

Sixth Edition

MANAGEMENT AND COST ACCOUNTING

Alnoor Bhimani Charles T. Horngren
Srikant M. Datar Madhav Rajan

MANAGEMENT AND COST ACCOUNTING

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MANAGEMENT AND COST ACCOUNTING

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In memory of Charles T. Horngren 1926–2011

Chuck Horngren revolutionised cost and management accounting. He loved new ideas and introduced many new concepts. He had the unique gift of explaining these concepts in simple and creative ways. He epitomised excellence and never tired of details, whether it was finding exactly the right word or working and reworking assignment materials.

He combined his great intellect with genuine humility and warmth and a human touch that inspired others to do their best. He taught us many lessons about life through his amazing discipline, his ability to make everyone feel welcome, and his love of family.

It was a great privilege, pleasure, and honour to have known Chuck Horngren. Few individuals will have the enormous influence that Chuck had on the accounting profession. Fewer still will be able to do it with the class and style that was his hallmark. He was unique, special and amazing in many, many ways and, at once, a role model, teacher, mentor and friend.

He is deeply missed.

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Harvard University

Madhav V. Rajan

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AB: For all children whose lives were lost in meaningless violent circumstances in 2014

SD: Swati, Radhika, Gayatri, Sidharth

MVR: Gayathri, Sanjana, Anupama

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GUIDE TO THE CASE STUDIES

Case number	Case details	Short/long	Manufacturing/service	Budgeting	Pricing	Ethical issues	Environmental issues	Activity-based costing	Behaviour/organisation factors	Cash flow	Costing system	Profit/loss measurement	ROI	Transfer pricing system	Management control system	Balanced scorecard	Performance measurement	Variance	Market assessment/competitor analysis	Tableau de bord	Strategic issues	Profitability	Country/area of origin
PART 1																							
101	The European Savings Bank: Legal and ethical issues involved in software piracy.	short	SS			•			•														Europe
102	The ethical dilemma at Northlake: How far does the notion of 'different costs for different purposes' extend?	mid	M			•	•														•		USA
103	Electronic Boards plc: Design of costing systems for a firm operating in a high-tech environment. Simplistic vs complex costing.	short	M	•				•	•		•						•				•		N/A
PART 2																							
201	Permaclean Products plc: Analysis of costs and price-demand information using past sales data to make decisions on product pricing.	mid	M		•						•	•										•	UK
202	Tankmaster Manufacturing Company: ABC in an altered production environment. Behavioural, organisational and cultural issues are explored.	mid	M					•	•		•										•		UK
203	Siemens Electric Motor Works: Considers how a cost system can align with a new corporate strategy.	long	M			•			•	•			•		•		•		•	•			Germany
204	Colombo Frozen Yogurt: Explores adapting to competitive markets and development of strategies according to market.	short/mid						•	•		•	•					•		•				USA
PART 3																							
301	Zeros plc: Use of ROI to measure divisional performance. Use of costing systems to produce meaningful profit statements.	mid	M	•	•				•		•	•	•				•					•	UK
302	Instrumental Ltd: Analysis of budgeted vs actual performance for different organisational functions. Considers strategic vs operational issues.	mid	M	•	•					•	•	•					•	•			•		UK

Case number	Case details	Short/long	Manufacturing/service	Budgeting	Pricing	Ethical issues	Environmental issues	Activity-based costing	Behaviour/organisation factors	Cash flow	Costing system	Profit/loss measurement	ROI	Transfer pricing system	Management control system	Balanced scorecard	Performance measurement	Variance	Market assessment/competitor analysis	Tableau de bord	Strategic issues	Profitability	Country/area of origin
303	Hereford Steak Houses: Use of variance analysis in the restaurant industry. Variance calculations using both standard and flexible budgets.	short	SS	•	•					•		•			•		•	•					UK
	PART 4																						
401	BBR plc: Transfer-pricing problem where divisional interests are pitted against total corporate profitability.	mid	M	•	•	•			•		•	•		•			•	•					UK
402	Cresta Plating Company Ltd: Considers issues of decentralisation and responsibility.	long	M	•	•	•			•		•	•	•	•	•		•					•	UK
403	Clayton Industries, Inc.: Discusses centralisation, sourcing and strategy issues.		SS						•			•			•			•			•		Germany
	PART 5																						
501	High-Tech Ltd: Importance of strategy and cost allocation within the IT manufacturing industry. Considers just-in-time inventory systems.	long	M & SS		•			•	•		•	•			•	•			•	•	•		N/A
502	Empire Glass Company: Considers control and responsibility alignment issues.																						
503	Osram: Analysis of potential savings made by newer, more efficient consumables as opposed to traditionally used ones.	mid/long	M	•	•						•	•							•			•	Germany
504	Coors: Demonstrates importance of supply chain management and compares strategies through the use of EVA.	long	M						•		•	•			•	•	•			•			USA

