MANAGERIAL ACCOUNTING

Tenth Canadian Edition

GARRISON • LIBBY • WEBB

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ISBN-13: 978-1-25-902490-0
ISBN-10: 1-25-902490-3

1 2 3 4 5 6 7 8 9 10 TCP 1 9 8 7 6 5

Printed and bound in Canada.

Director of Product Management: Rhondda McNabb
Product Manager: Keara Emmett
Executive Marketing Manager: Joy Armitage Taylor
Product Developer: Amy Rydzanicz
Senior Product Team Associate: Stephanie Giles
Supervising Editor: Jessica Barnoski
Photo/Permissions Editor: Indu Arora
Copy Editor/Proofreader: Julia Cochrane
Plant Production Coordinator: Sheryl MacAdam
Manufacturing Production Coordinator: Lena Keating
Cover Design: Katherine Strain
Cover Image: Steven Hayes/Getty Images
Interior Design: Katherine Strain
Page Layout: Aptara®, Inc.
Printer: Transcontinental Printing Group

Library and Archives Canada Cataloguing in Publication

Garrison, Ray H., author

Managerial accounting / Ray H. Garrison, D.B.A., CPA, Professor Emeritus, Brigham Young University, Theresa Libby, Ph.D., CPA, CA, University of Waterloo, Alan Webb, Ph.D., FCPA, FCA, University of Waterloo, Eric W. Noreen, Ph.D., CMA (Co-Author, U.S. Edition), Professor Emeritus, University of Washington, Peter C. Brewer, Ph.D., CPA (Co-Author, U.S. Edition), Wake Forest University—Winston-Salem, North Carolina. — Tenth Canadian edition.

Revision of Managerial accounting / Ray H. Garrison . . . [et al.]. — 9th Canadian ed. — [Toronto]: McGraw-Hill Ryerson, [2011], ©2012. Includes bibliographical references and index. ISBN 978-1-25-902490-0 (bound)

1. Managerial accounting—Textbooks. I. Libby, Theresa, 1963-, author II. Webb, Alan (Professor), author III. Noreen, Eric W., author IV. Brewer, Peter C., author V. Title.

HF5657.4.M38 2014 658.15'11 C2014-903642-6

Dedication

To our families, and the students and instructors who will use this book.

About the Authors

Ray H. Garrison is Emeritus Professor of Accounting at Brigham Young University, Provo, Utah. He received his B.S. and M.S. degrees from Brigham Young University and his D.B.A. degree from Indiana University. As a certified public accountant, Professor Garrison has been involved in management consulting work with both national and regional accounting firms. He has published articles in *The Accounting Review*, *Management Accounting*, and other professional journals. Innovation in the classroom has earned Professor Garrison the Karl G. Maeser Distinguished Teaching Award from Brigham Young University.

Theresa Libby is a Professor of Accounting in the School of Accounting and Finance, University of Waterloo. She received her Ph.D. from the University of Waterloo and a B. Comm. from the University of Windsor. Professor Libby is also a chartered professional accountant. Her research interests include the manager's use of accounting information for decision making, the effects of budgeting processes on performance, and accounting ethics. She has published articles in *CA Magazine* and *CMA Management*, as well as in leading research journals including *The Accounting Review*, *Contemporary Accounting Research*, *Business Ethics Quarterly*, and the *Journal of Management Accounting Research*. Professor Libby sits on the editorial boards of *Contemporary Accounting Research* and *Management Accounting Research* and has served as the editor of *Behavioral Research in Accounting*. In 2014, Professor Libby was awarded the L. S. Rosen Outstanding Educator Award by the Canadian Academic Accounting Association.

Alan Webb is a Professor in the School of Accounting and Finance at the University of Waterloo. He is a graduate of Mount Allison University and the University of Alberta, with B. Comm. and Ph.D. degrees. His primary research interests are in the areas of incentives, goal-setting, and performance measurement. Professor Webb has presented his work throughout North America and he is an editor of *Contemporary Accounting Research*. His research publications appear in *The Accounting Review*, *Journal of Accounting Research*, *Journal of Management Accounting Research*, *Contemporary Accounting Research*, *Issues in Accounting Education*, *CA Magazine*, and *CMA Management* magazine. He is a chartered professional accountant and has volunteered in numerous professional activities both in Canada and abroad. In 2011, Professor Webb was awarded the L. S. Rosen Outstanding Educator Award by the Canadian Academic Accounting Association and was named a Fellow of the Institute of Chartered Professional Accountants of Ontario for his outstanding career accomplishments.

Eric W. Noreen (**Co-author, U.S. Edition**) is Professor Emeritus of Accounting at the University of Washington and was Visiting Price Waterhouse Professor of Management Information & Control at INSEAD, an international graduate school of business located in France, and a professor at the Hong Kong University of Science and Technology. He received his B.A. degree from the University of Washington and M.B.A. and Ph.D. degrees from Stanford University. A Certified Management Accountant, he was awarded a Certificate of Distinguished Performance by the Institute of Certified Management Accountants. Professor Noreen has served as Associate Editor of *The Accounting Review* and the *Journal of Accounting and Economics*. He has published numerous articles in academic journals and has won a number of awards for his teaching.

Peter C. Brewer (**Co-author, U.S. Edition**) is a Lecturer in the Department of Accountancy at Wake Forest University. Prior to joining the faculty at Wake Forest, he was an accounting professor at Miami University for 19 years. He holds a B.S. degree in accounting from Penn State University, an M.S. degree in accounting from the University of Virginia, and a Ph.D. from the University of Tennessee. He has published numerous articles in a variety of journals. Professor Brewer has received Miami University's Richard T. Farmer School of Business Teaching Excellence Award and has been recognized on two occasions by the Miami University Associated Student Government for "making a remarkable commitment to students and their educational development." He is a leader in undergraduate management accounting curriculum innovation and the use of the case method for teaching undergraduate management accounting courses. He is a frequent presenter at various professional and academic conferences and meetings.

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Brief Contents

Contents

Garrison/Libby/Webb:

For centuries, the lighthouse has stood as a beacon of guidance for mariners at sea. More than an aid to navigation, the lighthouse symbolizes safety, permanence, reliability, and the comforts of the familiar.

For this reason, we continue to illustrate the tenth Canadian edition of our flagship accounting publication, *Managerial Accounting* by Garrison, Libby, and Webb, with an image that we feel encapsulates the greatest strengths of this market-leading text.

Garrison is your guide through the challenges of learning managerial accounting. It identifies the three functions that managers must perform within their organizations—plan operations, control activities, and make decisions—and explains the managerial accounting information necessary for these functions, how to collect or prepare it, and how to interpret it. To achieve this, the tenth Canadian edition of *Managerial Accounting* focuses, now as in the past, on three qualities:

Your guide through the challenges of learning managerial accounting

Relevance. Every effort is made to help students relate the concepts in this book to the decisions made by managers in practice. With chapter openers based on real-world scenarios, in-chapter examples providing practical applications, knowledge in action summaries, and extensive end-of-chapter material, a student reading Garrison should never have to ask, "Why am I learning this?"

Balance. Garrison provides extensive examples and end-of-chapter material covering the breadth of business types found in practice, including manufacturing, service, retail, wholesale organizations, and not-for-profit entities. In the tenth Canadian edition, material related to the adoption of International Financial Reporting Standards (IFRS) continues to be highlighted with icons in the margins of the text.

Clarity. Generations of students have praised Garrison for the accessibility and readability of its writing, but that's just the beginning. Discussions of technical material have been simplified, chapters have been reordered, more specialized topics have been moved to online appendices, and the entire book has been thoroughly revised with the objective of making learning and teaching from Garrison as easy as possible. Key term definitions and icons signifying ethics, writing, and Excel assignments continue to add clarity for both students and instructors. In addition, students and instructors will work with clear, well-written supplements that employ consistent terminology.

The authors' steady focus on these three core elements has led to tremendous results.

What makes Garrison such a powerful learning tool?

