D				

- 4. For the proposals accepted for further analysis in part (3), compute the net present value. Use a rate of 12% and the present value of \$1 table appearing in this chapter (Exhibit 1).
- 5. Compute the present value index for each of the proposals in part (4). Round to two decimal places.
- 6. Rank the proposals from most attractive to least attractive, based on the present values of net cash flows computed in part (4).
- 7. Rank the proposals from most attractive to least attractive, based on the present value indexes computed in part (5). Round to two decimal places.
- 8. Based on the analyses, comment on the relative attractiveness of the proposals ranked in parts (6) and (7).

## **Cases & Projects**



#### CP 25-1 Ethics and professional conduct in business

Kristen Avery was recently hired as a cost analyst by CareNet Medical Supplies Inc. One of Kristen's first assignments was to perform a net present value analysis for a new warehouse. Kristen performed the analysis and calculated a present value index of 0.75. The plant manager, Ted Gaines, is very intent on purchasing the warehouse because he believes that more storage space is needed. Ted asks Kristen into his office and the following conversation takes place:

Ted: Kristen, you're new here, aren't you?

Kristen: Yes, sir.

Ted: Well, Kristen, I'm not at all pleased with the capital investment analysis that you performed on this new warehouse. I need that warehouse for my production. If I don't get it, where am I going to place our output?

Kristen: Hopefully with the customer, sir.

Ted: Now don't get smart with me.

*Kristen*: No, really, I wasn't trying to be disrespectful. My analysis does not support constructing a new warehouse. The numbers don't lie; the warehouse does not meet our investment return targets. In fact, it seems to me that purchasing a warehouse does not add much value to the business. We need to be producing product to satisfy customer orders, not to fill a warehouse.

Ted: Listen, you need to understand something. The headquarters people will not allow me to build the warehouse if the numbers don't add up. You know as well as I that many assumptions go into your net present value analysis. Why don't you relax some of your assumptions so that the financial savings will offset the cost?

Kristen: I'm willing to discuss my assumptions with you. Maybe I overlooked something.

Ted: Good. Here's what I want you to do. I see in your analysis that you don't project greater sales as a result of the warehouse. It seems to me, if we can store more goods, then we will have more to sell. Thus, logically, a larger warehouse translates into more sales. If you incorporate this into your analysis, I think you'll see that the numbers will work out. Why don't you work it through and come back with a new analysis. I'm really counting on you on this one. Let's get off to a good start together and see if we can get this project accepted.



➤ What is your advice to Kristen?

#### CP 25-2 Personal investment analysis

A Masters of Accountancy degree at Central University costs \$10,000 for an additional fifth year of education beyond the bachelor's degree. Assume that all tuition is paid at the beginning of the year. A student considering this investment must evaluate the

present value of cash flows from possessing a graduate degree versus holding only the undergraduate degree. Assume that the average student with an undergraduate degree is expected to earn an annual salary of \$48,000 per year (assumed to be paid at the end of the year) for 10 years. Assume that the average student with a graduate Masters of Accountancy degree is expected to earn an annual salary of \$63,000 per year (assumed to be paid at the end of the year) for nine years after graduation. Assume a minimum rate of return of 10%.

- 1. Determine the net present value of cash flows from an undergraduate degree. Use the present value table provided in this chapter in Exhibit 2.
- 2. Determine the net present value of cash flows from a Masters of Accountancy degree, assuming no salary is earned during the graduate year of schooling.
- 3. What is the net advantage or disadvantage of pursuing a graduate degree under these assumptions?

#### **CP 25-3** Changing prices

International Devices Inc. invested \$1,000,000 to build a plant in a foreign country. The labor and materials used in production are purchased locally. The plant expansion was estimated to produce an internal rate of return of 20% in U.S. dollar terms. Due to a currency crisis, the currency exchange rate between the local currency and the U.S. dollar doubled from two local units per U.S. dollar to four local units per U.S. dollar.

- a. Assume that the plant produced and sold product in the local economy. Explain what impact this change in the currency exchange rate would have on the project's internal rate of return.
- b. Assume that the plant produced product in the local economy but exported the product back to the United States for sale. Explain what impact the change in the currency exchange rate would have on the project's internal rate of return under this assumption.