PREFACE

Accounting shapes our lives. It changes organisations and alters our social, economic and physical environment. Whether or not we engage in producing and/or reading accounting information, it influences what we can and cannot do and, therefore, affects our well-being. Corporate decisions regarding new product developments, pricing strategy, staff recruitment and salary levels are generally influenced by accounting information. The way in which a manager acts is often associated with how he or she reacts to accounting data. At times, accounting motivates certain types of behaviour and discourages others. In most organisations, decisions, actions and human behaviour find direct links with the nature, use and focus of accounting information. This text is about understanding the preparation and use of management and cost accounting information in this light.

Whereas management accounting is concerned with the measurement and reporting of financial and other types of information to managers in their pursuit of organisational and other goals, cost accounting is more concerned with information on the acquisition and consumption of resources. Cost accounting tends to provide a useful input into management accounting. Our concern is to encompass both management and cost accounting, stressing particularly the design, use and role of accounting information in the management of organisational activities. The intent is to balance technical detail and organisational insight so as to discuss issues of primary interest to the discharge of management activities. The focus is thus on technical and organisational concepts, analyses and practice vis-à-vis management decision making.

Management and cost accounting is a dynamic discipline which interacts with many facets of the organisational environment in which it exists across nations, industrial settings and management functions. It entails the application both of long-established techniques and of newly emerging concepts. Consequently, the book covers conventional topic areas such as job costing and process costing, cost-volume-profit relationships, capital investment decisions and budgetary control systems in the light of changes in modern-day operational circumstances. In addition, we have addressed innovative approaches in management accounting which relate to, for example, quality concerns, throughput concepts, non-financial performance issues and strategic analysis. Throughout the book's chapters we point to emerging themes within the field of management accounting which are regarded as important for organisations seeking to evolve their management accounting systems. Additionally, we discuss the possible implications for management accounting practices of management and organisational concerns which are recent but fast evolving. We point, therefore, to the relevance of many issues, including sustainability, digitisation, knowledge management and intellectual capital, enterprise governance, Big Data and inter-organisational cost management, which hold significance for potential management accounting practice changes.

We have also explicitly incorporated discussions of the management accounting implications of the use of flexible organisational technologies in the production and delivery of physical goods and services. Further, some of the potential influences of e-business innovations, the 'digitisation' of the economy and Internet technologies on management accounting practices are considered. The rise of Web applications and social networking present important lessons of interest to management accountants. The convergence of telecommunications and digital technologies embedded within the Internet has given rise to the restructuring of business activities while also bringing to the fore questions concerning the continued relevance of established management accounting principles within highly web-enabled enterprises. We are now in a more mature and advanced phase of the growing impact of the Internet on society and the economy.

Although no established body of research exists in this domain, our intent is to highlight some of the management accounting implications brought about by the Internet.

Throughout the text an emphasis is placed on developing a context-based understanding of management and cost accounting practices. By this, we mean that, although generalisations need to be made to introduce topics and issues, it is essential to recognise that these practices are highly dependent upon the situational and organisational factors within which such application takes place. We therefore discuss global themes and concepts in management and cost accounting while stressing the need to understand the context in which it is practised. This focus extends to addressing issues of social and ethical concern. Enterprise governance as an issue of increasing corporate concern is discussed at some length. Likewise, the deployment of social media platforms by enterprises and deriving insights from 'Big Data' analysis are regarded as being of very significant concern to management accounting developments. Rather than accord a separate chapter to consider organisational and social aspects of management accounting, we integrate this perspective throughout the text to lend it a greater degree of realism.

