COST ACCOUNTING

A Managerial Emphasis

2ND EDITION

HORNGREN, DATAR, RAJAN,
WYNDER, MAGUIRE, TAN

ALWAYS LEARNING

PEARSON

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Monte Wynder is an Associate Professor in Accounting at the University of the Sunshine Coast. Monte received his undergraduate degrees from the University of Southern Queensland and Queensland University, his masters and PhD from the University of New South Wales, and a Graduate Certificate in Education from the University of Newcastle. He is a Fellow of CPA Australia and he has received a number of teaching awards, including an Australian Learning and Teaching Citation for outstanding contribution to student learning.

Monte's research interests include accounting education, factors influencing student retention in business faculties and behavioural issues in management accounting. He has published in *Accounting Education: An International Journal, Asian Review of Accounting, Accounting and Finance, Journal of Accounting Education* and *Australian Journal of Education*.

William Maguire is a Senior Lecturer in Management Accounting at the University of Tasmania. William holds a Bachelor of Commerce from the University of Natal at Durban, a Master of Business Leadership from the University of Cape Town and a PhD from the University of Cape Town. He is a chartered accountant who has more than 30 years' experience as an accounting academic, previous to which he worked in professional accounting, commerce and industry. William's teaching, research and consulting activities span strategy, management accounting and financial management. He has held posts at nine tertiary institutions, including four visiting appointments. He received an award for innovation in teaching at the University of Auckland and is a past editor of the *New Zealand Journal of Applied Business Research*. He has co-authored two other textbooks and a book on revenue and cost management and he has published in a number of journals including *Integrated Manufacturing Systems*, *Journal of Cost Management*, *Qualitative Research in Accounting & Management, Managerial Auditing Journal, South African Journal of Accounting Research* and *South African Journal of Business Management*.

Rebecca Tan is a Senior Lecturer in Accounting at the School of Accounting and Business Information Systems of the Australian National University. She is a CPA and received her PhD from Murdoch University. Rebecca has taught financial and management accounting courses at both undergraduate and postgraduate level since starting in academia at the ANU in 2003. Her research focuses on teamwork in accounting education, accounting policy choices in the financial accounting and reporting area, sustainability reporting, as well as organisational behaviour research. Her publications have appeared in journals such as *International Journal of Accounting*, *Australian Accounting Review* and *Asian Review of Accounting*. Rebecca is also co-author of *Accounting* and has authored and co-authored 16 MYOB Accounting Practice Sets.

About the US authors

Charles T. Horngren is the Edmund W. Littlefield Professor of Accounting, Emeritus, at Stanford University. A graduate of Marquette University, he received his MBA from Harvard University and his PhD from the University of Chicago. He is also the recipient of honorary doctorates from Marquette University and DePaul University.

A certified public accountant, Horngren served on the Accounting Principles Board for six years, the Financial Accounting Standards Board Advisory Council for five years and the Council of the American Institute of Certified Public Accountants for three years. For six years he served as a trustee of the Financial Accounting Foundation, which oversees the Financial Accounting Standards Board and the Government Accounting Standards Board. Horngren is a member of the Accounting Hall of Fame.

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 is 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.

Horngren is the author of other accounting books published by Prentice Hall: *Introduction to Management Accounting*, 15th edn (2011, with Sundem and Stratton); *Introduction to Financial Accounting*, 10th edn (2011, with Sundem and Elliott); *Accounting*, 8th edn (2010, with Harrison and Bamber); and *Financial Accounting*, 8th edn (2010, with Harrison). Horngren is the Consulting Editor for the Charles T. Horngren Series in Accounting.

Srikant M. Datar is the Arthur Lowes Dickinson Professor of Business Administration and Senior Associate Dean at Harvard University. A graduate with distinction from the University of Bombay, he received gold medals upon graduation from the Indian Institute of Management, Ahmedabad, and the Institute of Cost and Works Accountants of India. A Chartered Accountant, he holds two masters degrees and a PhD from Stanford University.

Cited by his students as a dedicated and innovative teacher, Datar received the George Leland Bach Award for Excellence in the Classroom at Carnegie Mellon University and the Distinguished Teaching Award at Stanford University.

Datar has published his research in leading accounting, marketing and operations management journals, including *The Accounting Review*, *Contemporary Accounting Research*, *Journal of Accounting, Auditing and Finance*, *Journal of Accounting and Economics*, *Journal of Accounting Research* and *Management Science*. He has also served on the editorial board of several journals and presented his research to corporate executives and academic audiences in North America, South America, Asia, Africa, Australia and Europe.

Datar is a member of the board of directors of Novartis A.G., ICF International, KPIT Cummins Infosystems Ltd, Stryker Corporation and Harvard Business Publishing, and has worked with many organisations, including Apple Computer, AT&T, Boeing, Du Pont, Ford, General Motors, HSBC, Hewlett-Packard, Morgan Stanley, PepsiCo, TRW, Visa and the World Bank. He is a member of the American Accounting Association and the Institute of Management Accountants.

Madhav V. Rajan is the Gregor G. Peterson Professor of Accounting and Senior Associate Dean at Stanford University. From 2002 to 2010 he was the area coordinator for accounting at Stanford's Graduate School of Business.

Rajan received his undergraduate degree in Commerce from the University of Madras, India, and his MS in Accounting, MBA and PhD degrees from the Graduate School of Industrial Administration at Carnegie Mellon University. In 1990 his dissertation won the Alexander Henderson Award for Excellence in Economic Theory.

Rajan's primary area of research interest is the economics-based analysis of management accounting issues, especially as they relate to internal control cost allocation, capital budgeting quality management, supply chain and performance systems in firms. He has published his research in leading accounting and operations management journals, including *The Accounting Review*, *Review of Financial Studies*, *Journal of Accounting Research* and *Management Science*. In 2004 he received the Notable Contribution to Management Accounting Literature award.

Rajan has served as the Department Editor for Accounting at *Management Science*, as well as associate editor for both the accounting and operations areas. From 2001 to 2008 Rajan served as editor of *The Accounting Review*. He is also currently an associate editor for the *Journal of Accounting, Auditing and Finance*. Rajan is a member of the management accounting section of the American Accounting Association and has twice been a plenary speaker at the AAA Management Accounting Conference.

