A vibrant clownfish with orange and white stripes is swimming in a deep blue sea. The background is filled with soft, out-of-focus coral or sea anemone tentacles in shades of blue and teal. The overall mood is serene and natural.

**JOHN BURNS  
MARTIN QUINN  
LIZ WARREN  
JOÃO OLIVEIRA**

# **MANAGEMENT ACCOUNTING**





# MANAGEMENT ACCOUNTING

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# Dedication

To my wife Nichola and my daughters Catherine and Rachel – John Burns

To my family, Regina, Josephina and Eric – Martin Quinn

To Lee, Chloe and Jasmine for their all support. I would also like to give thanks to all my students for teaching me so much – Liz Warren

To my wife, Mónica, my children, Beatriz and Inês, and my parents – João Oliveira

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## About the Authors

**John Burns** is Professor of Management & Accountancy at the University of Exeter where he formerly held the position of Head of Department in the University's Accounting faculty. Prior to this he has taught at the University of Manchester and the University of Colorado, Denver (USA), and he was previously Dean of the School of Accounting and Finance at the University of Dundee. Throughout his career he has taught extensively on management accounting courses, covering all levels from introductory undergraduate level through to advanced and postgraduate. He received his PhD in management accounting from the University of Manchester in 1996.



John's research interests rest primarily in management accounting, organizational change, sustainable development, and strategic and change management. He has published extensively in these subject areas, in both academic and professional journals, such as *Organization Studies*, *Accounting, Organizations and Society*, *Management Accounting Research*, *European Accounting Research*, *Accounting, Auditing and Accountability Journal*, *Critical Perspectives on Accounting*, *Qualitative Research in Accounting and Management*, *Journal of Management Control*, and *Financial Management (CIMA)*. John has been Associate Editor for the international academic journal *Management Accounting Research* since 1999, and he is a member of the editorial board for several other leading journals such as *Accounting, Auditing and Accountability Journal*, *Accounting and Business Research*, *Journal of Management and Governance*, and *Journal of Accounting and Organizational Change*. He has been a member of the Research Board for the Chartered Institute of Management Accountants (CIMA) since 2004; and is co-founder and principal coordinator of the European Network for Research of Organizational and Accounting Change. John has held visiting positions at WHU Otto Beisheim School of Management (Germany) and Örebro University (Sweden).

**Martin Quinn** is a Lecturer in Accounting at Dublin City University, Ireland where he teaches at undergraduate and postgraduate level. He has also taught accounting at the university of Oviedo, Spain and to students of professional accounting bodies. He is a registered Chartered Management Accountant, and started his career as a management accountant in manufacturing firms and worked in both accounting and information systems roles in a number of local and global firms. He has worked on, for example, implementations of SAP throughout Europe.



He has a BA(Hons) in Business Studies, an MSc in Management and Applications of IT in Accounting, and he completed his PhD at the University of Dundee. His research interests include ERP systems and management accounting, management accounting in small and medium sized enterprises, processual change in management accounting, organizational routines, institutional theory, and cloud accounting.

He has written a number of basic accounting books like *Brilliant Book-keeping* and *Brilliant Accounting* and has previously contributed case material to academic textbooks such as Seal's, *Management Accounting*, also by McGraw-Hill. Martin has also published articles in *Journal Of Management Control*, *Journal of Accounting & Organizational Change* and *Accountancy Ireland*.

Martin regularly writes about accounting related issues on his blog [www.martinquinn.com](http://www.martinquinn.com).

## About the Authors (continued)

**Liz Warren** is a Principal Lecturer in Management Accounting at the University of Greenwich where she teaches Management Accounting at both the undergraduate and postgraduate level. She has previously lectured at the University of Lincoln and has also taught in Hong Kong, Malaysia and France. Before joining academia she started her career in the automobile industry as an accountant. She holds a BA in Accounting and Finance from the University of Lincolnshire and an MRes in Finance from the University of Greenwich. She is currently waiting for the final stages of her PhD to be completed.