This text pays particular attention to concerns and issues within an international setting. Our endeavour to cover fundamental concepts and techniques of management and cost accounting, while also highlighting the diversity of approaches and practices which management and cost accounting are viewed to encompass in different countries, has made the writing of this text a unique and interesting challenge. We draw comfort from the realisation that other management accounting texts have begun to attempt to present a similar mix of practical examples, case studies and coverage of research findings while also sharing our preference for the format and structure adopted here. In this edition we provide new illustrative examples, survey findings and case studies relating to many global enterprises, and have drawn on a wide range of business writings. This is regarded as an important feature of this book, especially with the growing number of economies which are shaped by and affect globalisation forces. Moreover, we consider management accounting changes under the 'new normal' conditions facing economies as they recover from the global economic crisis which started in 2008.

Deciding on the sequence of chapters in a management and cost accounting textbook which spans introductory through to relatively detailed analysis of material is a challenge. Every lecturer has a favourite way of organising his or her course. The five-part structure of this text and the sequencing of chapters have been designed to facilitate flexibility and diversity in the teaching of different topic areas and the use of the text for a range of courses and levels. An outline of the coverage and component chapters of each part is given in the part openers.

Assessment material

This book includes a high quantity and broad range of assessment material to further facilitate the use of the text on a diverse range of courses:

- **Review questions** These short questions encourage students to review and/or critically discuss their understanding of the main topics and issues covered in each chapter, either individually or in a group.
- **Exercises** These comprehensive questions are graded and grouped by their level of difficulty: basic, intermediate and advanced. Each question is preceded by a note of its topic coverage and an indication of the time it should take to complete. Where appropriate, the exercises include questions taken from recent examinations of several professional accountancy bodies. There is an average of fourteen exercises per chapter. Fully worked solutions to a selection of exercises in each chapter (identified by an asterisk) are provided in Appendix A.

Case study problems

At the end of each of the five parts are problem-based illustrative cases. Each is more substantive and typically more demanding than the end-of-chapter exercises, integrating topics from several

chapters in each of the core parts of the text, allowing you to apply your understanding of accounting concepts, issues and techniques within a broader organisational context, and to develop your critical thinking and analytical skills. The questions which follow the case material include some aspects suitable for group discussion/assignment.

Appendix B: Compound and interest rate tables

Students will need to use these tables in studying Chapter 13 of the text and undertaking the end-of-chapter exercises. For ease of reference, we recommend students make a photocopy of these pages.

Glossary

This comprises an alphabetical listing of all the key terms, including a concise definition, so allowing revision of all the key concepts and techniques in the text.

Academic supplements

Lecturers who adopt this text are provided with a range of additional materials to assist in the preparation and delivery of courses. These include:

- complete, downloadable Instructor's Manual with teaching ideas and solutions to end-of-chapter exercises not given in the text;
- suggested solutions to all case study problems;
- editable PowerPoint slides and overhead projector masters, organised by chapter, allowing you to provide a lecture or seminar presentation (and/or to print handouts). These incorporate colourful graphics, outlines of chapter material, text exhibits, additional examples and graphical explanations of difficult topics;
- solutions to additional questions and spreadsheet problems.

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January 2015*

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PART I

Management and cost accounting fundamentals

The first part of the book is intended to provide an introduction to fundamental concepts and ideas in management and cost accounting. Chapter 1 considers the role of accounting and accountants in organisations. Chapters 2–7 discuss relevant technical and broader organisational issues in the design and functioning of cost systems. Specifically, Chapter 2 provides an introduction to costing terminology and its aims. Chapters 3 and 4 discuss what might be considered ends of a continuum in costing systems: job order costing and process costing. Chapter 5 addresses fundamental cost allocation issues while Chapter 6 deals with joint-costing situations. The final chapter in this part discusses absorption costing and variable costing as two distinct approaches to stock costing.

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