Rajan has won several teaching awards at Wharton and Stanford, including the David W. Hauck Award, the highest undergraduate teaching honour at Wharton. Rajan has taught in a variety of executive education programs, including the Stanford Executive Program, the National Football League for Managers and the National Basketball Players Association Program, as well as custom programs for firms including nVidia, Genentech and Google.

Preface

Studying cost accounting is one of the best business investments a student can make. Why? Because success in any organisation—from a small corner store in Darwin to a large multinational corporation like BHP Billiton—requires the use of cost accounting concepts and practices. That's because an organisation's successful strategy development and implementation depends on good decision making. 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 cost accountants, they will provide data, perform analyses and estimate the effects on revenue and costs. Increasingly, organisations are also concerned with the social and environmental impacts of their decisions, and the cost 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. In Chapter 1 the concept of sustainability is introduced; then, throughout the book, connections between cost accounting and sustainability are demonstrated with real-world examples from Qantas. In Chapter 14, the rationale and application of sustainable business behaviour is considered in depth.

The first Australian edition was a response to the feedback from Australian academics who have called for a book that their students can relate to and engage with. The second edition continues in this vein, presenting the best of both worlds—among the authors are world leaders in the development of contemporary cost accounting and their ideas are illustrated with Australian examples that make the textbook come alive for students. In addition to stories about Australian and international organisations in every chapter, the efforts of the Australian airline Qantas to improve sustainability are used where relevant to demonstrate the connection between cost accounting concepts and sustainability.

Hallmark features of Horngren *Cost Accounting*

- Exceptionally strong emphasis on managerial uses of cost information
- Clarity and understandability of the text
- Excellent balance in integrating modern topics with existing content
- Emphasis on human behaviour aspects
- Extensive use of real-world examples, both international and Australian
- Ability to teach chapters in different sequences
- Excellent quantity, quality and range of assignment material
- Coverage of new, cutting-edge topics
- Streamlined presentation

The second Australian edition maintains the structure and emphasis of the first edition. In preparing that edition, we took note of comments by users of the thirteenth US edition and the Australian first edition, reviewers and our own experience in teaching management accounting. While responding to the need for a strong Australian context, we recognised that many companies operate in a global context and that many of our students are from other countries. The second edition accordingly maintains an Australian flavour within a global context.

We have retained the following features of the first edition:

- A total of 20 chapters.
- The five-step decision-making process that appears throughout.
- The modular, flexible organisation that permits a unit to be custom tailored and to facilitate diverse approaches to teaching and learning.
- There is a cohesive focus on costing and cost management through grouping product and service costing, activity-based costing, activity-based management, cost management and capacity management (Chapters 5–7). These chapters connect strongly with pricing (Chapter 9).
- There is a similar focus on management control, responsibility accounting, budgeting, standard costing and variance analysis (Chapters 10–12).
- Explaining the rationale and principles of sustainability (Chapter 14), which provides the basis for considering the importance of social and environmental issues in the various strategic and operational decisions discussed throughout this text.

Improvements made include a greater emphasis on integrating sustainability into traditional cost management techniques, with calculative examples and questions to illustrate those connections.

- We have adjusted the chapter sequence in response to feedback from users. Determining how costs behave (Chapter 3) precedes cost–volume–profit analysis (now Chapter 4) to provide a foundation for cost behaviour before dealing with it. Decision making and relevant information (Chapter 8) has been moved from its earlier placing so that students can apply knowledge to the decisions that they have acquired from earlier chapters. Allocation of support department costs, common costs and revenues (Chapter 13) has been moved to facilitate the flow of earlier chapters.
- Some chapters have been restructured and streamlined (for example, Chapter 12 presents a streamlined discussion of overhead variances.

All chapter content has been reviewed and revised where required:

- Many new vignettes and concepts in action have been introduced while the best of the rest have been retained.
- We have introduced new end-of-chapter questions, exercises and problems to all chapters and have reworked many of those that have been retained.
- Chapter 1 introduces sustainability briefly, followed by sustainability in action features in all chapters. Where relevant, these relate to Qantas's sustainability policy and activities.
- We have increased the emphasis on the service sector. Several concepts in action boxes focus on the service sector.

There is ample text and assignment material in the textbook's 20 chapters for a two-semester course while the first 12 chapters provide the essence of a one-semester course, with the opportunity to add chapters as required. This textbook can be used immediately after the 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

LEARNING OBJECTIVES

1 Explain the way in which cost accounting supports management accounting and financial accounting
2 Explain the role of management accounting in sustainability decisions
3 Explain the way in which management accountants influence strategic decisions
4 Describe the set of business functions in the value chain
5 Identify the key success factors that customers expect companies to meet
6 Explain the five-step decision-making process and its role in management accounting
7 Describe three guidelines management accountants follow to support managers
8 Describe how management accounting fits into an organisation's structure
9 Explain how professional ethics impacts on management accountants' decisions

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.

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

DECISION POINT 2:

How does management accounting assist in sustainability decisions?

Decision making, planning and control: the five-step decision-making process

OBJECTIVE Explain the five-step decision-making process and its role in management accounting

The five-step decision-making process provides a framework that may be used in a number of situations to make a variety of decisions. In subsequent chapters of this book, we describe how managers use this five-step decision-making process. We illustrate the five-step decision-making process using the example of the *Daily News*, a city newspaper.

The *Daily News* has a strategy to differentiate itself from its competitors by focusing on in-depth analyses of news by its highly rated journalists, using colour to enhance attractiveness to readers and advertisers, and developing its website to deliver up-to-the-minute news, interviews and analyses. It has the capability to deliver on this strategy. It owns an automated, computer-integrated, state-of-the-art printing facility and has developed a web-based information technology infrastructure. Its distribution network is one of the best in the newspaper industry.

A key challenge for Nancy Wong, manager of the *Daily News*, is to increase revenues. To decide what she should do, Nancy works through the five-step decision-making process.

