

DRURY

GOLIN

**MANAGEMENT AND
COST ACCOUNTING**

11

**ELEVENTH
EDITION**

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COST ACCOUNTING**

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EDITION**



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Management and Cost Accounting,
11th Edition
Colin Drury

Publisher: Annabel Ainscow

List Manager: Birgit Gruber

Marketing Manager: Sophie Clarke

Senior Content Project Manager: Phillipa Davidson-Blake

Manufacturing Manager: Eyvett Davis

Typesetter: SPi Global

Cover Design: Cyan Design

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WCN: 02-300

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British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library.

978-1-4737-7361-5

Cengage Learning, EMEA

Cheriton House, North Way
Andover, Hampshire, SP10 5BE
United Kingdom

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IN MEMORIAM

Emeritus Professor Colin Drury (1944–2019)

Sadly, Professor Colin Drury passed away in 2019 after a short illness. At the time of his passing, Colin had already made plans for the content of the 11th edition of his bestselling textbook. Therefore, in discussion with Colin's family, Cengage brought on board a new and highly experienced contributing author for the 11th edition, Professor Mike Tayles, to bring Colin's initial plans and drafts to conclusion.

For several decades, Colin had been known for his textbooks, especially *Management and Cost Accounting*, by almost anyone who wanted a thorough understanding of the subject. Colin was often complimented on the comprehensive nature and clarity of his writing. This was probably attributable to his previous practical experience, but also to the thorough and uncomplicated manner in which he tackled all his work. He managed to navigate successfully between the academic and practitioners' study of management accounting and as a result of his rigour and authority, his textbook became recommended reading in management accounting by the professional accounting bodies as well as in many universities across the UK, Europe and beyond. From as early as the third edition it was regarded as 'Europe's Bestselling Management Accounting Textbook'. The *ACCA Students' Newsletter* noted: 'Drury's book can be recommended, without reservation, to all accounting students.'

Colin also served on the Research Committee of CIMA and worked on the *CIMA Official Management Accounting Terminology*. Colin was quick to include the most up-to-date research findings into the latest editions of his textbooks and therefore helped turn research into practice. The areas of his own research interests emphasized current practice, hence, he helped to bring management accounting practice into research. Shortly after Colin's retirement, to acknowledge his achievements, the British Accounting and Finance Association bestowed upon him a Lifetime Achievement Award, which he richly deserved.

Colin's legacy will live on through this award and through his extensive contributions to books and journals – Cengage thanks him for all his dedication over the past decades, and for his family's support in enabling the 11th edition to reach fruition.

All at Cengage

PREFACE

Fundamentally, this new 11th edition updates and builds upon the foundation in *Management and Cost Accounting* which Colin so successfully established. Colin and I first started to teach together 40 years ago and commenced our research collaboration in 1990 with research into contemporary management accounting practices. I enjoyed collaborating with Colin, producing *A Survey of Management Accounting Practices in UK Manufacturing Companies* (ACCA) and *Cost System Design and Profitability Analysis in UK Companies* (CIMA) in addition to various journal articles. Colin was a pleasure to work with, he had a clear passion for this work, but for someone so renowned in the academic accounting community he was very modest about his achievements. There was always a humility in the way he went about all of his academic endeavours. Although our careers ultimately followed different paths, we maintained contact and so I am privileged to make a small contribution to this highly successful textbook which for over three decades and ten editions, has been at the forefront of helping students learn the key concepts and processes in management and cost accounting.

The aim of the 11th edition of this book is to explain the principles involved in designing and evaluating management and cost accounting information systems. Management accounting systems accumulate, classify, summarize and report information that will assist employees within an organization in their decision-making, planning, control and performance measurement activities. A cost accounting system is concerned with accumulating costs for inventory valuation to meet external financial accounting and internal monthly or quarterly profit measurement requirements. As the title suggests, this book is concerned with both management and cost accounting, but with emphasis placed on the former.

A large number of cost and management accounting textbooks have been published. Many of these books contain a detailed description of accounting techniques without any discussion of the principles involved in evaluating management and cost accounting systems. Such books often lack a conceptual framework and ignore the considerable amount of research conducted in management accounting in the past three decades. At the other extreme, some books focus entirely on a conceptual framework of management accounting with an emphasis on developing normative models of what ought to be. These books pay little attention to accounting techniques. The objective has been to produce a book that falls within these two extremes.

The target audience for this book is undergraduate students who are pursuing a one-year or two-year management accounting course, and students who are preparing for the management and cost accounting examinations of professional accountancy bodies at an intermediate or advanced professional level. It will also be of use to postgraduate and higher national diploma students who are studying management and cost accounting for the first time. An introductory course in financial accounting is not a prerequisite, although many students will have undertaken such a course.

STRUCTURE AND PLAN OF THE BOOK

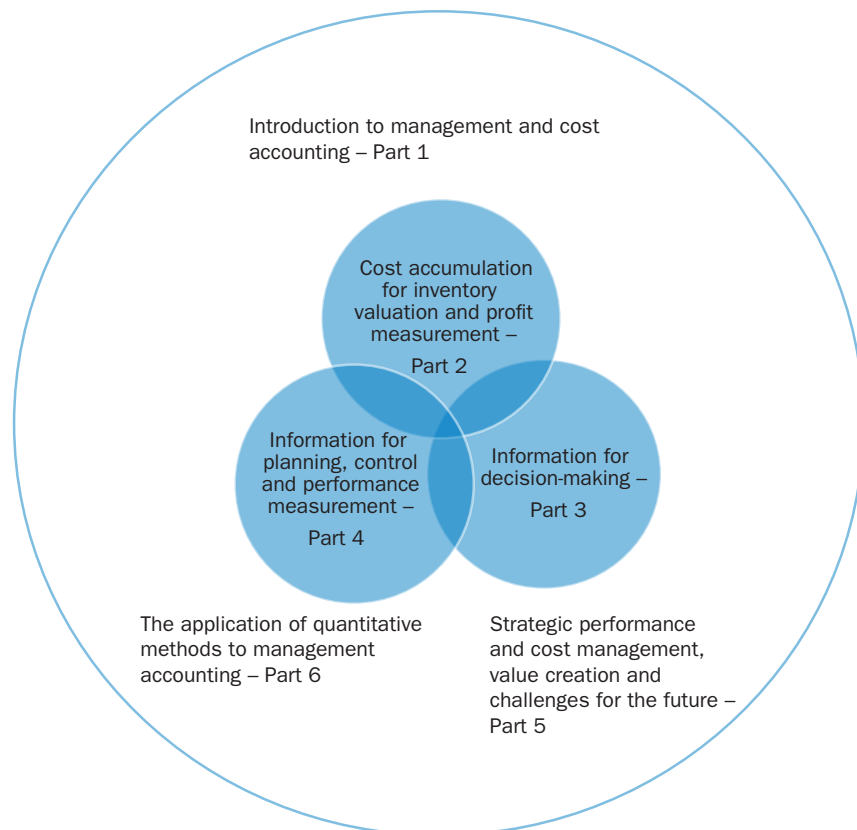
A major theme of this book continues to be different financial information for different management purposes and how to explain this to students. The framework used in this book highlights that there are three ways of constructing management accounting information:

1. The first is **cost accounting** with its emphasis on producing product (or service) costs for allocating costs between cost of goods sold and inventories to meet external and internal financial accounting inventory valuation and profit measurement requirements.
2. The second is the notion of **decision-relevant costs** with the emphasis on providing relevant information to help managers to make good decisions.
3. The third is **responsibility accounting and performance measurement** that focuses on both financial and non-financial information; in particular, the assignment of costs and revenues to responsibility centres.

These are captured in Figure 0.1 and throughout the book we remind the reader of this distinction and point out where different examples of management and cost accounting information are – or are not – suited to particular circumstances.

FIGURE 0.1

The management accounting system structure of this book



The book is divided into six parts. **Part One** consists of two chapters and provides an introduction to management and cost accounting, its terminology and a framework for studying the remaining chapters. The following three parts reflect the three different ways of constructing accounting information. **Part Two** comprises five chapters and is entitled 'Cost accumulation for inventory valuation and profit measurement'. This part focuses on assigning costs to products, to separate the costs incurred during a period between costs of goods sold and the closing inventory valuation for internal and external profit

measurement. The extent to which product costs accumulated for inventory valuation and profit measurement should be adjusted for meeting decision-making, cost control and performance measurement requirements is also briefly considered. **Part Three** consists of seven chapters and is entitled 'Information for decision-making'. Here the focus is on measuring and identifying those costs that are relevant for different types of decision. The title of **Part Four** is 'Information for planning, control and performance measurement'. It consists of six chapters and concentrates on the process of translating goals and objectives into specific activities and the resources that are required, via the short-term (budgeting) and long-term planning processes. In addition, the management control systems that organizations use are described and the role that management accounting control systems play within the overall control process is examined. The emphasis here is on the accounting process as a means of providing information to help managers control the activities for which they are responsible. Performance measurement and evaluation within different segments of the organization is also examined. **Part Five** consists of three chapters and is entitled 'Strategic performance and cost management, value creation and challenges for the future'. The first chapter focuses on strategic performance management, the second on strategic cost management and value creation. The third chapter concentrates on the emerging issues that are likely to have an impact on management accounting and considers some potential future developments in management accounting. **Part Six** consists of three chapters and is entitled 'ADDENDUM: The application of quantitative methods to management accounting'. This part can be incorporated flexibly depending on the wishes of the instructor.

In devising a framework around the three methods of constructing financial information, there is a risk that the student will not appreciate that the three categories use many common elements, that they overlap (see Figure 0.1) and that they constitute a single overall management accounting system, rather than three independent systems. Steps have been taken to minimize this risk in each part by emphasizing why financial information for one purpose should or should not be adjusted for another purpose. In short, each part of the book is not presented in isolation and an integrative approach has been taken.

A frequent consideration in a book of this type is how much the application of quantitative techniques should be integrated with the appropriate topics or if it should be considered separately. Quantitative techniques have been integrated whenever they are an essential part of a chapter, but otherwise they are presented separately in Part Six. This approach allows for maximum flexibility. Instructors wishing to integrate 'quantitative techniques' with particular earlier chapters may do so by assigning readings from Part Six, while those who wish to concentrate on more 'discursive' material will not be distracted by having to exclude the relevant quantitative portions of chapters.

CHANGES IN THE CONTENT OF THE 11TH EDITION

Feedback in relation to structure and content of the previous editions has been extremely favourable and therefore no major changes have been made to the structure. The major objective in preparing the 11th edition has been to continue to produce an accessible text and to incorporate appropriate recent developments in the management accounting literature. The content and expression was thoroughly reviewed as well as the opportunity to rewrite or improve the presentation and explanation of the material. Greater attention has been given to emerging issues such as environmental and sustainability issues, ethical considerations, the knowledge-based economy, IT and digitalization.

We have also included a new 'employability skills' section at the end of each chapter, given the increasing emphasis on teaching employability skills. Comprehensive solutions to all these questions can be downloaded from the companion website to this title.

In addition, substantial updates have been made to the end-of-chapter assessment material that contains the solutions in a separate section at the end of the book. Finally, most of the 'Real World Views' that provide examples of the practical application of management accounting have been updated or replaced by more recent examples that provide better illustrations of the practical applications. Suggested outline solutions to the answers to the questions accompanying the 'Real World Views' have been added to the Instructor's Manual accompanying this book.

LEARNING NOTES

The scale and scope of management accounting is always expanding. It is inevitable that not all instructors will use all chapters of this book in their teaching programmes. In order to meet the different requirements of lecturers, different course curricula and to retain the book at a manageable size, various topics have been included as learning notes that can be accessed by students and lecturers in the digital support resources accompanying this book. The learning notes tend to include the more complex issues that often do not feature as part of the content of other management accounting textbooks, but which, over the years, have remained topics of relevance and interest. All learning notes are appropriately referenced within the text. For example, at appropriate points within specific chapters the reader's attention is drawn to the fact that, for a particular topic, more complex issues exist and that a discussion of these issues can be found by referring to a specific learning note in the digital resources accompanying this book.

CASE STUDIES

Over 30 case studies are available in the digital support resources for this book. Both lecturers and students can download these case studies from the book's companion website. Teaching notes for the case studies are only available for instructors to download. The cases generally cover the content of several chapters and contain questions to which there is no ideal answer. They are intended to encourage independent thought and initiative and to apply the content of this book in particular contexts. Case studies are also intended to develop critical thinking and analytical skills.