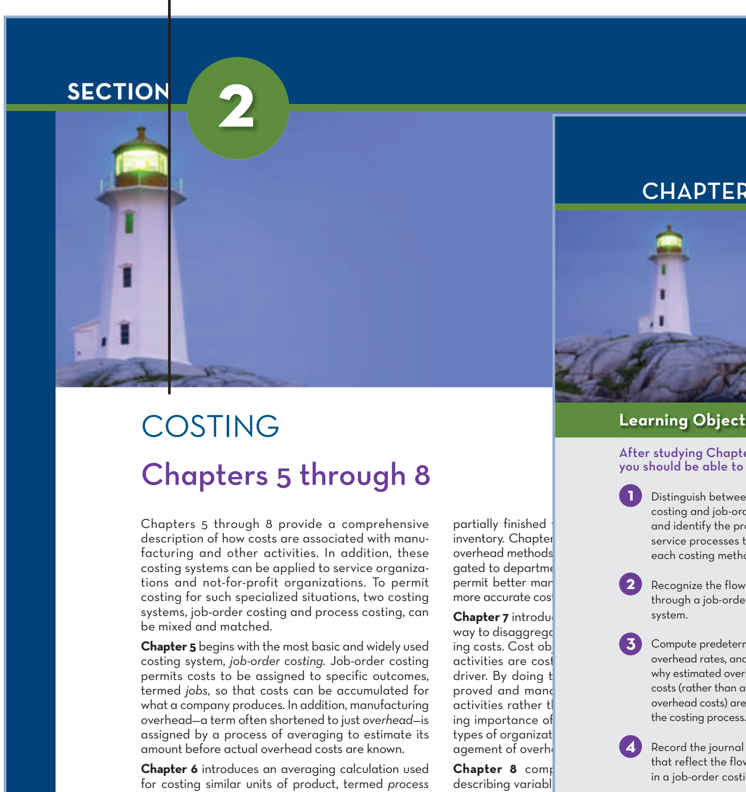
Managerial Accounting is full of pedagogy designed to make studying productive. On the following pages, you will see the kind of engaging, helpful pedagogical features that make Garrison a favourite among both instructors and students.

Section Overviews

The tenth Canadian edition is divided into five sections. One-page overviews map the chapters included and how they are related.

Opening Vignettes

These chapter openers, based on real-world scenarios, introduce the chapter and highlight some of the issues, concepts, and decisions faced by managers that are discussed in the ensuing pages.



SECTION 2

COSTING

Chapters 5 through 8

Chapters 5 through 8 provide a comprehensive description of how costs are associated with manufacturing and other activities. In addition, these costing systems can be applied to service organizations and not-for-profit organizations. To permit costing for such specialized situations, two costing systems, job-order costing and process costing, can be mixed and matched.

Chapter 5 begins with the most basic and widely used costing system, *job-order costing*. Job-order costing permits costs to be assigned to specific outcomes, termed *jobs*, so that costs can be accumulated for what a company produces. In addition, manufacturing overhead—a term often shortened to just *overhead*—is assigned by a process of averaging to estimate its amount before actual overhead costs are known.

Chapter 6 introduces an averaging calculation used for costing similar units of product, termed *process costing*. The ordering of costs learned in financial

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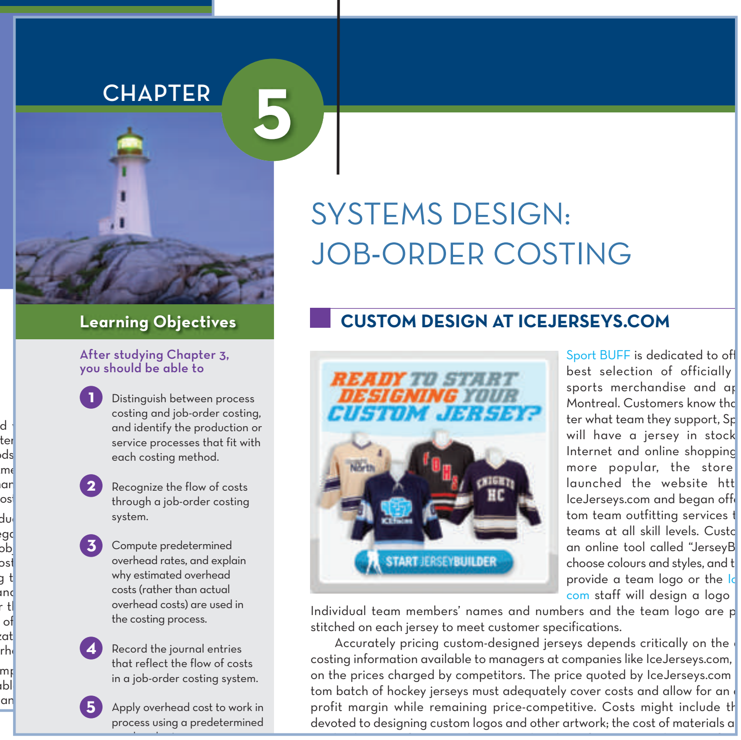

CHAPTER 5

SYSTEMS DESIGN: JOB-ORDER COSTING

Learning Objectives

After studying Chapter 3, you should be able to

1. Distinguish between process costing and job-order costing, and identify the production or service processes that fit with each costing method.
2. Recognize the flow of costs through a job-order costing system.
3. Compute predetermined overhead rates, and explain why estimated overhead costs (rather than actual overhead costs) are used in the costing process.
4. Record the journal entries that reflect the flow of costs in a job-order costing system.
5. Apply overhead cost to work in process using a predetermined

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Individual team members' names and numbers and the team logo are p
stitched on each jersey to meet customer specifications.

Accurately pricing custom-designed jerseys depends critically on the
costing information available to managers at companies like IceJerseys.com,
on the prices charged by competitors. The price quoted by IceJerseys.com
tom batch of hockey jerseys must adequately cover costs and allow for an
profit margin while remaining price-competitive. Costs might include th
devoted to designing custom logos and other artwork; the cost of materials a

Learning Aids

These pedagogical boxes emphasize and summarize key content for students.

LEARNING AID

Key Formulas for Contribution Format Income Statements

Operating income = Unit CM × Q – Fixed expenses
CM = Sales – Variable expenses
CM per unit = Per unit sales – Per unit variable expenses
CM ratio = Total CM ÷ Total sales or CM ratio = Per unit CM ÷ Per unit sales
Variable expense ratio = Variable expenses ÷ Sales
In these formulas, CM = contribution margin and Q = quantity of goods sold in units.

IN BUSINESS

When deciding whether to bid for a major sporting event such as the Olympic Games, the potential host would perform a careful analysis of the expected differential revenues and differential costs. For example, according to some estimates, the differential costs to British Columbia of hosting the Vancouver 2010 Olympics were about $1.5 billion. Differential costs are those that were incurred *only* as a result of hosting the games. Examples are the cost of facilities such as the speed-skating arena that would not have been built if Vancouver had not won the Olympic bid, security for the events, and galas sponsored by the provincial government. Costs that would have been incurred even if British Columbia had not hosted the Olympics, such as upgrades to the Sea-to-Sky Highway leading to Whistler, are *not* considered differential costs.

A large source of differential revenue for British Columbia will be the money received in the years following the games as the result of tourists visiting the province after watching the Olympics on television. Some experts estimated that the 2010 Olympics could result in an additional 1.1 million to 2.7 million tourists for British Columbia in the five years following the games. According to a 2014 report prepared by Tourism BC, total tourism revenues for British Columbia in 2012 increased 2.5% compared to 2011 and 40.5% compared to 2002, suggesting estimates of the differential revenues

In Business

These helpful boxed features offer a glimpse into how real companies use the managerial accounting concepts discussed in the chapter. Every chapter contains several of these current examples.