1 **Identify the problem.** The problem is how to increase revenue. Two possible ways are: (1) to increase the selling price per newspaper; or (2) to increase the rate per page charged to advertisers. Part of the problem is that Nancy does not know the potential effect on demand of any increase in price or rates. Any increase in price or rates may lead to a decrease in demand, which could offset the higher price or rate and lead to lower overall revenues.
2 **Collect relevant information.** Gathering information before making a decision helps managers get a better understanding of the uncertainties. Nancy asks her marketing manager to talk to some representative readers to gauge how they might react to an increase in the newspaper's selling price. She asks her advertising sales manager to talk to current and potential advertisers to get a better understanding of the advertising market. She also reviews the effect that past price increases had on readership. Tony Cantelli, the management accountant at the *Daily News*, provides information about past increases or decreases in advertising rates and the subsequent changes in advertising revenues. He also collects and analyses information on advertising rates charged by competing media outlets, including other newspapers.
3 **Determine possible courses of action and consider the consequences of each.** On the basis of information she has obtained, Nancy considers the potential consequences of the possible courses of action, namely to increase the price or rates. She concludes that readers would be quite upset if she increased prices and is fairly certain that it would lead to a decrease in readership. She has a different view when it comes to advertising rates. She anticipates a market-wide increase in advertising rates and therefore believes that increasing these rates will have little effect on the number of pages of advertising sold.

A **framework for decision making** is introduced in Chapter 1 for managers to utilise when making decisions. The framework introduced in the US text has been revised in line with reviewer suggestions and is interwoven throughout every chapter. It helps students see how the demand for various types of management accounting information is a response to the decision-making needs of managers.


All businesses are concerned about revenues and costs. Whether their products are motor vehicles, fast food or the latest designer fashions, managers must understand the influence of revenues and costs on their operations or risk losing control. Managers use management accounting information to make decisions; decisions related to strategy, research and development, budgeting, production planning and pricing, among others. Sometimes these decisions involve trade-offs. While reading the vignette below, think about the strategic choices that Australian Weaving Mills has made for survival and success.

Australian Weaving Mills' strategic choices ensure survival and success

Geoff Parker is the chief executive of Australian Weaving Mills in Devonport, Tasmania, the last of the towel manufacturers in Australia. The company was one of nine in 1985—the other eight closed down or moved offshore to countries like China following the reduction of tariff protection and quotas. He was quoted in the *Sunday Tasmanian*: 'We knew we would have to compete in a different way to survive … If you compete on price, especially in the towel market, you are dead in the water.'

Of the Australian market of 180 tonnes a week, Australian Weaving Mills is now supplying 50 tonnes of towels weekly. Among its clients are major Australian retailers Myer, David Jones, Big W, Target and Spotlight. Their towels are marketed under a number of brands including Dri Glo, Esprit and Dickies.

Knowing that Australian Weaving Mills could not use price as a factor to compete in this market, Parker developed a number of strategies.

Ultra-short lead times

Customers usually buy towels, bath mats, face clothes and hand towels as sets. If one item is out of stock in a particular colour, the other items of the same colour do not sell. Australian Weaving Mill has installed state-of-the-art machinery allowing cutting, stitching and dyeing to be performed robotically. This dramatically reduces the time required to manufacture the towels. Overseas manufacturers can take months to refill orders, whereas Australian Weaving Mills takes only days. Although retailers do not give the mill much warning of upcoming sales—they don't want their competitors to find out—the ultra-short lead times nevertheless allow Australian Weaving Mills to maintain 'the wall of colour', as Parker puts it.

High-level customer service

Although retailers do not make as much per unit of stock from Australian Weaving Mills, their profits increase because they sell more stock overall owing to the short lead times.

Australian Weaving Mills has also installed special software that is able to read tills in 260 stores in Australia. Says Parker: 'We read them each night, find out what the store sold and restock them within 72 hours.' This means

Real company **vignettes** open each chapter. The vignettes engage the reader in a business situation, or dilemma, illustrating why and how the concepts in the chapter are relevant in business.

Concepts in action boxes cover real-world cost accounting issues across a variety of industries from Australia and internationally.

Management accounting beyond the numbers

When you hear the job title 'accountant', what comes to mind? The person who does your tax return each year? Individuals who prepare budgets at Dell or Sony? To people outside the profession, it may seem like accountants are just 'numbers people'. It is true that most accountants are adept financial managers, yet their skills do not stop there. To be successful, management accountants must possess certain values and behaviours that reach well beyond basic analytical abilities.

Working in cross-functional teams and as a business partner of managers. It is not enough that management accountants simply be technically competent in their area of study. They also need to be able to work in teams, to learn about business issues, to understand the motivations of different individuals, to respect the views of their colleagues and to show empathy and trust.

Promoting fact-based analysis and making tough-minded, critical judgements without being adversarial. Management accountants must raise tough questions for managers to consider, especially when preparing budgets. They must do so thoughtfully and with the intent of improving plans and decisions. One would expect management accountants to have raised questions about the operating and/or financing strategies and tactics of Chickenfeed and Gunns before these companies' difficulties reached the news.

Leading and motivating people to change and be innovative. Implementing new ideas, however good they may be, is seldom easy. When the United States Department of Defense sought to consolidate more than 320 finance and accounting systems into a centralised platform, the accounting services director and his team of management accountants made sure that the vision for change was well understood throughout the agency. Ultimately, each individual's performance was aligned with the transformative change and incentive pay was introduced to promote adoption and drive innovation within this new framework.

Communicating clearly, openly and candidly. Communicating information is a large part of a management accountant's job. A few years ago, Pitney Bowes Inc. (PBI), a $4 billion global provider of integrated mail and document management solutions, implemented a reporting initiative to give managers feedback in key areas. The initiative succeeded because it was clearly designed and openly communicated by PBI's team of management accountants.

Having a strong sense of integrity. Management accountants must never succumb to pressure from managers to manipulate financial information. They must always remember that their primary commitment is to the organisation and its shareholders. At WorldCom, under pressure from senior managers, members of the accounting staff concealed billions of dollars in expenses. Because the accounting staff lacked the integrity and courage to stand up to and report corrupt senior managers, WorldCom landed in bankruptcy. Some members of the accounting staff and the senior executive team served prison terms for their actions.