HIGHLIGHTING OF ADVANCED READING SECTIONS

One of the major advantages of this book, highlighted in feedback, has been the comprehensive treatment of management accounting. Throughout the book there are sections that have been identified as advanced reading. Instructors and students can decide whether or not some of the more advanced material is essential for their course. These advanced reading sections have been highlighted using a vertical coloured line. They should be read in detail only when the remaining parts of the chapter have been fully understood.

INTERNATIONAL FOCUS

The book is an established text in many different countries throughout the world. As a result, a more international focus has been adopted. A major feature is the presentation of boxed exhibits of surveys and practical applications of management accounting in companies in many different countries, particularly on the European mainland. Most of the assessment material includes questions set by the UK professional accountancy bodies. These questions are appropriate for worldwide use, and users who are not familiar with the requirements of the UK professional accountancy bodies should note that many of the advanced-level questions also contain the beneficial features described above for case study assignments.

RECOMMENDED READING

A separate section at the end of most chapters provides advice on key articles or books which you are recommended to read if you wish to pursue topics and issues in more depth. Many of the references are the original work of writers who have played a major role in the development of management

accounting. The contribution of such writers is often reflected in this book but there is frequently no substitute for reading the original work of the authors. The detailed references are presented in the bibliography towards the end of the book.

ASSESSMENT MATERIAL

Throughout the text, illustrations have been kept relatively simple. You can check understanding of each chapter by answering the review questions. Each question is followed by page numbers within parentheses that indicate where in the text the answers to specific questions can be found. In addition, more complex review problems are set at the end of each chapter to enable students to pursue certain topics in more depth. Each question is graded according to the level of difficulty. Questions graded 'Basic' are appropriate for a first-year course and normally take less than 20 minutes to complete. Questions graded 'Intermediate' are also appropriate for a first-year course but take about 30–45 minutes to complete, whereas questions graded 'Advanced' are normally appropriate for a second-year course or the final stages of the professional accountancy examinations. Fully worked solutions to the review problems not prefixed by the term 'IM' (Instructor's Manual) are provided in a separate section at the end of the book.

This book is part of an integrated educational package. A *Student Manual* offers additional review problems with fully worked solutions. Students are strongly recommended to purchase the *Student Manual*, which complements this book. In addition, the Instructor's Manual provides suggested solutions to the questions at the end of each chapter that are prefixed by the term 'IM'. The solutions to these questions are not available to students. The Instructor's Manual can be downloaded free by lecturers. Also available to lecturers is a Cognero test bank offering 1,800+ questions and answers tailored to the content of the book, for use in classroom assessment.

The form of assessment in both academic and professional accounting is evolving, which is reflected in the use of objective test (OT), multiple-choice or drag-and-drop-based short problems. Periodically, use is made of larger questions or case studies (sometimes pre-distributed) which are cross-functional containing contextual material.

Candidates are advised that the graded questions in this book are still an ideal way to prepare for both these styles of assessment. The reasons are:

- OT questions: candidates need to understand the **whole process** of any calculation, decision or action in order to understand the particular part being examined in any shorter OT question.
- Case studies: candidates may be faced with a **case study** (at any level), which contains the detail or results of a comprehensive calculation. They may be required to understand, adapt, perhaps critique, such a calculation and use it to make judgements and recommendations.

Candidates can only make a correct judgement in response to either situation if they understand the overall problem and how any one part fits with the whole process. This will be guided by making attempts at a combination of basic, intermediate and advanced questions which appear at the end of each chapter.

I hear and I forget, I see and I remember, I do and I understand.

Chinese proverb

ALTERNATIVE COURSE SEQUENCES

Although conceived and developed as a unified whole, the book can be tailored to the individual requirements of a course and to the preferences of the individual reader. For a discussion of the alternative sequencing of the chapters see 'Guidelines for using this book' in Chapter 1.

SUPPLEMENTARY MATERIAL

The 11th edition of the print *Student Manual* helps you work through the text and is available from all good bookshops (ISBN 978-1-4737-7362-2).

The 11th edition of Colin Drury's *Management and Cost Accounting* text is accompanied by the following dedicated digital support resources:

- **Dedicated instructor resources** only available to instructors, who can register for access either at login.cengage.com or by speaking to their local Cengage learning consultant.
- Cengage **MindTap**, an online learning solution that allows lecturers to easily customize and combine learning tools such as readings, interactive content and assessment activities to create a personalized learning path for students, including **Aplia**. Lecturers can add or remove existing content within the learning path or add their own content in order to deliver a seamless student experience that aligns exactly with the way they teach their course.

DEDICATED INSTRUCTOR RESOURCES

This includes the following resources for lecturers:

- **Instructor's Manual** which includes answers to 'IM Review problems' in the text
- **Online test bank** which provides over 1,800 questions and answers
- **PowerPoint** slides to use in your teaching
- **Teaching notes** to accompany the case studies
- **Downloadable figures and tables** from the book to use in your teaching.

Mike Tayles, Emeritus Professor Accounting and Finance, University of Hull

ABOUT THE AUTHORS

Colin Drury

Colin Drury was at Huddersfield University from 1970 until his retirement in 2004, when he was awarded the title of Emeritus Professor. For the last 35 years, Colin had been at the forefront of helping students learn the key concepts and processes in management and cost accounting through his bestselling textbooks, which have been widely recommended by the main professional accounting bodies for their examinations. He was an active researcher throughout his career and his research had been published in around 100 professional and academic journals.

In recognition for his contribution to accounting education and research, Drury was given a Lifetime Achievement Award by the British Accounting Association in 2009.

Colin's flagship title *Management and Cost Accounting* was first published over 35 years ago and is now in its 11th edition. It established itself as one of the leading management accounting textbooks in EMEA. It is known, not just for its rigour and authority, but particularly for Colin's down-to-earth style that reflected his background as a practising accountant before his involvement in academia.

Mike Tayles

Mike Tayles holds the Emeritus Chair in Accounting and Finance at The University of Hull. During his career, he has been the Head of Management Accounting and Programme Director of various Degree Programmes as well as a Visiting Professor at various universities internationally. He has been an Examiner/Lead Marker for both the ACCA and CIMA.