Her current research interests include investment decisions, the UK electricity generation industry structuration theory, sustainability and uncertainty in regulatory systems.



**João Oliveira** is an Assistant Professor at the School of Economics and Management, University of Porto in Portugal, where he teaches management accounting and control at undergraduate and postgraduate levels. He is a visiting professor in HEC Paris in 2013 and he has previously taught at the Porto Business School and at the University of Dundee, UK. He is a chartered accountant and he has worked in the banking and in the consumer products industries. He has an MSc in Business Administration (Specialization in Accounting) from the School of Economics and Management, University of Porto and a PhD in Accounting from the University of Dundee. He received the IBM PhD Fellowship Award and a PhD scholarship from the Calouste Gulbenkian Foundation.

His research interests include organizational change, information systems, shared services centres, institutional theories and power, and he published chapters on Research in Management Accounting and on Enterprise Resource Planning systems.

# Preface

Management accounting seeks to provide information and insight to assist organizational managers in their decision-making. It comprises multiple tools and techniques which together form a fluid portfolio of organization-specific information that focuses on both the short and long-term and which, through careful planning and monitoring can help an organization pursue its goals.

The gathering and use of such information for decision-making in organizations has never been so crucial, it is the life blood of sustainable organizational practice. The recent and continuing global financial crisis has revealed many challenges, possibly the most important of all being that all organizations, no matter their size, location or sector, need an abundance of both financial expertise and broad business acumen to help guide decision makers towards achieving their long-run objectives and with this, the knowledge and competency of management accountants has become increasingly important.

This textbook is written for a new generation of management accountants who will command multi-faceted roles in tomorrow's organizations. It is contemporary in its approach but respectful of the classics and presents students with a broad coverage of both well-established and new management accounting tools and techniques and most importantly, it places such tools and techniques in the fast-changing contexts in which they operate.

There are new skills and capabilities which tomorrow's management accountants must equip themselves with if they are to continue being 'masters' of useful business information. Such new skills require both hard skills (e.g. accounting techniques, IT awareness, broad business understandings) and soft skills (e.g. communication, interpersonal, and critical thinking). It is the intention to permeate these new skills throughout the proposed textbook by taking the students beyond accounting calculations and numbers *per se*, to place accounting information and the roles of management accountants in the context of broader organizational themes and challenges. That is, whilst it remains crucial for students to emerge from their studies with a sound comprehension of all the relevant management accounting techniques, it is nowadays equally important for students to comprehend how such techniques integrate within broader and continually changing organizational and environmental settings.

Accordingly, this cutting-edge textbook provides a definitive education for tomorrow's advisory management accountants, as well as finance-literate managers. Theoretically rigorous but useful to practitioners, we believe this text is an essential companion for undergraduate management accounting students, as well as those studying at masters-level.

## Key features of the textbook:

- Broad coverage of both traditional and contemporary management accounting tools and techniques.
- Emphasis throughout on the roles and skills required from tomorrow's management accountants.
- Positions the role of management accountants in tomorrow's organizational dilemmas, looking at contemporary issues such as sustainable development, ethics, hyper-competition, 'Big Data' and more.
- Exploration of the more technical aspects of management accounting in its broader organizational, institutional and social context.
- An underlying focus on the drivers and consequences of management accounting, viewed as a relatively stable yet changeable aspect of organizational life.
- Offering a wealth of real-life and research-informed examples, including well-known companies such as Apple Inc., Wikipedia, Facebook, Handelsbanken, Netflix, Tesco, Innocent, Procter & Gamble, Novo Nordisk, SAP, Coca-Cola and more.