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How car sharing is helping reduce business transportation costs

Rising petrol prices, high insurance costs and hefty parking fees have forced many businesses to reconsider the ownership of company or fleet cars. In Sydney and Melbourne, car-sharing businesses, such as Flexicar, GoGet CarShare and Charter Drive, have emerged as an attractive alternative. These businesses provide an on-demand option for city businesses and individuals to rent a car by the day or even the hour. Basically, members make a reservation by telephone or internet, go to where the car is located (usually by walking or public transportation), swipe an electronic card over a sensor that unlocks the door, and then just climb in and drive away. Rental fees usually include fuel, insurance, maintenance and cleaning.

Car sharing offers an environmentally friendly, low-cost and no hassle alternative for companies. Many small businesses own a company car or two for getting to meetings, making deliveries and other errands. Similarly, large companies may own a fleet of cars to shuttle visiting executives and clients back and forth from appointments, business lunches and the airport. Traditionally, companies had no other option but to own these cars, which involves very high fixed costs, including buying the asset (car) and costs of maintenance and insurance for multiple drivers.

Now, companies can use car-sharing businesses for on-demand transportation while reducing their transportation, overhead and fringe benefits costs. This has resulted in lower or no fleet expenses for private companies using car-sharing services. In the United States, Twitter managers use Zipcar's fleet of Mini Coopers and Toyota Priuses to meet venture capitalists and partners in Silicon Valley or when travelling far away from its headquarters.

From a business perspective, car sharing allows companies to convert the fixed costs of owning a company car to variable costs. If business slows, or a car isn't required to visit a client, car-share customers are not burdened with the fixed costs of car ownership. Of course, if companies use car-sharing services frequently, they can end up paying more overall than they would have paid if they had purchased and maintained the car themselves.

Such an arrangement is also attractive to those keen on reducing carbon emissions or companies with core values of employing sustainable practices, as research has shown that one car-sharing vehicle can replace up to 10 privately owned cars on the road. Several councils are putting their support behind car sharing by providing dedicated parking spaces.

Car sharing is a practical and creative concept that helps solve the problem of congestion on major city roads. In addition, car-sharing businesses that are conscious about the environment can choose to operate hybrid or small fuel-economical cars in their fleet.

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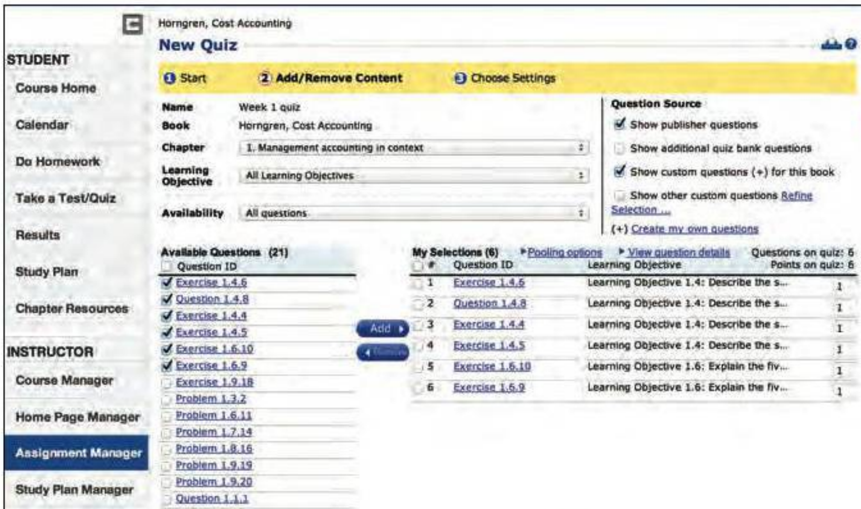
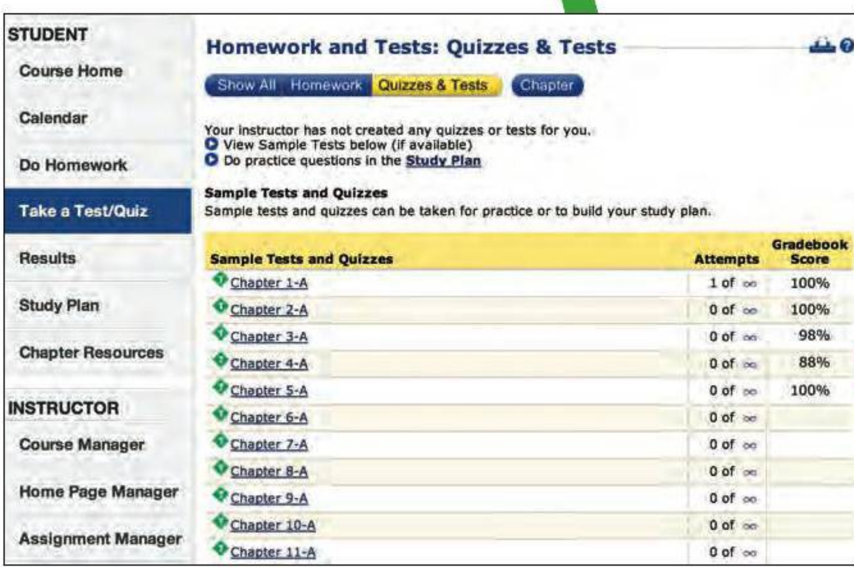
Sustainability in action boxes occur in most chapters and show how integral sustainability issues are in cost and management accounting. The internationally renowned Australian airline, Qantas, is used where relevant to illustrate the kind of changes that are occurring in managing sustainability.

MyAccountingLab for Horngren, *Cost Accounting 2e*
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 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.



