

# HORNGREN'S COST ACCOUNTING A MANAGERIAL EMPHASIS

HORNGREN  
DATAR  
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3RD EDITION

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# Preface

Studying management accounting is one of the best business investments a student can make, because managers of all organisations—whether profit-seeking (ranging from a small corner store in Darwin to a large multinational corporation like BHP Billiton) or not-for profit—need to use management accounting concepts, information and practices. Management accounting provides key data to managers that enable them to plan, control and estimate the costs of outputs (products and services) and other cost objects like customers. We focus on how management accounting helps managers to make better decisions because management accountants are integral members of their organisations’ decision-making teams. This textbook provides a decision-making framework and demonstrates how the analytical tools that students will learn prepare them to contribute to an organisation’s success. As future management accountants and informed managers, they will provide data, perform analyses and estimate the effects on revenue and costs.

Notwithstanding his contributions to other areas, Charles T. (Chuck) Horngren’s biggest imprint was on management accounting.<sup>1</sup> Before the 1960s, cost accounting textbooks had placed primary emphasis on calculating the cost of inventory for financial reporting, with little emphasis on managers’ uses of accounting information. Credited with ‘pioneering modern-day management accounting’ and described as ‘a champion of innovation and change’, Horngren published his own *Cost accounting: a managerial emphasis* in 1962. This broke with traditional texts of the time and almost on its own changed the emphasis of the discipline. Horngren’s objective was to demonstrate to university teachers and students alike ‘how the most important role of accounting within an organization was as a management tool for making wiser decisions. The book soon became one of the most respected and widely used textbooks in the field, used throughout the world.’ The sixteenth US (global) edition is in press at the time of writing and continues to focus on management accounting information that informs managers and managers’ decisions in changing organisations within a changing environment. Although Horngren himself moved from cost accounting to the broader ambit of management accounting, the title of his original text has been retained because it is firmly connected with his work in this area.

Among other major issues, an organisation’s successful strategy, development and implementation depend on sound decisions. By focusing on basic concepts, analyses, uses and procedures instead of procedures alone, we recognise management accounting as a managerial tool for business strategy and implementation. Increasingly, organisations are concerned with the social and environmental impacts of their decisions, and the management accountant has a role to play in recognising and measuring those impacts. Rapidly changing social, environmental and economic conditions present opportunities and threats. To be economically sustainable, organisations must recognise and manage the interrelationships between social, environmental and economic performance.

The first Australian edition was a response to feedback from Australian academics who called for a book to which their students could relate and with which they could readily engage. The second edition improved on this theme, and the third edition continues in the same vein, presenting the best of both worlds. The authors are among world leaders in the development of contemporary management accounting and illustrate their ideas with Australian examples that

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<sup>1</sup> This paragraph is based largely on Castillo, C. 2011, ‘The Stanford GSB Experience School news & history. Charles T. Horngren, Management Accounting Pioneer: 1926–2011’, <<https://www.gsb.stanford.edu/stanford-gsb-experience/news-history/charles-t-horngren-management-accounting-pioneer-1926-2011>>; the quoted material is extracted from that piece.

make the textbook come alive for students. Every chapter features stories about Australian and international organisations, including their efforts to improve sustainability to demonstrate the connection between sustainability and cost and management accounting concepts.

The third Australian edition largely maintains the structure and emphasis of the two previous editions. In preparing the current edition, we have noted the comments of reviewers and users of the second Australian edition, the fifteenth and sixteenth US editions and our own experience of teaching management accounting. While responding to the need for a strong Australian context, we recognise that many organisations operate in a global context and that many of our students are from other countries. The third edition accordingly maintains an Australian flavour within a global context.

