

# **COST** ACCOUNTING

**A MANAGERIAL EMPHASIS**

**HORNGREN**

Stanford University

**DATAR**

Harvard University

**RAJAN**

Stanford University

**BEAUBIEN**

Dalhousie University

**GRAHAM**

University of Victoria

**SEVENTH CANADIAN EDITION**

**PEARSON**

Toronto

Vice-President, Cross Media & Publishing Services: Gary Bennett  
Managing Editor, Business Publishing: Claudine O'Donnell  
Acquisition Editor: Megan Farrell  
Marketing Manager: Claire Varley  
Development Team Lead: Suzanne Schaan  
Developmental Editor: Suzanne Simpson Millar  
Program Manager: Patricia Ciardullo  
Project Manager: Sarah Gallagher  
Production Editor: Vastavikta Sharma, Cenveo® Publisher Services  
Copy Editor: Laurel Sparrow  
Proofreader: Marg Bukta  
Full Service Vendor: Cenveo Publisher Services  
Permissions Project Manager: Joanne Tang  
Photo Researcher: Aptara  
Permissions Researcher: Aptara  
Art Director: Zena Denchik  
Cover Designer: Anthony Leung  
Interior Designer: Anthony Leung  
Cover Image: Don Wilkie/Getty Images

Credits and acknowledgments for the material borrowed from other sources and reproduced, with permission, in this textbook appear on the appropriate page within the text.

Original edition published by Pearson Education, Inc., Upper Saddle River, New Jersey, USA. Copyright © 2001 Pearson Education, Inc. This edition is authorized for sale only in Canada.

If you purchased this book outside the United States or Canada, you should be aware that it has been imported without the approval of the publisher or the author.

Copyright © 2015, 2013, 2009, 2005 Pearson Canada Inc. All rights reserved. Manufactured in the United States of America. This publication is protected by copyright and permission should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or likewise. To obtain permission(s) to use material from this work, please submit a written request to Pearson Canada Inc., Permissions Department, 26 Prince Andrew Place, Don Mills, Ontario, M3C 2T8, or fax your request to 416-447-3126, or submit a request to Permissions Requests at [www.pearsoncanada.ca](http://www.pearsoncanada.ca).

10 9 8 7 6 5 4 3 2 1 [WC]

Library and Archives Canada Cataloguing in Publication

Horngren, Charles T., 1926-, author      Cost accounting : a managerial emphasis / Charles T. Horngren,  
Srikant M. Datar, Madhav V. Rajan, Louis Beaubien, Chris Graham.—7th Canadian edition.

Includes index. Revision of: Cost accounting : a managerial emphasis / Charles      T. Horngren ... [et al.].—6th Canadian ed.  
—Don Mills,      Ont. : Pearson Canada, 2012. ISBN 978-0-13-313844-3 (pbk.)

1. Cost accounting—Textbooks. I. Title.

HF5686.C8H59 2015      658.15'11      C2014-904869-6

**PEARSON**

ISBN 978-0-13-313844-3

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*

To Professor Howard Teal (a previous Canadian author of Horngren  
et al.) who, along with Professor Rick Robertson, first got me excited about  
accounting. And to my wife Joan and daughter Adrienne, who put up with/  
supported me during my “creative” process!  
*-Chris Graham*



# Brief Contents

Preface xiv

## **Part One Cost Accounting Fundamentals 1**

- 1 The Accountant's Vital Role in Decision Making 1
- 2 An Introduction to Cost Terms and Purposes 24
- 3 Cost–Volume–Profit Analysis 57
- 4 Job Costing 97
- 5 Activity-Based Costing and Management 134

Available online on MyAccountingLab: End-of-Part Case - Part 1: Katherine's Truffle Kreations—The Early Years

## **Part Two Tools For Planning And Control 172**

- 6 Master Budget and Responsibility Accounting 172
- 7 Flexible Budgets, Variances, and Management Control: I 226
- 8 Flexible Budgets, Variances, and Management Control: II 275
- 9 Income Effects of Denominator Level on Inventory Valuation 318

Available online on MyAccountingLab: End-of-Part Case - Part 2: Katherine's Chocolate Kreations—The Second Store

## **Part Three Cost Information For Decisions 359**

- 10 Analysis of Cost Behaviour 359
- 11 Decision Making and Relevant Information 409
- 12 Pricing Decisions: Profitability and Cost Management 453
- 13 Strategy, the Balanced Scorecard, and Profitability Analysis 489

Available online on MyAccountingLab: End-of-Part Case - Part 3: Katherine's Chocolate Kompany Goes Public

## **Part Four Cost Allocation And Revenues 525**

- 14 Period Cost Application 525
- 15 Cost Allocation: Joint Products and Byproducts 561
- 16 Revenue and Customer Profitability Analysis 596
- 17 Process Costing 639
- 18 Spoilage, Rework, and Scrap 681

Available online on MyAccountingLab: End-of-Part Case - Part 4: Non-Manufacturing Costs (and Benefits)

## **Part Five Control and Budgeting Strategies 712**

- 19 Inventory Cost Management Strategies 712
- 20 Capital Budgeting: Methods of Investment Analysis 752
- 21 Transfer Pricing and Multinational Management Control Systems 794
- 22 Multinational Performance Measurement and Compensation 827

Available online on MyAccountingLab: End-of-Part Case - Part 5: Consolidating Manufacturing; End-of-Part Case - Part 6: Winnipeg Beckons; End-of-Part Case: Batteries for Everyone: Assessing Performance

## **Appendix A Notes on Compound Interest and Interest Tables 871**

Glossary 877

Name Index 892

Subject Index 896

# Table of Contents

Preface xiv

## Part One Cost Accounting Fundamentals 1

### 1 The Accountant's Vital Role in Decision Making 1

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

- Accounting Systems: Financial and Management Accounting 2
- Strategic Decisions and Management Accounting 3
- Value-Chain And Supply-Chain Analysis and Key Success Factors 4
- Value-Chain Analysis 4
- Supply-Chain Analysis 5
- Key Success Factors (KSF) 5

#### Concepts in Action: Management Accounting Beyond the Numbers

- Decision Making, Planning, and Control: The Five-Step Decision-Making Process 7
- Key Management Accounting Guidelines and Organization Structure 9
  - Cost-Benefit Approach 9
  - Behavioural and Technical Considerations 9
  - Different Costs for Different Purposes 10
  - Corporate Structure and Governance: Accountability, Ethics, and Social Responsibility 10
- Corporate Governance 11
- Professional Ethics 12
  - Institutional Support 12
  - Corporate Social Responsibility (CSR) 13
  - Sustainability Accounting 14
  - Alternative Reporting 15