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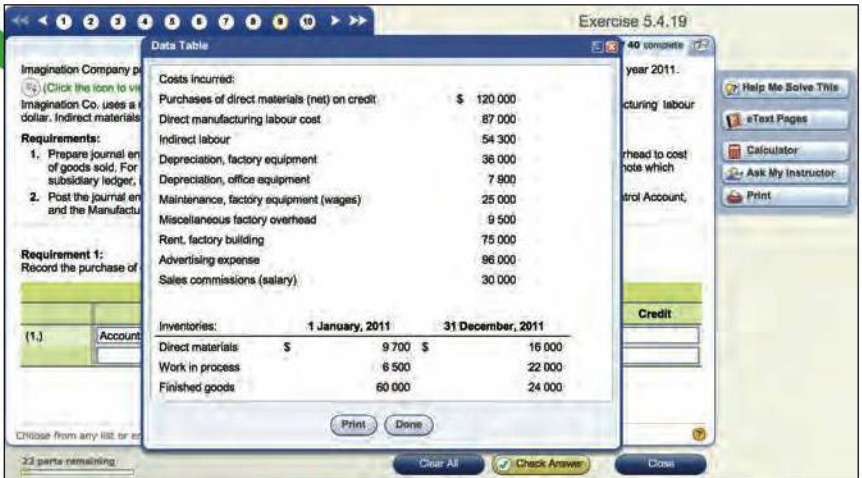
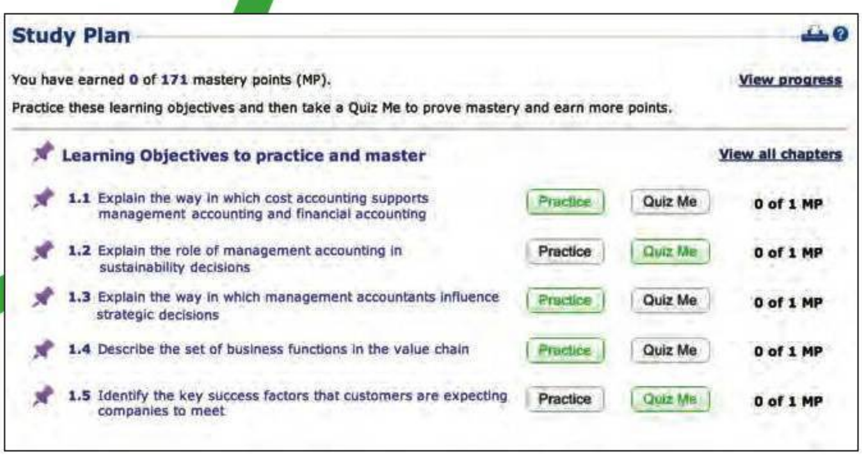


Learning Resources:

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:

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.

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CHAPTER 1 Management accounting in context

LEARNING OBJECTIVES

1 Explain the way in which cost accounting supports management accounting and financial accounting
2 Explain the role of management accounting in sustainability decisions
3 Explain the way in which management accountants influence strategic decisions
4 Describe the set of business functions in the value chain
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6 Explain the five-step decision-making process and its role in management accounting
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8 Describe how management accounting fits into an organisation's structure
9 Explain how professional ethics impacts on management accountants' decisions

All businesses are concerned about revenues and costs. Whether their products are motor vehicles, fast food or the latest designer fashions, managers must understand the influence of revenues and costs on their operations or risk losing control. Managers use management accounting information to make decisions; decisions related to strategy, research and development, budgeting, production planning and pricing, among others. Sometimes these decisions involve trade-offs. While reading the vignette below, think about the strategic choices that Australian Weaving Mills has made for survival and success.

Australian Weaving Mills' strategic choices ensure survival and success

Geoff Parker is the chief executive of Australian Weaving Mills in Devonport, Tasmania, the last of the towel manufacturers in Australia. The company was one of nine in 1985—the other eight closed down or moved offshore to countries like China following the reduction of tariff protection and quotas. He was quoted in the *Sunday Tasmanian*: 'We knew we would have to compete in a different way to survive … If you compete on price, especially in the towel market, you are dead in the water.'

Of the Australian market of 180 tonnes a week, Australian Weaving Mills is now supplying 50 tonnes of towels weekly. Among its clients are major Australian retailers Myer, David Jones, Big W, Target and Spotlight. Their towels are marketed under a number of brands including Dri Glo, Esprit and Dickies.

Knowing that Australian Weaving Mills could not use price as a factor to compete in this market, Parker developed a number of strategies.

Ultra-short lead times

Customers usually buy towels, bath mats, face clothes and hand towels as sets. If one item is out of stock in a particular colour, the other items of the same colour do not sell. Australian Weaving Mill has installed state-of-the-art machinery allowing cutting, stitching and dyeing to be performed robotically. This dramatically reduces the time required to manufacture the towels. Overseas manufacturers can take months to refill orders, whereas Australian Weaving Mills takes only days. Although retailers do not give the mill much warning of upcoming sales—they don't want their competitors to find out—the ultra-short lead times nevertheless allow Australian Weaving Mills to maintain 'the wall of colour', as Parker puts it.

High-level customer service

Although retailers do not make as much per unit of stock from Australian Weaving Mills, their profits increase because they sell more stock overall owing to the short lead times.

Australian Weaving Mills has also installed special software that is able to read tills in 260 stores in Australia. Says Parker: 'We read them each night, find out what the store sold and restock them within 72 hours.' This means that stores do not have to hold stock or reorder it—Australian Weaving Mills take care of it. Importers are not able to match this level of service.

Quality towels

As well as the domestic market, about 15% of stock is exported to the Middle East and Asia, primarily to hotel chains such as Marriott, Hilton and Intercontinental. Mr Parker says: 'Again, we can't compete on price—only on service and quality.' Australian Weaving Mills guarantee the number of washes for which a towel will last and this length of service (for the price) makes the towels competitive. They are currently developing a radio-tracking system for each towel. So if a hotel sends a new batch of towels with, say, 80 washes left to a laundry, they can make sure they get those towels back rather than towels with only five washes left from another hotel using the same laundry.

