About the Authors

William N. Lanen

William Lanen is a professor emeritus of accounting at the University of Michigan. He previously taught at the Wharton School at the University of Pennsylvania. He received his AB from the University of California-Berkeley, MS from Purdue University, and his PhD from the Wharton School. He has taught cost accounting to undergraduates, MBA students, and executives, including in global programs in Europe, South America, and Asia. He has also served as the director of the Office of Action-Based Learning at the Ross School of the University of Michigan. His research focuses primarily on performance evaluation and rewards.

Shannon W. Anderson

Shannon Anderson is a professor of management at the University of California-Davis and a Principle Fellow at the University of Melbourne. She previously taught at Rice University and the University of Michigan. She received her PhD from Harvard University and a BSE from Princeton University. Shannon has taught undergraduates, MBA students, and executive education students in a variety of courses on cost accounting, cost management, and management control. Her research focuses on the design and implementation of performance measurement and cost control systems.

Michael W. Maher

Michael Maher is a professor of management at the University of California-Davis. He previously taught at the University of Michigan and was a visiting professor at the University of Chicago. He received his MBA and PhD from the University of Washington and his BBA from Gonzaga University and was awarded a CPA by the State of Washington. He has published more than a dozen books, including several textbooks that have appeared in numerous editions. He has taught at all levels from undergraduate to MBA to PhD and executives. His research focuses on cost analysis in service organizations, corporate governance, and white-collar crime.
Dedication

To my wife, Donna, and my children, Cathy and Tom, for encouragement, support, patience, and general good cheer throughout the years.

Bill

I dedicate this book to my husband Randy, my children Evan and David, and my parents, Max and Nina Weems. Your support and example motivate me to improve. Your love and God’s grace assure me that it isn’t necessary.

Shannon

I dedicate this book to my wife, Kathleen, my children, Krista and Andrea, my stepchildren, Andrew and Emily, and to my extended family, friends, and colleagues who have provided their support and wisdom over the years.

Michael
Chapter Opening Vignettes
Do your students sometimes wonder how the course connects with their future? Each chapter opens with The Decision, a vignette in which a decision maker needs cost accounting information to make a better decision. This sets the stage for the rest of the chapter and encourages students to think of concepts in a business context.

Text messaging is a common add-on service to mobile phones, but how profitable is it for the phone companies? In September 2008, the chairman of the Senate Arbitrual Committee sent letters to four major telecommunications companies asking for information about prices and costs. His interest was prompted by a price increase from $1.10 to $2.30 for the pay-per-use service.

Although the companies did not discuss the costs of text messaging in their responses, the variable cost can be estimated by the engineering method. First, how does a text message use the carriers’ resources? With no incremental fixed or variable costs associated with the texting product, carriers profit from offering unlimited messaging at an affordable rate.

Any message is so small relative to the total traffic that its impact is negligible. This means that once the storage equipment is in place in the network, the incremental costs of additional volume is quite small. In other words, the variable costs are close to zero. What are the implications for pricing? With no incremental fixed or variable costs associated with the texting product, carriers profit from offering unlimited messaging at an affordable rate.


Business Application
The Variable Cost of a Text Message

Business Application
The Decision

Why Estimate Costs?

What managers make decisions, they need to compare the costs (and benefits) among alternative actions. Therefore, managers need to estimate the costs associated with each alternative. We saw in Chapter 4 that good decisions require good information. In this chapter, we discuss how to estimate the cost data required for decision making.

LEARNING OBJECTIVES
After reading this chapter, you should be able to:

LO 5-1 Understand the reasons for estimating fixed and variable costs.
LO 5-2 Estimate costs using engineering estimates.
LO 5-3 Estimate costs using account analysis.
LO 5-4 Estimate costs using statistical analysis.
LO 5-5 Interpret the results of regression output.
LO 5-6 Identify potential problems with regression data.
LO 5-7 Evaluate the advantages and disadvantages of alternative cost estimation methods.

Cost Estimation
Chapter Five

Step into the Real World

“The Business Application features are] a very helpful piece to help students see how the course material becomes relevant in the professional world.”

—N. Ahdait
University of California Pomona

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Debrief

Do your students understand how to apply the concepts in each chapter to become better decision makers? All chapters end with a Debrief feature that links the topics in the chapter to the decision problem faced by the manager in the opening vignette.

The Debrief

After considering the cost estimates in Exhibit 5.8, Charlene commented:

“This exercise has been very useful for me. First, I learned about different approaches to estimating the cost of a new center. More important, I learned about the advantages and disadvantages of each approach.”

When I look at the numbers in Exhibit 5.8, I have confidence in my decision to open a new center. Although there is a range in the estimates, all of the estimates are below my expected revenues. This means I am not going to spend more time on reconciling the cost estimates because I know that regardless of which estimate I think is best, my decision will be the same.”

SUMMARY

Accurate cost estimation is important to most organizations for decision-making purposes. Although no estimation method is completely accurate, some are better than others. The usefulness of a cost estimation method depends highly on the user’s knowledge of the business and the costs being analyzed.