### **Hallmark features of Horngren's Cost accounting: a managerial emphasis**

- Exceptionally strong emphasis on managerial uses of cost information.
- Clarity and understandability.
- Aimed at preparing students for the rewards and challenges they might face in the professional management accounting world of today and tomorrow, through the development of analytical skills and the values and behaviours that make management accountants effective in the workplace.
- Excellent integration of cutting-edge and well-established topics.
- Emphasis on and integration of sustainability: from its introduction in chapter 1, through illustrating its connection with management accounting via real-world features drawn from various organisations and contexts throughout the book, to comprehensive coverage in chapter 21, the final chapter of the book.
- Emphasis on behavioural implications.
- Extensive use of real-world examples, both Australian and international.
- Ability to teach chapters in different sequences.
- Excellent quantity, quality and range of assignment material.
- Streamlined presentation.
- *Try It* interactive questions to give students the opportunity to apply a concept they have just learned.

### **Features retained from the first two Australian editions**

- The five-step guide to decisions, which appears throughout.
- The modular, flexible organisation that permits a unit to be custom-tailored and to facilitate diverse approaches to teaching and learning.
- Vignettes that open each chapter.
- *Concepts in action* features.
- *Sustainability in action* features.
- As in the second edition, 'Determining how costs behave' (chapter 3) precedes 'Cost–volume–profit analysis' (chapter 4) to provide a foundation for cost behaviour before dealing with it.



## Revised chapter sequence

- Chapters 5–9 present a cohesive focus on managing processes, activities and capacity and estimating costs and prices for outputs (whether services or products) and other cost objects, as well as activity-based costing.
- Chapters 11–13 similarly focus on management control, responsibility accounting, budgeting, standard costing and variance analysis.
- Chapters 15–20 extend management control to strategic control and performance evaluation.
- Chapter 21 (previously chapter 14) consolidates the *Sustainability in action* features and provides a basis for evaluating social and environmental issues in the context of strategic and operational dimensions addressed throughout the text. This material appears at the end of the text to facilitate the holistic approach described above. In response to feedback, the chapter also focuses more tightly on management accounting issues.
- Chapter 10, ‘Decision making and relevant information’, has again been moved in the current edition—so that pricing is added to students’ knowledge acquired from earlier chapters and is available to students to apply to decisions in chapter 10.
- ‘Allocation of support-department costs, common costs and revenues’ (chapter 14; previously chapter 13) has been moved to facilitate the flow of earlier chapters.

## Revised chapter content

We have introduced many new vignettes and *Concepts in action* features while retaining the best of the rest.

- New end-of-chapter questions, exercises and problems have been added to all chapters and most of those that have been retained have been revised.
- Chapter 1 has been broadened and extended to the examination of strategic issues.
- Absorption costing and its impact on reported profit have been moved from chapter 2 in the second edition to the latter part of chapter 6. Students are likely to assimilate this topic more readily at that point, after an in-depth examination of costing issues in chapter 5 and in earlier sections of chapter 6.
- A new chapter (chapter 5) has been added on estimating the costs of services, extending the emphasis on services introduced in the second edition. It includes the purposes of and criteria for allocating costs, and the symptoms of a failing costing system, which had appeared in chapter 6 of the second edition (now chapter 8). The material presented in chapter 5 also applies to chapter 6 and serves as an appropriate lead-in to chapter 8.
- Chapter 6 itself has been extended to include estimation of the cost of inventory and profit earned.
- Chapters 7 and 8 have both been restructured and rewritten, with extensive revision of the language of activity-based costing.

There is ample text and assignment material in the textbook’s 21 chapters for a two-semester course, while the first 13 chapters provide the essence of a one-semester course with the opportunity to add chapters as required. This textbook can be used immediately after a student has completed an introductory course in financial accounting, or it can build on an introductory course in managerial accounting.

# Key features of the Australian edition

## Management accounting in context

### 1

All organisations are concerned about revenues and costs in the pursuit of their mission. Whether their outputs are management services, fast food, the latest designer fashion or outcomes from a not-for-profit endeavour, managers must understand the influence of revenues and costs on their operations or risk-averse control. Managers use management accounting information to make decisions related to strategy, budgeting, production planning and pricing, among others. Of the many candidates for this opening vignette, Sundrop Farms stand out as an illustration of many of the themes that run through this book.

