

SIXTH CANADIAN EDITION

COST ACCOUNTING

A MANAGERIAL EMPHASIS

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This text is dedicated to my family to thank them
and recognize their love and encouragement.

M.P.G.

I would like to thank those amazing students I have had the pleasure of
teaching over the past eight years, my talented colleagues, and my supportive
and inspiring friends and family.

S.J.

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PREFACE

Studying cost accounting is one of the best business investments a student can make. Why? Because success in any organization—from the smallest corner store to the largest multinational corporation—requires the use of cost accounting concepts and practices. Cost accounting provides key data to managers for planning and controlling, as well as costing products, services, and customers. This book emphasizes how cost accounting helps managers make better decisions, along with a clear presentation of analytical procedures.

Cost accountants are a part of top-level management decision-making teams. Filtering relevant from irrelevant data remains an important theme in this text, to highlight that different decisions require different cost data and analyses. We recognize cost accounting as a powerful set of analytical tools that good managers use to select, implement, and evaluate business strategy. In this edition we emphasize both the development of skills using analytical tools in Excel, which future employers value, and also respect for human values and teamwork that make cost accountants effective in the workplace.

HALLMARK FEATURES

- ◆ Exceptionally strong emphasis on managerial uses of cost information
- ◆ Extensively revised content to promote clarity, readability, and understandability
- ◆ Excellent balance in integrating modern topics with existing content
- ◆ Emphasis on human behaviour aspects
- ◆ Balanced emphasis on both the preparation and use of cost information through 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 24 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. Every instructor has a favourite way of organizing his or her course. Hence, we present 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, the sixth edition now includes coverage of variance analysis for substitutable inputs at the end of Chapter 7, instead of the fifth edition's Chapter 16. Instructors can now cover Level 4 substitutable input variance analyses here, then move ahead to Chapter 8. If this material is excluded or left until Chapter 16, instructors can do this without any loss of continuity.

THE FIVE STEP DECISION-MAKING FRAMEWORK

Chapter 1 introduces a five-step decision-making process that managers use when making decisions. This framework is applied throughout the text to highlight the importance of using the results of any cost analysis to make business decisions:

1. Identify the problem and uncertainties

For example, whether a newspaper should increase its advertising rate, and the effect this decision will have on advertising demand.

2. Obtain information.

For example, review the effects on demand of past increases in advertising rates, or do market research on advertising rates charged by competing newspapers.

3. Make predictions about the future

For example, how demand will be affected by different potential increases in advertising rates.

4. Decide on and implement one of the available alternatives.

For example, choosing a new advertising rate

5. Implement the decision, evaluate the performance, and learn

For example, informing potential advertisers about the new rates and comparing what actually happened against the plans.

A consistent application of the decision framework helps students understand why specific cost accounting tools described in each chapter are important to good management. The repetition of each step in the framework throughout the book gives instructors the opportunity to emphasize the importance of making business management decisions in a disciplined and rigorous way.

NEW CUTTING EDGE TOPICS

The pace of change in organizations continues to be rapid. The sixth Canadian edition of *Cost Accounting* reflects changes occurring in the role of cost accounting in organizations:

- ◆ Chapters 4 and 5 on traditional job cost allocation and ABC cost systems have been rewritten to emphasize the unequal distribution of benefits arising when common resources are not equally shared by users. The text also emphasizes the need to select good direct input measures to proxy the unequal use of indirect shared resources. A clear connection is now made between more consumption of indirect resources and value-added to an output for which a customer will pay.
- ◆ Chapter 10 expands on how to analyze past data from a traditional cost system to select the best direct input measure to proxy for the value-added from unequal use of indirect resources. The revised chapter also highlights the appropriate use of statistics reported by the linear regression program in Excel to make this decision. Within the decision framework, the best proxy will enable management teams to provide the most reliable predictions of future outcomes (step 3 of the decision framework). Instructors may choose to cover this material after Chapter 4, cover it later, or exclude statistical analyses using Excel without losing continuity.
- ◆ We introduce Dr. Michael Porter's framework to analyze the best match between the intensity of competition and the company's strategy. This framework fits with the value-added theme. When competition is intense, if customers do not perceive added value from the activities and inputs used to produce what they purchase, they will not pay and the costs will not be recovered in the price of the product.
- ◆ We also discuss the selection of strategy and use of balanced scorecard measures to track how well the strategy is being implemented by using key financial and nonfinancial measures of performance.