The following summarizes the key ideas tied to the chapter’s learning objectives:

“Good illustrations and real-world examples. It has broad and comprehensive topic coverage.”

—Robert Lin
California State University East Bay


Custom Homebuilders (CH) designs and constructs high-end homes on large lots owned by customers. CH has developed several formulas, which it uses to quote jobs. These include costs for materials, labor, and other costs. These estimates are also dependent on the region of the country a particular customer lives. Below are the cost estimates for one region in the Midwest.

<table>
<thead>
<tr>
<th>Costs</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative costs</td>
<td>$20,000</td>
</tr>
<tr>
<td>Building costs – per square foot (basic)</td>
<td>$90</td>
</tr>
<tr>
<td>Building costs – per square foot (moderate)</td>
<td>$150</td>
</tr>
<tr>
<td>Building costs – per square foot (luxury)</td>
<td>$225</td>
</tr>
<tr>
<td>Appliances (basic)</td>
<td>$15,000</td>
</tr>
<tr>
<td>Appliances (moderate)</td>
<td>$25,000</td>
</tr>
<tr>
<td>Appliances (luxury)</td>
<td>$45,000</td>
</tr>
<tr>
<td>Utilities costs (if required)</td>
<td>$40,000</td>
</tr>
</tbody>
</table>

End-of-Chapter Material

Being able to assign end-of-chapter material with confidence is important. The authors have tested the end-of-chapter material over time to ensure quality and consistency with the chapter content.

“This is an excellent cost accounting book with quality end of chapter materials.”

—Judy Daulton
Piedmont Technical College

“Well written; good end-of-chapter material.”

—R. E. Bryson
University of Alabama in Huntsville
Excel® is essential to contemporary cost accounting practice, and Lanen 5e integrates Excel where appropriate in the text. Several exercises and problems in each chapter can be solved using the Excel spreadsheet templates found in Connect. An Excel logo appears in the text next to these problems.

---

“In strong end of chapter and test bank materials. Strong inclusion of Excel in the chapters”

—Michael Flores, Wichita State University

---

INTEGRATIVE CASES

INTEGRATIVE CASES

10-44. Cost Hierarchies, Cost of Customers, and Pricing

WSM Corporation is considering offering an air shuttle service between Sao Paulo and Rio de Janeiro. It plans to offer four flights every day (excluding certain holidays) for a total of 1,480 flights per year (i.e., 50 days per year). WSM has hired a consultant to determine activity-based costs for this operation. The consultant's report shows the following:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Activity Measure (unit)</th>
<th>Unit Cost (per unit of activity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flying and maintaining aircraft</td>
<td>Number of flights</td>
<td>$1,000 per flight</td>
</tr>
<tr>
<td>Serving passengers</td>
<td>Number of passengers</td>
<td>$4 per passenger</td>
</tr>
<tr>
<td>Advertising and marketing</td>
<td>Number of promotions</td>
<td>$60.00 per promotion</td>
</tr>
</tbody>
</table>

WSM estimates the following annual information. With 20 advertising promotions, it will be able to generate demand for 40 passengers per flight at a fare of $225. The lease of the 63-seat aircraft will cost $4,800,000. Other equipment costs will be $2,000,000. Administrative and other marketing costs will be $1,250,000.

**Required**

a. Based on these estimates, what annual operating income can WSM expect from this new service?

b. WSM is considering selling tickets over the Internet to save on commissions and other costs. It is estimated that the cost driver rate for flights would decrease by $300 as a result of Internet sales. Administrative and other marketing costs would increase by $1 million. WSM estimates that the added convenience would generate a 5 percent increase in

---

Integrative Cases

Cases can generate classroom discussion or be the basis for good team projects. These integrative cases, which rely on cost accounting principles from previous chapters as well as the current chapter, ask students to apply the different techniques they have learned to a realistic situation.
Our primary goal in the fifth edition remains the same as in the previous three editions—to offer a cost accounting text that lets the student see the development of cost accounting tools and techniques as a natural response to decision making. We emphasize the intuition behind concepts and work to minimize the need to “memorize.” We believe that students who develop this intuition will, first, develop an appreciation of what cost accounting is about and, second, will have an easier time understanding new developments that arise during their careers. Each chapter clearly establishes learning objectives, highlights numerous real-world examples, and identifies where ethical issues arise and how to think about these issues. Each chapter includes at least one integrative case that illustrates the links among the topics.

We present the material from the perspective of both the preparer of information as well as those who will use the information. We do this so that both accounting majors and those students planning other careers will appreciate the issues in preparing and using the information. The opening vignettes tie to one of the Business Application features in the chapter to highlight the relevance of cost accounting to today’s business problems. All chapters end with a Debrief that links the topics in the chapter to the decision problem faced by the manager in the opening vignette.

The fifth edition has been updated to include new discussion on the links between activity-based cost management and lean manufacturing and lean accounting, as well as new discussion on strategy and performance.