#### CP 25-4 Qualitative issues in investment analysis

The following are some selected quotes from senior executives:

CEO, Worthington Industries (a high technology steel company): "We try to find the best technology, stay ahead of the competition, and serve the customer.... We'll make any investment that will pay back quickly ... but if it is something that we really see as a must down the road, payback is not going to be that important."

Chairman of Amgen Inc. (a biotech company): "You cannot really run the numbers, do net present value calculations, because the uncertainties are really gigantic ... You decide on a project you want to run, and then you run the numbers [as a reality check on your assumptions]. Success in a business like this is much more dependent on tracking rather than on predicting, much more dependent on seeing results over time, tracking and adjusting and readjusting, much more dynamic, much more flexible."

Chief Financial Officer of Merck & Co., Inc. (a pharmaceutical company): " ... at the individual product level—the development of a successful new product requires on the order of \$230 million in R&D, spread over more than a decade—discounted cash flow style analysis does not become a factor until development is near the point of manufacturing scale-up effort. Prior to that point, given the uncertainties associated with new product development, it would be lunacy in our business to decide that we know exactly what's going to happen to a product once it gets out."







#### CP 25-5 Net present value method

Metro-Goldwyn-Mayer Studios Inc. (MGM) is a major producer and distributor of theatrical and television filmed entertainment. Regarding theatrical films, MGM states, "Our feature films are exploited through a series of sequential domestic and international distribution channels, typically beginning with theatrical exhibition. Thereafter, feature films are first made available for home video generally six months after theatrical release; for pay television, one year after theatrical release; and for syndication, approximately three to five years after theatrical release."

Assume that MGM produces a film during early 2012 at a cost of \$300 million, and releases it halfway through the year. During the last half of 2012, the film earns revenues of \$350 million at the box office. The film requires \$75 million of advertising during the release. One year later, by the end of 2013, the film is expected to earn MGM net cash flows from home video sales of \$45 million. By the end of 2014, the film is expected to earn MGM \$30 million from pay TV; and by the end of 2015, the film is expected to earn \$10 million from syndication.

- a. Determine the net present value of the film as of the beginning of 2012 if the desired rate of return is 20%. To simplify present value calculations, assume all annual net cash flows occur at the end of each year. Use the table of the present value of \$1 appearing in Exhibit 1 of this chapter. Round to the nearest whole million dollars.
- b. Under the assumptions provided here, is the film expected to be financially successful?

#### CP 25-6 Capital investment analysis

Internet Project

#### **Group Project**

In one group, find a local business, such as a copy shop, that rents time on desktop computers for an hourly rate. Determine the hourly rate. In the other group, determine the price of a mid-range desktop computer at http://www.dell.com. Combine this information from the two groups and perform a capital budgeting analysis. Assume that one student will use the computer for 40 hours per semester for the next three years. Also assume that the minimum rate of return is 10%. Use the interest tables in Appendix A in performing your analysis. [Hint: Use the appropriate present value of an annuity of \$1 factor for 5% compounded for six semiannual periods (periods = 6).]

Does your analysis support the student purchasing the computer?



✓ 3. Flight 102 income from operations, \$5,605



#### PR 26-6B Product costing and decision analysis for a passenger airline

Blue Skies Airline provides passenger airline service, using small jets. The airline connects four major cities: Atlanta, Cincinnati, Chicago, and Los Angeles. The company expects to fly 140,000 miles during a month. The following costs are budgeted for a month:

Fuel	\$1,450,000
Ground personnel	693,250
Crew salaries	710,000
Depreciation	360,000
Total costs	\$3,213,250

Blue Skies management wishes to assign these costs to individual flights in order to gauge the profitability of its service offerings. The following activity bases were identified with the budgeted costs:

Airline Cost	Activity Base	
Fuel, crew, and depreciation costs	Number of miles flown	
Ground personnel	Number of arrivals and departures at an airport	

The size of the company's ground operation in each city is determined by the size of the workforce. The following monthly data are available from corporate records for each terminal operation:

Terminal City	Ground Personnel Cost	Number of Arrivals/Departures
Atlanta	\$224,750	290
Cincinnati	84,000	120
Chicago	114,800	140
Los Angeles	269,700	310
Total	\$693,250	860

Three recent representative flights have been selected for the profitability study. Their characteristics are as follows:

	Description	Miles Flown	Number of Passengers	Ticket Price per Passenger
Flight 101	Atlanta to LA	1,850	70	\$650
Flight 102	Chicago to Atlanta	600	45	400
Flight 103	Atlanta to Cincinnati	350	20	350

#### **Instructions**

- 1. Determine the fuel, crew, and depreciation cost per mile flown.
- 2. Determine the cost per arrival or departure by terminal city.
- 3. Use the information in (1) and (2) to construct a profitability report for the three flights. Each flight has a single arrival and departure to its origin and destination city pairs.
- 4. Evaluate flight profitability by determining the break-even number of passengers required for each flight assuming all the costs of a flight are fixed. Round to the nearest whole number.

## <u> Cases & Projects</u>



#### CP 26-1 Ethics and professional conduct in business

The controller of XTek Systems Inc. devised a new costing system based on tracing the cost of activities to products. The controller was able to measure post-manufacturing activities, such as selling, promotional, and distribution activities, and allocate these activities to products in order to have a more complete view of the company's product costs. This effort

produced better strategic information about the relative profitability of product lines. In addition, the controller used the same product cost information for inventory valuation on the financial statements. Surprisingly, the controller discovered that the company's reported net income was larger under this scheme than under the traditional costing approach.

Why was the net income larger, and how would you react to the controller's action?

#### CP 26-2 Identifying product cost distortion

Breeze Beverage Company manufactures soft drinks. Information about two products is as follows:

	Volume	Sales Price per Case	Gross Profit per Case
Dr. Kola	800,000 cases	\$30	\$12
Tahiti Punch	10.000 cases	30	12

It is known that both products have the same direct materials and direct labor costs per case. Breeze Beverage allocates factory overhead to products by using a single plantwide factory overhead rate, based on direct labor cost. Additional information about the two products is as follows:

*Dr. Kola:* Requires minor process preparation and sterilization prior to processing. The ingredients are acquired locally. The formulation is simple, and it is easy to maintain quality. Lastly, the product is sold in large bulk (full truckload) orders.

*Tahiti Punch:* Requires extensive process preparation and sterilization prior to processing. The ingredients are from Jamaica, requiring complex import controls. The formulation is complex, and it is thus difficult to maintain quality. Lastly, the product is sold in small (less than full truckload) orders.

Explain the product profitability report in light of the additional data.

#### CP 26-3 Activity-based costing

Wells Fargo Insurance Services (WFIS) is an insurance brokerage company that classified insurance products as either "easy" or "difficult." Easy and difficult products were defined as follows:

Easy: Electronic claims, few inquiries, mature product

Difficult: Paper claims, complex claims to process, many inquiries, a new product with complex options

The company originally allocated processing and service expenses on the basis of revenue. Under this traditional allocation approach, the product profitability report revealed the following:

	Easy	Difficult	
	Product	Product	Total
Revenue	\$600	\$400	\$1,000
Processing and service expenses	420	280	700
Income from operations	\$180	\$120	\$ 300
Operating income margin	30%	30%	30%

WFIS decided to use activity-based costing to allocate the processing and service expenses. The following activity-based costing analysis of the same data illustrates a much different profit picture for the two types of products.

	Easy Product	Difficult Product	Total
Revenue	\$600	\$ 400	\$1,000
Processing and service expenses	183	517	700
Income from operations	\$417 =====	\$(117) =====	\$ 300
Operating income margin	70%	(29%)	30%

Explain why the activity-based profitability report reveals different information from the traditional sales allocation report.

**Source:** Dan Patras and Kevin Clancy, "ABC in the Service Industry: Product Line Profitability at Acordia, Inc." As Easy as ABC Newsletter, Issue 12, Spring 1993.



#### CP 26-4 Using a product profitability report to guide strategic decisions

The controller of Fidelity Sounds Inc. prepared the following product profitability report for management, using activity-based costing methods for allocating both the factory overhead and the marketing expenses. As such, the controller has confidence in the accuracy of this report. In addition, the controller interviewed the vice president of marketing, who indicated that the floor loudspeakers were an older product that was highly recognized in the marketplace. The ribbon loudspeakers were a new product that was recently launched. The ribbon loudspeakers are a new technology that have no competition in the marketplace, and it is hoped that they will become an important future addition to the company's product portfolio. Initial indications are that the product is well received by customers. The controller believes that the manufacturing costs for all three products are in line with expectations.