Generally Accepted Accounting Principles

Financial accounting statements prepared for external users must be prepared in accordance with generally accepted accounting principles (GAAP). External users must have some assurance that the reports have been prepared in accordance with some common set of ground rules. Beginning January 1, 2011, Canada joined more than 100 other countries, including Australia, New Zealand, and European Union member countries, in adopting International Financial Reporting Standards (IFRS) for publicly accountable enterprises. As of that date, in Canada, IFRS became GAAP for public companies. The purpose of IFRS is simple: to enhance the comparability and clarity of financial information on a global basis. Given the increasing degree of globalization of the economy and the interconnectedness of capital markets, accounting standard setters in Canada concluded that it was crucial to adopt IFRS.[2] Private companies and not-for-profit organizations are not required to adopt IFRS but instead can use accounting standards for private enterprises (ASPE). While the common ground rules established by IFRS will enhance comparability across external reporting jurisdictions, they do not necessarily lead to the type of reports that would be most useful

IFRS

IFRS Icon

The IFRS icon continues to identify where changes as a result of IFRS adoption in Canada are affecting managerial accounting.

Knowledge in Action

New to the tenth edition, these summaries provide examples of how key concepts covered in the chapter are applied by managers in practice. They are intended to reinforce the practical relevance of the material being learned.

KNOWLEDGE IN ACTION

Managers can apply their knowledge about cost behaviour when

- Calculating sales needed to achieve break-even profit levels
- Estimating sales needed to achieve desired profit targets
- Estimating the impact of sales volume changes on profit
- Costing products
- Preparing budgets and analyzing differences between actual and budgeted results
- Deciding whether to keep or drop a product
- Deciding whether to make a product internally or outsource production

NEW

Managerial Accounting has earned a reputation for the best practice material of any text on the market. The tenth Canadian edition includes both new and revised exercises, problems, and cases. Features include:

NEW

Instant Quiz 2-3
If a merchandising company has cost of goods sold of $250,000, beginning merchandise inventory of $50,000, and ending merchandise inventory of $40,000, calculate the amount of inventory purchases for the period.

Instant Quizzes

New to the tenth edition, these short questions are designed to allow students to test their understanding of key topics as they work through each chapter. Each question is intended to take only a few minutes at most to complete. Several instant quizzes are included in each chapter, starting with Chapter 2. To provide feedback for the instant quizzes, solutions for all questions are provided at the end of each chapter.

Review Problems & Solutions

REVIEW PROBLEM: COST–VOLUME–PROFIT RELATIONSHIPS

Networks Company manufactures wireless routers. The company's contribution format income statement for the most recent year is given below:

	Total	Per Unit	Percentage of Sales
Sales (25,000 units).................	$2,500,000	$100	100%
Less variable expenses..............	1,500,000	60	? %
Contribution margin.................	1,000,000	$ 40	? %
Less fixed expenses.................	800,000		
Operating income....................	$ 200,000		

NEW

DISCUSSION CASE

DISCUSSION CASE 3–1
Despite the numerous benefits of developing an accurate understanding of cost behaviour discussed in this chapter, research indicates that surprisingly few companies use quantitative techniques such as the high-low method or regression analysis to separate mixed costs into fixed and variable components.

Required:
Discuss reasons why companies might not use quantitative techniques (high-low method or regression analysis) to develop an accurate understanding of cost behaviour.

Discussion Cases

New to the tenth edition, these short cases focus on one or more of the concepts covered in the chapter. They are designed to provoke careful thought about key topics and to generate in-class discussion. One case has been developed for each chapter.

QUESTIONS

2-1 Would costs related to the building used only by administrative personnel, such as heat and lights, property taxes, and insurance, be considered part of manufacturing overhead? Why or why not?
2-2 Distinguish between the following: (a) direct materials, (b) indirect materials, (c) direct labour, (d) indirect labour, and (e) manufacturing overhead.
2-3 Are product costs always expensed in the period in which they are incurred? Explain.
2-4 What are marketing or selling costs? How are they treated on the income statement?
2-5 Describe the schedule of cost of goods manufactured. How does it tie into the income

Questions

NEW

Foundational Exercises

New to the tenth Canadian edition of Garrison! Each chapter now contains one Foundational exercise that includes "building block" questions related to one concise set of data. These exercises can be used for in-class discussion or as homework assignments. The Foundational Exercises are available on Connect.

EXERCISES connect

EXERCISE 2–1 Classifying Manufacturing Costs [LO1]
The costs below all relate to Sounds Good, a company based in Alberta that manufactures high-end audio equipment such as speakers, receivers, CD players, turntables, and home theatre systems. The company owns all of the manufacturing facilities (building and equipment) but rents the space used by the non-manufacturing employees (accounting, marketing, sales, human resources).

Required:
For each cost, indicate whether it would most likely be classified as a direct labour, direct

Exercises

Problems

PROBLEMS connect

PROBLEM 2–13 Cost Classification [LO2, LO5, LO6]
Cycle Business manufactures and sells road and mountain bikes through a network of retail outlets in western Canada. Below is a partial list of expense items incurred in the most recent month (November), when 1,000 bicycles were manufactured, shipped, and sold. There was no beginning or ending work in process or finished goods inventory in November:

Item	October	November
Units produced and sold	900	1,000

NEW

Excel Simulations

New to the tenth Canadian edition of Garrison! Simulated Excel questions, assignable within Connect, allow students to practise their Excel skills—such as using basic formulas and formatting—within the context of managerial accounting. These questions feature animated, narrated Help and Show me tutorials (when enabled), as well as automatic feedback and grading for both students and professors.

Applying Excel

This feature links the power of Excel with managerial accounting concepts by illustrating how Excel functionality can be used to better understand accounting data. Applying Excel goes beyond plugging numbers into a template by providing students with an opportunity to build their own Excel worksheets and formulas. Students are then asked "what if" questions in which they analyze not only how related pieces of accounting data affect each other, but what they do. Applying Excel is integrated with McGraw-Hill's Connect, allowing students to practise their skills online with algorithmically generated datasets.

Cases

CASES connect

CASE 2–27 [LO1, LO2, LO3, LO4]
John Ranton, president and founder of Running Mate, could hardly contain his excitement over the operating results for his company's second year of operations. Running Mate is an online retailer of a GPS running watch that records distance, time, speed, heart rate, and a number of other statistics. Ranton's company does not manufacture the watches, but instead purchases them directly from the manufacturer based in China and resells them through its online shopping site. During the first two years of operation, Ranton decided to hold the selling price of the watch constant at $100 per unit in an effort to attract business. He was also able to negotiate a deal with the supplier to hold Running Mate's cost per watch constant at $80 per unit for the two years.

Operating expenses for each of the first two years of operation consist only of advertising expenses and the salaries paid to the website designer/administrator and the company's bookkeeper. Because Ranton is busy with his numerous other business ventures, the bookkeeper also looks after the day-to-day operations of Running Mate and has sole signing authority to

Writing Assignments

These encourage students to practise critical thinking and effective writing.

EXERCISE 2–12 Classification of Labour Costs [LO1]
Greg Powers is employed by Gussie Company, where he assembles a component part for one of the company's products. Greg is paid $14 per hour for regular time, and he is paid time and a half (i.e., $21 per hour) for all work in excess of 40 hours per week.

Required:
1. Assume that during a given week Greg is idle for three hours due to machine breakdowns and that he is idle for two more hours due to material shortages. No overtime is recorded for the week. Allocate Greg's wages for the week between direct labour cost and manufacturing overhead cost.
2. Assume that during a following week Greg works a total of 49 hours. He has no idle time for the week. Allocate Greg's wages for the week between direct labour cost and manufacturing overhead cost.
3. Greg's company provides an attractive package of benefits for its employees. This package includes a retirement program and a health insurance program. Explain two ways that the company could handle the costs of its direct labourers' employee benefits in its cost records.

Ethics Assignments

These serve as a reminder that ethical conduct is just as important as profits in business.

CASES connect

CASE 2–27 [LO1, LO2, LO3, LO4]
John Ranton, president and founder of Running Mate, could hardly contain his excitement over the operating results for his company's second year of operations. Running Mate is an online retailer of a GPS running watch that records distance, time, speed, heart rate, and a number of other statistics. Ranton's company does not manufacture the watches, but instead purchases them directly from the manufacturer based in China and resells them through its online shopping site. During the first two years of operation, Ranton decided to hold the selling price of the watch constant at $100 per unit in an effort to attract business. He was also able to negotiate a deal with the supplier to hold Running Mate's cost per watch constant at $80 per unit for the two years.