The end-of-chapter material has increased by almost 10-25 percent, depending on the chapter and much of the material retained from the fourth edition has been revised. Throughout the revision process, we have retained the clear writing style that is frequently cited as a strength of the text.

What’s New in the Fifth Edition?

1 Cost Accounting: Information for Decision-Making
   • New Business Application on supply chain.
   • Updated link for IMA Ethics
   • One new review question.
   • Three new critical discussion questions.
   • Two new exercises.
   • One new problem.

2 Cost Concepts and Behavior
   • New Business Application on the costs of eBooks vs. paper books.
   • Two new review questions and critical thinking questions.

3 Fundamentals of Cost-Volume-Profit Analysis
   • New Business Application on CVP analysis and on-demand services.
   • One new review question.
   • Two new critical discussion questions.
   • Two new exercises and problems.

4 Fundamentals of Cost Analysis for Decision Making
   • Two new review questions.
   • One new critical discussion question, exercise and problem.
5 Cost Estimation
• Two new review question.
• One new critical discussion question.
• Three new exercises.
• One new problem.

6 Fundamentals of Product and Service Costing
• Two new review question.
• One new critical discussion question.
• Two new exercises.
• One new problem.

7 Job Costing
• Two new review questions.
• One critical discussion question.
• Two new exercises.

8 Process Costing
• Two new critical review questions.
• Four new exercises.
• One new problem.

9 Activity-Based Costing
• Added a new section on time-driven activity-based costing
• Five new review questions.
• Two new critical discussion questions.
• Four new exercises.
• Two new problems.

10 Fundamentals of Cost Management
• New Business Application on customer profitability-revenue and cost.
• One new review question.
• One new critical discussion question.
• Two new exercises and problems.

11 Service Department and Joint Cost Allocation
• Updated decision making with service department costs content.
• Three new review questions.

12 Fundamentals of Management Control Systems
• New Business Application on Teacher
• Six new review questions.
• Four new critical discussion questions.

13 Planning and Budgeting
• New Business Application using the budget to help manage cash flows.
• Four new review questions.
• One new critical discussion question.
• Two new exercises and problems.

14 Business Unit Performance Measurement
• One new review question and critical discussion question.
• Four new exercises.

15 Transfer Pricing
• Updated Business Application on transfer pricing.
• New Business Application on tax considerations in transfer pricing.
• Two new review questions.
• One new critical discussion question.
• Two new exercises.
• One new problem.

16 Fundamentals of Variance Analysis
• Two new review questions, critical discussion questions and exercises.

17 Additional Topics in Variance Analysis
• Two new review questions.
• One new critical discussion question.
• Two new exercises.
• One new problems.

18 Performance Measurement to Support Business Strategy
• Eight new critical discussion question.
• One new exercise and problem.

Appendix Capital Investment Decisions: An Overview
• Revised critical discussion questions and problems.
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A special thank you to the following individuals who helped develop and critique the ancillary package: Beth Woods and Rex Schildhouse for accuracy checking the manuscript and solutions manual; Beth Woods for accuracy checking the test bank; Jeannie Folk for preparing the instructor’s manual and quizzes; LuAnn Bean for updating the test bank and accuracy checking the PowerPoints and quizzes; Jon A. Booker of Tennessee Technological University, Cynthia J. Rooney of the University of New Mexico-Los Alamos, and Susan C. Galbreath of Lipscomb University for crafting the PowerPoint slides; ANSR Source Content US LLC and Beth Woods for accuracy checking Intelligent Response Technology for Connect Accounting.

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INTRODUCTION AND OVERVIEW

One  Cost Accounting: Information for Decision Making  2
Two  Cost Concepts and Behavior  38

COST ANALYSIS AND ESTIMATION

Three  Fundamentals of Cost-Volume-Profit Analysis  84
Four  Fundamentals of Cost Analysis for Decision Making  116
Five  Cost Estimation  162

COST MANAGEMENT SYSTEMS

Six  Fundamentals of Product and Service Costing  210
Seven  Job Costing  240
Eight  Process Costing  284
Nine  Activity-Based Costing  328
Ten  Fundamentals of Cost Management  378
Eleven  Service Department and Joint Cost Allocation  418

MANAGEMENT CONTROL SYSTEMS

Twelve  Fundamentals of Management Control Systems  464
Thirteen  Planning and Budgeting  500
Fourteen  Business Unit Performance Measurement  546
Fifteen  Transfer Pricing  582
Sixteen  Fundamentals of Variance Analysis  620
Seventeen  Additional Topics in Variance Analysis  666
Eighteen  Performance Measurement to Support Business Strategy  700
Appendix  Capital Investment Decisions: An Overview  A-1

Glossary  G-1
Index  IND-1
Contents

Step into the Real World  v

1 Cost Accounting: Information for Decision Making  2

   Business Application: Understanding Costs in a Small Business  3

Value Creation in Organizations  3
   Why Start with Value Creation?  3
   Value Chain  4
   Supply Chain and Distribution Chain  5
   Business Application: Focus on the Supply Chain  5
   Using Cost Information to Increase Value  5
   Accounting and the Value Chain  6