#### LEARNING OBJECTIVES

- 1 Describe management accounting and explain its role.
- 2 Describe the constituents of the value chain, from the value chain relative to the supply chain and the determinants of performance that outcomes expect.
- 3 Describe planning, control and decisions.
- 4 Explain the meaning of strategy and the way in which management accounting might influence strategic decisions.
- 5 Describe and apply the five-step guide to decisions.
- 6 Explain the way in which accounting organisations influence management accounting and, through the contact, apply the code of ethics.

#### INNOVATION IN THE AUSTRALIAN OUTBACK: TRANSFORMING SEAWATER AND SUNLIGHT INTO HIGH-VALUE OUTPUTS

In June 2016, Coles Supermarkets took delivery of its first consignment of trust tomatoes from Sundrop Farms, situated in Port Augusta, South Australia. Sundrop Farms represents an investment of \$180 million to \$200 million on exhausted farm land, with little potential for traditional agriculture. After early experimentation and a four-year pilot project not far from the current site, Sundrop Farms attracted \$100 million in funding from K99 (Kinzebra) Kales Robotics, a general private equity company, which it added to funding from the Saumweber family (Philip Saumweber is the Chief Executive Officer (CEO) of Sundrop Farms) and others, including \$60 million from the South Australian government. Starting with four employees, Sundrop Farms now employs 150 people, operates at full capacity and produces 350 tonnes of trust tomatoes per week, the demand for which is estimated to increase at an annual rate of 15–20%. It sells all of its production to Coles Supermarkets, according to the terms of a 10-year contract signed with Coles in 2014.

Sundrop Farms transforms seawater and sunlight into high-value trust tomatoes—one product and one variety. Although the investment is big, giving rise to high fixed costs, Saumweber estimates that the depreciation of the investment amounts to less than 50% of the amount that would be spent on local beds were it not for the solar installation. According to Leigh Oliver, director of K99 in Australia: ‘This is an agricultural investment without the traditional risks. The highly cyclical nature of natural effects’



Photo: Kimble/Newsweek

Sources: Nielsen, 2016; ‘Deal and deal price for perfect tomato seen’, The Australian, 11 June, <http://www.theaustralian.com.au/national-affairs/deal-and-deal-price-the-perfect-tomato-seen/news-story/20160611-1246000>, accessed 10 December 2016; ‘Deal’, The Australian, 11 June, 2016; ‘This is the future of farming’, The Australian, accessed 11 December 2016; ‘Sundrop Farms ABC Local Live coverage’, YouTube, [https://www.youtube.com/watch?v=Cqg\\_B\\_8d43498v13170492](https://www.youtube.com/watch?v=Cqg_B_8d43498v13170492), accessed 17 December 2016; ‘ABC Local Live’, and ‘Sundrop Farms’ on Facebook; ‘K99 Robotics’, accessed 17 December 2016; ‘Thomson’, 2016; ‘The company that’s growing food in the desert’, Business Spectator, 20 November, <http://www.businessinsider.com.au/the-company-that-is-growing-food-in-the-desert-2016-11>, accessed 10 December 2016.

**Learning objectives** open each chapter and outline the key concepts to be covered. They are then signposted in the margins to indicate where a particular objective is covered.

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### LEARNING OBJECTIVE 5

#### The five-step guide to decisions

Most managers are likely to find that an established approach or framework is useful in guiding their decision making. We suggest and apply a five-step guide to a strategic decision facing the *Daily News*, a city newspaper. We do not imply that this is the only guide that might be useful, nor do we guarantee that it will be fully applicable in all situations. However, the guide might be useful for many of the decision situations in this book, either in its present form or modified as required.