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Focus on the Tenth Canadian Edition

Book Philosophy and Structure

Developing and improving a textbook on a topic as broad as managerial accounting is an ongoing challenge requiring a guiding philosophy.

The authors of the tenth Canadian edition use the framework established by Garrison, Noreen, and Brewer in their fourteenth U.S. edition as a starting point. Although we rely on this framework in guiding our general approach, we have developed a text that distinctly reflects the Canadian business and education setting. Our main objectives are to make the various topics as easy to learn for students as possible and to provide the flexibility necessitated by the varied requirements of our Canadian users. We have developed a text that can be covered in a single-term course and that also provides students with a useful resource for subsequent courses in managerial accounting.

In the first two chapters we describe the key responsibilities of managers, their need for managerial accounting information, and the role of professional ethics for management accountants. We also address the major differences between financial and managerial accounting and cover key cost terms and classifications. Next, we cover two major topic areas that support the information needs of managerial accounting: cost behaviour and analysis, and the costing of products and services. This foundation material is the basis for Chapters 3 and 4, which focus on cost behaviour patterns, cost prediction models, and cost–volume–profit analysis. The remaining foundation material is covered in Chapters 5 through 8, which examine the major types of costing systems used by organizations.

In Chapters 9 through 11, we build on this foundation in our coverage of planning and control topics. Chapters 9 and 10 explore how managers can use predetermined costs in the form of budgets and standard costs both in planning for the future and in evaluating past performance. Chapter 11 covers a variety of management control techniques, including responsibility centre reporting and evaluation and performance measurement.

The second major application of the foundation material is examined in Chapters 12 and 13, which focus on short-term and long-term decision analysis. In Chapter 12, we cover relevant costs and analysis techniques used for short-term decisions, and in Chapter 13, we present the approaches used to analyze long-term capital budgeting decisions. Because the analysis required for short- and long-term decisions requires estimates of future costs, a thorough understanding of the cost behaviour concepts covered in Chapters 3 and 4 is essential. The book concludes with online Chapter 14 on financial statement analysis, which we view as an extension of both the control topics covered in earlier chapters and the decision analysis material presented in Chapters 12 and 13.

Each chapter provides an extensive set of exercises, problems, and cases that cover manufacturing, service, and not-for-profit organizations, as well as international businesses. This material has been developed to give students an appreciation for the types of situations faced by a wide variety of actual businesses. Feedback from our users indicates that while there is variety in the set of topics covered in any single course and the order in which they are covered, the structure and flexibility offered by our book makes it well suited to meet their needs.

Overall, our book is written in a way that facilitates understanding at the conceptual level and provides a sound basis for application.

What's New in the Tenth Edition

The tenth Canadian edition has been reviewed extensively to identify improvements over previous editions. The results of peer reviews and the authors' efforts are reflected in the revisions, reorganization, and new content development throughout the book. We have reordered the material in the tenth edition, placing the chapters on cost behaviour (Chapter 3) and cost–volume–profit (Chapter 4) concepts *before* the chapters on costing systems (Chapters 5 through 8). This reordering reflects our belief that understanding cost behaviour and analysis techniques is very helpful when studying costing systems. To demonstrate the practical application of the topics covered in the book, a new Knowledge in Action summary has been developed for each chapter after Chapter 1. These bullet point summaries give examples of how managers actually use the concepts covered in the chapter. Many exercises, problems, cases, and research questions have been revised and new ones created. We have also created a new Discussion Case at the end of each chapter. These short cases are designed to stimulate in-class discussion of a particular topic and require students to think more deeply about one or more key concepts. To further facilitate learning, we have developed new Instant Quizzes in most chapters that are designed to give students an opportunity to test their understanding of each major topic as they work through the chapter. The quizzes are short questions covering a single topic. To provide students with feedback, solutions to the Instant Quizzes are provided at the end of each chapter. Additionally, in several chapters, we have updated or created new Learning Aids to emphasize key materials and to reinforce students' understanding of the decision-making approach used for certain analysis techniques. We are confident that, collectively, these changes will enhance students' understanding and application of key managerial accounting topics.

The specific changes in each of the individual chapters of the tenth edition are summarized below:

- **Chapter 1** has been revised to improve clarity and to remove content deemed too advanced for an introductory text. Most notably the section on process management has been considerably shortened and the section on business plans removed. New In Business segments have been added.
- **Chapter 2** has a new opening vignette based on an actual service company, and several In Business segments have been revised or replaced with more current material. Exhibit 2–6 has been revised to clarify the cost flow example. Exhibits 2–7 and 2–9 have been replaced with Learning Aids. Seven Instant Quizzes have been included and a Knowledge in Action summary added.
- In **Chapter 3**, new examples have been developed to illustrate key cost behaviour concepts, and the related graphs have been revised. Several of the In Business segments have been revised or replaced to reflect more current material. Five Instant Quizzes have been included and a Knowledge in Action summary added.
- **Chapter 4** has a new opening vignette illustrating the use of the break-even concept in practice. Several In Business segments have been updated or replaced to reflect more current material. A new section on calculating multi-product break-even units has been developed, including a new Exhibit 4–6. The Learning Aid on multi-product cost–volume–profit analysis has been updated to include break-even units. Nine Instant Quizzes have been included and a Knowledge in Action summary added.
- **Chapter 5** has an updated opening vignette to reflect more current information, and several new examples of the use of job-order costing in service industries have been added. A new In Business segment has been added to describe job-order costing in a non-profit organization. References to paper copies of job tickets, cost sheets, and so on have been removed in favour of screen shots from a computerized database and discussion of how costs accumulate electronically in computerized costing systems. The discussion of disposition of over/underapplied overhead in the body of the chapter as well as the material included in Appendix 5A has been expanded to consider the impact of *International Accounting Standard (IAS) 2* on external reporting of product/service costs. Five Instant Quizzes have been included and a Knowledge in Action summary added.

- **Chapter 6** includes a new opening vignette illustrating the type of production process for which process costing is ideal. The main example built and elaborated upon throughout the chapter has been revised and refreshed. The appendix on service department cost allocation has been moved to online Appendix 11A: Transfer Pricing, Quality Costs, and Service Department Cost Allocation (see also Chapter 11 below) since users expressed the view that the material is better suited to being online. Finally, four Instant Quizzes and a Knowledge in Action summary have been added.
- **Chapter 7** includes a new opening vignette illustrating the usefulness of activity-based costing (ABC) in the auto industry. In addition, three new In Business segments have been added to illustrate the use of ABC in the travel and service industries. The review problem has been refreshed and a new review problem has been added that compares costs under traditional and ABC systems. Five Instant Quizzes have been included and a Knowledge in Action summary added.
- **Chapter 8** includes a new opening vignette illustrating a real-life example of managers' motivation to build inventory under an absorption costing system and how variable costing avoids this problem. In addition, the discussion of lean accounting has been enhanced, and a new In Business segment illustrating how lean accounting can be used to improve cost management in hospitals is included. Five Instant Quizzes and a Knowledge in Action summary are also included.
- **Chapter 9** has a new opening vignette that builds on the vignette developed for Chapter 2. A new example has been developed to illustrate the preparation of the master budget and its supporting components and the use of flexible budgets. The cash budget section has been revised to utilize the approach for calculating and paying interest expense employed in practice. The discussion of the financing section of the cash budget has been clarified to enhance understandability and a new formula has been included to simplify the calculation of borrowings and loan repayments. New In Business segments have been developed. Eight Instant Quizzes have been included and the Knowledge in Action summary added.
- **Chapter 10** includes one new and one updated In Business segment describing examples in the service industry. The Sales Variance Analysis Appendix has been added to the end of Chapter 10 as Appendix 10C (was Appendix 11A in the ninth edition) as the material fits better with the material in this chapter. Five Instant Quizzes and a Knowledge in Action summary have been added.
- **Chapter 11** now includes an updated version of the opening vignette as well as two new In Business segments concerning the using of the balanced scorecard in Canadian organizations. In addition, the coverage of material in this chapter has been reduced to better reflect knowledge necessary for an introductory course on managerial accounting. To facilitate coverage of more complex material by some instructors (e.g., transfer pricing, cost of quality, and profitability analysis), these topics have been included in the new online Appendix 11A: Transfer Pricing, Quality Costs, and Service Department Cost Allocation. Four Instant Quizzes and a Knowledge in Action summary have been included.
- **Chapter 12** has a new opening vignette concerning relevant costing in the airline industry, and a new In Business segment on relevant costs in the decision to lay off employees has been added. Six Instant Quizzes and a Knowledge in Action summary have been included.
- In **Chapter 13**, the opening vignette has been updated. All examples have been revised to discontinue the use of present value tables in performing the calculations. Instead, all present value amounts are now based on the use of formulas available in Microsoft Excel. The discussion of present value concepts has also been revised as needed to incorporate the use of formulas from Microsoft Excel. In keeping with these changes, the present value factor appendices have been removed. The discussion of the weighted-average cost of capital has been revised to improve clarity. New In Business segments have been developed. Six Instant Quizzes have been included and a Knowledge in Action summary added.
- In **Chapter 14**, an online chapter, some of the examples have been revised to reflect current values from publicly available sources of financial information. The discussion has been revised to identify the various users of the different analyses described in the chapter. Exhibit 14–5 has been transformed into a Learning Aid. What is now Exhibit 14–5 has been updated to provide current website addresses for information sources. A Knowledge in Action summary has been added.