Technology and location

All this investment in technology is not cheap. Mr Parker estimates that Australian Weaving Mills has spent over $8.4 million in technology, but it has paid off in sales. As well as shrewd investment in technology, location plays a part in the success of Australian Weaving Mills. Tasmania has a stable workforce, lower fixed costs than the mainland and good distribution links at reasonable cost. Stock can travel to Melbourne by ferry overnight to reach the stores the next morning. Frequently, it takes longer to restock from a Melbourne warehouse to city stores.

This story about Australian Weaving Mills illustrates not only the way in which the company's choice of a differentiation strategy over a low-cost strategy has ensured its survival and success, but also the favourable impact of technology and location. Apart from concepts and techniques, management accounting is about context. To provide useful information to management, the management accountant must be aware of the company's relationship with its environment, the dynamics of this relationship, potential strategies, appropriate technologies, relative complexity, location and the like.

The study of modern cost accounting yields insights into how managers and accountants can contribute to operations. It also prepares them for leadership roles. Many large companies, such as Telstra, Sony Pictures and Mallesons Stephen Jacques (a law firm), have senior executives with accounting backgrounds.

Source: Vowles, G. 2009, 'Success Sewn Up', *Sunday Tasmanian*, 1 March, p. 21.

Management accounting, financial accounting and cost accounting

OBJECTIVE 1

Explain the way in which cost accounting supports management accounting and financial accounting

As many of you have seen in your financial accounting unit(s), accounting systems take economic events and transactions, such as sales and purchases of materials, and process the data into information helpful to managers, sales representatives, production supervisors and others. To process an economic transaction, we collect, categorise, summarise and analyse data. For example, we collect costs by category, such as materials, labour and shipping, and summarise the detail to determine total costs by month, quarter or year. We analyse the results to highlight, for example, how costs have changed relative to revenues from one period to the next.

Accounting systems provide the information found in the income statement, the balance sheet[1], the statement of cash flow and in performance reports, such as the cost of operating a plant or of providing a service. Managers use accounting information to administer the activities, businesses or functional areas they oversee and to coordinate those activities, businesses or functions within the framework of the organisation. This book focuses on how management accounting assists managers in these tasks.

Managers with different responsibilities often require the information in an accounting system to be presented or reported in different ways. Consider, for example, sales order information. A sales manager may be interested in the total dollar amount of sales to determine the commissions to be paid. A distribution manager may be interested in the sales order quantities by geographic region and by customer-requested delivery dates to ensure timely deliveries. A manufacturing manager, to schedule production, may be interested in the quantities of various products and their desired delivery dates. An ideal database—sometimes called a data warehouse or infobarn—consists of small, detailed pieces of information that can be used for multiple purposes. For instance, the sales order database will contain detailed information about product,

1 These terms for financial statements will be used throughout the book because they are commonly understood and widely used. However, the official terms are 'statement of comprehensive income' and 'statement of financial position' according to a 2009 revision to AASB 101.

quantity ordered, selling price and delivery details (place and date) for each sales order. The database stores information in a way that allows managers to access the information they need. Many companies are building their own enterprise resource planning (ERP) systems, single databases that collect data and feed it into applications that support the company's business activities, such as purchasing, production, distribution and sales.

Management accounting and financial accounting have different goals. **Management accounting** measures, analyses and reports financial and non-financial information that helps managers make decisions to fulfil the goals of an organisation. Managers use management accounting information to choose, communicate and implement strategy. They also use management accounting information to coordinate product design, production and marketing decisions, and to evaluate performance. Management accounting information and reports do not have to follow set principles or rules. The key questions are always: (1) how will this information help managers do their jobs better? and (2) do the benefits of producing this information exceed the costs?

Financial accounting focuses on reporting to external parties, such as investors, government agencies, banks and suppliers. It measures and records business transactions and provides financial statements that are governed by Australian generally accepted accounting principles (GAAP), which are, in turn, influenced by Australian accounting standards and international financial reporting standards (IFRSs). Since 2002 the internationalisation of financial reporting has led to significant convergence of the three elements mentioned above. While an examination of these developments is beyond the scope of this book, we recognise that managers' compensation is often directly affected by the numbers in these financial statements. Consequently, managers are interested in both management accounting and financial accounting.

Table 1-1 summarises the major differences between management accounting and financial accounting. At the same time, note that reports such as balance sheets, income statements and statements of cash flows are common to both management accounting and financial accounting.

Cost accounting provides information for management accounting and financial accounting. **Cost accounting** measures, analyses and reports financial and non-financial information relating to the costs of acquiring or using resources in an organisation. For example, calculating the cost of a product is a cost accounting process that answers financial accounting's inventory-valuation needs and management accounting's decision-making needs, such as choosing which products to offer. Modern cost accounting takes the perspective that collecting cost information is a function of the management decisions being made. Thus, the distinction between management

TABLE 1-1 Major differences between management accounting and financial accounting

	Management accounting	**Financial accounting**
Purpose of information	Help managers make decisions to achieve an organisation's goals	Communicate organisation's financial position to investors, banks, regulators and other outside parties
Primary users	Managers of the organisation	External users, such as investors, banks, regulators and suppliers
Focus and emphasis	Future oriented (budget for 2014 prepared in 2013)	Past-oriented (reports on 2013 performance prepared in 2014)
Rules of measurement and reporting	Internal measures and reports are based on cost–benefit analysis; they do not have to follow GAAP	Financial statements must be prepared in accordance with GAAP and be certified by external, independent auditors
Time span and type of reports	Varies from hourly information to 15–20 years, with financial and non-financial reports on products, departments, territories and strategies	Annual and quarterly financial reports, primarily on the company as a whole
Behavioural implications	Designed to influence the behaviour of managers and other employees	Primarily reports economic events but also influences behaviour because managers' compensation is often based on reported financial results

accounting and cost accounting is not clear-cut, and we often use these terms interchangeably in the book.

The term **cost management** encompasses the approaches and activities of managers to use resources to increase value to customers and to achieve the organisation's goals. The term cost management shifts the emphasis from ascertaining costs to managing those costs. Although managers cannot, in fact, manage costs—they can only manage activities—cost management is a well-established term. Cost management decisions include decisions such as the amounts and kinds of materials used, changes in plant processes and changes in product designs. Information from accounting systems helps managers to manage activities (costs), but the information and the accounting systems themselves are not cost management.