*Pulling It All Together—Problem for Self-Study 16 | Summary Points 17 | Terms to Learn 17 | Assignment Material 18 | Short-Answer Questions 18 | Exercises 18 | Problems 20 | Collaborative Learning Case 23*

### 2 An Introduction to Cost Terms and Purposes 24

#### High Fixed Costs Bankrupt Twinkie Maker

- Costs and Cost Terminology 25
  - Commonly Used Classifications of Manufacturing Costs 25
  - Direct Costs and Indirect Costs 26
  - Factors Affecting Direct/Indirect Cost Classifications 27
  - Prime Costs and Conversion Costs 27
- Cost-Behaviour Patterns: Variable Costs and Fixed Costs 28

- Variable Costs 28
- Fixed Costs 28
- Cost Drivers 30

#### Concepts in Action: How AutoShare Reduces Business Transportation Costs

- Total Costs and Unit Costs 31
- Unit Costs 31
- Cost of Goods Sold and the Statement of Comprehensive Income 32
- Inventory Valuation and the Statement of Financial Position 34
  - Types of Inventory 35
  - Inventoriable Costs 35
  - Period Costs 35
  - Illustrating the Flow of Inventoriable Costs: A Manufacturing-Sector Example 36
  - Inventoriable Costs and Period Costs for a Merchandising Company 38
- Measuring and Classifying Costs Requires Judgment 38
- Measuring Labour Costs 38
- Decision Framework and Flexibility of Costing Methods 40

#### Concepts in Action: Don't Overcharge the Government

*Pulling It All Together—Problem for Self-Study 42 | Summary Points 43 | Terms to Learn 44 | Assignment Material 44 | Short-Answer Questions 44 | Exercises 45 | Problems 50 | Collaborative Learning Cases 55*

### 3 Cost-Volume-Profit Analysis 57

#### How "The Biggest Rock Show Ever" Turned a Big Profit

- Essentials of CVP Analysis 58
  - CVP Analysis: An Example 58
  - Expressing CVP Relationships 60
  - Contribution Margin Percentage: Breakeven Point in Revenue 63
- Using CVP to Calculate a Target Operating Income 63
- Contribution Margin, Gross Margin, Operating Margin, and Net Income Margin 64
  - Target Net Income and Income Taxes 64
- Using CVP Analysis to Make More Complex Decisions 65
  - CVP Analysis for Decision Making 65
  - Decision to Advertise 66
  - Decision to Reduce Selling Price 66
  - Margin of Safety and Risk 67
  - Alternative Fixed- and Variable-Cost Structures 68
  - Operating Leverage 69

#### Concepts in Action: Sky-High Fixed Costs Trouble XM Satellite Radio

- Decision Models and Uncertainty 70
  - Role of a Decision Model 71
  - Expected Value 71

- Effects of Sales Mix on Income 72
  - Multiple Cost Drivers 74
  - CVP Analysis in Non-Profit and Public Sector Organizations 74

*Pulling It All Together—Problem for Self-Study 75 | Summary Points 78 | Terms to Learn 79 | Assignment Material 79 | Short-Answer Questions 79 | Exercises 79 | Problems 86 | Collaborative Learning Cases 96*

## 4 Job Costing 97

### What Does It Cost to Do the Job?

- Building Blocks of Costing Systems 98
  - Job-Costing and Process-Costing Systems 98
  - Job Costing: Evaluation and Implementation 99
- Actual, Budgeted, and Normal Costing 100
  - Normal Costing 100
  - Additional Points to Consider When Calculating Job-Cost Allocation Rates 104

### Concepts in Action: Job Costing on the Next-Generation Military Fighter Plane

- Actual Costing 105
- A Normal Job-Costing System and Cost Flow 106
  - General Ledger 107
  - Explanations of Transactions 108
  - Subsidiary Ledgers 109
  - Budgeted Indirect Costs and End-of-Accounting-Year Adjustments 112
  - Adjusted Allocation-Rate Approach 112
  - Proration Approach 113
  - Write-off to Cost of Goods Sold Approach 114
  - Choice Among Approaches 114

*Pulling it all Together—Problem for Self-Study 115 | Summary Points 117 | Terms to Learn 118 | Assignment Material 118 | Short-Answer Questions 118 | Exercises 118 | Problems 126 | Collaborative Learning Cases 131*

## 5 Activity-Based Costing and Management 134

### Accurate Assignment = Better Profit

- Product Costing: Overcosting and Undercosting 135
  - Undercosting and Overcosting 135
  - Product-Cost Cross-Subsidization 136
- Simple Costing System at Plastim Corporation 136
  - Design, Manufacturing, and Distribution Processes 136
  - Overview of Plastim's Simple Costing System 137
  - Applying the Five-Step Decision-Making Process at Plastim 139
- Guidelines for Refining a Costing System 140
- Activity-Based Costing Systems 140
  - Plastim's ABC System 140
  - Cost Hierarchies 142
- Implementing Activity-Based Costing 144
- Comparing Alternative Costing Systems 146

- Considerations in Implementing Activity-Based-Costing Systems 147

### Concepts in Action: Hospitals Use Time-Driven Activity-Based Costing to Reduce Costs and Improve Care

- ABC: The Foundation of ABM 149
  - Pricing and Product-Mix Decisions 149
  - Cost Reduction and Process Improvement Decisions 149
  - Design Decisions 150

### Concepts in Action: If Only Everything Did Not Depend on Everything Else

- ABC in Service and Merchandising Companies 151

*Pulling It All Together—Problem for Self-Study 152 | Summary Points 154 | Terms to Learn 155 | Assignment Material 155 | Short-Answer Questions 155 | Exercises 156 | Problems 164 | Collaborative Learning Cases 171*

## Part Two Tools For Planning And Control 172

## 6 Master Budget and Responsibility Accounting 172

### Budgets Communicate Choices

- The Decision Framework and Budgets 173
  - Advantages of Budgets 174
  - Approaches to Budgeting 175
  - Operating and Strategic Performance Assessment 176
  - Coordination and Communication 176
- The Master Operating Budget 177
  - Time Coverage 177
  - Steps in Developing An Operating Budget 177
  - Basic Data and Requirements 179
  - Preparing a Master Operating Budget 181
- Preparing the Cash Budget 187

