

HORNGREN'S DATAR RAJAN BEAUBIEN  
**COST ACCOUNTING**

A MANAGERIAL EMPHASIS

8<sup>TH</sup> CANADIAN EDITION





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HORNGREN'S DATAR RAJAN BEAUBIEN  
Harvard University Stanford University Dalhousie University

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A MANAGERIAL EMPHASIS

8<sup>TH</sup> CANADIAN EDITION



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To Our Families  
The Horngren Family (CH)  
Swati, Radhika, Gayatri, Sidharth (SD)  
Gayathri, Sanjana, Anupama (MVR)

This effort is dedicated to Ian, Megan, Evan, Lucy, Alec, and Molly  
(and Charlie, too).

—*Louis Beaubien*

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# Preface

## Cost Accounting

Studying cost accounting is one of the best business investments a student can make. Success in any organization—from the smallest store to the largest multinational corporation—requires the use of cost accounting concepts and practices. Cost accounting provides key data to managers for decision making, planning and controlling, costing products and services, and even managing customer relationships.

This text focuses on how cost accounting helps managers make better decisions, as cost accountants are integral members of an organization’s decision-making team. In order to emphasize this prominence in decision making, we focus on basic concepts, analyses, uses, and procedures instead of on procedures alone. It is important to recognize cost accounting as a managerial tool for business strategy and implementation. We also prepare students for the rewards and challenges they will face in professional cost accounting today and tomorrow. For example, we emphasize the development of analytical skills and tools, such as Excel, to leverage available information technology, an evolving approach to sustainability, and the values and behaviours that make cost accountants effective in the workplace.

## New to This Edition

### Deeper Consideration of Global Issues

Businesses today integrate into an increasingly global ecosystem, including supply chains, product markets, and the market for managerial talent, and have become more international in their outlook. To illustrate this, we incorporate global considerations into many of the chapters. For example, the challenges of budgeting in multinational companies, issues in evaluating the performance of divisions located in different countries, and the importance of transfer pricing in minimizing the tax burden faced by multinational companies are discussions (with new examples) of management accounting applications in companies drawn from international settings.

### Greater Emphasis on Sustainability

This edition places significant emphasis on sustainability as one of the critical managerial challenges of the coming decades. Many managers are promoting the development and implementation of strategies to achieve long-term financial, social, and environmental performance as key imperatives. We highlight this early in the text and maintain the focus through chapter “Sustainability in Action” examples that show the impact of effective cost accounting and decision making in organizations today.

### Selected Chapter-by-Chapter Content Changes

*Thank you for your continued support of Cost Accounting. In every new edition, we strive to improve this text.*

**Chapter 1** includes greater discussion of sustainability and innovation and why these issues have become increasingly critical for managers. We discuss the challenges of planning and control for innovation and sustainability and how companies use these systems to manage these activities. We continue to emphasize the importance of ethics, values, and behaviours in improving the quality of financial reporting.

**Chapter 2** has been updated to make it easier for students to understand core cost concepts and to provide a framework for how cost accounting and cost management help managers make decisions. We have added more material on environmental costs to explain how and why these costs may be missed in costing systems.

**Chapter 3** now includes greater managerial content, using examples from real companies to illustrate the value of cost–volume–profit analysis in managerial decision making. This aligns with revisions in **Chapter 4** that discuss adjusting normal costs to actual costs using end-of-accounting-year adjustments for different contexts. The chapter also develops the criteria for allocating costs and relates them to real examples to highlight why managers need allocated cost information to make decisions.

**Chapter 5** has additional content on product undercosting and overcosting and refining a costing system. We integrate the discussion of behavioural considerations in implementing activity-based costing with the technical material in the chapter.

**Chapter 6** presents material on innovation and development costs in the annual budget and the revenues earned in that year. The chapter describes ways to delink innovation from current-year operational performance by developing measures to monitor the success of innovation efforts. We also elaborate on tradeoffs managers must make when choosing different organization structures. This is built upon in both **Chapters 7** and **8** as we develop a revised comprehensive summary of the variances.

**Chapter 9** retains the simplified two-period integrated example of capacity choice. There is greater emphasis on linking the impact of the choice of capacity concept to recent changes in financial reporting and tax requirements.