## Preface (continued)

### Approach and Aims:

The book is intended to be useful to students who are new to the subject of management accounting, but there are particular features which aim to make the book a 'must have' for intermediate and advanced students as well, such as:

- Consistent and unwavering attempt to connect the technical aspects of management accounting to the 'bigger picture' in which organizations design, implement and use management accounting. Reinforced through the inclusion of many real-world illustrations such as 'Management Accounting in Practice' and using the most recent and cutting-edge research in the 'Management Accounting Insight' exhibits and end-of-chapter case studies.
- An integrated approach whereby each individual chapter or topic can be taken in its own right but where considerable attention is drawn to how different individual themes inter-connect and overlap. Management accounting is a holistic and broad-sweeping feature of organizational life, and this is reflected in how we present our textbook.
- Significant opportunities for students to test their knowledge, with worked examples and mini-case questions throughout the text. Also, at the end of each chapter, there are review questions, group discussion and activities questions, exercises and case-study-based problems (all organized by level of difficulty to help both the student and lecturer) that have a contemporary and modern feel and resonate with the skills required by tomorrow's management accountants.
- Comprehensive readings and references in each chapter, comprising the latest research and practitioner-oriented literature, for inspiration and to encourage students to broaden their knowledge and understanding.
- The text is accompanied by a high-quality resource package which comprises full online instructor and student support – including brand new Excel video walkthroughs and McGraw-Hill's fully integrated assessment package Connect™. Extending this innovative resource package further still, there is also an authors' blog at [www.burnsetal.com](http://www.burnsetal.com) which will be updated weekly by the authors, as well as a twitter account at: <https://twitter.com/Burnsetal>.

### Overview of the Book

The textbook comprises six sections which together represent a comprehensive insight into management accounting – its technical attributes, changeable wider context, and the multiple roles of management accountants. The sections cover: (1) an introduction to management accounting, (2) how organizations account for their costs, (3) the importance of tools and techniques which assist organizational planning and control, (4) the various dimensions of making business decisions, (5) the complex issues surrounding measurement of organizational performance, and (6) accounting for an organization's strategic aims and future. Spread across these sections, there are twenty-two chapters, the key focus of which can be summarized as follows:

**Chapter 1 – Introduction to management accounting and its changing context** sets the scene for tomorrow's world of management accounting, including its definition and an understanding of the key drivers of change. We also explore the roles and skills required by tomorrow's so-called 'advisory' management accountants. Such background is important for students to be able to comprehend both traditional and new tools and techniques that comprise much of this book.

**Chapter 2 – Information and management accounting** highlights the importance of management accounting information in organizations, and how such information constitutes much more than 'just' the outputs of tools and techniques for presenting data to managers. We establish how powerful management accounting information can be, as well as emphasizing a need to carefully manage the information process.

## Preface (continued)

**Chapter 3 – The classification of cost(s)** introduces key cost terms and concepts, as essential grounding for later chapters. We discuss how costs can be captured, identified and categorized in multiple ways, and how such different views can shape a variety of approaches towards decision-making.

**Chapter 4 – Costing systems** covers how organizations assign costs to products and services, which then form the basic cost data that managers use to plan, control and make decisions. We consider three types of costing system – job, process and contract costing.

**Chapter 5 – Cost reporting** explores the differences between two costing techniques (variable and absorption costing), emphasizing its application to internal performance measurement and reporting. We also briefly cover the potential of some novel management concepts when reporting internally.

**Chapter 6 – Activity based costing** explores a technique which offers a more sophisticated approach for allocating indirect costs (or overheads) to products, services or other ‘cost objects’. We pay particular attention to the role(s) of management accountants in designing and implementing this technique, and highlight some of its common problems.

**Chapter 7 – Planning and control: ideas, theories and principles** considers some of the underlying reasons why and how organizations engage in planning and control, and we illustrate the usefulness of management accounting techniques in doing so.

**Chapter 8 – Traditional budgeting** examines budgeting techniques which are still popular in many organizations across multiple sectors. We consider the role of budgets and their different functional types, and highlight the management accountant’s role in the budgeting process.