Mike is a chartered management accountant with a first degree in mathematics and economics and a doctorate in contemporary management accounting practices. He has worked in various manufacturing industries, holding such positions as group management accountant and financial controller.

Mike's research interests include management accounting practices, cost system design, activity-based cost management and developments in strategic management accounting, including quality and intellectual capital. He has presented papers at national and international conferences, and published articles in professional and international academic journals and research reports. He has consulting and research experience in both manufacturing and service businesses.

ACKNOWLEDGEMENTS

The authors are indebted to many individuals for their ideas and assistance in preparing this and previous editions of the book. In particular, we would like to thank the following who have provided material for inclusion in the text and the dedicated digital support resources or who have commented on this and earlier editions of the book:

Alicia Gazely, Nottingham Trent University, UK
Anh Nguyen, ICHEC, Belgium
Annie van der Merwe, University of Johannesburg, South Africa
Anthony Atkinson, University of Waterloo, Canada
Antony Head, Sheffield Hallam University, UK
Ben Ukaegbu, London Metropolitan University, UK
Bjarni Frimann Karlsson, University of Iceland, Iceland
Carsten Rohde, Copenhagen Business School, Denmark
Cathy Knowles, Oxford Brookes University, UK
Charlotte Wilson, University of Hull, UK
Christopher Coles, Glasgow University, UK
Clare Guthrie, Manchester Metropolitan University, UK
Corinna Schwarze, University of Stellenbosch, South Africa
Dan Otzen, Copenhagen Business School, Denmark
David MacKerrell, Bromley College, UK
David Russell, De Montfort University, UK
Dermot O'Leary, Athlone Institute of Technology, Ireland
Deryl Northcott, Auckland University of Technology, New Zealand
Dinah-Ann Rogers, Manchester Metropolitan University, UK
F.J.C. Benade, UNISA, South Africa
Falconer Mitchell, University of Edinburgh, UK
Fanus Nortje, UNISA, South Africa
Finland Joset Jordaan-Marais, University of Johannesburg, South Africa
Francois Steyn, University of Stellenbosch, South Africa
Gary Owen, University of Greenwich, UK
Gordian Bowa, Polytechnic of Namibia, Africa
Graham Parker, Kingston University, UK

Hadiza Said, University of Hull, UK
Hugh McBride, GMIT, Ireland
Ian G. Fisher, John Moores University, UK
Ian Herbert, Loughborough University, UK
Igbekele Sunday Osinubi, University of East London, UK
James S. Reece, University of Michigan, USA
Jayne Ducker, Sheffield Hallam University, UK
Jim Stockton, University of Chester, UK
Joanne Monkman, CIMA, UK
Jodie Moll, University of Manchester, UK
John Currie, National University of Ireland, Galway, Ireland
John Fletcher, Middlesex University, UK
John Innes, University of Dundee, UK
John Joyce, Sheffield Hallam University, UK
John Perrin, University of Exeter, UK
John Shank, The Amos Tuck School of Business, Dartmouth College, UK
Jonathan Rooks, London South Bank University, UK
Jose Manuel de Matos Carvalho, ISCA de Coimbra, Portugal
Jukka Pellinen, University of Jyväskylä, Finland
Julia Smith, University of Wales Cardiff, UK
Katrijn Haesebrouck, Maastricht University, NL
Keith Best, University of Huddersfield, UK
Khaled Hussainey, Stirling University, UK
Kirsten Kininmonth, University of Glasgow, UK
Lewis Gordon, University of Liverpool, UK
Lin Fitzgerald, Loughborough University, UK
Louise McAlinden, ACCA, UK
Martin Quinn, Queen's University Belfast, Ireland
Melissa McGill, University of Johannesburg, South Africa
Michael Tapiwa Mubaiwa, Manchester Metropolitan University, UK
Michel Lebas, HEC Paris, France
Mike Johnson, University of Dundee, UK
Mubina Musa, Manchester Metropolitan University, UK
Nick Best, Astranti Financial Training, UK
Obert Matarirano, University of Fort Hare, South Africa
Paul Collier, University of Exeter, UK
Peter Clarke, University College Dublin, Ireland
Peter Cleary, University College Cork, Ireland
Peter Nordgaard, Copenhagen Business School, Denmark
Richard Andrews, University of Hull, UK
Richard Grey, University of Strathclyde, UK
Richard M.S. Wilson, Loughborough University Business School, UK
Robin Roslender, Heriot-Watt University, UK

Rona O'Brien, Sheffield Hallam University, UK
Ronnie Patton, University of Ulster, Ireland
Ruth O'Leary, National College of Ireland, Ireland
Sophie Hoozee, IESEG School of Management, Lille Catholic University, France
Stan Brignall, Aston Business School, UK
Steve Dungworth, De Montford University, Leicester, UK
Tony Rayman, University of Bradford, UK
Wayne Fiddler, University of Huddersfield, UK
Yousif Abdalla, University of Sharjah, United Arab Emirates

We are also indebted to Martin Quinn (Queen's University Belfast, Ireland) and Peter Cleary (University College Cork, Ireland) for providing the new Real World Views and outline solutions that have been added to the 11th edition, Mubina Musa and Michael Tapiwa Mubaiwa (Manchester Metropolitan University) for the highly engaging employability skills questions in the assessment section of each chapter, Matthew Pinnock (Isthmus Consulting) for his work on review problems as well as Birgit Gruber, Marie Lebreton, Annabel Ainscow and Phillipa Davidson-Blake at Cengage for their valuable publishing advice, support and assistance. Our appreciation goes also to the Chartered Institute of Management Accountants, the Association of Chartered Certified Accountants and the Association of Accounting Technicians for permission to reproduce past examination questions. Questions from the Chartered Institute of Management Accountants' examinations are designated CIMA; questions from the Association of Chartered Certified Accountants are designated ACCA; and questions from the Association of Accounting Technicians are designated AAT. On the digital support resources, we acknowledge and thank: Alicia Gazely of Nottingham Trent University, Steve Rickaby and Wayne Fiddler of York St John University. The answers in the text and accompanying Student and Instructor's Manuals to this book are our own and are in no way the approved solutions of the above professional bodies.