**Chapters 10** and **11** are a practical guide to various cost estimation techniques and the determination of the relevance of costs. New content is provided on the costs of quality and the impact of time on the costing and decision-making process. Many revisions are related to the reorganization of the text in the seventh edition.

**Chapter 12** focuses on pricing decisions in the long- and short-term contexts, and builds on material in **Chapters 10** and **11** to expand understanding of opportunity and relevant costs in how a pricing decision is made.

**Chapter 13** is focused on the application in financial, operational, and sustainability decision making. Revisions in this chapter focus on relating concepts to practical examples and other ideas throughout the text.

**Chapter 14** has been revised to improve exposition on a variety of concepts in costing, building on changes to **Chapter 15**, which has been updated to reflect the continuing evolution of ASPE/IFRS with regard to joint cost allocations. The chapter provides a discussion of the rationale for joint-cost allocation and the merits and demerits of various joint-cost allocation methods.

**Chapter 16** discusses revenue allocation methods and customer profitability. The exhibits for revenue allocation have been summarized to allow for easier comparison of the methods. The discussion around revenue variance analysis is now focused on the contribution margin approach.

**Chapters 17** and **18** provide a managerial lens on the estimation of equivalent units and the choice between the FIFO and weighted-average costing methods, both in the chapter content and in new vignettes and real-world examples. The exhibits have been reformatted to make clear how various components are added to get the total costs. **Chapter 18** emphasizes, with illustrative examples, the theme of striving for zero waste and a sustainable environment.

**Chapter 19** provides revised content to examine traditional and just-in-time purchasing. The focus remains on developing an effective costing strategy for inventory management.

**Chapter 20** focuses on the role of capital budgeting in supporting sustainable long-term projects. The new opening vignette looks at the financing of residential solar panels. The integrated example deals with various examples throughout the chapter and in the new “Concepts in Action” illustrate how companies incorporate sustainability in their capital budgeting decisions.

**Chapter 21** has been revised to address the most recent developments in the controversial use of transfer prices for tax minimization by multinational corporations, with

several real-world examples. The revision also highlights the changing regulatory environment across the world and provides updated information on the use of tools such as advance pricing agreements.

Chapter 22 updates include the responsibility of executives and boards of directors for corporate governance. This chapter reviews the most recent legislation in Canada, the United States, and the European Union and how it impacts both executive compensation and corporate governance.

## Features

- **Learning objectives** are the important concepts in each chapter. Expressed in everyday language, these are also aligned with the CPA Competency Map to ensure the most coverage possible. Learning objectives are mapped throughout the chapter, end-of-chapter material, MyLab Accounting, and instructor resources.
- **Opening vignettes.** Each chapter opens with a vignette on a real company situation. The vignettes engage the reader in a business situation or dilemma, illustrating why and how the concepts in the chapter are relevant in business.
- **CPA Competencies.** We have increased the focus on covering the competencies outlined in the CPA Competency Map and Knowledge Supplement in the eighth edition. Each chapter now includes a list of professional competencies and levels covered in that chapter. These features will allow students and faculty interested in CPA designation to become familiar with the Competency Map and the material covered in the book.
- **Excel exhibits** give students a glimpse into the real-world presentation of accounting, financial statements, and schedules designed to mimic how they would look in Excel.
- **“In Action” boxes.** Found in every chapter are **“Concepts in Action”** boxes that cover real-world cost accounting issues across a variety of industries, including defense contracting, entertainment, manufacturing, retailing, and sports. We also include new **“Sustainability in Action”** boxes to show how cost accountants in real-world situations use sustainability strategies to gain competitive advantage for their organizations.
- **Decision Points** appear at the end of the chapter in a question-and-answer format summarizing the chapter’s learning objectives. Each point presents a key question, and the guidelines are the answer to that question.

## Practice and Assessment

- **Try It!** Interactive questions are found throughout the chapter and provide students the opportunity to apply the concept they just learned. Solutions to Try It! questions are provided at the end of the chapter. Select Try It! questions are available on MyLab Accounting for extra practice.
- **Pulling It All Together** is a problem for self-study appearing at the end of each chapter. A fully worked solution is provided directly after it. This helps students check their understanding of chapter topics.
- **Terms to Learn** provide accounting terms discussed in that chapter, along with a page reference in the chapter where a student can find its definition. Definitions are also provided in the Glossary.



