

**COLIN  
DRURY**  
**MANAGEMENT AND  
COST ACCOUNTING**

**9TH EDITION**



**COLIN  
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**MANAGEMENT AND COST  
ACCOUNTING**  
**NINTH EDITION**



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# PREFACE

**T**he aim of the ninth 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 is 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. My objective has been to produce a book that falls within these two extremes.

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

## STRUCTURE AND PLAN OF THE BOOK

A major theme of this book is that different financial information is required for different purposes, but my experience indicates that this approach can confuse students. In one chapter of a typical book, students are told that costs should be allocated to products including a fair share of overhead costs; in another chapter, they are told that some of the allocated costs are irrelevant and should be disregarded. In yet another chapter, they are told that costs should be related to people (responsibility centres) and not products, whereas elsewhere no mention is made of responsibility centres.

In writing this book, I have devised a framework that is intended to overcome these difficulties. The framework is based on the principle that there are three ways of constructing accounting information. 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. The second is the notion of decision-relevant costs with the emphasis on providing information to help managers to make good decisions.

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.

This book is divided into six parts. Part One consists of two chapters and provides an introduction to management and cost accounting and a framework for studying the remaining chapters. The following three parts reflect the three different ways of constructing accounting information. Part Two consists of five chapters and is entitled 'Cost Accumulation for Inventory Valuation and Profit Measurement'. This section focuses mainly 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, to achieve the goals and objectives. 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 two chapters and is entitled 'Strategic Cost Management and Strategic Management Accounting'. The first chapter focuses on strategic cost management and the second on strategic performance management. Part Six consists of three chapters and is entitled 'The Application of Quantitative Methods to Management Accounting'.

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, and that they constitute a single overall management accounting system, rather than three independent systems. I have taken steps to minimize this risk in each section by emphasizing why financial information for one purpose should or should not be adjusted for another purpose. In short, each section of the book is not presented in isolation and an integrative approach has been taken.

When I wrote this book, one important consideration was the extent to which the application of quantitative techniques should be integrated with the appropriate topics or considered separately. I have chosen to integrate quantitative techniques whenever they are an essential part of a chapter. For example, the use of probability statistics are essential to Chapter 12 (Decision-making under conditions of risk and uncertainty) but my objective has been to confine them, where possible, to Part Six.

This approach allows for maximum flexibility. Lecturers wishing to integrate quantitative techniques with earlier chapters may do so but those who wish to concentrate on other matters will not be hampered by having to exclude the relevant quantitative portions of chapters.

## MAJOR CHANGES IN THE CONTENT OF THE NINTH EDITION

The feedback relating to the structure and content of the previous editions has been extremely favourable and therefore no major changes have been made to the existing structure. The major objective in writing the ninth edition has been to produce a less complex and more accessible text. This objective created the need to thoroughly review the entire content of the eighth edition and to rewrite, simplify and improve the presentation of much of the existing material. Many of the chapters have been rewritten and some new material has been added (e.g. beyond budgeting in Chapter 15, economic value added in Chapter 19 and the strategic performance management framework in Chapter 22.) The end result has been an extensive rewrite of the text.

Substantial changes 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 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

Feedback from previous editions indicated that a significant majority of the respondents identified specific topics contained in the text that were not included in their teaching programmes, whereas a minority of respondents indicated that the same topics *were* included in their teaching programmes. In order to meet the different requirements of lecturers and different course curriculum, various topics are included as learning notes that can be accessed by students and lecturers on the CourseMate digital support resources accompanying this book. Examples of topics that are incorporated as learning notes include: determining the cost driver denominator level for use with ABC systems, the contingency approach to management accounting and statistical variance investigation models. 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. 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 on the CourseMate digital support resources accompanying this book.

## CASE STUDIES

Over 30 case studies are available on the dedicated CourseMate digital support resources for this book. Both lecturers and students can download these case studies from CourseMate (students use the printed access code provided in the front of the book). Teaching notes for the case studies are only available for lecturers 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 relate and apply your understanding of the content of this book in more uncertain situations. They are also intended to develop your critical thinking and analytical skills.