Thanks are also given to the many contributors who have provided case studies for the online support resource, as well as those who have contributed to the MindTap resources:

Adriana van Cruysen, Zuyd Hogeschool, NL
Alastair Marais, University of KwaZulu-Natal, South Africa
Alexander Himme, Kühne Logistics University, Germany
Carla Serfontein, University of the Free State, South Africa
Chris Kelsall, University of Central Lancashire, UK
Denny Emslie, University of Fort Hare, South Africa
Ed Tew, University of Winchester, UK
Henry Ababio, National University of Lesotho, Lesotho
Karen Boyd, Fellow of ACCA, UK
Liz Crookes, University of Derby, UK
Lorenzo Neri, University of Greenwich, UK
Manjit Biant, University of Wales Trinity Saint David, UK
Maria Gee, Royal Holloway, University of London, UK
Mohamed Saeudy, University of Bedfordshire, UK
Rosemarie Kelly, Waterford Institute of Technology, Ireland
Tessa de Jongh, North-West University, South Africa
Yolande Reyneke, UNISA, South Africa
Zani-Andrea Labuschagne, University of Pretoria, South Africa

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PART ONE

INTRODUCTION TO MANAGEMENT AND COST ACCOUNTING

- 1** Introduction to management accounting
- 2** An introduction to cost terms and concepts

The objective of this part is to provide an introduction to management and cost accounting. In Chapter 1, we define accounting and distinguish between financial, management and cost accounting. This is followed by an examination of the role of management accounting in providing information to managers for decision-making, planning, control and performance measurement. We also consider the important changes that are taking place in the business environment. As you progress through the book you will learn how these changes are influencing management accounting systems. In Chapter 2, the basic cost terms and concepts that are used in the cost and management accounting literature are described.

1

INTRODUCTION TO MANAGEMENT ACCOUNTING

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

- distinguish between management accounting and financial accounting;
- identify and describe the elements involved in the decision-making, planning and control process;
- justify the view that a major objective of commercial organizations is to broadly seek to maximize future profits;
- explain the important changes that have taken place in the business environment that have influenced management accounting practice;
- outline and describe the key success factors that directly affect customer satisfaction;
- identify and describe the functions of a cost and management accounting system.

There are many definitions of accounting, but the one that captures the theme of this book is the definition formulated by the American Accounting Association. It describes accounting as:

the process of identifying, measuring and communicating economic information to permit informed judgements and decisions by users of the information.

In other words, accounting is concerned with providing both financial and non-financial information that will help decision-makers to make good decisions. In order to understand accounting, you need to know something about the decision-making process, and also to be aware of the various users of accounting information.

During the past two decades many organizations in both the manufacturing and service sectors have faced dramatic changes in their business environment. Deregulation and extensive competition from international companies in domestic markets have resulted in a situation in which most companies now operate in a highly competitive global market. At the same time there has been a significant reduction in product life cycles arising from technological innovations and the need to meet increasingly discriminating customer demands. To succeed in today's highly competitive environment, companies have made customer satisfaction an overriding priority. They have also adopted new management approaches and manufacturing companies have changed their manufacturing systems and invested in new technologies. These changes have had a significant influence on management accounting systems.

The aim of this first chapter is to give you the background knowledge that will enable you to achieve a more meaningful insight into the role, benefits, issues and problems of cost and management accounting that are discussed in the book. We begin by looking at the users of accounting information and identifying their requirements. This is followed by a description of the decision-making, planning and control process and the changing business environment. Finally, the different functions of management accounting are described.

THE USERS OF ACCOUNTING INFORMATION

Accounting is a language that communicates economic information to various parties (known as **stakeholders**) who have an interest in the organization. Stakeholders fall into several groups (e.g. managers, shareholders and potential investors, employees, suppliers and customers, creditors and the government) and each of these groups has its own requirements for information:

- Managers require information that will assist them in their decision-making and control activities; for example, information is needed on the estimated selling prices, costs, demand, competitive position and profitability of various products/services that are provided by the organization.
- Shareholders require information on the value of their investment and the income that is derived from their shareholding. Likewise, potential investors are interested in their potential returns.
- Employees require information on the ability of the firm to meet wage demands and avoid redundancies, their potential for continued employment.
- Creditors and the providers of loan capital require information on a firm's ability to meet its financial obligations.
- Government agencies such as the Central Statistical Office collect accounting information and require such information as the details of sales activity, profits, investments, stocks (i.e. inventories), dividends paid, the proportion of profits absorbed by taxation and so on. In addition, government taxation authorities require information on the amount of profits that are subject to taxation. All this information is important for determining policies to manage the economy.

The need to provide accounting information is not confined to business organizations. Non-profit-making organizations such as churches, charitable organizations, clubs and government units such as local authorities, also require accounting information for decision-making and for reporting the results of their activities. For example, a tennis club will require information on the cost of undertaking its various activities so that a decision can be made as to the amount of the annual subscription that it will charge to its members. Similarly, municipal authorities, such as local government and public sector organizations, need information on the costs of undertaking specific activities so that decisions can be made as to which activities will be undertaken and the resources that must be raised to finance them.

As you can see, there are many different users of accounting information who require information for decision-making. The objective of accounting is to provide sufficient information to meet the needs of the various users at the lowest possible cost. Obviously, the benefit derived from using an information system for decision-making must be greater than the cost of operating the system.

The users of accounting information can be divided into two categories:

- 1 internal users within the organization, such as managers and other employees who need this information to operate their part of the business to best effect;
- 2 external users such as shareholders, creditors and regulatory agencies outside the organization.

From the above, it is possible to distinguish between two branches of accounting, which reflect the internal and external users of accounting information. **Management accounting** is concerned with the provision of information to people within the organization to help them make better decisions and improve the efficiency and effectiveness of existing operations, whereas **financial accounting** is concerned with

the provision of information to external parties outside the organization, including the general public. Thus, management accounting could be called internal reporting and financial accounting could be called external reporting. This book concentrates on management accounting.