Accounting Systems  6
   Financial Accounting  6
   Cost Accounting  6
   Cost Accounting, GAAP, and IFRS  7
   Customers of Cost Accounting  7

Our Framework for Assessing Cost Accounting Systems  8
   The Manager’s Job Is to Make Decisions  8
   Decision Making Requires Information  8
   Finding and Eliminating Activities That Don’t Add Value  9
   Identifying Strategic Opportunities Using Cost Analysis  9
   Owners Use Cost Information to Evaluate Managers  10

Cost Data for Managerial Decisions  10
   Costs for Decision Making  10
   Business Application: Fast-Food Chain Menu Items and Costs  11

   Costs for Control and Evaluation  11
   Different Data for Different Decisions  13

Trends in Cost Accounting throughout the Value Chain  14
   Cost Accounting in Research and Development (R&D)  14
   Cost Accounting in Design  14
   Cost Accounting in Purchasing  15
   Cost Accounting in Production  15
   Cost Accounting in Marketing  15
   Cost Accounting in Distribution  16
   Cost Accounting in Customer Service  16
   Enterprise Resource Planning  16
   Creating Value in the Organization  17

Key Financial Players in the Organization  17

Choices: Ethical Issues for Accountants  18
   What Makes Ethics So Important?  18
   Ethics  19
   The Sarbanes-Oxley Act of 2002 and Ethics  19
   Business Application: Options Backdating at Apple  20

Cost Accounting and Other Business Disciplines  21
   The Debrief  21

Summary  22
Key Terms  22
Appendix: Institute of Management Accountants Code of Ethics  22
Review Questions  24
Critical Analysis and Discussion Questions  25
Exercises  25
Problems  29
Integrative Cases  34
Solutions to Self-Study Questions  37
Cost Concepts and Behavior 38

Business Application: Calculating the Costs of E-Books versus Paper Books 39

What Is a Cost? 40
Cost versus Expenses 40

Presentation of Costs in Financial Statements 41
Business Application: A New Manufacturing Mantra 42
Service Organizations 42
Retail and Wholesale Companies 43
Manufacturing Companies 44
Direct and Indirect Manufacturing (Product) Costs 45
Prime Costs and Conversion Costs 45
Nonmanufacturing (Period) Costs 46
Business Application: Indirect Costs in Banking 47

Cost Allocation 47
Direct versus Indirect Costs 48

Details of Manufacturing Cost Flows 48
How Costs Flow through the Statements 49
Income Statements 49
Cost of Goods Manufactured and Sold 50
Direct Materials 50
Work in Process 51
Finished Goods Inventory 51
Cost of Goods Manufactured and Sold Statement 52

Cost Behavior 53
Fixed versus Variable Costs 53

Components of Product Costs 55
Unit Fixed Costs Can Be Misleading for Decision Making 56

How to Make Cost Information More Useful for Managers 60
Gross Margin versus Contribution Margin
Income Statements 60
Developing Financial Statements for Decision Making 61
The Debrief 62

Summary 62

Fundamentals of Cost-Volume-Profit Analysis 84

Cost-Volume-Profit Analysis 85
Business Application: Cost-Volume-Profit Analysis and On-Demand Services 85
Profit Equation 86
CVP Example 87
Graphic Presentation 90
Profit-Volume Model 91
Use of CVP to Analyze the Effect of Different Cost Structures 92
Business Application: Effect of Cost Structure on Operating and Investing Decisions 93
Margin of Safety 93

CVP Analysis with Spreadsheets 94

Extensions of the CVP Model 95
Income Taxes 95
Multiproduct CVP Analysis 95
Alternative Cost Structures 97
Assumptions and Limitations of CVP Analysis 97
The Debrief 98
Summary 98
Key Terms 99
Review Questions 99
Critical Analysis and Discussion Questions 100
Exercises 100
Problems 106
Integrative Case 112
Solutions to Self-Study Questions 114