### Concepts in Action: Web-Enabled Budgeting and Hendrick Motorsports

- Preparation of the Cash Budget 190
- Responsibility Versus Controllability 194
  - Organizational Structure and Responsibility 194
  - Feedback 196
  - Definition of Controllability 196
  - Emphasis on Information and Behaviour 197
  - Human Aspects of Budgeting 197

### Concepts in Action: Management Accounting and the Corporate Governance Laws

- Budgeting: A Process In Transition 198

*Pulling It All Together—Problem for Self-Study 199*

### APPENDIX: Three Budget Strategies: Sensitivity Analysis, Kaizen Budgeting, and Activity-Based Budgets 204

*Summary Points 207 | Terms to Learn 207 | Assignment Material 208 | Short-Answer Questions 208 | Exercises 208 | Problems 213 | Collaborative Learning Cases 223*

## 7 Flexible Budgets, Variances, and Management Control: I 226

### Keeping It Real

- The 5 DM Framework and Variance Analyses 227
- Static and Flexible Budgets 227
  - The Costing System At Webb Company 228
  - Static-Budget Variances 229
- Developing a Flexible Budget From the Cost MIS 231
  - Flexible-Budget Variances and Sales-Volume Variances 232
- Direct Variable Rate and Efficiency Variances 235
  - An Illustration of Rate and Efficiency Variances for Inputs 236
  - Rate Variances 237
  - Efficiency Variances 238
  - Presentation of Rate and Efficiency Variances for Inputs 239
- Flexible Budgeting and Activity-Based Costing 241
  - Relating Batch Costs to Product Output 242
  - Rate and Efficiency Variances 243
  - Focus On Hierarchy 243
- Managerial Uses of Variance Analyses 244
  - Performance Evaluation 244
  - Financial and Nonfinancial Performance Measures 244
  - When to Investigate Variances 245
  - Continuous Improvement 245

### Concepts in Action: Starbucks Reduces Direct-Cost Variances to Brew a Turnaround

- Impact of Inventories 247

*Pulling It All Together—Problem for Self-Study 247*

### APPENDIX 7A: Budgets, Benchmarks, and Standards 249

### APPENDIX 7B: Mix and Yield Level 4 Variances for Substitutable Inputs 254

*Summary Points 258 | Terms to Learn 259 | Assignment Material 259 | Short-Answer Questions 259 | Exercises 260 | Problems 265 | Collaborative Learning Cases 273*

## 8 Flexible Budgets, Variances, and Management Control: II 275

### Tracking Performance

- Flexible-Budget MOH Cost Variances 276
  - The 5DM Framework and Overhead Costs 277
  - Assigning Fixed Manufacturing Overhead at Webb 278
  - Fixed Overhead Cost Variance Calculation and Analysis 278
  - Production-Volume Variance Calculation and Analysis 279
  - Journal Entries for Fixed Overhead Costs and Variances 282

### Concepts in Action: Cost Allocation Base Denominator Decision: There Is a Right Way

- Flexible-Budget Variable Overhead Variances 284
  - Variable Overhead Cost Variance Calculations and Analyses 285
  - Level 2 Variable Manufacturing Overhead Variance Analysis 286
  - Level 3 Variable Manufacturing Overhead Rate and Efficiency Variances 287
  - Journal Entries for Variable Overhead Costs and Variances 290
- Activity-Based Costing and Variance Analysis 291
  - ABC Variance Analyses 291
  - ABC Variance Analysis for Fixed Manufacturing Overhead Cost 293
- Summary of All Overhead Cost Variances 294

### Concepts in Action: Interdependencies and Shared Benefits

- Non-manufacturing Variance Analysis 297
  - Nonfinancial Performance Measures 297

*Pulling It All Together—Problem for Self-Study 300 | Summary Points 302 | Terms to Learn 303 | Assignment Material 303 | Short-Answer Questions 303 | Exercises 303 | Problems 308 | Collaborative Learning Cases 316*

## 9 Income Effects of Denominator Level on Inventory Valuation 318

### Capacity-Level Choices

- Denominator Levels: A Complex Decision with Complex Effects 319
  - The Decision Framework and Denominator Choice 321
- Effects on Reporting, Costing, Pricing, and Evaluation 323
  - Product Costing 325
  - Product Pricing: the Downward Demand Spiral 326
- Concepts in Action: Denominator-Level Choice Reflects Recoverable Costs in Strategic Pricing
  - Performance Evaluation 328
  - Capacity Decisions and Denominator-Level Issues 328
- Inventory Valuation and Operating Income 329
  - Absorption and Variable Inventory Valuation Assumptions 329
  - Comparison of Standard Variable Costing and Absorption Costing 331

### Concepts in Action: Capacity at Nissan

- Comparative Statements of Comprehensive Income 334
- Explaining Differences in Operating Income 336
- Effect of Sales and Production on Operating Income 337
- Performance Evaluation: Undesirable Buildup of Inventories 338

*Pulling It All Together—Problem for Self-Study 340 | Summary Points 341*

### APPENDIX 9A: Throughput: Super-Variable Costing 342



## APPENDIX 9B: Breakeven Under Two Costing Policies 344

*Terms to Learn 346 | Assignment Material 346 | Short-Answer Questions 346 | Exercises 347 | Problems 350 | Collaborative Learning Cases 357*

## Part Three Cost Information For Decisions 359

### 10 Analysis of Cost Behaviour 359

#### Cisco Understands Its Costs While Helping the Environment

- Basic Assumptions and Examples of Cost Functions 360
  - Basic Assumptions 360
  - Linear Cost Functions 360
  - Cost Classification: Choice of Cost Object 361
- The Cause-and-Effect Criterion 362
- Cost Drivers and the Decision-Making Process 363
- Cost Estimation Methods 363
  - Industrial Engineering Method 363
  - Conference Method 364
  - Account Analysis Method 364
  - Quantitative Analysis Method 365
- Steps in Estimating a Cost Function Using Quantitative Analysis 365
  - The High-Low Method Compared to Regression Analysis 367
- Nonlinear Cost Functions 369
- Time as a Cost Driver and as a Competitive Tool 370
  - Customer-Response Time and On-Time Performance 370
  - Time as a Cost and Performance Driver 371
  - Relevant Costs of Time 372
  - Relevant Revenues of Time 373
- Quality as an Element of Cost 374
  - Analyzing Quality 375