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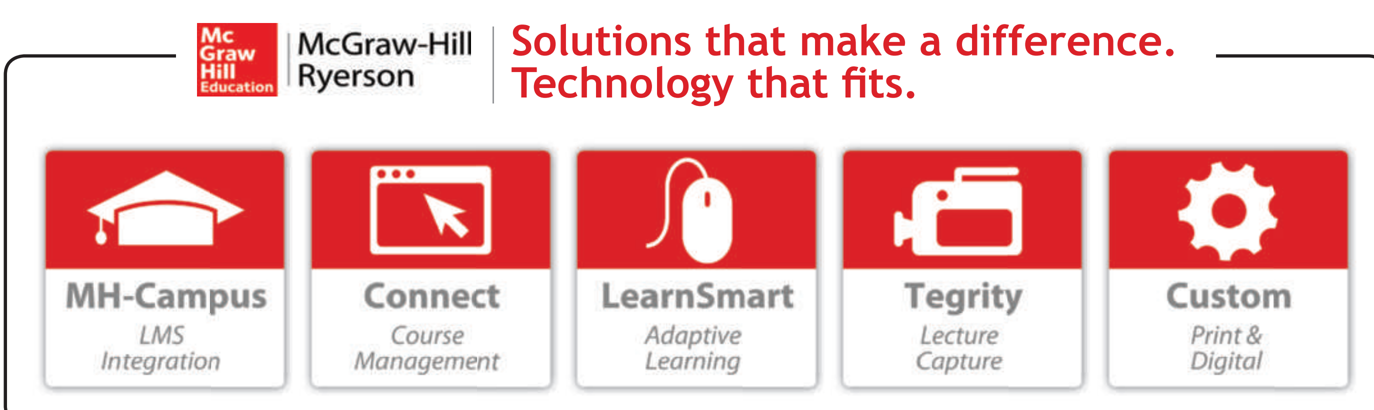

Reviewers

The efforts of many people are needed to develop and improve a text. Among these people are the reviewers and consultants who point out areas of concern, cite areas of strength, and make recommendations for change. In this regard, the professors named on this page provided feedback that was enormously helpful in preparing the tenth Canadian edition of *Managerial Accounting*.

Suggestions have been received from many of our colleagues across Canada and throughout the world who have used the prior editions of *Managerial Accounting*. This is vital feedback that we rely on in each edition. Each of those who have offered comments and suggestions has our thanks.

Bharat Aggarwal, *Sheridan Institute of Technology*
George Boland, *Queen's University*
Gillian Bubb, *University of the Fraser Valley*
Tammy Crowell, *Dalhousie University*
Elliot Currie, *University of Guelph*
Shujun Ding, *University of Ottawa*
Ian Feltmate, *Acadia University*
Mark Gandey, *Bishop's University*
Barbara Katz, *Kwantlen Polytechnic University*
Amy Kwan, *University of Toronto*
Glenn Leonard, *University of New Brunswick, Fredericton*
Winston Marcellin, *George Brown College*
Bonnie Martel, *Niagara College*
Ann Overton, *Centennial College*
Pamela Quon, *Athabasca University*
Todd Rose, *Memorial University*
Pina Salvaggio, *Dawson College*
John Siambanopoulos, *Western University*

Acknowledgements

The tenth Canadian edition of *Managerial Accounting* has benefited from the assistance of numerous individuals and groups. This assistance was invaluable in providing us with materials, review comments and suggestions, and technical assistance. Commissioned reviewers across Canada assisted with suggestions and clarifications that reflect their views of the materials they examined.

Materials were provided by the American Accounting Association, CGA-Canada and CMA-Canada (both now part of CPA Canada), and SAP Canada. In each case, an acknowledgement is included when the material is used in the textbook. The U.S. authors acknowledge materials provided by the AICPA, the Institute of Certified Management Accountants, and the Chartered Institute of Management Accountants (United Kingdom).

We also received invaluable input and support through the years from present and former colleagues and students. We are indebted to the following individuals who helped adapt, critique, and shape the ancillary package for the Canadian market: Shannon Butler, Western University; Susan Cohlmeyer, Memorial University; Robert Ducharme, University of Waterloo; Kathy Falk, University of Toronto, Mississauga; Ian Feltmate, Acadia University; Bonnie Martel, Niagara College; Don Smith, Georgian College; and Mike Meehan, Sheridan College.

The extraordinary efforts of a talented group of individuals at McGraw-Hill Ryerson made all of this come together. We especially thank Keara Emmett, for her guidance throughout this project; Amy Rydzanicz, for initiating the developmental work for this edition and for tirelessly following the whole process through until the final printing; Jessica Barnoski, who managed the final production of this book; and all the marketing and sales people who helped bring this book to both instructors and students. We also thank all those who worked behind the scenes to ensure the successful completion of this book. Special thanks to Julia Cochrane for her careful editing and proofreading of the entire textbook.

Despite the assistance we received, we acknowledge our responsibility for the contents of this book. We appreciate suggestions and questions from our audience.

MANAGERIAL ACCOUNTING

Tenth Canadian Edition

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SECTION 1

OVERVIEW AND FOUNDATION

Chapters 1 through 4

Chapters 1 and 2 present an overview of background matter for subsequent chapters and also provide information on technical topics that appear in later chapters. Chapters 3 and 4 focus on cost behaviour patterns, cost prediction models, and cost–volume–profit analysis. These topics provide the foundation for later chapters on costing techniques, budgeting, standard costs, and decision analysis. Thus, it is important to study these chapters carefully to be prepared.

Chapter 1 describes what managers do and how managerial accounting can serve these needs. The chapter highlights the key differences between financial and managerial accounting. The importance of ethics for accountants is also covered, and some key managerial concepts important in today's organizations are discussed.

Chapter 2 begins by describing how costs are classified and explains the distinction between product and period costs. Next, the steps involved in calculating the cost of goods sold and the cost of goods manufactured are presented. These calculations provide a structure for the costing methods covered in subsequent chapters.

Chapter 2 also presents a basic discussion of cost behaviour, which is important to numerous topics in later chapters. The chapter concludes with two topics important to cost control and decision analysis. First, direct costs are distinguished from indirect costs, which will be important when special-purpose performance reports are discussed later in the book. Second, different types of "decision-focused costs" are presented: differential costs, opportunity costs, and sunk costs. Understanding these concepts is critical to decision-making analysis, which is covered in Chapter 12.

Chapter 3 describes the details of cost behaviour and how costs that contain a mix of behaviours can be identified and analyzed.

Chapter 4 builds on the idea of cost behaviour and incorporates revenues to provide commonly used tools for analysis and short-term decisions, including cost–volume–profit analysis and break-even analysis.