Fundamentals of Cost Analysis for Decision Making 166

Business Application: Cost Analysis and the Choice of Office Space for a Small Business 117
Differential Analysis  118
  Differential Costs versus Total Costs  118
  Differential Analysis and Pricing Decisions  119
  Short-Run versus Long-Run Pricing Decisions  119
  Short-Run Pricing Decisions: Special Orders  120
  Long-Run Pricing Decisions  122
  Long-Run versus Short-Run Pricing: Is There a Difference?  122
  Cost Analysis for Pricing  123
  Business Application: Take-Back Laws in Europe  124
Legal Issues Relating to Costs and Sales Prices  124
  Predatory Pricing  124
  Dumping  125
  Price Discrimination  125
  Peak-Load Pricing  126
  Price Fixing  126
Use of Differential Analysis for Production Decisions  126
  Make-It or Buy-It Decisions  127
  Make-or-Buy Decisions Involving Differential Fixed Costs  127
  Opportunity Costs of Making  130
  Decision to Add or Drop a Product Line or Close a Business Unit  132
  Product Choice Decisions  134
The Theory of Constraints  137
  The Debrief  139
Summary  139
Key Terms  140
Cost Estimation  162
  Why Estimate Costs?  163
  Basic Cost Behavior Patterns  163
Business Application: The Variable Cost of a Text Message  163
What Methods Are Used to Estimate Cost Behavior?  164
  Engineering Method  164
  Account Analysis Method  165
  Statistical Cost Estimation  167
  Business Application: Using Statistical Analysis to Improve Profitability  173
  Multiple Regression  173
  Practical Implementation Problems  174
Learning Phenomenon  176
  Business Application: Learning Curves  176
  Applications  177
How Is an Estimation Method Chosen?  179
  Data Problems  179
  Effect of Different Methods on Cost Estimates  180
  The Debrief  182
Summary  182
Key Terms  183
Appendix A: Regression Analysis Using Microsoft Excel®  183
Appendix B: Learning Curves  189
Review Questions  190
Critical Analysis and Discussion Questions  190
Exercises  191
Problems  198
Integrative Case  207
Solutions to Self-Study Questions  209
Cost Management Systems  211
  Reasons to Calculate Product or Service Costs  211
  Business Application: Importance of Distinguishing between Production Costs and Overhead Costs  212
  Cost Allocation and Product Costing  212
  Cost Flow Diagram  213
Fundamental Themes Underlying the Design of Cost Systems for Managerial Purposes  213
Contents

Costing in a Single Product, Continuous Process Industry 214
  Basic Cost Flow Model 214
  Costing with No Work-in-Process Inventories 214
  Costing with Ending Work-in-Process Inventories 215

Costing in a Multiple Product, Discrete Process Industry 216
  Predetermined Overhead Rates 218
  Product Costing of Multiple Products 219
  Choice of the Allocation Base for Predetermined Overhead Rate 219
  Choosing among Possible Allocation Bases 220

Multiple Allocation Bases and Two-Stage Systems 221
  Choice of Allocation Bases 222

Different Companies, Different Production and Costing Systems 223
  Operations Costing: An Illustration 224
  The Debrief 226

Summary 226
Key Terms 227
Review Questions 227
Critical Analysis and Discussion Questions 227
Exercises 228
Problems 233
Integrative Cases 236
Solutions to Self-Study Questions 238

Job Costing 240

Defining a Job 241

Using Accounting Records in a Job Shop 242

Computing the Cost of a Job 242
  Production Process at InShape 242
  Records of Costs at InShape 242
  How Manufacturing Overhead Costs Are Recorded at InShape 246
  The Job Cost Sheet 248
  Over- and Underapplied Overhead 249
  An Alternative Method of Recording and Applying Manufacturing Overhead 250

Multiple Allocation Bases: The Two-Stage Approach 253

Summary of Steps in a Job Costing System 253

Using Job Costing in Service Organizations 253

Ethical Issues and Job Costing 255
  Misstating Stage of Completion 256
  Charging Costs to the Wrong Jobs 256
  Business Application: Cost Allocation and Government Contracts 256
  Misrepresenting the Cost of Jobs 256

Managing Projects 258
  The Debrief 258

Summary 259
Key Terms 260
Review Questions 260
Critical Analysis and Discussion Questions 260
Exercises 261
Problems 268
Integrative Case 281
Solutions to Self-Study Questions 283

Process Costing 284

Determining Equivalent Units 286

Using Product Costing in a Process Industry 287
  Step 1: Measure the Physical Flow of Resources 287
  Step 2: Compute the Equivalent Units of Production 287
  Business Application: Overstating Equivalent Units to Commit Fraud 288
  Step 3: Identify the Product Costs for Which to Account 289
  Time Out! We Need to Make an Assumption about Costs and the Work-in-Process Inventory 289
  Step 4: Compute the Costs per Equivalent Unit: Weighted Average 290
  Step 5: Assign Product Cost to Batches of Work: Weighted-Average Process Costing 291
Reporting This Information to Managers: The Production Cost Report 291

Sections 1 and 2: Managing the Physical Flow of Units 293
Sections 3, 4, and 5: Managing Costs 293

Assigning Costs Using First-In, First-Out (FIFO) Process Costing 293

Step 1: Measure the Physical Flow of Resources 294
Step 2: Compute the Equivalent Units of Production 294
Step 3: Identify the Product Costs for Which to Account 296
Step 4: Compute the Costs per Equivalent Unit: FIFO 296
Step 5: Assign Product Cost to Batches of Work: FIFO 297
How This Looks in T-Accounts 297

Determining Which Is Better: FIFO or Weighted Average? 298

Computing Product Costs: Summary of the Steps 298

Using Costs Transferred in from Prior Departments 298

Who Is Responsible for Costs Transferred in from Prior Departments? 300

Choosing between Job and Process Costing 302

Operation Costing 302
Product Costing in Operations 303
Operation Costing Illustration 303

Comparing Job, Process, and Operation Costing 306

The Debrief 306
Summary 307
Key Terms 307
Review Questions 308
Critical Analysis and Discussion Questions 308
Exercises 309
Problems 315
Integrative Cases 323
Solutions to Self-Study Questions 325