#### Concepts in Action: What Does It Cost to Send a Text Message?

Data Collection and Adjustment Issues 379

*Pulling it all Together—Problem for Self-Study 380*

#### APPENDIX 10A: Regression Analysis 383

#### APPENDIX 10B: Learning Curves 391

*Summary Points 394 | Terms to Learn 396 | Assignment Material 396 | Short-Answer Questions 396 | Exercises 397 | Problems 402 | Collaborative Learning Cases 405*

### 11 Decision Making and Relevant Information 409

#### Relevant Costs, JetBlue, and Twitter

- Relevant Information and Decision-Making 410
- The Concept of Relevance 410
  - Relevant Costs and Relevant Revenues 410
  - Quantitative and Qualitative Information 412

Output Level Changes: Short- and Long-Term Decisions 413

Outsourcing—Make or Buy—and Idle Facilities 415

Potential Problems in Relevant-Cost Analysis 417

#### Concepts in Action: The LEGO Group

- Opportunity Costs and Outsourcing 418
  - The “Total-Alternatives” Approach 419
  - The Opportunity-Cost Approach 420
  - The Carrying Costs of Inventory 421
- Product Mix Decisions 422
  - The Theory of Constraints 423
- Irrelevance of Past Costs and Equipment Replacement Decisions 425
- Decisions and Performance Evaluation 426

#### APPENDIX 11A: Linear Programming 428

#### APPENDIX 11B: Using Excel Solver 430

*Pulling it all Together—Problem for Self-Study 433 | Summary Points 435 | Terms to Learn 436 | Assignment Material 436 | Short-Answer Questions 436 | Exercises 436 | Problems 442 | Collaborative Learning Case 451*

### 12 Pricing Decisions: Profitability and Cost Management 453

#### Fair and Square: Not What J. C. Penney Customers Wanted

- Major Influences on Pricing 454
- Costing and Pricing for the Short Run 455
  - Relevant Costs for Short-Run Pricing Decisions 455
  - Strategic and Other Factors in Short-Run Pricing 455
  - Effect of Time Horizon on Short-Run Pricing Decisions 456
- Costing and Pricing for the Long Run 456
  - Calculating Product Costs for Long-Run Pricing Decisions 456
- Target Costing for Target Pricing 459
  - Understanding Customers’ Perceived Value 459
  - Doing Competitor Analysis 459
  - Implementing Target Pricing and Target Costing 459
  - Value-Analysis and Cross-Functional Teams 460
- Cost-Plus Pricing 462

#### Concepts in Action: Operating Income Analysis Reveals Strategic Challenges at Best Buy

- Alternative Cost-Plus Methods 464
  - Cost-Plus Pricing Contrasted Against Target Pricing 465
  - Fixed and Variable Cost Coverage 466
- Life-Cycle Pricing and Relevant Qualitative Factors in Pricing 466
  - Developing Life-Cycle Reports 467
  - Conducting Fair Business and Pricing Decisions 468
  - Environmental Sustainability 470

*Pulling it all Together—Problem for Self-Study 472 | Summary Points 474 | Terms to Learn 475 | Assignment Material 475 | Short-Answer Questions 475 | Exercises 476 | Problems 482 | Collaborative Learning Case 487*

### 13 Strategy, the Balanced Scorecard, and Profitability Analysis 489

#### The Balanced Scorecard at Volkswagen do Brasil

Five Forces Analysis to Define Strategic

Alternatives 490

The Decision Framework Applied to Chipset's

Strategy 492

Strategy Maps and the Balanced Scorecard 494

Balanced Scorecard: Measures of Performance 495

Four Perspectives of the Balanced Scorecard 495

#### Concepts in Action: Balanced Scorecard Helps Infosys Transform into a Leading Consultancy

Nonfinancial BSC Measures at Chipset 498

Implementing a Balanced Scorecard 498

Features of a Good Balanced Scorecard 499

Pitfalls When Implementing a Balanced Scorecard 500

Evaluation using the BSC 500

The Growth Component 502

The Price-Recovery Component 503

The Productivity Component 504

Further Analysis of Growth, Price-Recovery, and Productivity Components 505

Specific Productivity Improvement Measures 506

Calculating and Comparing Total Factor Productivity 507

Downsizing and the Management of Processing Capacity 508

Engineered and Discretionary Costs 509

Identifying Unused Capacity for Engineered and Discretionary Overhead Costs 509

Managing Unused Capacity 509

*Pulling it all Together—Problem for Self-Study 510 | Summary Points 513 | Terms to Learn 514 | Short-Answer Questions 514 | Exercises 515 | Problems 519 | Collaborative Learning Cases 523*

### Part Four Cost Allocation And Revenues 525

### 14 Period Cost Application 525

#### Good Period Overhead Cost-Application Methods Improve Management Decisions

Purposes of Cost Allocation 526

Four Possible Purposes 527

Criteria to Guide Cost-Allocation Decisions 528

Deciding Between Single- and Dual-Rate Cost Methods 529

Single-Rate and Dual-Rate Methods 530

Allocation Based on the Demand for (or Usage of) Computer Services 531

Allocation Based on the Supply of Capacity 532

Single-Rate Versus Dual-Rate Method 533

Budgeted Versus Actual Costs, and the Choice of Allocation Base 534

Budgeted Versus Actual Rates 534

Budgeted Versus Actual Usage 535

Manufacturing Overhead Cost Allocation Methods are Irrelevant 536

#### Concepts in Action: Allocation Decisions Critical to City of Atlanta

Deciding Among Direct, Step-Down, and Reciprocal Cost Allocation Methods 537

Relevance 538

Direct Method 539

Step-Down Method 539

Reciprocal Method—Linear Equation and Solver 542

Allocating Common Costs 546

Stand-Alone Cost Allocation Method 546

Incremental Cost Allocation Method 546

Justifying Reimbursement Costs 547

Contracting 548

Fairness of Pricing 548

*Pulling it all Together—Problem for Self-Study 548 | Summary Points 550 | Terms to Learn 551 | Assignment Material 551 | Short-Answer Questions 551 | Exercises 552 | Problems 556*