DIFFERENCES BETWEEN MANAGEMENT ACCOUNTING AND FINANCIAL ACCOUNTING

The major differences between these two branches of accounting are:

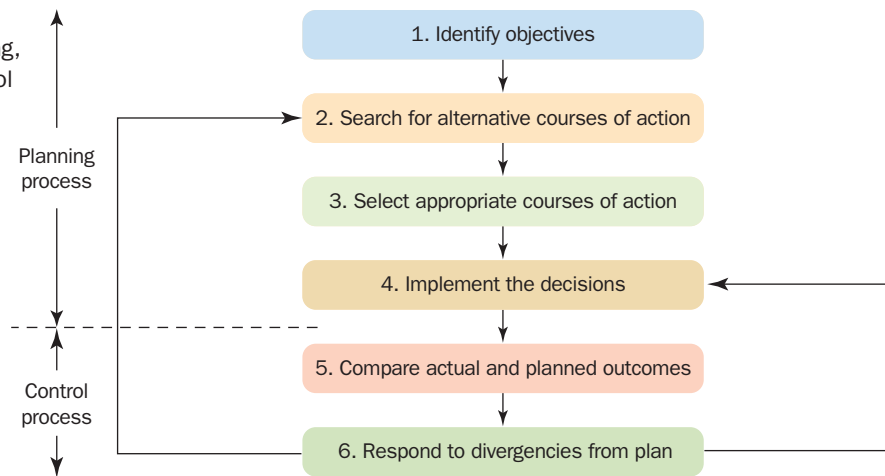
- *Legal requirements.* There is a statutory requirement for public limited companies to produce annual financial accounts, regardless of whether or not management regards this information as useful. Management accounting, by contrast, is entirely optional and information should be produced only if it is considered that the benefits it offers management exceed the cost of collecting it.
- *Focus on individual parts or segments of the business.* Financial accounting reports describe the whole of the business, whereas management accounting focuses on parts of the organization; for example, the cost and profitability of products, services, departments, customers and activities.
- *Generally accepted accounting principles.* Financial accounting statements must be prepared to conform with the legal requirements and the generally accepted accounting principles established by the regulatory bodies such as the Financial Accounting Standards Board (FASB) in the USA, the Financial Reporting Council (FRC) in the UK and the International Accounting Standards Board (the Board). These requirements are essential to ensure uniformity and consistency, which make intercompany and historical comparisons possible. Financial accounting data should be verifiable and objective. In contrast, management accountants are not required to adhere to generally accepted accounting principles when providing managerial information for internal purposes. Instead, the focus is on serving the management's needs and providing information that is useful to managers when they are carrying out their decision-making, planning and control functions. Indeed, it could be said that the best management accounting is that which is most useful to the manager, and this varies with the business size, sector, technology and the circumstances of the question or problem.
- *Time dimension.* Financial accounting reports what has happened in the past in an organization, i.e. it is historical; management accounting is concerned with *future* information as well as past information. Decisions are concerned with *future* events and management, therefore, requires details of expected *future* costs and revenues, which by definition are predictions and not known with certainty.
- *Report frequency and less emphasis on precision.* A detailed set of financial accounts is published annually and less detailed accounts are published semi-annually. Management usually requires information more quickly than this if it is to act on it. Managers are often more concerned with timeliness rather than precision. They prefer a good estimate now rather than a precise answer much later. Consequently, management accounting reports on various activities may be ad hoc investigations or be prepared at daily, weekly or monthly intervals.

THE DECISION-MAKING, PLANNING AND CONTROL PROCESS

Information produced by management accountants must be judged in the light of its ultimate effect on the outcome of decisions. It is therefore important to have an understanding of the *decision-making, planning and control process*. Figure 1.1 presents a diagram of the decision-making, planning and control process. The first four stages represent the decision-making or planning process. The final two stages represent the **control process**, which is the process of measuring and correcting actual performance to ensure the alternatives that are chosen and the plans for implementing them are carried out. We will now examine the stages in more detail.

FIGURE 1.1

The decision-making, planning and control process



REAL WORLD VIEWS 1.1

Chartered Institute of Management Accountants (CIMA)/Chartered Global Management Accountants (CGMA)

Activities and skills of management accounting

Management accounting combines accounting, finance and management with the leading-edge techniques needed to drive successful businesses. According to CIMA, the primary activities performed by management accountants occur within the areas of strategy, management and operations. Examples within each area include:

- advising on mergers, acquisitions and divestments;
- formulating and evaluating financial strategy;
- designing and managing budgeting systems;
- evaluating organizational performance;
- forecasting and budgeting for organization activities;
- managing short-term finance.

Management accounting skill-set

Companies globally require the knowledge and services offered by management accountants in a multitude of areas across their organizations, not

just in finance. In addition to strong accounting and analytical fundamentals, CIMA teaches their members strategic business and management skills in areas such as the following:

- Analysis – analyse information and use it to make business decisions.
- Strategy – formulate business strategy to create wealth and shareholder value.
- Risk – identify and manage risk.
- Planning – apply accounting techniques to plan and budget.
- Communication – determine what information management needs and explain the numbers to non-financial managers.

Question

- 1 Provide three examples of a business decision that a management accountant could potentially support within an organization.

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Management accounting in your business. Available at www.cimaglobal.com/Employers/CGMA-The-new-global-standard/Management-accounting-in-your-business/ (accessed 28 April 2020).

Identifying objectives

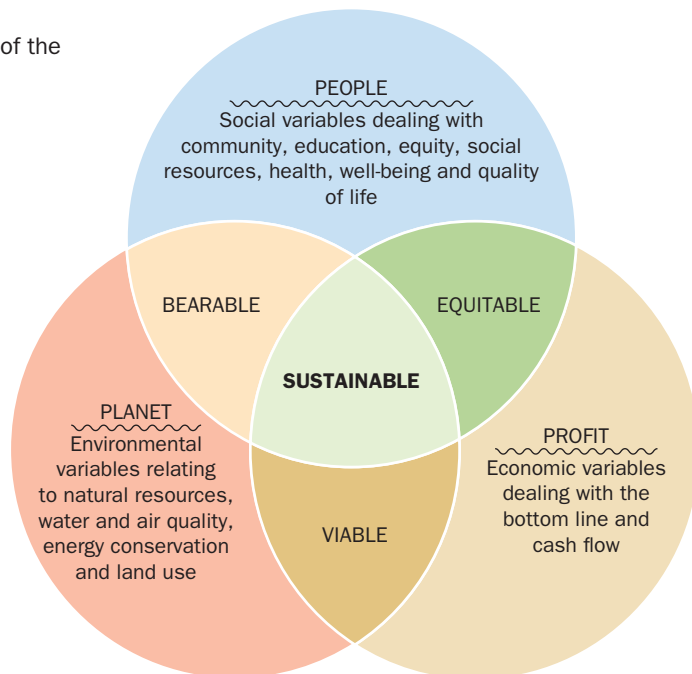
Before good decisions can be made there must be some guiding aim or direction that will enable the decision-makers to assess the desirability of choosing one course of action over another. Hence, the first stage in the decision-making process should be to specify the company's goals or organizational objectives, that is, what they are in business to achieve.