#### Case: the *Daily News*

The *Daily News* is a newspaper published in Australia that differentiates itself from its competitors. It focuses on in-depth and well-researched news, employs highly qualified and experienced journalists, has developed a website to offer up-to-the-minute news, interviews and analysis, has an automated, computer-generated, state-of-the-art printing facility, has a web-based information technology infrastructure, and uses a distribution network that is one of the best in the newspaper industry.

Felicity Fawcett, the CEO of the *Daily News*, is well aware that profits fell last year, these having plummeted in the immediately preceding years. She turns to the five-step framework to guide her decision.

1. **Identify the problem.** The immediate problem is that profits have fallen and may continue to do so. The underlying problem may be that the premium earned from differentiation has been eroded by increasing costs without a commensurate increase in prices or in the volume of revenues, which may be attributable to *Daily News* operations, demand in the market, the actions of competitors or something else. Part of the problem is the level of uncertainty; Felicity does not know how any action that she might take is likely to affect profits.
2. **Gather relevant information.** Felicity decides to gather information to clarify the problem and diminish the uncertainties. She asks Tony Hall, the management accountant, to provide details of revenues and costs over the past few years; the marketing manager to survey representative readers to gauge how they might react to an increase in the newspaper's selling price; and the advertising sales manager to talk to current and potential advertisers to get a better understanding of the advertising market. Tony Hall provides information about past increases and decreases in prices and the effect on readership, and about past increases and decreases in advertising rates and their effect on advertising revenues. He also collects and analyses information on advertising rates charged by competing media outlets, including other newspapers.
3. **Identify and evaluate potential courses of action.** Felicity and the other managers thoroughly review and analyse the information gathered. The management team identifies three potential courses of action, which are not mutually exclusive: (1) reduce operating costs; (2) increase the selling price per newspaper; and (3) increase the rate per page charged to advertisers. They conclude from their evaluation that: (1) a major cost-cutting exercise might undermine the differentiation strategy by compromising the very features that justify a premium; (2) readers might be upset if management were to increase the price of the *Daily News*, with a consequent decrease in readership and reduction in revenue from this source; and (3) there is likely to be a market-wide increase in advertising rates in the near future, in which case an increase in *Daily News* advertising rates would have little effect on the number of pages of advertising sold.

Felicity recognises that considerable judgement is required when considering the consequences of the contemplated actions. She feels that gathering information, careful analysis and in-depth discussion within the management team should go a long way towards eliminating biased thinking. Nevertheless, she ponders the conclusion that the management team has reached. Here members of the team correctly judged readers' sentiments or has their thinking been overly influenced by anticipation of all the negative

**Decision points** are included throughout the chapters so that students can check their progress towards achieving the learning objectives.

## CHAPTER 1 MANAGEMENT ACCOUNTING IN CONTEXT 23

them to be flexible and change course midstream. In step 5, the learning objective is critical. How have the uncertainties evolved and what do managers need to do to respond to these changing circumstances?

Planning and control for sustainability is equally challenging. What should the *Daily News* do about energy consumption in its printing process, the recycling of newspaper, and pollution prevention? Among the uncertainties that managers face is whether customers will reward the *Daily News* for these actions with loyalty and whether investors will react favourably to managers spending resources on sustainability. Information to gauge customer and investor sentiment is not easy to obtain. Predicting how sustainability efforts might pay off in the long run is far from certain. Even as managers make decisions, the sustainability landscape will undoubtedly change in regard to environmental regulations and societal expectations, requiring managers to learn and adapt. The challenges do not imply that planning and control systems should not be used for these initiatives. Many companies find value in using the systems to manage innovation and sustainability. We return to the themes of innovation and sustainability at various points in the book.