### 15 Cost Allocation: Joint Products and Byproducts 561

#### Challenges of Joint Cost Allocation

Joint-Cost Basics 562

Approaches to Allocating Joint Costs 564

Physical Measure Method 566

Sales Value at Splitoff Method 567

Two More Methods to Allocate Joint Cost 568

Estimated Net Realizable Value (NRV) Method 568

Constant Gross Margin Percentage of NRV Method 570

Comparison of the Four Methods 571

Irrelevance of Joint Costs for Decision Making 573

Sell or Process Further? 573

Challenges for Management Accountants 574

#### Concepts in Action: Overcoming the Challenges of Joint Cost Allocation

Accounting for Byproducts 575

Method A: Byproducts are Recognized When Production is Completed 576

Method B: Byproducts are Recognized at Time of Sale 578

*Pulling it all Together—Problem for Self-Study 578 | Summary Points 581 | Terms to Learn 581 | Assignment Material 582 | Short-Answer Questions 582 | Exercises 582 | Problems 590 | Collaborative Learning Cases 594*

### 16 Revenue and Customer Profitability Analysis 596

#### Revenue

Revenue Allocation and Bundled Products 597

#### Concepts in Action: Revenue Allocation by the Government and First Nations

Deciding on a Revenue-Allocation Method 598

- Stand-Alone Revenue-Allocation Methods 599
- Incremental Revenue-Allocation Method 600
- Other Revenue-Allocation Methods 603
- ABC: The Cost Object is the Customer 603
  - Customer ABC Analysis 603
- Contribution Margin Variance Analyses 607
  - Static-Budget Contribution Margin Variance 609
  - Flexible-Budget and Sales-Volume Contribution Margin Variances 609
  - Sales-Mix and Sales-Quantity Contribution Margin Variances 610
  - Market-Share Variance 613
  - Market-Size Contribution Margin Variance 613

**Concepts in Action: Dropping Small, Local Business Customers Earns HSBC Complaints and Bad Publicity**

- Customer Profitability Analysis 616
  - Assessing Customer Value 617
- Customer Mix Analysis 618
  - Drop a Customer 619
  - Add a Customer 620
  - Drop or Add Branches 620

*Pulling it all Together—Problem for Self-Study 622 | Summary Points 624 | Terms to Learn 624 | Assignment Material 624 | Short-Answer Questions 625 | Exercises 625 | Problems 628 | Collaborative Learning Case 638*

## 17 Process Costing 639

**Allocation Affects Net Income—Reliable Estimates Are Important**

- Process-Costing and Decision-Making 640
  - Process Costing: Alternative Methods 642

**Concepts in Action: NI 52-109—Internal Control System Design**

- Weighted-Average Method with no Beginning Wip Inventory 644
  - Global Defence—Ending WIP Inventory Valuation Using the Weighted-Average Method 646
  - Journal Entries 648
- Weighted-Average Method with Beginning and Ending WIP Inventory 650
- First-in, First-Out and Standard-Cost Methods 653
  - Comparing Weighted-Average and FIFO Methods 657
  - Computations Under Standard Costing 658
  - Accounting for Variances 660
  - Hybrid-Costing Systems 660
- Transferred-in Costs in Process Costing 661
  - Transferred-in Costs and the Weighted-Average Method 663
  - Transferred-in Costs and the FIFO Method 665
  - Common Mistakes with Transferred-in Costs 667

*Pulling it all Together—Problem for Self-Study 668 | Summary Points 669 | Terms to Learn 670 | Assignment Material 670 | Short-Answer Questions 670 | Exercises 671 | Problems 675 | Collaborative Learning Cases 679*

## 18 Spoilage, Rework, and Scrap 681

**Spoilage and Rework—Building Planes That Can't be Delivered**

- Defining and Accounting for Spoilage, Rework, and Scrap 682
  - Process Costing and Spoilage 683
- Process Costing with Spoilage Under the Weighted-Average and FIFO Methods 685
  - Weighted-Average Method and Spoilage 686
  - FIFO Method and Spoilage 687
- Process Costing Standard Costs 690
- Concepts in Action: Managing Waste and Environmental Costs at Toyota**
  - Journal Entries 693
  - Allocating Costs of Normal Spoilage 693
    - Inspection and Spoilage at Intermediate Stages of Completion 694
  - Job Costing and Spoilage 695
  - Reworked Units and Scrap 696
    - Accounting for Scrap 698
    - Recognizing Scrap at the Time of Sale 698
    - Recognizing Scrap at the Time of Production 699

*Pulling it all Together—Problem for Self-Study 700 | Summary Points 701 | Terms to Learn 701 | Assignment Material 702 | Short-Answer Questions 702 | Exercises 702 | Problems 706 | Collaborative Learning Case 711*

## Part Five Control and Budgeting Strategies 712

### 19 Inventory Cost Management Strategies 712

**Toyota Plans Changes after Millions of Defective Cars Are Recalled**

- Inventory Management 713
  - Costs Associated with Goods for Sale 713
  - Economic Order Quantity Procurement Model 714
  - When to Order, Assuming Certainty 716
  - Safety Stock 717
  - Just-in-Time (JIT) Procurement and EOQ Model Parameters 718

**Concepts in Action: Overcoming Wireless Data Bottlenecks**

- Challenges in Supply-Chain Cost Management 720
  - Estimating Relevant Costs of a Supply Chain 721
  - Cost of a Prediction Error 721
  - Goal-Congruence Issues 722
- Relevance and the JIT Strategy of Supply-Chain Management 722
  - Performance Measures and Control 725
- Inventory Management: MRP and ERP 725
  - Enterprise Resource Planning (ERP) Systems 726
- Backflush Costing 726
  - Simplified Normal or Standard Costing 727
  - Special Considerations in Backflush Costing 734

**Concepts in Action: Inventory Management as Strategy**

Lean Accounting 735

*Pulling it all Together—Problem for Self-Study 737 | Summary Points 739 | Terms to Learn 740 | Assignment Material 740 | Short-Answer Questions 740 | Exercises 741 | Problems 744 | Collaborative Learning Case 750*