This is an area in which there is considerable controversy. Economic theory traditionally assumes that firms seek to maximize profits for the owners of the firm or, more precisely, the maximization of shareholders' wealth, which, as we shall see in Chapter 13, is equivalent to the maximization of the present value of future cash flows. Various arguments have been used to support the profit maximization objective. There is the legal argument that the ordinary shareholders are the owners of the firm, which therefore should be run for their benefit by trustee managers. Another argument supporting the profit objective is that profit maximization leads to the maximization of overall economic welfare. That is, by doing the best for yourself, you are unconsciously doing the best for society. These are typical capitalist arguments for the profit maximizing objective. However, it seems a reasonable belief that the interests of firms (and managers and employees) will be better served by a larger profit than by a smaller profit, so that maximization is at least a useful approximation. Some writers (e.g. Simon, 1959) have argued that many managers are content to find a plan that provides satisfactory profits rather than to maximize profits.

In contrast, organizational and behavioural scientists, such as Cyert and March (1969), have argued that the firm is a coalition of various different groups – shareholders, employees, customers, suppliers and the government – each of whom must be 'paid' a minimum to participate in the coalition. Any excess benefits after meeting these minimum constraints are seen as being the object of bargaining between the various groups. In addition, a firm is subject to constraints of a societal nature. Maintaining a clean environment, employing disabled workers and providing social and recreation facilities are all examples of social goals that a firm may pursue. We are seeing increasing interest in the responsibility of firms to a wider society at the present time. This is demonstrated by calls for firms to publish a Triple Bottom Line of performance in terms of social and environmental responsibility in addition to the economic performance of profitability. It is only by addressing these three requirements that firms can be said to be 'sustainable' (see Figure 1.2). We shall discuss the implications for management accounting of these developments in Chapter 23.

FIGURE 1.2

The interconnection of the elements of the Triple Bottom Line concept



Clearly it is too simplistic to say that the only objective of a business firm is to maximize profits. Some managers seek to establish a power base and build an empire. Another common goal is security, and the removal of uncertainty regarding the future may override the pure profit motive. Organizations may also pursue more specific objectives, such as producing high-quality products or being the market

leader within a particular market segment. Nevertheless, the view adopted in this book is that, *broadly*, firms seek to maximize future profits. There are three reasons for us to concentrate on this objective:

- 1 It is unlikely that any other objective is as widely applicable in measuring the ability of the organization to survive in the future.
- 2 It is unlikely that maximizing future profits can be realized in practice, but by establishing the principles necessary to achieve this objective you will learn how to increase profits.
- 3 It enables shareholders as a group in the 'bargaining coalition' to know how much the pursuit of other goals is costing them by indicating the amount of cash distributed among the members of the coalition.

The search for alternative courses of action

The second stage in the decision-making model is a search for a range of possible courses of action (or **strategies**) that might enable the objectives to be achieved. If the management of a company concentrates entirely on its present product range and markets, and market shares and profits are allowed to decline, there is a danger that the company will be unable to survive in the future. If the business is to survive, management must identify potential opportunities and threats in the current environment and take specific steps now so that the organization will not be taken by surprise by future developments. In particular, the company should consider one or more of the following courses of action:

- 1 developing *new* products for sale in *existing* markets (product development);
- 2 developing *new* markets for *existing* products (market development);
- 3 developing *new* products for *new* markets (diversification).

The search for alternative courses of action involves the acquisition of information concerning future opportunities and environments; it is the most difficult and important stage of the decision-making process. We shall examine this search process in more detail in Chapter 15. Note that while the management accountant might provide information to support this judgement, it involves executives from all functions including marketing, manufacturing and service operations, R&D, IT, etc.

Select appropriate alternative courses of action

In order for managers to make an informed choice of action, data about the different alternatives must be gathered. For example, managers might ask to see projected figures on:

- the potential growth rates of the alternatives under consideration;
- the market share the company is likely to achieve;
- projected profits for each alternative.

The alternatives should be evaluated to identify which course of action best satisfies the objectives of an organization. The selection of the most advantageous alternative is central to the whole decision-making process and the provision of information that facilitates this choice is one of the major functions of management accounting. These aspects of management accounting are examined in Chapters 8 to 14 and the extent to which they involve mathematical and quantitative techniques in Chapters 24 to 26.

Implementation of the decisions

Once the course of action has been selected, it should be implemented as part of the budgeting and long-term planning process. The **budget** is a financial plan for implementing the decisions that management has made. The budgets for all of the various decisions a company takes are expressed in

terms of cash inflows and outflows, and sales revenues and expenses. These budgets are initially prepared at the departmental/responsibility centre level (i.e. a unit or department within an organization where a manager is held responsible for performance) and merged together into a single unifying statement for the organization as a whole that specifies the organization's expectations for future periods. This statement is known as a **master budget** and consists of budgeted profit and cash flow statements. The budgeting process communicates to everyone in the organization the part that they are expected to play in implementing management's decisions. We shall examine the budgeting process in Chapter 15.

Comparing actual and planned outcomes and responding to divergencies from plan

The final stages in the process outlined in Figure 1.1 involve comparing actual and planned outcomes and responding to divergencies from plan. The managerial function of **control** consists of the measurement, reporting and subsequent correction of performance in an attempt to ensure that the firm's objectives and plans are achieved.

To monitor performance, the accountant produces **performance reports** and presents them to the managers who are responsible for implementing the various decisions. These reports compare actual outcomes (actual costs and revenues) with planned outcomes (budgeted costs and revenues) and should be issued at regular intervals. Performance reports provide feedback information and should highlight those activities that do not conform to plans, so that managers can devote their limited time to focusing mainly on these items. This process represents the application of **management by exception**, which involves a focus on the 'vital few' not the 'trivial many' events that take place in the organization. Effective control requires that corrective action be taken so that actual outcomes conform to planned outcomes. Alternatively, the plans may require modification if the comparisons indicate that the plans are no longer attainable. Note that these performance reports will contain both financial and non-financial information. We shall develop this notion throughout the book and particularly focus on it in Chapter 21.