**Chapter 9 – Standard costing, flexible budgets and variance analysis** covers techniques which are commonly used in organizations for planning, control, decision making and product costing. Such techniques are amongst the most widely used in organizations, we also apply them to innovative real-world settings.

**Chapter 10 – Beyond traditional budgeting** examines alternative and more contemporary techniques such as rolling forecasts and activity-based budgeting. We consider the management philosophy known as ‘beyond budgeting’, and explore the role of management accountants to find a budgeting system that aligns with an organization’s strategy and operating style.

**Chapter 11 – Short-term decision making: cost-volume-profit analysis** explores the main tools used by management accountants when making short-term decisions, assisting managers to tackle dilemmas such as how much sales volume is needed to cover their costs.

**Chapter 12 – Cost behaviour and estimation** shows how an understanding of cost behaviour can help estimate business costs. We explore for example how, by being able to predict how costs behave in response to changing activity levels, managers can anticipate the cost impacts of alternative strategies and decisions.

**Chapter 13 – Decision making: relevant costs and revenues** presents more techniques available to management accountants when providing information for decision-making across different time horizons.

## Preface (continued)

In particular, it extends knowledge on how and when some costs or revenues may or may not be relevant to a particular decision-making scenario.

**Chapter 14 – Pricing** covers both the basic calculations for, and the wider implications of, pricing decisions for organizations. We use real-world examples to illustrate how some leading organizations utilize pricing strategies in a proactive way.

**Chapter 15 – Capital investment decisions** introduces some of the financial techniques available for analysing capital investments. We explain how financial numbers alone do not determine the final decision on whether an investment project goes ahead or not, and we stress the strategic nature of a management accountant's role in such activity.

**Chapter 16 – Performance measurement and management: ideas, theories and principles** is a general overview of how, why and when management accounting can facilitate performance measurement and management, and considers the potential contribution that management accountants have in this respect.

**Chapter 17 – Accounting for strategic management** explores contemporary ways in which managers have attempted to align organizational behaviour and decision-making with strategic goals. In particular, we consider and critically review the strategic-facing management accounting tool known as the 'balanced scorecard'.

**Chapter 18 – Financial performance measurement and transfer pricing** is a synthetic, yet rigorous analysis of the main techniques for performance measurement in divisionalised and multinational organizations. We expose the multiple challenges faced by management accountants when working in such complex settings.

**Chapter 19 – Cost management, value creation and sustainable development** explores managing and balancing costs and value. We present new techniques for informing decisions that ensure future costs will be supported by generated value, but also with aims for sustainable development.

**Chapter 20 – Managing quality and time** looks at two increasingly essential characteristics for competing in today's markets: quality and time. We provide numerous examples of how management accountants play an important role in measuring and managing quality and time, hence creating value for their organizations.

**Chapter 21 – Information systems and management accounting** discusses how information systems are increasingly relevant for tomorrow's management accountants. It covers key issues a management accountant needs to know about information systems and technology, and reviews some major trends and developments such as ERPs, cloud accounting and 'Big Data'.

**Chapter 22 – Managing change and challenges for the future** explores the complexities of management accounting change, as well as teasing out the multiple challenges faced when managing change. We look at specific areas for change in the future, and explore their ramifications for management accountants.

# Acknowledgements

## **Authors' acknowledgements:**

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# Guided Tour

## Chapter outline

- A closer look at management accounting
- Drivers of management accounting change
- The accounting department and accountants' roles

## Learning outcomes

On completion of this chapter, students will be able to:

- L01** Define management accounting and its role in the
- L02** Explain the main objectives of management accounti
- L03** Appreciate the complex nature of global managemen
- L04** Convey knowledge of the main drivers of manage
- L05** Distinguish management accounting from financial

## Chapter Outlines and Learning Outcomes

Each chapter opens with a list of topics to be covered in the chapter along with a set of learning objectives, summarizing what you will learn from each chapter.

