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COLIN DRURY

10TH EDITION

MANAGEMENT AND COST ACCOUNTING

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10th Edition
Colin Drury

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PREFACE

The aim of the tenth 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. 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 three chapters and is entitled 'Strategic Performance and Cost Management 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 '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 TENTH 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 tenth edition has been to produce a less complex and more accessible text and incorporate appropriate recent developments in the management accounting literature. This objective created the need to thoroughly review the entire content of the ninth 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. time-driven activity-based costing, environmental and sustainability issues, ethical considerations and the impact of the emergence of the knowledge base economy). In addition, a new chapter ('Challenges for the future') has been added that focuses on the emerging issues that are likely to have an impact on management accounting and considers some potential future developments in management accounting. 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 in the 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 in the digital support 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 at [insert url when available]. 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 coloured 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 S*tudent 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 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 tenth edition of the print *Student Manual* helps you work through the text and is available from all good bookshops (ISBN 9781408093948).

The tenth 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 login.cengage.com or by speaking to their local Cengage representative.
- 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. 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.
- Cengage **Aplia**, an online homework solution dedicated to improving learning by increasing student effort and engagement. A demo is available at www.aplia.com. Instructors can find out more about accessing Aplia by speaking to their local Cengage representative, and on the advice of their instructor, students can purchase access to Aplia at www.cengagebrain.com.

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This includes the following resources for lecturers:

- **Instructor's Manual** which includes answers to 'IM Review Problems' in the text
- **Online Testbank** provides over 1800 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

APLIA

Cengage Aplia is a fully tailored online homework solution, dedicated to improving learning by increasing student effort and engagement. Aplia has been used by more than 1 million students at over 1300 institutions worldwide, and offers automatically graded assignments and detailed explanations for every question, to help students stay focussed, alert and thinking critically. A demo is available at www.aplia.com.

Aplia accounting features include:

- **Embedded ebook**
- **An easy-to-use course management system**
- **Personalized customer support**
- **Automatically graded chapter assignments with instant detailed feedback**

ABOUT THE AUTHOR

Colin Drury was employed at Huddersfield University from 1970 until his retirement in 2004. He was awarded the title of professor in 1988 and emeritus professor in 2004. Colin is the author of three books published by Cengage: *Management and Cost Accounting*, which is Europe's best selling management accounting textbook, *Management Accounting for Business* and *Cost and Management Accounting*. Colin has also been an active researcher and has published approximately 100 articles in professional and academic journals. In recognition for his contribution to accounting education and research, Colin was given a lifetime achievement award by the British Accounting Association in 2009.

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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 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 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 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, 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, 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.

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 Financial Reporting Council (FRC) in the UK and the International Accounting Standards Board (IASB). 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 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 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.

REAL WORLD VIEWS 1.1

Chartered Institute of Management Accountants (CIMA) – activities and skills

What is management accounting?

Management accounting combines accounting, finance and management with the leading edge techniques needed to drive successful businesses. Chartered management accountants:

- Advise managers about the financial implications of projects.
- Explain the financial consequences of business decisions.
- Formulate business strategy.
- Monitor spending and financial control.
- Conduct internal business audits.
- Explain the impact of the competitive landscape.
- Bring a high level of professionalism and integrity to business.

Management accounting skillset

Our members are qualified to work across an organization, not just in finance. In addition to strong accounting fundamentals, CIMA teaches strategic business and management skills:

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

Question

1 Provide more detailed illustrations for each of the first four items in the first category of the above list of how the management accountant can be of assistance in an organization with which you are familiar.

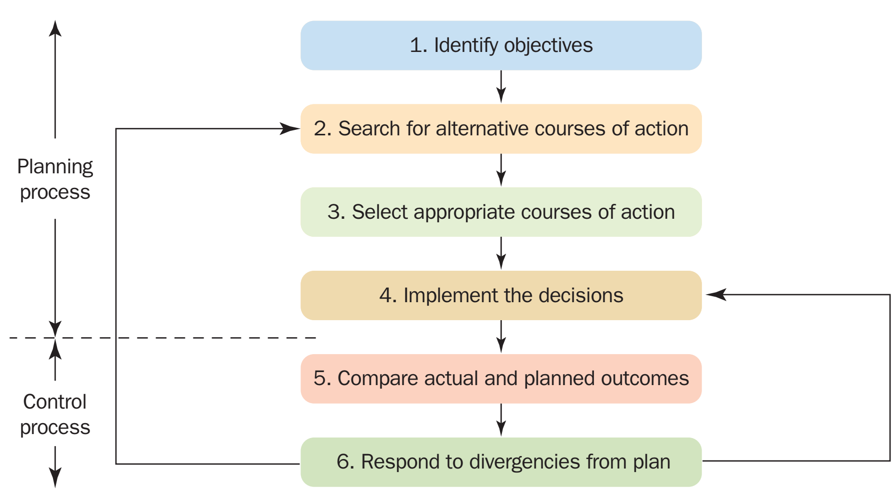
Reference

Extracted from the website of Chartered Institute of Management Accountants (www.cimaglobal.com/About-us/What-is-management-accounting/)

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.

FIGURE 1.1 The decision-making, planning and control process



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.

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.

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**. Effective control requires that corrective action is 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.

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.