The process of taking corrective action or modifying the plans if the comparisons indicate that actual outcomes do not conform to planned outcomes, is indicated by the arrowed lines in Figure 1.1 linking stages 6 and 4 and 6 and 2. These arrowed lines represent 'feedback loops'. They signify that the process is dynamic and stress the interdependencies between the various stages in the process. The feedback loop between stages 6 and 2 indicates that the plans should be regularly reviewed, and if they are no longer attainable then alternative courses of action must be considered for achieving the organization's objectives. The second loop stresses the corrective action taken so that actual outcomes conform to planned outcomes. Chapters 15 to 18 focus on the planning and control process.

THE IMPACT OF THE CHANGING BUSINESS ENVIRONMENT ON MANAGEMENT ACCOUNTING

During the last few decades, global competition, deregulation, declines in product life cycles, advances in manufacturing and information technologies, environmental issues and a competitive environment requiring companies to become more customer driven, have changed the nature of the business environment, which has become more digitized. These changes have significantly altered the ways in which firms operate, which in turn have resulted in changes in management accounting practices. We shall discuss these briefly below and their implications will also emerge in the chapters which follow.

Global competition

Throughout the last few decades reductions in tariffs and duties on imports and exports, and dramatic improvements in transportation and communication systems, have resulted in many firms operating in a global market. Prior to this, many organizations operated in a protected competitive environment. Barriers of communication and geographical distance, and sometimes protected markets, limited the ability of overseas companies to compete in domestic markets. There was little incentive for firms to maximize efficiency and improve management practices, or to minimize costs, as cost increases could often be passed on to customers. During the 1990s, however, organizations began to encounter severe competition from international competitors who offered high-quality products at low prices. Manufacturing companies can now establish global networks for acquiring raw materials and components, and distributing goods overseas through the development of sophisticated supply chains. Service organizations can communicate with customers and overseas offices instantaneously using internet and digital technologies. These changes have enabled competitors to gain access to domestic markets throughout the world. Nowadays, organizations have to compete against the best companies in the world. This new competitive environment has increased the demand for information relating to quality and customer satisfaction, and cost information relating to cost management, ways to add value and profitability analysis by product/service lines and geographical locations.

REAL WORLD VIEWS 1.2

The Internet of Things – new products and services

The Internet of Things (IoT) refers to physical objects which are connected to the internet. This includes household devices and many business and industrial applications. Together with 5G networking technologies, the IoT has given way to a vast array of new products and services. For example, fill-level sensors developed by smartbin™. This product can be placed inside industrial bins and send data on the fill level and location back to the waste collection firm. The sensors also allow the waste collection firm to optimize the waste collection routes. Another example is telemedicine. Cisco, for example, notes:

The new 5G wireless standard, in tandem with advances in artificial intelligence (AI) and edge computing architectures, can reduce

healthcare costs while broadening access to more patients. This will come from the adoption of telemedicine, telesurgery and expanded home healthcare.

Question

- 1 Can you think of any barriers to entry for a business entering the market for IoT sensors or similar?



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Changing product life cycles

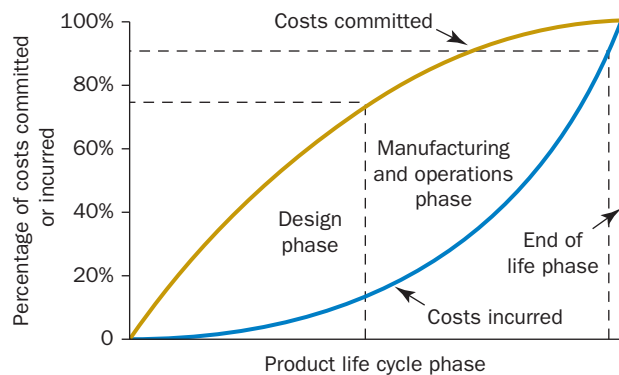
A **product's life cycle** is the period of time from initial expenditure on research and development to the time at which support to customers is withdrawn. Intensive global competition and technological innovation, combined with increasingly discriminating and sophisticated customer demands, have resulted in a dramatic decline in product life cycles. To be successful companies must now speed up the

rate at which they introduce new products to the market and constantly develop new products and services. Being later to the market than the competitors can have a dramatic effect on product profitability, market share and hence overall profitability of a product or service.

In many industries a large fraction of a product's life cycle costs are determined by decisions made early in its life cycle. This has created a need for management accounting to place greater emphasis on providing information at the design stage because many of the costs are committed or locked in at this time. Therefore, to compete successfully, companies must be able to manage their costs effectively at the design stage, have the capability to adapt to new, different and changing customer requirements and reduce the time to market of new and modified products. This is an important point; costs are not 'managed' when they are reported in an accounting statement, they are managed when decisions are made by management related to place and method of manufacture, type and source of material. These costs will show in the accounting statements when they are incurred, but by that time they cannot be changed or managed. See Figure 1.3.

FIGURE 1.3

A comparison of costs committed and costs incurred over a life cycle



Advances in manufacturing technologies

Excellence in manufacturing and the provision of services can become a competitive weapon to compete in sophisticated worldwide markets. In order to compete effectively, companies must be capable of providing innovative products or services of high quality at a low cost, and also provide a first-class customer service. At the same time, they must have the flexibility to cope with short product life cycles, demands for greater product variety from more discriminating customers and increasing international competition. World-class manufacturing companies have responded to these competitive demands by replacing traditional production systems with **lean manufacturing systems** that seek to reduce waste by implementing just-in-time (JIT) production systems, focusing on quality, simplifying processes and investing in advanced manufacturing technologies (AMTs). The major features of these new systems and their implications for management accounting will be described throughout this book.

The impact of information technology and digitalization

During the past two decades the use of information technology (IT) to support business activities has increased dramatically and the development of electronic business communication technologies known as **e-business**, **e-commerce** or **internet commerce** have had a major impact. For example, consumers are more discerning in their purchases because they can access the internet to compare the relative merits of different products and services. Internet trading also allows buyers and sellers to undertake transactions from diverse locations in different parts of the world. E-commerce (such as bar coding) has allowed considerable cost savings to be made by streamlining business processes and has generated extra revenues from the adept use of online sales facilities (such as ticketless airline