Cost management has broad application and is an integral part of general management strategies and their implementation. It is not practised in isolation. Examples of cost management include programs that enhance customer satisfaction and quality, as well as research and development (R&D) and marketing programs to promote 'blockbuster' new products. Cost management is inextricably linked with revenue and profit planning. As part of cost management, managers often deliberately incur additional costs, for example in advertising and product modifications, to enhance revenues and profits.

DECISION POINT 1:

What information does cost accounting provide?

Sustainability

OBJECTIVE 2

Explain the role of management accounting in sustainability decisions

What do hybrid cars, Al Gore's documentary *An Inconvenient Truth*, solar-powered cars racing across Australia and a television series about 'green houses' have in common? The common thread is sustainability.

According to *Our Common Future* (Brundtland 1987),[2] **sustainability** is 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. Sustainability would rarely, if ever, have featured in corporate annual reports or vision statements 20 or more years ago. With a significant change in society's expectations, companies increasingly pay regard to and report on sustainability. More and more, businesspeople are finding that the search for sustainable solutions for the planet offers good business opportunities.

Morris Kaplan (2009) observes that landfill is becoming increasingly expensive and environmentally unacceptable.[3] He reports on a venture by Tom Rudas, a microbiologist. Through his company, Anaeco, Rudas has established a commercial plant in Perth to process organic waste, with plans for plants throughout Australia. According to Rudas:

> If you put food waste into the ground, it potentially impacts on two fronts ... It leaches and contaminates ground water and releases methane, which is a greenhouse gas that is 21 times worse than CO_2.

With the contemporary focus on sustainability, we expect companies to report on it in their corporate responsibility reports, to refer to it in their vision statements and to incorporate it into their strategies. From a societal viewpoint, management accounting contributes by bringing relevant costs and benefits of sustainability to the attention of decision makers in the public arena, such as city councillors or government ministers. For instance, a for-profit enterprise that is accountable for sustainability would also need to make its decisions with due regard for sustainability. At one time, the decision to set up a new plant would have been made on the basis only of costs and benefits impacting the company concerned. Concern for sustainability requires that we now consider externalities, such as the pollution of air and water. Management accounting is again well placed to inform these decisions by recognising the relevant costs and benefits. Where sustainability is specified as a cost object, activity-based costing allows the highlighting of the costs and benefits involved.

2 Brundtland, G. H. 1987, *Our Common Future*, Report of the World Commission on Environment and Development, United Nations, <http://worldinbalance.net/intagreements/1987-brundtland.php>, accessed 10 February 2013.

3 Kaplan, M. 2009, 'Microbiologist Realises a Trashy Vision', *The Weekend Australian*, 31 October–1 November, p. 30.

Among the many issues dealt with in this book, we place sustainability on centre stage. Chapter 14 deals extensively with this topic and its interface with management accounting, outlining how sustainability is reported and measured. *Sustainability in action* boxes also appear in most chapters, showing how management accounting connects with sustainability.

DECISION POINT 2:

How does management accounting assist in sustainability decisions?

Strategic decisions and the management accountant

OBJECTIVE 3

Explain the way in which management accountants influence strategic decisions

Strategy relates to how an organisation matches its capabilities with the opportunities in the marketplace to accomplish its objectives. In other words, strategy describes how an organisation chooses to compete and the opportunities its managers should seek and pursue. Many businesses follow one of two broad strategies. Some companies, such as Virgin Blue, JB Hi-Fi and The Warehouse (New Zealand), have been profitable and have grown over the years by providing quality products or services at low prices. In contrast, as shown in the opening vignette, Australian Weaving Mills carefully decided not to compete on low price but to differentiate its product in a number of ways. Parker Hannifin (Australia) and David Jones are other companies that choose to generate their profits and growth based on their ability to offer differentiated or unique products or services, often at higher prices than those of their competitors.

Deciding between these strategies is a critical part of what managers do. **Management accountants** work closely with managers in formulating strategy by providing information about the sources of competitive advantage; for example, the cost, productivity or efficiency advantage of their company relative to that of competitors or the premium prices a company can charge relative to the costs of adding features that make its products or services distinctive. **Strategic cost management** describes cost management that specifically focuses on strategic issues.

Management accountants help to formulate strategy by helping managers to answer questions such as:

- Who are our most important customers, and how do we deliver value to them? For example, success in selling online has encouraged many businesses to develop the capability to sell online by building the necessary information and technology infrastructure. Toyota has built flexible computer-integrated manufacturing (CIM) plants that enable it to use the same equipment to produce a variety of cars in response to changing customer tastes. As reported in the opening vignette, Australian Weaving Mills has developed manufacturing and information technology for superior customer service.
- What substitute products exist in the marketplace, and how do they differ from our product in terms of price and quality? For example, Hewlett-Packard designs new printers after comparing the functionality, quality and price of its printers with other printers available in the marketplace.
- What is our most critical capability? Is it technology, production or marketing? How can we leverage it for new strategic initiatives? Kellogg Company, for example, uses the reputation of its brand to introduce new types of cereal.
- Will adequate cash be available to fund the strategy, or will additional funds need to be raised? These questions are pertinent to Amcor Ltd's proposed purchase of key divisions of Alcan's packaging business from Rio Tinto Ltd for a consideration of $2.8 billion to be funded by debt and equity.

The best-designed strategies and the best-developed capabilities are useless unless they are executed effectively. In the next section, we describe how management accountants help managers to take actions that create value for their customers.

DECISION POINT 3:

How do management accountants support strategic decisions?

Management accounting beyond the numbers

When you hear the job title 'accountant', what comes to mind? The person who does your tax return each year? Individuals who prepare budgets at Dell or Sony? To people outside the profession, it may seem like accountants are just 'numbers people'. It is true that most accountants are adept financial managers, yet their skills do not stop there. To be successful, management accountants must possess certain values and behaviours that reach well beyond basic analytical abilities.

Working in cross-functional teams and as a business partner of managers. It is not enough that management accountants simply be technically competent in their area of study. They also need to be able to work in teams, to learn about business issues, to understand the motivations of different individuals, to respect the views of their colleagues and to show empathy and trust.