Activity-Based Costing 328

Reported Product Costs and Decision Making 329

Dropping a Product 329
The Death Spiral 331

Two-Stage Cost Allocation 332

Two-Stage Cost Allocation and the Choice of Cost Drivers 333
Plantwide versus Department-Specific Rates 335
Choice of Cost Allocation Methods: A Cost-Benefit Decision 336

Activity-Based Costing 337

Business Application: Activity-Based Costing in a Not-for-Profit 338
Developing Activity-Based Costs 338

Cost Hierarchies 340

Business Application: The ABC Cost Hierarchy—Maintenance Costs for an Airline 341

Activity-Based Costing Illustrated 341

Step 1: Identify the Activities 341
Step 2: Identify the Cost Drivers 342
Step 3: Compute the Cost Driver Rates 342
Step 4: Assign Costs Using Activity-Based Costing 342
Unit Costs Compared 343

Cost Flows through Accounts 344

Choice of Activity Bases in Modern Production Settings 346

Business Application: Evidence on the Benefits of Activity-Based Costing 347

Activity-Based Costing in Administration 347

Who Uses ABC? 348

Time-Driven Activity-Based Costing 349

Developing Time-Driven Activity-Based Costs 349
Extensions of TDABC 351

The Debrief 351
Summary 352
Key Terms 352
Review Questions 352
Critical Analysis and Discussion Questions 353
Exercises 354
Problems 363
Integrative Cases 372
Solutions to Self-Study Questions 376
Contents

Key Terms 401
Review Questions 401
Critical Analysis and Discussion Questions 402
Exercises 402
Problems 410
Integrative Cases 415
Solutions to Self-Study Questions 416

11
Service Department and Joint Cost Allocation 418

Service Department Cost Allocation 419
Business Application: Outsourcing Information Services—Managed Service Providers 420

Methods of Allocating Service Department Costs 421
Allocating Bases 422
Direct Method 422
Step Method 425
Business Application: Step Method at Stanford University 428
Reciprocal Method 428
Comparison of Direct, Step, and Reciprocal Methods 430
The Reciprocal Method and Decision Making 432

Allocation of Joint Costs 434
Joint Costing Defined 434
Reasons for Allocating Joint Costs 435

Joint Cost Allocation Methods 435
Net Realizable Value Method 435
Physical Quantities Method 438
Evaluation of Joint Cost Methods 438

Deciding Whether to Sell Goods Now or Process Them Further 439
Business Application: Different Demands for Different Parts 440