CHAPTER 1

MANAGERIAL ACCOUNTING AND THE BUSINESS ENVIRONMENT

Learning Objectives

After studying Chapter 1, you should be able to

1. Describe the functions performed by managers.
2. Identify the major differences and similarities between financial and managerial accounting.
3. Describe the role of management accountants in an organization.
4. Explain the basic concepts of lean production, enterprise systems, and risk management.
5. Explain the nature and importance of ethics for accountants, the role of corporate governance, and corporate social responsibility.

THE ROLE OF THE MANAGEMENT ACCOUNTANT IN VALUE CREATION

The role of management accountants has evolved considerably over the past few decades. No longer considered to be just "bean-counters" who compile and report information internally in organizations, today's management accountants are expected to have expertise in cost management, performance measurement, and risk management. Moreover, they play a key role in decision making across the various functional areas of an organization. From operational-level decisions related to quality control to strategic planning decisions about the products to offer and the markets in which the company will compete, management accountants can add value. Moreover, given the growing emphasis on social and environmental responsibility, management accountants have to be more aware of the needs and concerns of a broader set of stakeholders than ever before. Identifying, understanding, and addressing the expectations of suppliers, customers, employees, and the communities in which the organization operates are now central to the role of management accountants.

In fulfilling their complex responsibilities, management accountants are expected to adhere strictly to a high standard of professional ethics. Indeed, the ethical behaviour of accountants in organizations has come under increasing scrutiny in recent years with the spate of corporate scandals in North America and elsewhere. Codes of professional ethics for management accountants typically contain standards related to competence, confidentiality, integrity, and credibility. Serious breaches of one or more of these standards can result in severe consequences, including expulsion from the professional body that granted the professional accountant's designation.

Given the breadth of responsibilities, the expertise requirements, and the challenge of working in an increasingly global marketplace, managerial accounting offers the potential for a very rewarding career.

Source: Certified Management Accountants, *What Is a CMA?* http://www.cma-canada.org/index.cfm?ci_id=4442&la_id=1; and Giuseppe Valiante, "Data Tracker Makes Tracks," *Financial Post*, November 2, 2009.

Managerial accounting concerns providing information to managers—that is, people inside an organization who direct and control its operations. In contrast, **financial accounting** concerns providing information to shareholders, creditors, and others who are outside an organization. Managerial accounting provides data that help organizations run more efficiently. Financial accounting provides the scorecard by which a company's past performance is judged.

Managerial accounting concerns determining and developing internal accounting information as a tool for helping managers make business decisions that satisfy customers while continuously monitoring costs and improving efficiencies. This requires management accountants to prepare a variety of reports. Some reports compare actual results to plans and to benchmarks focusing on how well managers or business units have performed. Other reports provide timely updates on key indicators, such as orders received, capacity utilization, customer satisfaction, and sales. Reports may also be prepared as needed to help investigate specific problems, such as a decline in profitability of a product line, or to help decide whether to outsource some of the business operations. In contrast, financial accounting focuses on producing a limited set of specific quarterly and annual financial statements in accordance with generally accepted accounting principles (GAAP) and government regulations.

Because managerial accounting is manager oriented, its study must be preceded by some understanding of what managers do, the information managers need, and the general business environment. Accordingly, the purpose of this chapter is to briefly examine these subjects.

Managerial accounting
The form of accounting concerning providing information to managers for use in planning and controlling operations and for decision making.

Financial accounting
The form of accounting concerning providing information to shareholders, creditors, and others outside the organization.

THE WORK OF MANAGERS AND THEIR NEED FOR MANAGERIAL ACCOUNTING INFORMATION

LEARNING OBJECTIVE 1
Describe the functions performed by managers.

Every organization—large and small—has managers who perform several major activities—*planning, directing and motivating, controlling,* and *decision making.* **Planning** involves establishing goals and specifying how to achieve them. **Directing and motivating** involve mobilizing people to carry out plans and run routine operations. **Controlling** involves gathering feedback to ensure that the plan is being properly executed or modified as circumstances change. **Decision making** involves selecting a course of action from competing alternatives. Managerial accounting information plays a vital role in these basic management activities; below we take a closer look at each.

Planning
Developing goals and specifying how to achieve them.

Directing and motivating
Mobilizing people to carry out plans and run routine operations.

Controlling
Gathering feedback to ensure that the plan is being properly executed or modified as necessary.

Decision making
Selecting a course of action from among alternatives.

Planning

Assume that you work for TD Canada Trust and that you are in charge of the company's campus recruiting for all undergraduate business majors. In this example, your planning process begins by establishing a goal such as this: to recruit the best and brightest university and college graduates. The next stage of the planning process requires specifying how to achieve this goal by answering numerous questions:

- How many students do we need to hire in total and from each major?
- What schools do we plan to include in our recruiting efforts?
- How will we compare students to one another to decide who will be extended job offers?
- What salary will we offer our new hires?
- How much money can we spend on our recruiting efforts?

Plans are often accompanied by a **budget**. A budget is a detailed plan for the future that is usually expressed in formal quantitative terms. As the head of campus recruiting at TD Canada Trust, your budget includes two key components. First, you

Budget
A quantitative plan for acquiring and using financial and other resources over a specified future time period.

Controller
The manager in charge of the accounting department in an organization.

must work with other senior managers inside the company to establish a budgeted amount of total salaries that can be offered to all new hires. Second, you must create a budget that quantifies how much you intend to spend on your campus recruiting activities. Budgets are usually prepared on an annual basis under the overall direction of the **controller**, who is the manager in charge of the accounting department. Chapter 9 examines the budget preparation process in detail.

Directing and Motivating

In addition to planning for the future, managers must oversee day-to-day activities and keep the organization functioning smoothly. This requires motivating and directing people. Managers assign tasks to employees, arbitrate disputes, answer questions, solve on-the-spot problems, and make many small decisions that affect customers and employees. For example, managers at TD Canada Trust need to assign specific employees the task of scheduling and conducting student interviews. Other employees are charged with determining the appropriate salary level for new hires. Moreover, managers need to establish procedures for resolving differences in opinion that inevitably arise when deciding which students should receive job offers. In effect, directing is the part of managers' activities that deals with the routine and the here and now. Managerial accounting data, such as daily sales reports, are often used in this type of day-to-day decision making.

Controlling

Once you have established and started implementing TD Canada Trust's recruiting plan, you transition to the control process. This process involves gathering, evaluating, and responding to feedback to ensure that this year's recruiting process meets expectations. It also includes evaluating the feedback to find ways to run a more effective recruiting campaign next year. The control process involves answering questions such as these:

- Did we succeed in hiring the planned number of students within each major and at each school?
- Is our method of comparing students to one another working?
- Did we stay within our budget for total salary commitments to new hires?
- Did we stay within our budget for spending on recruiting activities?

Performance reports
Detailed reports prepared on a periodic basis that compare budgeted data to actual data.

As you can see, many questions need to be answered as part of the control process. When answering these questions, your goal is to go beyond simple yes or no answers to find out why performance exceeded or failed to meet expectations. Part of the control process includes preparing **performance reports**. A performance report compares budgeted data to actual data on a periodic basis, usually monthly, to identify and learn from excellent performance and to identify and eliminate sources of unsatisfactory performance. Performance reports can also be used as one of many inputs to help evaluate and reward employees. Chapters 9, 10, and 11 include examples of different types of performance reports used by organizations.

Although our example focused on TD Canada Trust's campus recruiting efforts, we could have described how planning enables companies such as BCE, Rogers, and Telus to continuously improve their cellular networks, or how it helped NAD Electronics develop and market its home audio systems. We could have discussed how the control process helps Pfizer and Eli Lilly ensure that their pharmaceutical drugs are produced in conformance with rigorous quality standards, or how Sobeys relies on the control process to keep its grocery shelves stocked. We could also have looked at planning and control failures such as BP's massive oil spill in the Gulf of Mexico. In short, all managers perform planning and controlling activities.