## Assignment Material

This includes **Short-Answer Questions, Exercises, Problems, Collaborative Learning Cases, and Mini-Cases.**

- **Short-answer questions** test students’ understanding of single topics.
- **Exercises, Problems, and Cases** provide multitopic questions. All are tagged with the learning objective(s) being tested, and an icon identifies if that exercise is also available in MyLab Accounting.
- In some cases, **Excel templates** are available for an exercise, and these, too, are indicated by an icon.
- Problems also include **Check figures** to allow students to see their progress at a set point during their completion.

## Instructor Resources

These instructor supplements are available for download from a password-protected section of Pearson Canada's online catalogue ([www.pearson.com](http://www.pearson.com)). Navigate to your book's catalogue page to view a list of available supplements. Speak to your local Pearson sales representative for details and access.

-  ■ **Instructor's Solutions Manual.** The solutions manual provides instructors with a complete set of solutions to all the end-of-chapter material in this text. New to the eighth Canadian edition, an icon now shows which exercises/problems are also available on MyLab Accounting.
- **Computerized Test Bank.** Pearson's computerized test banks allow instructors to filter and select questions to create quizzes, tests, or homework. The more than 2,000 exercises and problems can be filtered by difficulty, taxonomy, Learning Objectives, and CPA competencies. These questions are also available in Microsoft Word format. Instructors can revise questions or add their own.
- **PowerPoint Presentations.** These presentations offer helpful graphics that illustrate key figures and concepts from the text, chapter outlines, and examples.
- **Image Library.** The exhibits and photos from the textbook are available in .jpeg format, for use in customizing your own course material or presentations.
-  ■ **Excel Templates.** Excel templates for selected end-of-chapter exercises and problems allow students to use Excel. Exercises and problems in the chapter that have a template online are identified by an icon.
- **Learning Solutions Managers.** Pearson's Learning Solutions Managers work with faculty and campus course designers to ensure that Pearson technology products, assessment tools, and online course materials are tailored to meet your specific needs. This highly qualified team is dedicated to helping schools take full advantage of a wide range of educational resources, by assisting in the integration of a variety of instructional materials and media formats. Your local Pearson Canada sales representative can provide you with more details on this service program.

## Acknowledgments

*Cost Accounting*, eighth Canadian edition, is the product of an ongoing effort to provide an educational and reference resource that will forever be useful to the student and practitioner. I still have a copy of Horngren from a much earlier edition in the 1990s. I aspire to the standard that Chuck Horngren set.

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# The Accountant's Vital Role in Decision Making

Alexey Boldin/Shutterstock



## iTunes Variable Pricing: Downloads Are Down, but Profits Are Up

Can selling less of something be more profitable than selling more of it? Apple developed a pricing structure for songs sold through iTunes as a three-tier price point system of \$0.69, \$0.99, and \$1.29. The top 200 songs in any given week make up more than one-sixth of digital music sales. Apple began charging the highest price (\$1.29) for these songs—songs by artists like Adele.

Apple implementation continues to be successful, with the pricing model contributing to sales revenue growth of 19%. Although the number of downloads dropped, the higher prices generated more revenue than the old pricing structure because Apple's iTunes costs—wholesale song costs, network and transaction fees, and other operating costs—do not vary based on the price of each download. Apple has also applied this new pricing structure to movies available through iTunes. To increase profits beyond those created by higher prices, Apple began to manage the costs inherent in iTunes. Transaction costs (what Apple pays credit-card processors like Visa and MasterCard) have decreased, and Apple has reduced the number of people working in the iTunes store.

By studying cost accounting, you will learn how successful managers and accountants run their businesses and prepare yourself for leadership roles in the firms you work for. Many large companies, including Nike and the Toronto Maple Leafs, have senior executives with accounting backgrounds.

Sources: <http://www.apple.com/newsroom/2018/07/apple-reports-third-quarter-results.html>; A. Bruno and G. Peoples. 2009. Variable iTunes pricing a moneymaker for artists, *Reuters*, June 21 (<http://www.reuters.com/article/idUSTRE55K0D20090621>); Nekesa Mumbi Moody. 2012).