Two final points: first, managers use information to help implement their strategies. For example, action plans often include targets. Although budgets are primarily financial, managers use both financial and non-financial information for market share, quality, new product development and employee satisfaction. When exercising control, managers compare actual and targeted non-financial measures as well as financial measures, and take corrective action. Second, a plan must be flexible enough that managers can seize sudden opportunities unforeseen at the time the plan was formulated. Control should not lead managers to cling to a plan when unfolding events indicate that actions not encompassed by that plan would offer better results for the company. Think about this in the context of the *Daily News*. An unexpected and sensational news story, such as a major fraud in the public service, may break, if the managers wish to maximise the value of this story and best competing newspapers to it, they need to spend more money on reporting than they had expected before the story broke. Through spending more money to cover the story, there is an opportunity to improve results for the *Daily News* by selling more newspapers.

#### The influence of professional accounting organisations on management accounting

The IAC has 175 members and associates from 130 countries, representing about 3 million accountants. Among these are a number of professional accounting organisations that are well known in Australia, particularly those in the UK, USA, New Zealand and Australia itself. Many of these organisations have a significant international presence, such as the **Chartered Institute of Management Accountants (CIMA)**, the **Association of Chartered Certified Accountants (ACCA)** and **CPA Australia**. A relatively recent development is certification of these organisations across countries, and even closer arrangements such as that between the **American Institute of CPAs (AICPA)** and **CIMA**, which jointly awards the **Chartered Global Management Accountant (CGMA)** designation, and the merger of the **Institute of Chartered Accountants in Australia (ICAA)** and the **New Zealand Institute of Chartered Accountants (NZICA)** to form **Chartered Accountants of Australia and New Zealand (CAANZ)**. All of these organisations specify entry criteria, set and administer examinations, specify continuing education requirements and apply codes of ethics.

Although professional accounting organisations have always stipulated standards of ethical professional conduct, corporate scandals over the past two decades (see Enron, Arthur Andersen, Storm Financial and OneTel have seriously eroded the public's confidence in corporations. All employees in a company, whether in line management or staff management, must comply with the society's expectations of ethical behaviour.

Accountants have special ethical obligations, given that they are responsible for the integrity of the financial information provided to internal and external parties. The Sarbanes-Oxley Act 2002 in the USA, passed in response to a series of corporate scandals,

### DECISION POINT 5

How do managers apply the five-step guide to decisions and how does it relate to management accounting?

### LEARNING OBJECTIVE 6

Explain the way in which accounting organisations influence management accountants' conduct and effectiveness and, given the context, apply the code of ethics.

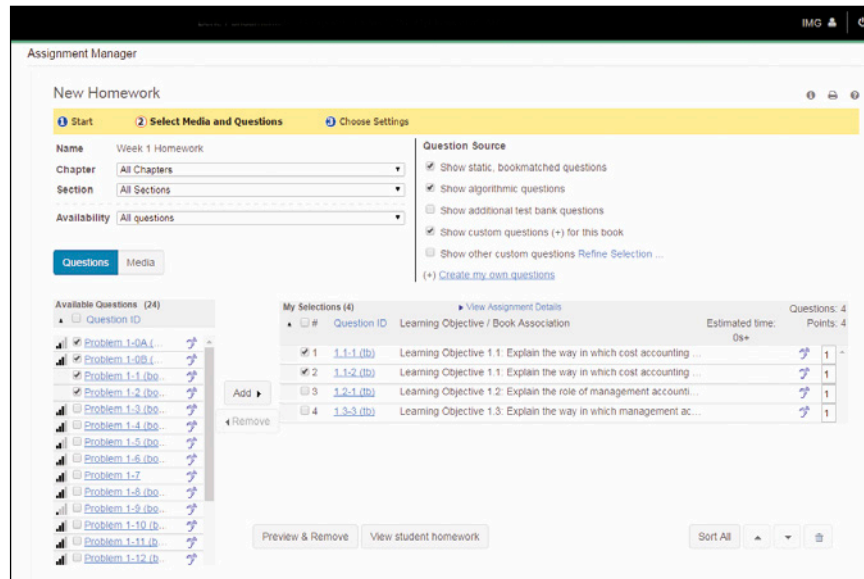
**A framework for decision making** in the form of a **five-step guide to decisions** features in chapter 1 and in most of the subsequent chapters. It illustrates the way in which managers might use management accounting information for various decisions.