**20 Capital Budgeting: Methods of Investment Analysis 752**

**Capital Budgeting for Sustainable Business**

Capital Budgeting and Decision-Making (SDM Approach) 753

A Note on Sources of Capital and Timing of Investments 755

Discounted Cash Flows and the Time Value of Money 755

Net Present Value Method 756

Internal Rate-of-Return Method 758

Comparison of Net Present Value and Internal Rate of Return Methods 759

Sensitivity Analysis 760

Income Tax and DCF in Capital Budgeting 761

Tax Shields and the Effect on Investment Cash Flows 761

Relevant Information and DCF 764

Non-DCF methods in Capital Budgeting 766

Payback Period 766

Accrual Accounting Rate of Return 768

Strategic Factors in Capital Budgeting Decisions 769

Customer Value and Capital Budgeting 769

**Concepts in Action: Capital Budgeting at Disney**

Investment in Research and Development 771

Capital Budgeting and Control: Evaluation and Application 771

Management Control: Performance Evaluation 771

Management Control: The Investment Activity 772

Management Control: The Post-Investment Audit 772

*Pulling it all Together—Problem for Self-Study 774 | Summary Points 776*

**APPENDIX 20A: Capital Budgeting and Inflation 777**

**APPENDIX 20B: The Weighted Average Cost of Capital 778**

*Terms to Learn 780 | Assignment Material 780 | Short-Answer Questions 780 | Exercises 781 | Problems 787 | Collaborative Learning Cases 791*

**21 Transfer Pricing and Multinational Management Control Systems 794**

**International Pharma and Transfer Pricing**

Management Control Systems 795

Formal and Informal Systems 795

Effective Management Control 795

Organizational Structure and Decentralization 796

Benefits of Decentralization 796

Costs of Decentralization 797

Decentralization in Multinational Companies 797

Decisions About Responsibility Centres 797

**Concepts in Action: Transfer Pricing Dispute Temporarily Stops the Flow of Fiji Water**

Transfer Pricing 798

Alternative Transfer-Pricing Methods 799

**Concepts in Action: US\$3.4 Billion Is an Incentive**

Criteria for Evaluating Transfer Prices 800

Transfer Pricing in Practice 801

Interprovincial Transfers and Taxes 803

Market-Based Transfer Prices 804

Distress Prices 804

Cost-Based and Negotiated Transfer Prices 805

Full-Cost Bases 805

Variable Cost Bases 806

Prorating the Difference Between Minimum and Maximum Transfer Prices 806

Negotiated Transfer Prices and MNC Issues 807

Dual Pricing 807

A General Guideline for Transfer-Pricing Situations 808

Multi-National Corporation (MNC) Transfer Pricing and Tax Considerations 810

**Concepts in Action: India Calls Vodafone on Transfer Pricing Policy**

*Pulling it all Together—Problem for Self-Study 812 | Summary Points 814 | Terms to Learn 815 | Assignment Material 815 | Short-Answer Questions 815 | Exercises 816 | Problems 821 | Collaborative Learning Cases 825*

**22 Multinational Performance Measurement and Compensation 827**

**Qualitative and Nonfinancial Measures Are Relevant**

Financial and Nonfinancial Performance

Measures 828

Governance and Compensation Decisions 828

**Concepts in Action: Barrick Gold Shareholders Object to Chair's \$17 Million Pay as Shares Decline 50%**

Accounting Performance Measures 832

Return on Investment 833

Residual Income 835

Economic Value Added 836

Return on Sales 837

Comparing Performance Measures 838

Selecting the Time Horizon 839

Defining "Investment" 840

Evaluating Performance Measurement Alternatives 840

Current Cost 840

Long-Term Assets: Gross or Net Book Value? 841

Selecting Performance Goals 843

Selecting the Level of Relevance—The Timing of Feedback 843

Performance Measurement in Multinational Companies	844
Calculating the Foreign Division's ROI in the Foreign Currency	844
Calculating the Foreign Division's ROI in Canadian Dollars	845
Levels of Analysis Differ Between Managers and Subunits	845
Benchmarks and Relative Performance Evaluation	847
Executive Performance Measures and Compensation	847
Team-Based Compensation Arrangements	849
Executive Compensation Arrangements	849
Strategy and Levers of Control	850

### **Concepts in Action: Courage—Boundaries and Beliefs**

*Pulling it all Together—Problem for Self-Study 853 | Summary Points 854 | Terms to Learn 855 | Assignment Material 855 | Short-Answer Questions 855 | Exercises 855 | Problems 862 | Collaborative Learning Cases 868*

### **Appendix A Notes on Compound Interest and Interest Tables 871**

**Glossary 877**

**Name Index 892**

**Subject Index 896**



# Preface

Success in any business—big or small—requires the use of cost and management accounting concepts to inform decision making. Cost accounting provides key data to managers for planning and control, as well as providing techniques for costing products and services and for measuring performance. This book focuses on how cost accounting helps managers make better decisions by using financial and nonfinancial information better. In order to build these skills, we focus on the basic concepts and analytical techniques that make cost accounting an essential part of business strategy.

## Hallmark Features of *Cost Accounting*

- ◆ Exceptionally strong emphasis on managerial uses of cost information
- ◆ Clarity and understandability of the text
- ◆ Excellent balance in integrating modern topics with traditional coverage
- ◆ Emphasis on human behaviour aspects
- ◆ Extensive use of real-world examples
- ◆ Ability to teach chapters in different sequences
- ◆ Excellent quantity, quality, and range of assignment material

The first 13 chapters provide the essence of a one-term (quarter or semester) course. There is ample text and assignment material in the book's 22 chapters for a two-term course. This book can be used immediately after the student has had an introductory course in financial accounting. Alternatively, this book can build on an introductory course in managerial accounting.

Deciding on the sequence of chapters in a textbook is a challenge. Since every instructor has a unique way of organizing his or her course, we utilize a modular, flexible organization that permits a course to be custom tailored. *This organization facilitates diverse approaches to teaching and learning.*

As an example of the book's flexibility, consider our treatment of process costing. Process costing is described in Chapter 17. Instructors interested in filling out a student's perspective of costing systems can move directly from job costing described in Chapter 4 to Chapter 17 without interruption in the flow of material. Other instructors may want their students to delve into activity-based costing and budgeting and more decision-oriented topics early in the course. These instructors may prefer to postpone discussion of process costing.

## New to This Edition

### Deeper Consideration of Global Issues

Businesses today have no choice but to integrate into an increasingly global ecosystem. Virtually all aspects of business—including supply chains, product markets, and the market for managerial talent—have become increasingly international in their outlook. To do this, we have focused on examples in **Vignette Boxes** and **Concepts in Action** which focus on the global context of businesses in the production, merchandising, and service sectors. We have also developed examples and discussions in the chapter material that focus on the importance of transfer pricing as a technique to manage tax strategy (Chapter 21), the different nature of process flows in inventory management (Chapter 19), and capital budgeting (Chapter 20).