EXHIBIT 1–1 Examples of Decisions

What should we be selling?	Whom should we be serving?	How should we execute?
What products and services should be the focus of our marketing efforts?	Who should be the focus of our marketing efforts?	How should we supply our parts and services?
What new products and services should we offer?	Whom should we start serving?	How should we expand our capacity?
What prices should we charge for our products and services?	Who should pay price premiums or receive price discounts?	How should we reduce our capacity?
What products and services should we discontinue?	Whom should we stop serving?	How should we improve our efficiency and effectiveness?

Decision Making

Perhaps the most basic managerial skill is the ability to make intelligent, data-driven decisions. Broadly speaking, many of those decisions revolve around the following three questions. *What* should we be selling? *Whom* should we be serving? *How* should we execute? Exhibit 1–1 provides examples of decisions pertaining to each of these three categories.

The left-hand column of Exhibit 1–1 suggests that every company must make decisions related to the products and services that it sells. For example, each year Rogers must decide how to allocate its marketing budget across the various products and services it sells. Air Canada must decide what ticket prices to establish for each of its approximately 1,500 flights per day. Paradigm Electronics must decide whether to discontinue certain models of home theatre speakers.

The middle column of Exhibit 1–1 indicates that all companies must make decisions related to the customers that they serve. For example, Sears Canada must decide how to allocate its marketing budget between products that tend to appeal to male versus female customers. FedEx must decide whether to expand its services into new markets across the globe. Royal Bank of Canada must decide whether to discontinue customers that may be unprofitable.

The right-hand column of Exhibit 1–1 shows that companies also make decisions related to how they execute. For example, Bombardier must decide whether to rely on outside vendors to manufacture many of the parts used to make its airplanes. In an economic downturn, a manufacturer might have to decide whether to eliminate one eight-hour shift at three plants or to close one plant. Finally, all companies have to decide among competing improvement opportunities. For example, a company may have to decide whether to implement a new software system, to upgrade a piece of equipment, or to provide extra training to its employees.

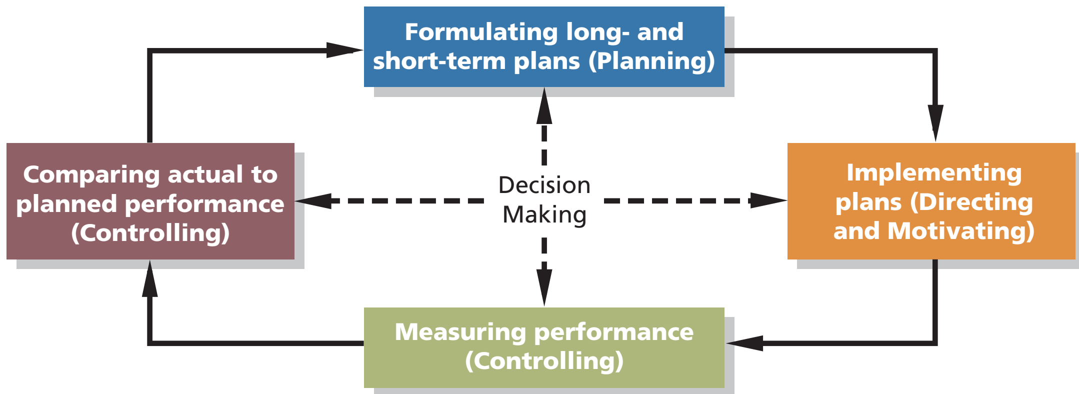
The Planning and Control Cycle

The work of management discussed in this part of the chapter is summarized in the model shown in Exhibit 1–2. The model, which depicts the **planning and control cycle**, illustrates the smooth flow of management activities from planning through directing and motivating, controlling, and then back to planning again. All of these activities involve decision making, so it is depicted as the hub around which the other activities revolve.

Planning and control cycle The flow of management activities through planning, directing and motivating, and controlling, and then back to planning again.

Managerial accounting can help serve the information needs of managers in all phases of the planning and control cycle. The management accountant can prepare detailed reports that managers need to make both day-to-day and long-term decisions, and also prepare budgets to help direct resources toward the organization's goals. Later, the management accountant compares actual costs and revenues with

EXHIBIT 1–2 The Planning and Control Cycle



the budgeted figures and prepares reports to inform management about any significant variances from budget. Management information needs vary from business to business, but as you work your way through this book, you will be introduced to many of the tools that management accountants use to meet these needs.

Strategy

Strategy
A game plan that enables a company to attract and retain customers by distinguishing itself from competitors.

As a fundamental element of the planning and control cycle, companies must have a viable *strategy* for succeeding in the marketplace. A **strategy** is a game plan that enables a company to attract and retain customers by distinguishing itself from competitors. The focal point of a company's strategy should be its target customers. A company can succeed only if it creates a reason for customers to choose it over a competitor. These reasons, or what are more formally called *customer value propositions*, are the essence of strategy.

Customer value propositions tend to fall into three broad categories—*customer intimacy*, *operational excellence*, and *product leadership*. Companies that adopt a *customer intimacy* strategy are in essence saying to their target customers, "You should choose us because we understand and respond to your individual needs better than our competitors do." Cisco Systems, The Keg Steakhouse & Bar, and Dell Computer Corporation rely primarily on a customer intimacy value proposition for their success. Companies that pursue the second customer value proposition, called *operational excellence*, are saying to their target customers, "You should choose us because we can deliver products and services faster, more conveniently, and at a lower price than our competitors." WestJet, Winners, and Canadian National Railway are examples of companies that succeed first and foremost because of their operational excellence. Companies pursuing the third customer value proposition, called *product leadership*, are saying to their target customers, "You should choose us because we offer higher-quality products than our competitors." Cervélo, SABIAN Cymbals, and NAD Electronics are examples of companies that succeed because of their product leadership. Although a company may offer its customers a combination of these three customer value propositions, one usually outweighs the others in terms of importance.[1]

Managerial accounting plays a critical role in providing information to management to facilitate implementing and monitoring strategy. For example, many companies employ sophisticated performance measurement systems, such as the balanced scorecard (discussed in Chapter 11), that track performance on key metrics that management believes are critical to the success of the chosen strategy. Given that the focal point of strategy is the target customers, not surprisingly many of the metrics used by organizations focus on the target customers (e.g., customer satisfaction, number of new products available to customers, number of customer complaints) and on key internal processes that relate to serving customers (e.g., research and development, delivery time).

IN BUSINESS

Some planning decisions made by managers require considerable financial resources to implement and thus require very careful consideration before deciding to proceed. For example, Canadian Pacific, a railway company, announced in May 2013 that capital spending plans for 2013 had been increased by $100 million, bringing the total planned spending to over $1 billion for the year. Much of the planned spending by Canadian Pacific in 2013 was for track upgrades and improvements to signal systems in response to strong demand for its rail shipping services. In deciding to proceed with the capital spending plans, management at Canadian Pacific would have considered the estimated costs involved and the anticipated benefits of the increased demand for its services.

Source: Reuters, "CP Rail to Increase 2013 Spending by up to C$100 Million," http://www.reuters.com/article/2013/05/07/cprailway-spending-idUSL2N0DO2GY20130507, May 7, 2013; *Canadian Pacific*, http://www.cpr.ca/en/news-and-media/news/Pages/cp-increases-2013-capital-investment-program.aspx.

COMPARISON OF FINANCIAL AND MANAGERIAL ACCOUNTING

LEARNING OBJECTIVE 2
Identify the major differences and similarities between financial and managerial accounting.

Financial accounting reports are prepared for external parties, such as shareholders and creditors, whereas managerial accounting reports are prepared for managers inside the organization. This contrast results in a number of major differences between financial and managerial accounting, even though both financial and managerial accounting typically rely on the same underlying financial data. These differences are summarized in Exhibit 1–3.

As shown in Exhibit 1–3, in addition to the reports being prepared for different people, financial and managerial accounting also differ in their emphasis between the past and the future, in the type of data provided to users, and in several other ways. These differences are discussed in the following sections.