BUSINESS MATTERS

Each chapter opens with a vignette on a real company situation. The vignettes engage the reader in a business situation or dilemma. The vignette motivates and illustrates why and how the analytical tools of cost accounting, presented in the chapter, are relevant to good business management. For example, Chapter 1 describes how Research In Motion uses cost accounting to retain its competitive advantage by spending on innovation and new product introductions. Chapter 2 reports the consequences of GM's struggle and failure to meet the challenge of implementing a useful cost identification and control system. Chapter 3 explains how WestJet's ability to classify costs and know how costs behave contributes to success at profit management and reveals how much a last-minute passenger's seat should cost.

CONCEPTS IN ACTION

These boxes cover real-world cost accounting issues across a variety of industries, including automobile racing, defence contracting, entertainment, manufacturing, and retailing. The sixth edition streamlined these boxes into two types: Strategy and Governance.

Concepts in Action: Strategy Strategy and good decisions set great managers apart, so these boxes highlight the importance of strategic decision making in real business situations. Students are given a real-world look into how companies use the concepts in the chapter to make decisions for the companies, an important skill as they enter the business world.

Concepts in Action: Governance These boxes address the recent and increasing emphasis on issues of legal compliance and social justice or corporate social responsibility. Management teams must pursue the corporate mission and adhere to legal and ethical norms. The team must not only remain profitable but also fulfill its social responsibility to contribute to progress and justice. These boxes explore recent examples of behavioural and ethical issues and report on the consequences of good and bad decisions.


STREAMLINED PRESENTATION

A major thrust of this edition has been to simplify and streamline our presentation of various topics to make it as easy as possible for a student to learn the concepts, tools, and frameworks introduced in different chapters. For example:

- ◆ Learning Objectives now have a unified presentation to avoid confusion with the colour-coded Value Chain activities.
- ◆ The fifth edition's various boxed features have been reduced and streamlined into two *Concepts in Action* boxes, as discussed above.
- ◆ The end-of-chapter assignment material has been simplified and streamlined considerably to allow for further integration with chapter Learning Objectives and MyAccountingLab. Rather than Mastery Questions being separated out with its own gradation, organization, and competency levels, they are now integrated into the exercises and problems. This allows students to be able to work through the assignment material in order.

PART ONE CHAPTER 1

The Accountant's Vital Role in Decision Making



BUSINESS MATTERS

RIM: Honest Profits in Good Times and Bad

Companies such as Research In Motion® (RIM) compete by developing innovative products that delight their customers and are offered at the right price. RIM stays competitive with secure communications technology in all its products, like the BlackBerry® Touch™.

This company has turned a profit in good and bad times. RIM's competitive advantage arises from spending on innovation and controlling costs. The per unit cost of devices dropped from 92% of selling price in 2009 to 54.2% of selling price in 2010, thereby increasing profit—all without sacrificing innovation. Without reliable and timely accounting information, RIM would be unable to profitably choose where costs should be cut in order to thrive in bad times as well as good.

Management accountants play a key role as providers of necessary, reliable, and readily understood information. The management information system (MIS) of any corporation should provide understandable reports showing how resources are used and their costs. The more clearly the timing and amount of costs as well as the reasons they were incurred are reported, the more easily managers can identify problems with operations and remedy them. Managers' decisions about how to resolve problems will be as effective as their MIS and their ability to analyze their data. Managers adjust both their long-term strategies and their short-term operations to cope today with tomorrow's demands.