We have expanded the discussion through the text on the role of accounting systems in fostering and supporting innovation and developing organizational strategy. We have also added ideas based on current research in areas of the balanced scorecard, performance management, and enterprise resource planning systems and information technology.

## Streamlined Presentation and Chapter-by-Chapter Changes

We continue to simplify and streamline our presentation to make it as easy as possible for students to learn the concepts, frameworks, and tools. We have attempted to balance this against the desire to provide comprehensive explanations reflecting current research and modern organizational practice, as well as to offer a complete set of problems for students to practise these concepts. There have been some major changes in the Seventh Canadian Edition of *Cost Accounting*. To ease your transition from the Sixth Canadian Edition, we highlight the following changes, by chapter.

Chapter 1 has been rewritten to include expanded discussions of ethics and sustainability. The chapter also reflects the shifting landscape of professional accounting in Canada, as we discuss the changes that are emerging with the creation of Chartered Professional Accountants (CPA) of Canada from the legacy designations: the Chartered Accountants of Canada, the Society of Certified Management Accountants of Canada, and the Certified General Accountants of Canada.

Chapters 2 and 3 have been revised to make it easier for students to understand core concepts in accounting and to provide the grounding for the decision-making framework to be used throughout *Cost Accounting*. The content also reflects real decision-making processes in real companies from the Canadian and global contexts.

Chapters 4 and 5 have been updated to include a substantial amount of new material to enhance the coverage of manufacturing overhead allocation and manufacturing overhead control. The material also highlights the process of developing cost allocation pools from standard accounting classifications. These changes are intended to advance the understanding of how costing systems such as activity-based costing can effectively be implemented.

Chapter 6 frames the budgeting process as a decision-making activity. The financial figures in the budget schedules and cash flow budget are now internally consistent. A list of commonly used budget techniques has been added. The discussion on sensitivity, kaizen, and activity-based costing budgets now appears in the appendix to the chapter.

Chapter 7 presents the levels of variance analysis in a more consistent manner. The discussion on Level 4 variances (substitutable inputs) now appears in the appendix to the chapter. The section on not-for-profit benchmarks has been rewritten to include a list of characteristics for good NFP benchmarks.

Chapter 8 has new calculations showing the importance of fixed overheads and break-even issues for the firm. Some of the discussions have been shortened to improve readability.

Chapter 9 has been updated to reflect ASPE/IFRS with regard to capacity decisions for external reporting. The sections on throughput costing and the impact of capacity decisions on break-even analysis have been moved to an appendix.

Chapters 10 and 11 are a practical guide to various cost estimation techniques and the determination of the relevance of costs. Chapter 19 from the Sixth Canadian Edition of *Cost Accounting* has been eliminated and the content redistributed to several chapters in the Seventh Canadian Edition—most significantly to Chapters 10 and 11. So, along with familiar discussions of regression analysis and enhanced topics on correlation versus causation, the chapter has new content such as the costs of quality and the impact of time on the costing and decision-making process.

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

Chapter 13 reflects the diverse applicability of the balanced scorecard as an evaluative, communication, and strategy formulation tool in decision making. Emphasis is placed on understanding its application in financial, operational, and sustainability decision making.

Chapter 14 contains new exhibits for the support cost allocation methods that combine a graphic presentation with the calculations. A summary chart comparing the advantages and disadvantages of the three methods has been added. References to matrix algebra and the appendix have been removed from the narrative.

Chapter 15 has been updated to reflect ASPE/IFRS with regard to joint cost allocations. The section and exhibits showing the production and sales method for byproduct accounting have been changed to eliminate the issues with rounding.

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

In Chapters 17 and 18, a discussion of when to use process costing has been added to the narrative. A number of the exhibits were changed slightly to make them more consistent across the two chapters and to ensure numerical consistency.

Chapter 19 (formerly Chapter 20) builds on the efforts to streamline content in Chapters 10, 11, 17, and 18 and 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 (formerly Chapters 21 and 22) represents one of the most significant changes for *Cost Accounting*. Previously, the discussion on capital budgeting spanned two chapters. The material has now been streamlined and consolidated to focus on the decision-making process of capital acquisitions, including the impact of tax in the Canadian context.

Chapter 21 (formerly Chapter 23) has been revised to address the use of transfer payments as a tax minimization strategy. The updated content focuses on real-world examples and broader strategic concepts including decentralization.

Chapter 22 (formerly Chapter 24) has been revised to focus on the increasing responsibility of the 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. A new summary chart compares the four common performance measurement tools (ROS, ROI, RI, and EVA).

## MyAccountingLab

MyAccountingLab delivers proven results in helping individual students succeed. It provides engaging experiences that personalize, stimulate, and measure learning for each student, including a personalized study plan, mini cases, and videos. MyAccountingLab is the portal to an array of learning tools for all learning styles—algorithmic practice questions with guided solutions are only the beginning!

The following features are **NEW** to MyAccountingLab for the Seventh Canadian Edition:

### For Students

- ◆ **Adaptive Assessment**—Integrated directly into the MyAccountingLab Study Plan, Pearson's adaptive assessment is the latest technology for individualized learning and mastery. As students work through each question, they are provided with a custom learning path tailored specifically to the concepts they need to practise and master.
- ◆ **Enhanced Pearson eText**—End-of-chapter MyAccountingLab assessments are now linked directly to the eText, providing students with a seamless reading and practising experience.
- ◆ **Dynamic Study Modules**—Canadian study modules allow students to work through groups of questions and check their understanding of foundational accounting topics. As students work through questions, the Dynamic Study Modules assess their knowledge and only show questions that still require practice. Dynamic Study Modules can be completed online using a computer, tablet, or mobile device.




## For Instructors

- ◆ **Learning Catalytics**—This “bring your own device” student engagement, assessment, and classroom intelligence system allows instructors to engage students in class with a variety of question types designed to gauge student understanding.
- ◆ **Chartered Professional Accountant Competency Mapping and AACSB Learning Outcome Mapping**—Instructors can now view MyAccountingLab assessments by CPA Competencies and select questions based on the specific competencies that they’d like to test. Instructors can also sort questions by AACSB Learning Outcomes.

## Additional Resources

The following resources are available for Instructors at the Instructor’s Resource Centre on the catalogue, at [www.pearsoncanada.ca/highered](http://www.pearsoncanada.ca/highered).