## MyLab Accounting for Horngren's Cost accounting: a managerial emphasis, 3e A guided tour for students and educators

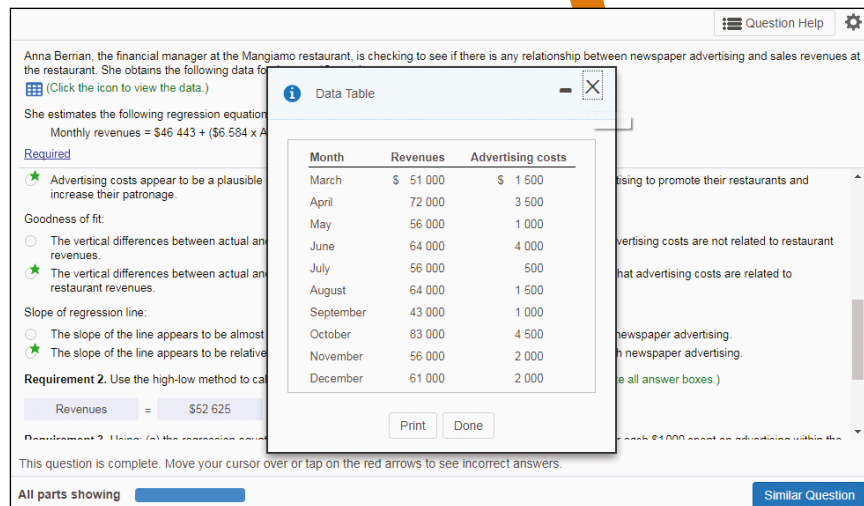
### Test and assignments:

Each MyLab™ comes with preloaded assignments, all of which are automatically graded and include select end-of-chapter questions and problems from the textbook.



### Unlimited practice:

Many Study Plan and Instructor-assigned exercises contain algorithms to ensure that students get as much practice as they need. As students work through Study Plan or Homework exercises, instant feedback and tutorial resources guide them towards understanding.

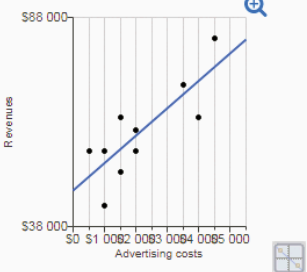


# MyLab Accounting [www.pearsonmylabandmastering.com](http://www.pearsonmylabandmastering.com)

Anna Berrian, the financial manager at the Mangiamo restaurant, is checking to see if newspaper advertising and sales revenues at the restaurant. She obtains the following data. (Click the icon to view the data.)

She estimates the following regression equation:  
 Monthly revenues = \$46 443 + (\$6.584 x Advertising costs)

**Required**



Evaluate the regression line using the criteria of economic plausibility, goodness of fit and slope of the regression line by choosing the correct statement to go with each of the evaluation criteria listed below.

## Learning resources:

To further reinforce understanding, Study Plan and Homework problems link to additional learning resources:

- Step-by-step guided solutions
- Graphing tool
- eText linked to sections for Study Plan questions.

### Study Plan

Recommendations Progress All Chapters

Practice the sections, then take a Quiz Me to prove mastery and earn mastery points (MP).

**Recommended sections**

1.1 Management accounting and its role			Practice	Quiz Me
1.2 The supply chain, value chain & key success factors			Practice	Quiz Me
1.3 Planning, control and making decisions			Practice	Quiz Me
1.4 Strategy, the organisation and its environment			Practice	Quiz Me
1.5 The five-step guide to decisions			Practice	Quiz Me

## Study Plan:

A Study Plan is generated from each student's results on quizzes and tests. Students can clearly see which topics they have mastered and, more importantly, which they need to work on.