Deciding What to Do with By-Products 440
The Debrief 441
Summary 442

Lan65408_fm_j-xvii_1.indd   21
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<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Analysis and Discussion Questions</td>
<td>445</td>
</tr>
<tr>
<td>Exercises</td>
<td>446</td>
</tr>
<tr>
<td>Problems</td>
<td>451</td>
</tr>
<tr>
<td>Integrative Case</td>
<td>460</td>
</tr>
<tr>
<td>Solutions to Self-Study Questions</td>
<td>461</td>
</tr>
<tr>
<td>12 Fundamentals of Management Control Systems</td>
<td>464</td>
</tr>
<tr>
<td>Why a Management Control System?</td>
<td>465</td>
</tr>
<tr>
<td>Alignment of Managerial and Organizational Interests</td>
<td>466</td>
</tr>
<tr>
<td>Evolution of the Control Problem: An Example</td>
<td>466</td>
</tr>
<tr>
<td>Decentralized Organizations</td>
<td>466</td>
</tr>
<tr>
<td>Why Decentralize the Organization?</td>
<td>467</td>
</tr>
<tr>
<td>Advantages of Decentralization</td>
<td>467</td>
</tr>
<tr>
<td>Disadvantages of Decentralization</td>
<td>468</td>
</tr>
<tr>
<td>Framework for Evaluating Management Control Systems</td>
<td>468</td>
</tr>
<tr>
<td>Organizational Environment and Strategy</td>
<td>469</td>
</tr>
<tr>
<td>Results of the Management Control System</td>
<td>469</td>
</tr>
<tr>
<td>Elements of a Management Control System</td>
<td>469</td>
</tr>
<tr>
<td>Balancing the Elements</td>
<td>470</td>
</tr>
<tr>
<td>Delegated Decision Authority: Responsibility Accounting</td>
<td>470</td>
</tr>
<tr>
<td>Cost Centers</td>
<td>471</td>
</tr>
<tr>
<td>Discretionary Cost Centers</td>
<td>471</td>
</tr>
<tr>
<td>Revenue Centers</td>
<td>472</td>
</tr>
<tr>
<td>Profit Centers</td>
<td>472</td>
</tr>
<tr>
<td>Investment Centers</td>
<td>472</td>
</tr>
<tr>
<td>Responsibility Centers and Organization Structure</td>
<td>472</td>
</tr>
<tr>
<td>Measuring Performance</td>
<td>472</td>
</tr>
<tr>
<td>Two Basic Questions</td>
<td>473</td>
</tr>
<tr>
<td>Business Application: Teacher Pay and Student Performance</td>
<td>473</td>
</tr>
<tr>
<td>Cost Centers</td>
<td>474</td>
</tr>
<tr>
<td>Revenue Centers</td>
<td>474</td>
</tr>
<tr>
<td>Profit Centers</td>
<td>474</td>
</tr>
<tr>
<td>Investment Centers</td>
<td>475</td>
</tr>
<tr>
<td>Evaluating Performance</td>
<td>475</td>
</tr>
<tr>
<td>Relative Performance versus Absolute Performance Standards</td>
<td>475</td>
</tr>
<tr>
<td>Evaluating Managers' Performance versus Economic Performance of the Responsibility Center</td>
<td>475</td>
</tr>
<tr>
<td>Relative Performance Evaluations in Organizations</td>
<td>476</td>
</tr>
<tr>
<td>Compensation Systems</td>
<td>476</td>
</tr>
<tr>
<td>Business Application: Performance Measures and Incentives—Veterans Affairs Hospitals</td>
<td>477</td>
</tr>
<tr>
<td>Business Application: Beware of the “Kink”</td>
<td>478</td>
</tr>
<tr>
<td>Illustration: Corporate Cost Allocation</td>
<td>478</td>
</tr>
<tr>
<td>Incentive Problems with Allocated Costs</td>
<td>479</td>
</tr>
<tr>
<td>Effective Corporate Cost Allocation System</td>
<td>479</td>
</tr>
<tr>
<td>Do Performance Evaluation Systems Create Incentives to Commit Fraud?</td>
<td>480</td>
</tr>
<tr>
<td>Internal Controls to Protect Assets and Provide Quality Information</td>
<td>481</td>
</tr>
<tr>
<td>Internal Auditing</td>
<td>482</td>
</tr>
<tr>
<td>The Debrief</td>
<td>483</td>
</tr>
<tr>
<td>Summary</td>
<td>483</td>
</tr>
<tr>
<td>Key Terms</td>
<td>484</td>
</tr>
<tr>
<td>Review Questions</td>
<td>484</td>
</tr>
<tr>
<td>Critical Analysis and Discussion Questions</td>
<td>484</td>
</tr>
<tr>
<td>Exercises</td>
<td>485</td>
</tr>
<tr>
<td>Problems</td>
<td>489</td>
</tr>
<tr>
<td>Integrative Cases</td>
<td>493</td>
</tr>
<tr>
<td>Solutions to Self-Study Questions</td>
<td>498</td>
</tr>
<tr>
<td>13 Planning and Budgeting</td>
<td>500</td>
</tr>
<tr>
<td>How Strategic Planning Increases Competitiveness</td>
<td>501</td>
</tr>
<tr>
<td>Business Application: Using the Budget to Help Manage Cash Flow</td>
<td>502</td>
</tr>
<tr>
<td>Overall Plan</td>
<td>502</td>
</tr>
<tr>
<td>Organization Goals</td>
<td>502</td>
</tr>
<tr>
<td>Strategic Long-Range Profit Plan</td>
<td>503</td>
</tr>
<tr>
<td>Master Budget (Tactical Short-Range Profit Plan): Tying the Strategic Plan to the Operating Plan</td>
<td>503</td>
</tr>
</tbody>
</table>
Contents

**14**

**Business Unit Performance Measurement**

- **Divisional Performance Measurement**
  - Business Application: *What Determines Whether Firms Use Divisional Measures for Measuring Divisional Performance?* 547
- **Accounting Income**
  - Computing Divisional Income 548
  - Advantages and Disadvantages of Divisional Income 549
  - Some Simple Financial Ratios 549
- **Return on Investment**
  - Performance Measures for Control: A Short Detour 551
  - Limitations of ROI 551
- **Residual Income Measures**
  - Limitations of Residual Income 555
- **Economic Value Added (EVA)**
  - Business Application: *EVA at Best Buy* 557
  - Limitations of EVA 558
  - Business Application: *Does Using Residual Income as a Performance Measure Affect Managers’ Decisions?* 558
- **Divisional Performance Measurement: A Summary** 559
- **Measuring the Investment Base**
  - Gross Book Value versus Net Book Value 559
  - Historical Cost versus Current Cost 559
  - Beginning, Ending, or Average Balance 560
- **Other Issues in Divisional Performance Measurement**
  - The Debrief 562
    - Summary 563
    - Key Terms 563
    - Review Questions 563
    - Critical Analysis and Discussion Questions 563
    - Exercises 564
    - Problems 569
    - Integrative Cases 574
    - Solutions to Self-Study Questions 580

**Human Element in Budgeting**

- Value of Employee Participation 504

**Developing the Master Budget**

- Where to Start? 505
  - Sales Forecasting 505
- Comprehensive Illustration 507
  - Forecasting Production 507
  - Forecasting Production Costs 508
  - Direct Labor 510
  - Overhead 510
  - Completing the Budgeted Cost of Goods Sold 510
  - Revising the Initial Budget 512