From this book you will learn to obtain data, test and improve its quality, and select the cost information most relevant to making different types of business decisions. The techniques of cost analysis and forecasting will help you meet the challenges of successful business management.

LEARNING OUTCOMES

After studying this chapter, you should be able to

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


CONCEPTS IN ACTION—STRATEGY

Innovation in Business Models Requires Innovation in Strategy

E-business meant nothing a decade ago, and it is only through what companies have achieved using Internet capabilities that we now understand what the term means.

Companies such as RIM have been careful to use the web for a variety of business functions, none of which are critical to the company's success. These companies have adopted a strategy of *rational experimentation* to ensure they understand the downside of innovation before taking too much risk.

Other companies have pursued a strategy of *operational excellence*, such as Dell, which uses the Internet to complete almost all of its customer transactions electronically, from order taking through to payment. FedEx is a similar example. Via the web, FedEx gives customers full access to information about where their packages are in transit.




Finally, companies such as eBay, Facebook, and MySpace have used breakthrough strategies and invented services for new and profitable customer groups.

At the other extreme, some companies have used a strategy of *new fundamentals* to communicate old information via the web to reduce costs. For example, companies put information about employee benefits on their internal websites and post career opportunities on their external websites, reducing human resource and recruiting costs.

Sources: A. Hammer, J. Silvers, and S. Kadic, *After Ready Now* (New York: McGraw Hill, 2006); Google Inc., S-1 Registration Statement, April 28, 2004 (Mountain View, CA: Google Inc., 2004); various company financial reports.

CONCEPTS IN ACTION—CORPORATE GOVERNANCE

Management Accountants are Legally Liable and Professionally Accountable



Management accountants cannot claim to be professional by simply focusing on "the numbers." One reason is that the techniques used to manipulate data are not very complex, and technique does not constitute professional expertise. Engineers use far more complex manipulations. For both professions, it is the interpretation and presentation of estimated values within a more comprehensive context that adds value. To do so effectively, the profession must be trustworthy. Managers inside the company must trust the management accountants to have applied their techniques in a way consistent with their professional ethics. More important, however, is their professional judgment to look up and look out, and to understand how decisions can infringe on or even harm others outside the company.

Members of the management accounting profession work in cross-functional teams and are often the ones who must raise tough questions with the intent of improving plans and decisions. They work at developing and implementing innovation, which is a difficult process of planning, communication, and training. Management accountants communicate relevant information openly and in a straightforward way, based on appropriate and professional application of their expertise.

Without a strong sense of integrity and the courage to do the right things and do them right, management accountants can too readily succumb to pressures to manipulate information. Their professional commitment is to the organization and the stakeholders dependent upon it, not to its managers.

Sources: A. Serwat, "The Hole Story," *Fortune*, July 7, 2003; M. Green, J. Garrity, A. Bumbas, and B. Lyons, "Piney Bowes Calls for New Metrics," *Strategic Finance*, May 2002.

- ◆ In Chapter 2, the flow of revenues and costs for a manufacturing sector company has been improved.
- ◆ The procedure to calculate the indirect cost allocation rate in Chapter 4, as well as the accounting entries for a normal job-costing system in manufacturing, has been simplified and clarified.
- ◆ Chapter 9 now uses a single comprehensive example to integrate inventory costing and capacity concepts
- ◆ Chapter 10 presents how to conduct an Excel linear regression and correctly interpret the statistics.
- ◆ Chapters 17 and 18 use a simpler sequence for the five steps in process costing, providing more structure for students to follow



EXCEL SUPPORT

Excel templates for selected end-of-chapter exercises and problems are available through MyAccountingLab (www.myaccountinglab.com). These templates allow students to complete selected exercises and problems using Excel. The focus is on having students use Excel to understand and apply chapter content. This Excel-based learning is completely optional; therefore, students may choose to solve these exercises and problems manually.