# 1

## ► Learning Objectives

1. Explain how management accounting data are essential to the process of rational operating and strategic decision making.
2. Explain how business functions help management accountants organize accounting information.
3. Identify the five steps of decision making and the role of relevant accounting information.
4. Describe key guidelines management accountants follow and roles they assume to support management decisions.
5. Distinguish among corporate governance, professional codes of conduct, ethics, and corporate social responsibility.

## ► CPA Competencies

This chapter covers material outlined in **Section 3: Management Accounting** of the CPA Competency Map. The Learning Objectives in this chapter have been aligned with the CPA Competency Map to ensure the best coverage possible.

- 3.1.1** Evaluates management information requirements
- 3.1.2** Evaluates the types of information systems used and the role they play in an organization
- 3.1.4** Identifies ethical and privacy issues related to information technology

## Accounting Systems: Financial and Management Accounting

### ► LO 1

Explain how management accounting data are essential to the process of rational operating and strategic decision making.

Accounting systems are used to record economic events and transactions, such as sales and materials purchases, and process the data into information helpful to managers, sales representatives, production supervisors, and others. Processing any economic transaction means collecting, categorizing, summarizing, and analyzing. For example, costs are collected by category, such as materials, labour, and shipping. These costs are then summarized to determine a firm's total costs by month, quarter, or year. Accountants analyze the results and together with managers evaluate the organization (e.g., cost and revenue changes from one period to the next). Accounting systems also provide the information found in a firm's statement of comprehensive income, statement of financial position, statement of cash flows, and performance reports, such as the cost of serving customers or running an advertising campaign. Managers use this information to make decisions about the activities, businesses, or functional areas they oversee. For example, a report that shows an increase in sales of laptops and iPads at an Apple store may prompt Apple to hire more salespeople at that location. Understanding accounting information is essential for managers in doing their jobs.

Costs and other data are part of the **management information system (MIS)**. The MIS database stores information in a way that allows sales, distribution, and production managers to access the information they need. Many companies build their own comprehensive database, called an **enterprise resource planning (ERP) system**. The ERP software integrates data and provides managers with reports that highlight the interdependence of different business activities.

**Cost accounting** measures and reports financial and nonfinancial information related to the costs of acquiring and using resources. Cost accounting reports show how costs accumulate as corporations use resources to produce and sell their products and services. Costs are recovered when customers purchase products and services. **Cost management** includes the activities of identifying, reporting, and analyzing all costs of operations. Management decisions range from the quantity and quality of materials used to whether to shut down an entire company. As part of cost management, managers often deliberately incur additional costs in the short run—for example, in advertising and product modifications—to enhance revenues and profits in the long run.

**Financial accounting** focuses on reporting to external parties such as investors, government agencies, banks, and suppliers. The goal is to present fairly to external parties how the business activities during a specific time period affected the economic health of a company. This is called **economic substance**, which is the financial outcome of all the different types of business transactions that happened. Financial accountants report financial outcomes based on generally accepted accounting principles (GAAP) and standards.<sup>1</sup> Reports formatted in a way similar to statements of financial position, statements of comprehensive income, and statements of cash flows are common to both management accounting and financial accounting.

**Management accounting** measures, analyzes, and reports financial and nonfinancial information to internal managers. The goal is to use past performance to predict the future. The internal reports should plainly inform managers of the financial results of actual operations. The reports should also show how activities can be changed to affect and improve what will happen in the future. **Management accountants** reorganize and analyze financial and nonfinancial data using rigorous methods. The rigour of management accounting methods is intended to support managers in their efforts to decide on changes that will improve future financial success. The distinction between management accounting and cost accounting is not clear-cut, and we often use these terms interchangeably in the text.

Exhibit 1-1 summarizes the major differences between management accounting and financial accounting. Note, however, that reports such as statements of financial position,

<sup>1</sup> Generally accepted accounting principles (i.e., GAAP) is a generic term referring to the practices and rules of accounting consistent with laws and regulations. In Canada, depending on the nature of the organization, GAAP refers to either International Financial Reporting Standards (IFRS) or Accounting Standards for Private Enterprises (ASPE).