## HIGHLIGHTING OF ADVANCED READING SECTIONS

Feedback relating to previous editions has indicated that one of the major advantages of this book has been the comprehensive treatment of management accounting. Some readers, however, will not require a comprehensive treatment of all of the topics that are contained in the book. To meet the different requirements of the readers, the more advanced material that is not essential for those readers not requiring an in-depth knowledge of a particular topic, has been highlighted using a vertical green line. If you do require an in-depth knowledge of a topic, you may find it helpful to initially omit the advanced reading sections, or skim them, on your first reading. You should read them in detail only when you fully understand the content of the remaining parts of the chapter. The advanced reading sections are more appropriate for an advanced course and may normally be omitted if you are pursuing an introductory course. For some chapters, all of the content represents advanced reading. Where this situation occurs, readers are informed at the beginning of the relevant chapters and the highlighting mechanism is not used.

## INTERNATIONAL FOCUS

The book has now become an established text in many different countries throughout the world. Because of this, 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 has incorporated 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 is included at the end of most chapters providing 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 original work of the authors. The detailed references are presented in the Bibliography towards the end of the book.

## ASSESSMENT MATERIAL

Throughout this book, I have kept the illustrations simple. You can check your 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. More complex review problems are also 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 normally 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* has been extensively rewritten and provides 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. Case studies are also available for students and lecturers to access on the accompanying Course-Mate digital support resources for this book. Case study teaching notes are available only to lecturers.

Also available to lecturers is an Examview® testbank offering 1800+ questions and answers tailored to the content of the book, for use in classroom assessment.

## ALTERNATIVE COURSE SEQUENCES

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

## SUPPLEMENTARY MATERIAL

The ninth edition of the print *Student Manual* helps you work through the text and is available from all good bookshops (ISBN 9781408093948).

The ninth 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 lecturers, who can register for access either at <http://login.cengage.com> or by speaking to their local Cengage Learning representative.
- Cengage Learning's **CourseMate**, which brings course concepts to life with interactive learning, study and exam preparation tools that support the printed textbook. Students can access this using the unique personal access code included in the front of the book and lecturers can access it by registering at <http://login.cengage.com> or by speaking to their local Cengage Learning representative.
- Cengage Learning's **Aplia**, an online homework solution dedicated to improving learning by increasing student effort and engagement. A demo is available at [www.aplia.com](http://www.aplia.com). Instructors can find out more about accessing Aplia by speaking to their local Cengage Learning representative, and on the advice of their instructor, students can purchase access to Aplia at [www.cengagebrain.com](http://www.cengagebrain.com).

## DEDICATED INSTRUCTOR RESOURCES

This includes the following resources for lecturers:

- **Instructor's Manual** which includes answers to 'IM Review Problems' in the text
- **ExamView Testbank** provides over 1800 questions and answers
- **PowerPoint** slides to use in your teaching
- **Teaching notes** to accompany the case studies on CourseMate
- **Downloadable figures and tables** from the book to use in your teaching

## COURSEMATE

CourseMate offers students a range of interactive learning tools tailored to the ninth edition, including:

- **Case studies** (internationally focused)
- **Quizzes**
- **Beat the clock question and answer games**
- **Outline solutions to Real world view questions in the book**
- **PowerPoint slides**
- **Interactive ebook**
- **Learning notes** (relating either to specific topics that may only be applicable to the curriculum for a minority of readers, or a discussion of topics where more complex issues are involved)
- **Glossary**
- **Accounting and finance definitions** (handy introductions to accounting and finance techniques, disciplines and concepts)
- **Crossword puzzles and flashcards**
- **Guide to Excel**



- **Useful weblinks** (links to the main accounting firms, magazines, journals, careers and job search pages)
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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

**T**he objective of this section 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 factors that have influenced the changes in the competitive environment;
- outline and describe the key success factors that directly affect customer satisfaction;
- identify and describe the functions of a cost and management accounting system;
- provide a brief historical description of management accounting.

**T**here 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 overseas 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 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 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, 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.
- Employees require information on the ability of the firm to meet wage demands and avoid redundancies.
- 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.