## Key Terms

These are highlighted in bold type throughout the text, with page number references at the end of each chapter so they can be found quickly and easily. A full glossary of definitions can also be found at the end of the book.

### Key terms

**Data** Facts and figures (p. 31)

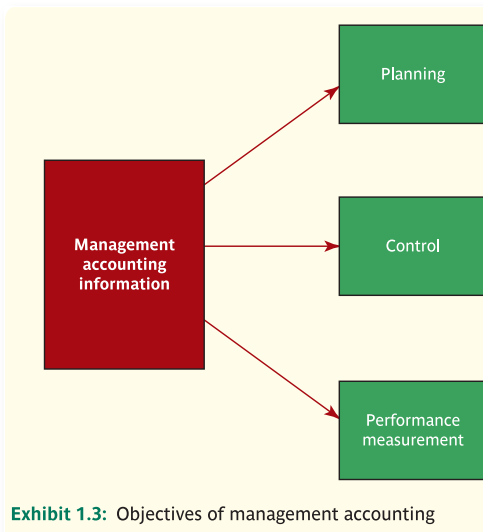
**Decentring of accounting knowledge** A process whereby financial knowledge is spread through an organization, among managers and workers, who can connect a 'bottom-line effect' to localized activities (p. 37)

**Forecasting** Using tools and techniques to make predictions about the future, as opposed to planning which is more about what the future 'should' look like (p. 38)

**Information** When raw data comes to be useful and meaningful to its owner(s), and subsequently has potential to influence their decision-making (p. 31)

**Information integration** The bringing together of a broader business perspective, as expressed through both financial and non-financial measures (p. 36)

**Information overload** The potential danger of producing too much management



## Exhibits

Each chapter presents a number of figures and tables to help you to visualize the material being covered and to illustrate and summarize important concepts.

## Guided Tour (continued)

### 12.1: Management Accounting in Practice

#### Some examples of cost structures

The following examples give some indication of the varying cost structures of different companies.

#### iPhone/iPad apps

In early 2012, there were more than 300,000 apps available for the iPhone and iPad. Some are free, some require payment. In 2010, the top-grossing paid app can be downloaded for €0.79. The app is developed by a Finnish company, which is likely to have a high level of fixed costs in its cost structure. The costs are likely to be dominated by the cost of the information technology infrastructure used to develop the app. Arguably, the distribution costs on the app store are a small percentage of the \$99 annual fee plus 30 per cent of all revenues. The variable costs are likely to be very low or even close to zero.

#### Mars Inc.

US-based Mars Inc. is a well-known global food and confectionery company. It produces Snickers, Uncle Ben's, Wrigley and Whiskas. Foods products such as these are produced in a complex manufacturing process, the costs of which are dominated by fixed costs (that is, depreciation). Other typical fixed costs like salaries and overheads. However, at the product level, variable costs occur too. Thinking about the variable costs would include ingredients and process labour costs. The cost structure of Mars Inc. is likely to have a relatively higher proportion of fixed costs than a development company.

## 'Management Accounting in Practice' examples

This feature provides illustrations to show how management accounting affects real companies. Each illustration is accompanied by an exercise so you can analyse the content.

## 'Management Accounting Insight' examples

This feature provides an insight into real accounting research that is relevant to the chapter topics.

#### Worked Example 4.2

#### Reallocating service centre costs

Beco Manufacturing produce heavy duty plastic components. The factory floor has two large machines, an injection molding machine (IM) and a Mitsubishi ME III Injection Molding (MIM). Each machine is operated by a supervisor.

There are also two service departments, maintenance and quality control, which provide services to the factory floor.