- ◆ **Instructor’s Solutions Manual** provides instructors with a complete set of solutions to all the end-of-chapter material in this text. Available in both Word and PDF formats.
- ◆ **Pearson TestGen**, the test bank for *Cost Accounting*, offers a comprehensive suite of tools for testing and assessment. TestGen allows educators to easily create and distribute tests for their courses, either by printing and distributing through traditional methods or by online delivery. The more than 2,200 items are linked to the Learning Objectives, and ranked by difficulty.
- ◆ **Test Item File**. All the test questions from the TestGen testbank are also available in Microsoft Word format, available within MyStatLab or at [www.pearsoncanada.ca/highered](http://www.pearsoncanada.ca/highered).
- ◆  **Instructor’s Teaching Tips Digital eText Resource** Instructors can easily locate useful teaching tips and resources throughout the eText, annotated by apple icons throughout the chapters. This eText is located in MyAccountingLab.
- ◆ **PowerPoint Presentations** prepared for each chapter of the text. The interactive presentation offers helpful graphics that illustrate key figures and concepts from the text, chapter outlines, and additional examples. In addition, instructors can custom-create their own using a combination of these supplied slides and the Image Library of exhibits.
- ◆ **Image Library** includes the exhibits and illustrations from the text.

## Pearson Custom Library

For enrolments of at least 25 students, you can create your own textbook by choosing the chapters that best suit your own course needs. To begin building your custom text, visit [www.pearsoncustomlibrary.com](http://www.pearsoncustomlibrary.com). You may also work with a dedicated Pearson Custom editor to create your ideal text—publishing your own original content or mixing and matching Pearson content. Contact your local Pearson representative to get started.

## CourseSmart for Instructors

CourseSmart goes beyond traditional expectations, providing instant, online access to the textbooks and course materials you need at a lower cost for students. And even as students save money, you can save time and hassle with a digital eTextbook that allows you to search for the most relevant content at the very moment you need it. Whether it’s evaluating textbooks or creating lecture notes to help students with difficult concepts, CourseSmart can make life a little easier. See how when you visit [www.coursesmart.com/instructors](http://www.coursesmart.com/instructors).

## CourseSmart for Students

CourseSmart goes beyond traditional expectations, providing instant, online access to the textbooks and course materials you need at an average savings of 60 percent. With instant access from any computer and the ability to search your text, you’ll find the content you need quickly, no matter where you are. And with online tools like highlighting and note-taking, you can save time and study efficiently. See all the benefits at [www.coursesmart.com/students](http://www.coursesmart.com/students).

## Learning Solutions Consultants

Pearson's Learning Solutions consultants work with faculty and campus course designers to ensure that Pearson 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 Education sales representative can provide you with more details on this service program.

## ACKNOWLEDGMENTS

*Cost Accounting*, Seventh Canadian Edition, is the product of a rigorous research process that included multiple reviews at various stages of its development to ensure the revision meets the needs of Canadian students and instructors. The extensive feedback helped shape this edition into a clearer, more readable, and fully streamlined textbook—in both the chapter content and the assignment material.

We are indebted to those who provided their time, support, and feedback throughout this process:

Gillian Bubb  
*University of the Fraser Valley*

Lynn Carty  
*University of Guelph*

Ann-Marie Cederholm  
*Capilano University*

Heather Cornish  
*Northern Alberta Institute of Technology*  
Susan Ferris,  
*CGA Canada*

Majidul Islam  
*Concordia University*

Mandy Kendall  
*University of Northern British Columbia*

Elin Maher  
*University of New Brunswick*

Winston J. Marcellin  
*George Brown College*

John Parkinson  
*York University*

Humayun Qadri  
*MacEwan University*

Daphne Rixon  
*Saint Mary's University*

John Shepherd  
*Kwantlen Polytechnic University*

Glen Stanger  
*Douglas College*

Helen Vallee  
*Kwantlen Polytechnic University*

Judith Watson  
*Capilano University*

We also want to thank our colleagues who helped us greatly by accuracy checking the text and supplements.

We thank the people at Pearson Canada for their hard work and dedication, including Megan Farrell who put together an awesome team. We extend special thanks to Suzanne Simpson Millar, Queen Bee at Simpson Editorial Services, who was the developmental editor on this edition. Suzanne took charge of this project, found the resources where none seemed to exist, and directed the project successfully across the finish line. Suzanne accomplished the impossible with grace, expertise, unceasing encouragement, and extraordinary skill. This book would not have been possible without her dedication and diplomacy. Laurel Sparrow added her substantive and copyediting talents to the quality, consistency, and accuracy of this edition. Vastavikta Sharma and others expertly managed the production aspects of all the manuscript preparation with superb skill and tremendous dedication. We are deeply appreciative of their good spirits, loyalty, and ability to stay calm in the most hectic of times.

Appreciation also goes to the Chartered Professional Accountants of Canada, Certified General Accountants Association of Canada, the Society of Management Accountants of Canada, and many other publishers and companies for their generous permission to quote from their publications.

We are grateful to the professors who contributed assignment material for this edition. Their names are indicated in parentheses at the start of their specific problems. We are also grateful for the development of Excel program material.

Our task is to serve the learning needs of students and teaching needs of instructors as they surmount the challenge of the impossible—creating, managing, and controlling the profitability of future outcomes. We welcome your comments and suggestions on how to serve you better.

Louis Beaubien  
Chris Graham

# About the Authors

**LOUIS BEAUBIEN**—Louis Beaubien is a Chartered Professional Accountant and holds a PhD from the Ivey School of Business at the University of Western Ontario. Dr. Beaubien’s professional experience includes the financial services, information technology and health-care industry. He is an Associate Professor of Accounting at the Rowe School of Business, Dalhousie University and the Department of Community Health and Epidemiology in the Faculty of Medicine at Dalhousie University. His research is focused on the effective, efficient and equitable delivery of healthcare.

**CHRIS GRAHAM**—Chris Graham joined the Gustavson School of Business at the University of Victoria on a full-time basis in 2003. He instructs accounting and finance in both the bachelor and master programs. His main areas of interest are revenue-pricing models for both profit and non-profit organizations, and First Nations economic development activities. Of course, these interests now come after his wife Joan and daughter Adrienne. He also tries to find time to sail and fix old sports cars.

Chris has an undergraduate degree in economics from Queen’s University at Kingston. He also has a master of business administration from the Ivey School of Business, University of Western Ontario. Most recently, he earned his professional accountant’s designation from the Chartered Professional Accountants of BC.