The sixth edition also incorporates new material on the use of linear regression and Solver functions readily available in Excel. These programs can be installed within seconds and used to complete higher-level analyses of available data extremely quickly. Now, with the simplification of the arithmetic procedures required to obtain results, the text can provide in more depth an answer to the question, “What does knowing these numbers do for me?” Again, instructors may choose to include or exclude the Excel material without losing continuity because the end-of-chapter questions focus on interpreting the results, not invoking an Excel program.

SELECTED CHAPTER-BY-CHAPTER CONTENT CHANGES

Below is a detailed chapter-level overview of this revision and the changes that have been made.

Chapter 1 introduces a familiar five-step decision-making framework featured in each chapter of the book. It also introduces the necessity of developing a cost accounting system that reports on what actually occurred during a specific time period at the company. This concept of economic plausibility and truth in cost reporting recurs in the text. It reminds students that cost accounting must be truthful if the data are to be reliable and relevant to making important management decisions. The value chain of business functions is colour-coded, and the colours are used consistently in exhibits throughout the text to help visual learners associate material with the appropriate business function.

Chapter 2 has been rewritten to place cost accounting classification in the context of decisions on how to value inventory and cost of goods sold on the financial statements. The flow of costs to match the actual flow of production reminds students that economic plausibility or truth in reporting is central to both managerial and financial reports. The process of valuation is presented in four steps to simplify the content. The chapter exhibits have been completely revised so students can follow all the concepts, steps, and numbers on the exhibits themselves.

Chapter 3 has been reorganized. It starts with an example then relates the specific example to the decision framework. The content emphasizes the importance of predicting outcomes when key data is missing. The method of calculating breakeven revenue using the contribution margin percent is presented alongside the method of calculating breakeven quantities of production. The uncertainty of making predictions is quantified using probability. Sections on alternative fixed cost/variable cost structures, multiple product breakeven analysis, and contribution margin versus gross margin have been significantly revised and shortened.

Chapter 4 concepts are developed within the context of the five-step decision-making process introduced in Chapter 1. This allows for a richer managerial discussion

of strategy, risk, and uncertainty. The unequal use and cost of shared indirect resources is a simple motivation for assigning these costs in an economically plausible way if they are to recover the costs in the price of the output. Value-added depends on the customer's willingness to pay. In this way, the strategic value of truthful cost assignment links good management of shared indirect resources to profitability.

Chapter 5 has been simplified, consistent with Chapter 4, to associate the benefits of a refined cost system with value-added from the customer's point of view. The revision associates design of the cost system and clearer identification of what the customer is willing to pay for. Costs of those activities that are non-value-added cannot be recovered in the price and will reduce profit.

Chapter 6 frames the budgeting process as a decision-making activity. Once again the emphasis is on accumulating data that truthfully reflects the economic facts of a company's activities. Issues such as budgetary slack and remuneration based on achievement of budget goals impede the collection and analysis of these data. This adds complexity and uncertainty to predicting the future.

Chapter 7 now includes material on variance analyses of substitutable inputs, Level 4 variance analysis. All techniques of variance analysis now appear in one chapter.

Chapter 8 introduces new exhibits to streamline and simplify the discussion of different levels of variance analysis. The management decision about the fixed capacity used to calculate the fixed overhead rate is linked to the need to reflect the economic fact of what capacity is available. Reflecting economic fact improves the reliability of variance information and the reliability of any management decisions to ignore or remedy an unfavourable production-volume variance.

Chapter 9 integrates the two parts of the chapter on inventory costing and denominator-level capacity concepts using a single comprehensive example.

Chapter 10 has replaced manual methods of calculating statistics with the use of the Excel linear regression program. This refocuses the content on answering the question, "What do these numbers do for me?" The emphasis is on how to interpret the basic statistics to decide on the best cost allocation base in a traditional costing system. The appendix to this chapter explains how other results from Excel are used to calculate the normal range within which a predicted overhead cost will fall. The benefit or value-added is to support management by exception. The analysis of quality improvement benefits through the learning curve has been moved to Chapter 19.