The management accountant and other managers have estimated the overheads for the coming year as follows:

Cost centre	Total overheads
AIM	1,200
MIM	1,450
Maintenance	280
Quality	160
	3,090

The supervisors in both maintenance and quality estimate the overheads for the IM machine as follows:

	AIM
Maintenance	20%
Quality	40%

### 10.1: Management Accounting Insight

#### Is the beyond budgeting philosophy turning traditional budgeting into a thing of the past?

Although most individuals recognize the concepts of the beyond budgeting philosophy, Dugdale and Lyne (2010) questioned whether this philosophy has resulted in a change in the way companies are run. Within a field study based survey, Dugdale and Lyne (2010) examined eight companies and the results are provided in the table:

Business	Ownership
Aerospace	Part of aerospace multinational
Food ingredients manufacture	Irish group listed stock exchange
Construction	Part of UK construction group
Frozen food manufacture	German private company
Food manufacture	Part of large UK food group
Plastic and glass product manufacture	Part of South African divers
Systems engineering	Private UK-based company
Wholesale, retail and leisure	Private UK-based company

## Worked Examples

Worked examples help you learn how to apply theory in practice by explaining how to solve problems in a step-by-step format.

## Guided Tour (continued)

### Chapter summary

This chapter has detailed one set of techniques used by managers in general, namely CVP analysis. These techniques can be used in a number of ways:

*Determine the output required to break even or achieve a target profit.* The break-even point is the level of output at which the total fixed cost divided by contribution per unit gives the break-even point, that is, break to even.

*Apply CVP analysis to a multiple-product setting.* In multiple-product settings, the break-even point can be calculated, but it should be recognized that the break-even point is based on assumptions. Assumptions include: (1) costs and revenues are linear; (2) there are no inventories; (3) constant sales mix is assumed known; and, (5) all costs and prices are constant.

*Prepare CVP and PV graphs.* Several assumptions are made in CVP analysis when calculating break-even and also to graph the relationship between volume and profit. The CVP graph can be used to quickly ascertain the break-even point on costs and revenues, while the PV graph relates output to profit. Assumptions include: (1) costs and revenues are linear; (2) there are no inventories; (3) constant sales mix is assumed known; and, (5) all costs and prices are constant.

*Risk and uncertainty.* Measures of risk and uncertainty, such as the coefficient of variation and sensitivity analysis can be used to help managers gain more insight into the relationship between cost, volumes and profits. By incorporating risk and uncertainty, the relationship between variables and assumptions can be seen.

## Chapter Summaries

These boxes provide an opportunity to recap and review the main topics presented in each chapter, to ensure you have acquired a solid understanding as you work through the book.

The following end-of-chapter question materials are ordered and highlighted by level of difficulty to ensure that all readers have questions appropriate to their stage of learning.

## Review Questions

These questions encourage you to review the key principles and apply the knowledge you have acquired from each chapter.

### Group discussion and activity questions

- 1.10** This question will require some research. Search for the Chartered Institute of Management Accountants (CIMA) and the Institute of Management Accountants (IMA). Seek out, compare and contrast the definitions of management accounting. **[LO1]**
- 1.11** Browse as many job descriptions as you can find for management accountants. Search employment agencies on the Internet, look at job descriptions from accountancy bodies (for example), and list the most common skills which the job descriptions include. Which of these skills have been a requirement for many years, and which do you think will be in demand in the future? **[LO1, LO6, LO7]**
- 1.12** Describe some of the likely differences between management accounting in: (1) a private sector commercial business, for example a retail store; (2) a public sector organization, for example a hospital; and (3) a non-profit organization, for example a UNICEF. **[LO1, LO2, LO3]**
- 1.13** What is management accounting, and critically appraise how it has changed in recent decades? **[LO1, LO2, LO4]**
- 1.14** Which is most important to organizations – financial accounting or management accounting? **[LO5]**
- 1.15** Having undertaken some research, for example via the Internet, describe what you predict to be the important skills for management accountants in the future. **[LO1, LO2, LO3, LO4, LO5]**