### REAL WORLD VIEWS 1.1



#### **Accounting information for human resource professionals**

*People Management*, the journal of the Chartered Institute of Personnel and Development (CIPD), provides an example of the importance of accounting information to human resources (HR) professionals. The article touts the oft-cited expression 'people are our greatest asset', but questions how many HR professionals appreciate the full costs of people in an organization.

According to Vanessa Robinson of the CIPD, HR professions shouldn't merely say 'people are our greatest asset', but look at the income statement and see what they cost! The problem is that many HR professionals may not have sufficient basic accounting knowledge to understand basic accounting

principles. They need to be familiar with the basic financial statements – the income statement, statement of financial position and the statement of cash flows – as well as understand basic cost concepts. What this article tells us is something we as accountants already know – that accounting is a communication medium, a language indeed, that not everyone understands. Having said that, while HR professionals may not think they require fluency in accounting, they do need to make business decisions that are underpinned by sound financial information, e.g. recruit and retain staff. Having an understanding of accounting information (rather than just accepting it from the accountants) will benefit HR and other professionals in an organization.

#### **Questions**

- 1 What kind of accounting information would you communicate to HR professionals?
- 2 What format would you use?

The need to provide accounting information is not confined to business organizations. Individuals sometimes have to provide information about their own financial situation; for example, if you want to obtain a mortgage or a personal loan, you may be asked for details of your private financial affairs. 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;
- 2 external users such as shareholders, creditors and regulatory agencies, outside the organization.

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. 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 small 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 Accounting Standards Board (ASB) in the UK and the International Accounting Standards 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 the serving management's needs and providing information that is useful to managers when they are carrying out their decision-making, planning and control functions.
- *Time dimension.* Financial accounting reports what has happened in the past in an organization, whereas 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.

- *Report frequency.* 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. Consequently, management accounting reports on various activities may be prepared at daily, weekly or monthly intervals.

## THE DECISION-MAKING PROCESS

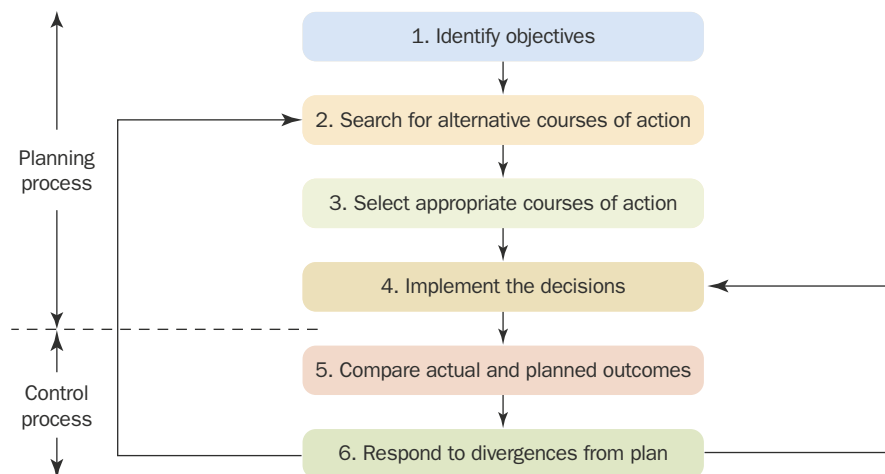
Information produced by management accountants must be judged in the light of its ultimate effect on the outcome of decisions. It is therefore important to have an understanding of the *decision-making process*. Figure 1.1 presents a diagram of the decision-making, planning and control process. The first 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.

### 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.

This is an area in which there is considerable controversy. Economic theory normally assumes that firms seek to maximize profits for the owners of the firm or, more precisely, the maximization of shareholders' wealth, which, we as 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. Moreover, it seems a reasonable belief that the interests of firms 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) believe that many managers are content to find a plan that provides satisfactory profits rather than to maximize profits.

**FIGURE 1.1**  
The decision-making, planning and control process



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.

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;
- 2 developing *new* products for *new* markets;
- 3 developing *new* markets for *existing* products.

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.

## 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 alternative activities under consideration;
- the market share the company is likely to achieve;
- projected profits for each alternative activity.

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.