	Floor Loudspeakers	Bookshelf Loudspeakers	Ribbon Loudspeakers	Totals
Sales	\$1,200,000	\$800,000	\$600,000	\$2,600,000
Less cost of goods sold	816,000	448,000	552,000	1,816,000
Gross profit	\$ 384,000	\$352,000	\$ 48,000	\$ 784,000
Less marketing expenses	480,000	72,000	42,000	594,000
Income from operations	\$ (96,000)	\$280,000	\$ 6,000	\$ 190,000

- 1. Calculate the gross profit and income from operations to sales ratios for each product.
- 2. Write a memo using the product profitability report and the calculations in (1) to make recommendations to management with respect to strategies for the three products.

#### **CP 26-5** Product cost distortion

Ashton Mills, president of Smart Calc Inc., was reviewing the product profitability reports with the controller, Andrew Scott. The following conversation took place:

Ashton: I've been reviewing the product profitability reports. Our high-volume calculator, the T-100, appears to be unprofitable, while some of our lower-volume specialty calculators in the T-900 series appear to be very profitable. These results do not make sense to me. How are the product profits determined?

Andrew: First, we identify the revenues associated with each product line. This information comes directly from our sales order system and is very accurate. Next, we identify the direct materials and direct labor associated with making each of the calculators. Again, this information is very accurate. The final cost that must be considered is the factory overhead. Factory overhead is allocated to the products, based on the direct labor hours used to assemble the calculator.

Ashton: What about distribution, promotion, and other post-manufacturing costs that can be associated with the product?

*Andrew:* According to generally accepted accounting principles, we expense them in the period that they are incurred and do not treat them as product costs.

Ashton: Another thing, you say that you allocate factory overhead according to direct labor hours. Yet I know that the T-900 series specialty products have very low volumes but require extensive engineering, testing, and materials management effort. They are our newer, more complex products. It seems that these sources of factory overhead will end up being allocated to the T-100 line because it is the high-volume and therefore high direct labor hour product. Yet the T-100 line is easy to make and requires very little support from our engineering, testing, and materials management personnel.

*Andrew:* I'm not too sure. I do know that our product costing approach is similar to that used by many different types of companies. I don't think we could all be wrong.

Is Ashton Mills' concern valid, and how might Andrew Scott redesign the cost allocation system to address Ashton's concern?

#### **CP 26-6** Allocating bank administrative costs

Banks have a variety of products, such as savings accounts, checking accounts, certificates of deposit (CDs), and loans. Assume that you were assigned the task of determining the administrative costs of "savings accounts" as a complete product line. What are some of the activities associated with savings accounts? In answering this question, consider the activities that you might perform with your savings account. For each activity, what would be an activity base that could be used to allocate the activity cost to the savings account product line?

- 3. Journalize the summary transactions (a) through (d).
- 4. Determine the ending balance in Raw and In Process Inventory and Finished Goods Inventory.
- 5. How does the accounting in a JIT environment differ from traditional accounting?

#### OBJ. 4

✓ 3. Non-valueadded, 36%

#### PR 27-4B Pareto chart and cost of quality report-manufacturing company

The president of Cardio Care Exercise Equipment Co. has been concerned about the growth in costs over the last several years. The president asked the controller to perform an activity analysis to gain a better insight into these costs. The activity analysis revealed the following:

Activities	<b>Activity Cost</b>
Correcting invoice errors	\$ 7,200
Disposing of incoming materials with poor quality	21,600
Disposing of scrap	43,200
Expediting late production	36,000
Final inspection	28,800
Inspecting incoming materials	7,200
Inspecting work in process	32,400
Preventive machine maintenance	21,600
Producing product	140,400
Responding to customer quality complaints	21,600
Total	\$360,000

The production process is complicated by quality problems, requiring the production manager to expedite production and dispose of scrap.

#### Instructions

- 1. Prepare a Pareto chart of the company activities.
- 2. Use the activity cost information to determine the percentages of total costs that are prevention, appraisal, internal failure, external failure, and not costs of quality (producing product).
- 3. Determine the percentages of total costs that are value- and non-value-added.
- 4. Interpret the information.