Promoting fact-based analysis and making tough-minded, critical judgements without being adversarial. Management accountants must raise tough questions for managers to consider, especially when preparing budgets. They must do so thoughtfully and with the intent of improving plans and decisions. One would expect management accountants to have raised questions about the operating and/or financing strategies and tactics of Chickenfeed and Gunns before these companies' difficulties reached the news.

Leading and motivating people to change and be innovative. Implementing new ideas, however good they may be, is seldom easy. When the United States Department of Defense sought to consolidate more than 320 finance and accounting systems into a centralised platform, the accounting services director and his team of management accountants made sure that the vision for change was well understood throughout the agency. Ultimately, each individual's performance was aligned with the transformative change and incentive pay was introduced to promote adoption and drive innovation within this new framework.

Communicating clearly, openly and candidly. Communicating information is a large part of a management accountant's job. A few years ago, Pitney Bowes Inc. (PBI), a $4 billion global provider of integrated mail and document management solutions, implemented a reporting initiative to give managers feedback in key areas. The initiative succeeded because it was clearly designed and openly communicated by PBI's team of management accountants.

Having a strong sense of integrity. Management accountants must never succumb to pressure from managers to manipulate financial information. They must always remember that their primary commitment is to the organisation and its shareholders. At WorldCom, under pressure from senior managers, members of the accounting staff concealed billions of dollars in expenses. Because the accounting staff lacked the integrity and courage to stand up to and report corrupt senior managers, WorldCom landed in bankruptcy. Some members of the accounting staff and the senior executive team served prison terms for their actions.

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Value chain and supply chain analysis

Customers demand much more than a fair price from companies. For example, they also expect a quality product or service delivered in a timely way. These multiple factors drive how a customer experiences a product or service and the value or usefulness a customer derives from that product or service (see opening vignette on Australian Weaving Mills). How, then, does a company go about creating this value?

OBJECTIVE 4
Describe the set of business functions in the value chain

Value chain analysis

The **value chain** is the sequence of business functions in which customer usefulness is added to products or services. Figure 1-1 shows six business functions: R&D, design, production, marketing, distribution and customer service. We illustrate these business functions using Sony's television division.

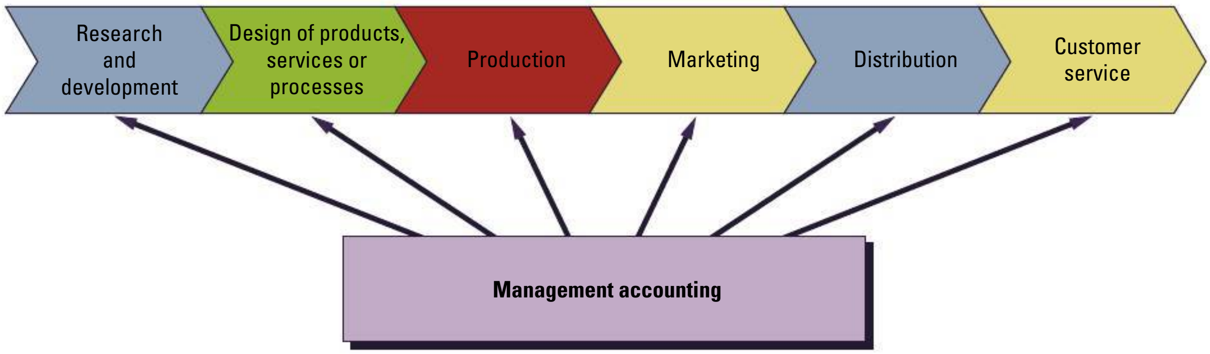

FIGURE 1-1 Managers in different parts of the value chain

1 **Research and development**—generating and experimenting with ideas related to new products, services or processes. At Sony, this function includes research on alternative television signal transmission (analogue, digital, high definition) and on the clarity of different shapes and thicknesses of television screens.
2 **Design of products, services or processes**—detailed planning and engineering of products, services or processes. Design at Sony includes determining the number of component parts in a television set and the effect of alternative product designs on quality and manufacturing costs.
3 **Production**—acquiring, coordinating and assembling resources to produce a product or deliver a service. Production of a Sony television set includes the acquisition and assembly of the electronic parts, the cabinet and the packaging used for shipping.
4 **Marketing (including sales)**—promoting and selling products or services to customers or prospective customers. Sony markets its televisions through trade shows, advertisements in newspapers and magazines, and on the internet.
5 **Distribution**—delivering products or services to customers. Distribution for Sony includes shipping to retail outlets, catalogue vendors, direct sales via the internet and other channels through which customers purchase televisions.
6 **Customer service**—providing after-sales support to customers. Sony provides customer service on its televisions in the form of customer-help telephone lines, support on the internet and warranty repair work.

Each of these business functions is essential to Sony satisfying its customers and keeping them satisfied and loyal over time. Companies use the term *customer relationship management* (CRM) to describe a strategy that integrates people and technology in all business functions to enhance relationships with customers, partners and distributors. CRM coordinates all customer-facing activities (i.e. marketing, sales calls, distribution and post-sales support) and the design and production activities necessary to get products to customers.

Figure 1-1 depicts the usual order in which different business function activities physically occur. Do not, however, interpret Figure 1-1 as implying that managers should proceed sequentially through the value chain when planning and managing their activities. Companies gain (in terms of cost, quality and the speed with which new products are developed) if two or more of the individual business functions of the value chain work concurrently as a team. For example, inputs into design decisions by production, marketing, distribution and customer service managers often lead to design choices that reduce total costs of the company.

Management accountants track the costs incurred in each value chain category. Their goal is to reduce costs in each category and to improve efficiency. Cost information also helps managers make cost–benefit trade-offs. For example, is it cheaper to buy products from outside vendors or to do manufacturing in-house? Is it worthwhile to invest more resources in design and manufacturing if it reduces costs in marketing and customer service or increases revenues?

DECISION POINT 4:

How does knowledge of the value chain assist decisions?