**Marketing and Administrative Budget**

- Pulling It Together into the Income Statement 514

**Key Relationships: The Sales Cycle**

- Using Cash Flow Budgets to Estimate Cash Needs 515
  - Multiperiod Cash Flows 516
  - Business Application: *The “Curse” of Growth* 518
- Planning for the Assets and Liabilities on the Budgeted Balance Sheets 518

**Big Picture: How It All Fits Together** 518

**Budgeting in Retail and Wholesale Organizations**

- Budgeting in Service Organizations 520
  - Business Application: *Budget Is the Law in Government* 521

**Ethical Problems in Budgeting**

- Business Application: *“Use It or Lose It”* 522

**Budgeting under Uncertainty**

- The Debrief 524
  - Summary 524
  - Key Terms 525
  - Review Questions 525
  - Critical Analysis and Discussion Questions 525
  - Exercises 526
  - Problems 534
  - Integrative Case 541
  - Solutions to Self-Study Questions 542
15
Transfer Pricing 582

What Is Transfer Pricing and Why Is It Important? 583
Business Application: Transfer Pricing at Weyerhaeuser 584

Determining the Optimal Transfer Price 584
The Setting 585
Determining Whether a Transfer Price Is Optimal 586
Case 1: A Perfect Intermediate Market for Wood 586
Business Application: Transfer Pricing in State-Owned Enterprises 587
Case 2: No Intermediate Market 587

Optimal Transfer Price: A General Principle 590
Other Market Conditions 591

Applying the General Principle 591
How to Help Managers Achieve Their Goals While Achieving the Organization's Goals 592

Top-Management Intervention in Transfer Pricing 593

Centrally Established Transfer Price Policies 593
Establishing a Market Price Policy 593
Establishing a Cost-Based Policy 594
Alternative Cost Measures 595
Remedying Motivational Problems of Transfer Pricing Policies 596

Negotiating the Transfer Price 596

Imperfect Markets 597

Global Practices 597

Multinational Transfer Pricing 598
Business Application: Tax Considerations in Transfer Pricing 599

Segment Reporting 599
The Debrief 600

Summary 601
Key Terms 601
Appendix: Case IA: Perfect Intermediate Markets—Quality Differences 601
Review Questions 603

Critical Analysis and Discussion Questions 604
Exercises 604
Problems 608
Integrative Cases 615
Solutions to Self-Study Questions 618

16
Fundamentals of Variance Analysis 620

Using Budgets for Performance Evaluation 621
Profit Variance 622
Business Application: When a Favorable Variance Might Not Mean “Good” News 622
Why Are Actual and Budgeted Results Different? 623

Flexible Budgeting 624
Comparing Budgets and Results 625
Sales Activity Variance 625

Profit Variance Analysis as a Key Tool for Managers 626
Sales Price Variance 628
Variable Production Cost Variances 628
Fixed Production Cost Variance 628
Marketing and Administrative Variances 628

Performance Measurement and Control in a Cost Center 628
Variable Production Costs 629

Variable Cost Variance Analysis 630
General Model 630
Direct Materials 631
Direct Labor 634
Variable Production Overhead 635
Variable Cost Variances Summarized in Graphic Form 636

Fixed Cost Variances 637
Fixed Cost Variances with Variable Costing 638
Absorption Costing: The Production Volume Variance 638

Summary of Overhead Variances 640
Key Points 641
Business Application: Does Standard Costing Lead to Waste? 641
17
Additional Topics in Variance Analysis 666

Profit Variance Analysis When Units Produced Do Not Equal Units Sold 667
  Business Application: Financial Analysis and Variance Analysis 669
  Reconciling Variable Costing Budgets and Full Absorption Income Statements 669

Materials Purchases Do Not Equal Materials Used 670

Market Share Variance and Industry Volume Variance 672

Sales Activity Variances with Multiple Products 674
  Evaluating Product Mix 674
  Evaluating Sales Mix and Sales Quantity 674
  Business Application: Sales Mix and Financial Reporting 676

Production Mix and Yield Variances 676
  Mix and Yield Variances in Manufacturing 676

Variance Analysis in Nonmanufacturing Settings 679
  Using the Profit Variance Analysis in Service and Merchandise Organizations 679
  Efficiency Measures 679
  Mix and Yield Variances in Service Organizations 680

Keeping an Eye on Variances and Standards 681
  How Many Variances to Calculate 681
  When to Investigate Variances 681
  Updating Standards 682
  The Debrief 682

Summary 683
Difficulties in Implementing Nonfinancial Performance Measurement Systems 722
  Fixation on Financial Measures 722
  Reliability of Nonfinancial Measures 722
  Lack of Correlation between Nonfinancial Measures and Financial Results 723
  The Debrief 723
Summary 723
Key Terms 724
Review Questions 724
Critical Analysis and Discussion Questions 724
Exercises 725

Problems 728
Integrative Case 733
Solutions to Self-Study Questions 734

Appendix
Capital Investment Decisions: An Overview A-1

Glossary G-1
Index IND-1
Fundamentals of Cost Accounting
5e