## **Cases & Projects**



#### CP 27-1 Ethics and professional conduct in business

In August, Selene Company introduced a new performance measurement system in manufacturing operations. One of the new performance measures was lead time. The lead time was determined by tagging a random sample of items with a log sheet throughout the month. This log sheet recorded the time that the item started and the time that it ended production, as well as all steps in between. The controller collected the log sheets and calculated the average lead time of the tagged products. This number was reported to central management and was used to evaluate the performance of the plant manager. The plant was under extreme pressure to reduce lead time because of poor lead time results reported in June.

The following memo was intercepted by the controller.

Date: September 1
To: Hourly Employees
From: Plant Manager

During last month, you noticed that some of the products were tagged with a log sheet. This sheet records the time that a product enters production and the time that it leaves production. The difference between these two times is termed the "lead time." Our plant is evaluated on improving lead time. From now on, I ask all of you to keep an eye out for the tagged items. When you receive a tagged item, it is to receive special attention. Work on that item first, and then immediately move it to the next operation. Under no circumstances should tagged items wait on any other work that you have. Naturally, report accurate information. I insist that you record the correct times on the log sheet as the product goes through your operations.

How should the controller respond to this discovery?

#### **CP 27-2** Just-in-time principles

Comfort Space Inc. manufactures electric space heaters. While the CEO, Toma Zulim, is visiting the production facility, the following conversation takes place with the plant manager, Raj Chandar:

Toma: As I walk around the facility, I can't help noticing all the materials inventories. What's going on?

*Raj:* I have found our suppliers to be very unreliable in meeting their delivery commitments. Thus, I keep a lot of materials on hand so as to not risk running out and shutting down production.

Toma: Not only do I see a lot of materials inventory, but there also seems to be a lot of finished goods inventory on hand. Why is this?

Raj: As you know, I am evaluated on maintaining a low cost per unit. The one way that I am able to reduce my unit costs is by producing as many space heaters as possible. This allows me to spread my fixed costs over a larger base. When orders are down, the excess production builds up as inventory, as we are seeing now. But don't worry—I'm really keeping our unit costs down this way.

Toma: I'm not so sure. It seems that this inventory must cost us something.

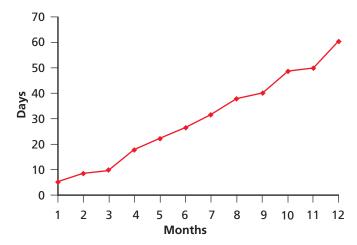
Raj: Not really. I'll eventually use the materials and we'll eventually sell the finished goods. By keeping the plant busy, I'm using our plant assets wisely. This is reflected in the low unit costs that I'm able to maintain.

If you were Toma Zulim, how would you respond to Raj Chandar? What recommendations would you provide Raj Chandar?

#### CP 27-3 Just-in-time principles

Hyperion Concepts Inc. prepared the following performance graphs for the prior year:

#### **Total Manufacturing Lead Time**





#### CP 27-4 Value-added and non-value-added activity costs

Turner Company prepared the following factory overhead report from its general ledger:

Indirect labor	\$200,000
Fringe benefits	30,000
Supplies	70,000
Depreciation	50,000
Total	\$350,000

The management of Turner Company was dissatisfied with this report and asked the controller to prepare an activity analysis of the same information. This activity analysis was as follows:

Processing sales orders	\$ 66,500	19%
Disposing of scrap	77,000	22
Expediting work orders	70,000	20
Producing parts	42,000	12
Resolving supplier quality problems	45,500	13
Reissuing corrected purchase orders	35,000	10
Expediting customer orders	14,000	4
Total	\$350,000	100%

Interpret the activity analysis by identifying value-added and non-value-added activity costs. How does the activity cost report differ from the general ledger report?

#### CP 27-5 Lead time

#### **Group Project**

In groups of two to four people, visit a sit-down restaurant and do a lead time study. If more than one group chooses to visit the same restaurant, choose different times for your visits. Note the time when you walk in the door of the restaurant and the time when you walk out the door after you have eaten. The difference between these two times is the total lead time of your restaurant experience. While in the restaurant, determine the time spent on non-value-added time, such as wait time, and the time spent on value-added eating time. Note the various activities and the time required to perform each activity during your visit to the restaurant. Compare your analyses, identifying possible reasons for differences in the times recorded by groups that visited the same restaurant.