Chapter 11 introduces the use the Excel program Solver to make product mix decisions when capacity is constrained. The alternative to manual linear programming refocuses the discussion from how to calculate to how to interpret results. More realistic product mix problems have been added to the end-of-chapter material, which lets students practise how to solve more realistic profit maximization and cost minimization problems with multiple products and constraints.

Chapter 12 has been revised to place pricing within the context of the decision framework. The importance of gathering competitive information is highlighted and sets the foundation for new material on strategy presented in Chapter 13. Relevant information and decisions about adding or dropping customers has been moved to Chapter 16.

Chapter 13 presents one very widely used strategic framework created by Dr. Michael Porter. The new material makes clearer the need for multiple measures of performance. This motivates the new material on balanced scorecard measurement and enterprise resource planning as improved measures of strategic implementation. Chapter 13 emphasizes interdependence among the uncontrollable threats and opportunities in the external environment and the controllable strengths and weaknesses internal to the company. The revised material on strategy maps associates the strategic identification of core or unique competence with a reasonable plan to implement a cost or value leadership strategy that exploits the core competence.

Chapter 14 contains new exhibits that combine a graphic presentation of each support cost allocation method with the calculations of allocated costs. New material in this revised chapter explains how to use the Excel program Solver to calculate the solution to a reciprocal cost allocation problem. New end-of-chapter material has

been added to let students solve more complex and realistic reciprocal cost allocation problems.

Chapter 15 discusses alternative methods of allocating shared production costs in contrast to shared indirect support costs. The decision to adopt a joint cost allocation method is guided by affordability, understandability, and which method best reflects the actual unequal proportion of joint inputs used by each distinct product. Economic plausibility means the allocation method will provide the management team with the most reliable assignment of joint costs upon which to make planning and control decisions.

Chapter 16 has been revised to sharpen its focus on revenue allocation and variance analysis. The related analyses for adding or dropping a customer, formerly in Chapter 12, are now here, and evaluation of customer profitability complete the new chapter content.

In Chapters 17 and 18, the sequence of the five-step procedure for process costing has been slightly revised. The new formats and exhibits are more structured to ease student learning.

Chapter 19 includes new content on the globalization of quality control standards by the International Standards Organization. These ISO standards, which initially applied to production systems, now apply to governance, corporate social responsibility, and financial risk management. Conformance with ISO standards has become a source of competitive advantage. Quality improvement from learning curve effects is now presented in this chapter to emphasize the links between learning and retention and improved profit.

Chapter 20 provides more depth on the discussion of just-in-time supply strategies and backflush costing. Economic plausibility determines how useful backflush costing is when accurate quantities of inputs, costs, scrap, and finished goods data are available in modern management information systems. With fast production cycles, backflush costing reflects best the economic facts of the production process for use in internal management decision making.

Chapters 21 and 22 include new material on the tax treatment of capital gains. The methods used by management teams in their pre- and post-tax consideration of cash flow are placed in the context of the decision framework.

Chapter 23 highlights the importance of management decisions on transfer pricing. The relevance of global tax regimes is emphasized as key to good corporate governance and saving on costs of litigation with tax authorities who must approve of the management teams transfer-price decision.

Chapter 24 has been revised to focus on the increased responsibility of the executives and board of directors for corporate governance. This chapter reviews the most recent legislation in Canada, the United States, and the European Union that intensify the scrutiny of how well the decisions of management teams comply with existing laws.

ASSIGNMENT MATERIAL

The sixth edition continues the widely applauded close connection between text and assignment material forged in previous editions. The end-of-chapter material has been thoroughly revised to reflect optimal support of the Learning Objectives, effective gradation from simple to complex, and an enhanced integration with MyAccountingLab [MyAccountingLab](#), and above all else accuracy.