Emphasis on the Future

Since *planning* is such an important part of the manager's job, managerial accounting has a strong future orientation. In contrast, financial accounting primarily summarizes past financial transactions. These summaries may be useful in planning, but only to a point. The future is not simply a reflection of what has happened in the past. Changes are constantly taking place in economic conditions, customer needs and desires, competitive conditions, and so on. All of these changes demand that managers' planning be based in large part on estimates of what will happen rather than on summaries of what has already happened.

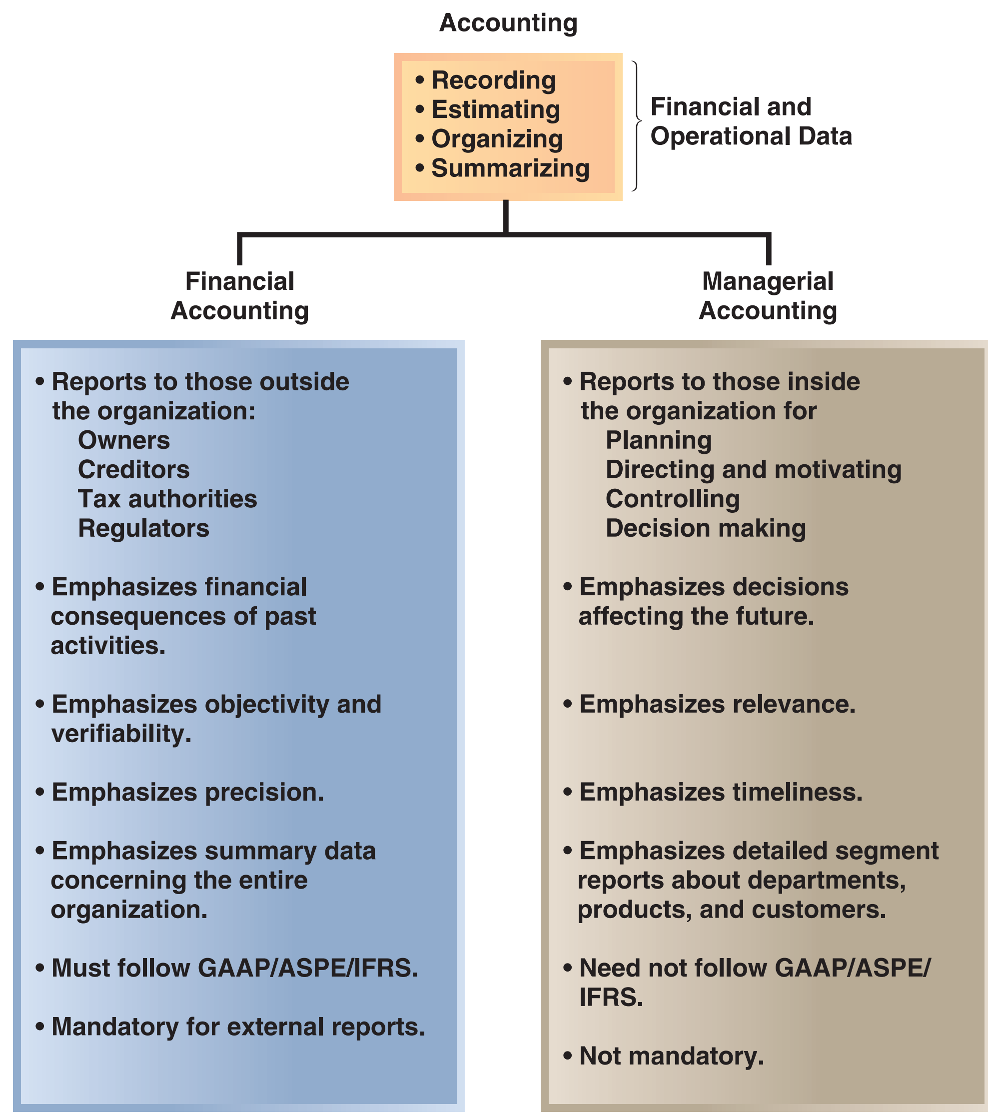
Relevance of Data

Financial accounting data are expected to be objective and verifiable. However, for internal use, the manager wants information that is relevant even if it is not completely objective or verifiable. By relevant, we mean *appropriate for the problem at hand*. For example, it is difficult to verify estimated sales volumes for a new product, but this is exactly the type of information that is most useful to managers in their decision making. Managerial accounting should be flexible enough to provide whatever data are relevant for a particular decision.

Less Emphasis on Precision

Making sure that amounts are accurate down to the last dollar takes time and effort. While that kind of accuracy is desirable for external reports, most managers would

EXHIBIT 1-3 Comparison of Financial and Management Accounting



rather have an immediate estimate than wait for a more precise answer. For this reason, management accountants often place less emphasis on precision than do financial accountants. For example, in a decision involving hundreds of millions of dollars, estimates that are rounded to the nearest million dollars are probably good enough. In addition to placing less emphasis on precision than financial accounting, managerial accounting places more importance on non-financial data. For example, data about customer satisfaction gathered through surveys or focus groups may be routinely used in managerial accounting reports.

Segments of an Organization

Segments
Any parts of an organization that can be evaluated independently of other parts and about which the manager seeks financial data.

Financial accounting is primarily concerned with reporting for the company as a whole. By contrast, managerial accounting focuses much more on the parts, or **segments**, of a company. These segments can be evaluated independently from other parts of the organization and may be product lines, customers, sales territories, divisions, departments, or any other categorization of the company's activities for which management finds it useful to have financial data. Financial accounting does require some breakdowns of revenues and costs by major segments in external reports, but this is a secondary emphasis. In managerial accounting, segment reporting is the primary emphasis.

Generally Accepted Accounting Principles

Financial accounting statements prepared for external users must be prepared in accordance with generally accepted accounting principles (GAAP). External users must have some assurance that the reports have been prepared in accordance with some common set of ground rules. Beginning January 1, 2011, Canada joined more than 100 other countries, including Australia, New Zealand, and European Union member countries, in adopting International Financial Reporting Standards (IFRS) for publicly accountable enterprises. As of that date, in Canada, IFRS became GAAP for public companies. The purpose of IFRS is simple: to enhance the comparability and clarity of financial information on a global basis. Given the increasing degree of globalization of the economy and the interconnectedness of capital markets, accounting standard setters in Canada concluded that it was crucial to adopt IFRS.[2] Private companies and not-for-profit organizations are not required to adopt IFRS but instead can use accounting standards for private enterprises (ASPE). While the common ground rules established by IFRS will enhance comparability across external reporting jurisdictions, they do not necessarily lead to the type of reports that would be most useful in internal decision making since they are still based on historical information.

Because managerial accounting is not bound by GAAP, managers are free to determine the content and form of internal reports to best suit the needs of the organization. The only constraint is that the expected benefits from using the information should outweigh the costs of collecting, analyzing, and summarizing the data. Nevertheless, as we will see in subsequent chapters, financial reporting requirements have heavily influenced managerial accounting practice.

Managerial Accounting—Not Mandatory

Financial accounting is mandatory; that is, it must be done. Various outside parties, such as the provincial and territorial securities regulators and the tax authorities, require periodic financial statements. Managerial accounting, on the other hand, is not mandatory. A company is completely free to do as much or as little as it wishes. No regulatory bodies or other outside agencies specify what is to be done or, for that matter, whether anything is to be done at all. Since managerial accounting is completely optional, the important question is always "Is the information useful?" rather than "Is the information required?"

ORGANIZATIONAL STRUCTURE

LEARNING OBJECTIVE 3
Describe the role of management accountants in an organization.

Management must accomplish its objectives by working with and relying on employees. This is done by creating an organizational structure that permits effective *decentralization* of management decisions.

Decentralization

Decentralization is the delegation of decision making throughout an organization by providing managers at various operating levels with the authority to make key decisions relating to their areas of responsibility. Some organizations are more decentralized than others.

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We will use the organizational structure depicted in Exhibit 1–4 of a hypothetical company, Metro Coffee, to illustrate the key concepts in this section. Metro Coffee's president (often synonymous with the term *chief executive officer* or *CEO*) sets the broad strategy for the company and makes major strategic decisions (such as