- ◆ *Short-Answer Questions* require students to understand basic concepts and the meaning of key terms.
- ◆ *Exercises* are short, structured assignments that test basic issues presented in the chapter. New to this edition is one terminology question per chapter targeting key terms in a fill-in-the-blank format.
- ◆ *Problems* are longer and more difficult assignments. Some problems span multiple chapters and test student comprehension of related issues.
- ◆ *Collaborative Learning Cases* require students to think critically about a particular problem or specific business situation.

Note that the Mastery Questions section from the previous edition has been removed and amalgamated into the sections listed above. This allows for a consecutive flow through the Learning Objectives as well as increasing difficulty throughout the end-of-chapter material. It also allows for a closer integration with MyAccountingLab.

TEACHING AND LEARNING SUPPORT

MyAccountingLab delivers **proven results** in helping individual students succeed. It provides **engaging experiences** that personalize, stimulate, and measure learning for each student. And it comes from a **trusted partner** with educational expertise and an eye on the future.

MyAccountingLab

MyAccountingLab can be used by itself or linked to any learning management system. To learn more about how MyAccountingLab combines proven learning applications with powerful assessment, visit www.myaccountinglab.com.

FOR INSTRUCTORS

Instructor's Resource CD-ROM (0-132-88051-2)

- ◆ *Instructor's Resource Manual* offers helpful classroom suggestions, teaching tips, and handouts, as well as chapter quizzes, text references to applicable assignment material, and writing/discussion exercises. Available in both Word and PDF formats.
- ◆ *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, graded in difficulty.
- ◆ *Image Library* Includes the exhibits and illustrations from the text for use by instructors.
- ◆ *PowerPoint Lecture Slides* have been 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.

FOR STUDENTS

Student Solutions Manual (0-132-88667-7) Designed to enable students to monitor their progress, this supplement contains fully worked-out solutions for all of the even-numbered questions, exercises, and problems in the textbook. This supplement may be purchased with the instructor's permission.

Excel Templates Excel templates for selected end-of-chapter exercises and problems are available through MyAccountingLab (www.myaccountinglab.com). These templates allow students to complete selected exercises and problems using Excel. See page xviii for more information.

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Cost Accounting, Sixth Canadian Edition, is the product of a rigorous research process that included multiple reviews at various stages of its development to ensure a revision that 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.

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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.

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A member of the American Accounting Association, Horngren has been its President and its Director of Research. He received its first Outstanding Accounting Educator Award. The California Certified Public Accountants Foundation gave Horngren its Faculty Excellence Award and its Distinguished Professor Award. He is the first person to have received both awards. The American Institute of Certified Public Accountants presented its first Outstanding Educator Award to Horngren. Horngren was named Accountant of the Year, Education, by the national professional accounting fraternity, Beta Alpha Psi.

Professor Horngren was also a member of the Institute of Management Accountants, from whom he received its Distinguished Service Award. He was also a member of the Institutes' Board of Regents, which administers the Certified Management Accountant examinations.

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Gowing obtained both her BA and MBA while working full time. She has worked as a financial analyst with an upstream oil exploration and development company that was controlled by Noranda, and a boutique Canadian investment banker, Pemberton Securities Ltd., now part of the Royal Bank. Her research portfolio of companies newly listed on the Toronto Stock Exchange included Westar, Ballard Technologies, and QLT Pharmaceuticals. She has also consulted for Discovery Foundation of British Columbia, and just prior to her return to university to obtain her Ph.D., she did forensic analysis for the Vancouver Stock Exchange.

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In addition to co-authoring, with Charles Horngren, George Foster, Srikant Datar, Madhav Rajan, Christopher Ittner, and Maureen Gowing, *Cost Accounting: A Managerial Emphasis*, Sixth Canadian Edition, Janz has co-authored the new Business Case 1 case (S&D Developments) for CGA Canada.

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