### Review questions

Level of difficulty: **BASIC** **INTERMEDIATE**

- 1.1** Identify possible users of management accounting information. **[LO1, LO2]**
- 1.2** Define and explain the three components of an organizational accounting configuration. **[LO1, LO2]**
- 1.3** Explain why ethics has recently become an important aspect of an accountant's organizational role. **[LO1, LO4, LO7]**
- 1.4** Describe the three main objectives of management accounting. **[LO1, LO2, LO3]**
- 1.5** What are the main differences between management accounting and (2) cost accounting? **[LO5]**
- 1.6** Distinguish between 'routine accounting' and 'advisory accounting'. **[LO1, LO2, LO3]**
- 1.7** Describe some of the more traditional roles of management accounting. Why do you think such roles remain just as important today? **[LO2, LO3]**
- 1.8** Explain the impact which globalization and technology have had on management accounting in the past two decades. **[LO1, LO2, LO3]**
- 1.9** Describe the possible roles of an advisory (business plan) accountant. **[LO6]**

## Group Discussion & Activity Questions

These questions promote in-class discussion and encourage you to actively research a topic. Ideal for use in seminars.

## Guided Tour (continued)

- 4) Variable costs in each division: no change in the average variable cost in the wholesale division. In the retail division, a variable cost is projected by changing the packaging used for the items sold.
- 5) Fixed costs are expected to change as follows in each division:

	Wholesale
Building and occupancy costs	Increase by 2%
Other administrative costs	Unchanged
Interest and financial costs	Increase by 1%

### Required:

- a) Using the values shown for the year end 31 March 2015, calculate the sales margin for the wholesale division, the retail division and the company overall.
- b) Prepare the budgeted sales and costs for each division and the company overall for the year end 31 March 2016 using the same layout as shown for the year end 31 March 2015, taking account of the anticipated changes outlined above.
- c) Using the figures for the company overall which you have calculated for 2015, prepare a break-even chart, clearly identifying each of the following lines:  
The revenue line

## Exercises

This end-of-chapter feature is the perfect way to practise the techniques you have been taught and apply the methodology.

## Case Study Problem

Each chapter features one case study with its own set of questions, designed to test how well you can apply the main techniques learned.

## Recommended reading

- Dugdale, D., C. Jones and S. Green (2006) *Cost Accounting for Manufacturing*, London: CIMA.

*This CIMA report provides some useful insights into manufacturing costs and also some information in the use of throughput cost.*

## References

- Bragg, S. (2007) *Throughput Accounting – a Guide to the Theory and Practice*, London: CIMA.
- CIMA (2009) 'Management Accounting survey – Thought-leadership/Research-topics/Management accounting-survey/' (accessed on 26 June 2012).
- Cunningham, J. and O. Fiume (2003) *Real Numbers*, Durham, NC: Managing Times Press.
- Dugdale, P. C. Jones and S. Green (2006) *Cost Accounting for Manufacturing*, London: CIMA.
- Goldratt, E.M. and J. Cox (2004) *The Goal*, 4th edition, Great Britain: Northamptonshire Business School.

## Case study problem

### C5.1 Cost reporting at Skanva Papers [LO1, LO2, LO3]

Skanva Papers are a medium-sized Swedish pulp and paper company producing a range of products from heavy cardboard to office papers. The company has two manufacturing plants, one in Örebro and one in Uppsala, both of which manufacture products for a number of years ago, a new information system was installed at these two plants which performs a number of functions as follows, some of which were:

Customers and products are defined in the software.

Processes customer orders.

Each product/customer order is costed in the software, using standard costs.

Production is planned and monitored. Actual production data is captured automatically through operator input (using a keyboard) or captured automatically through sensors.

Completed inventory is recorded and tracked.

Deliveries to customers are recorded and invoices generated.

Actual production data, namely material usage, labour time and all customer orders are 're-costed' based on this information.

At the time of installing the information system at these two plants, the company decided to centralize sales and production planning at Örebro, but both plants will continue to have their own accounting function. The Örebro facility has typically been managing the accounting function.

In the past 12 months or so, the management accountant at Örebro has been working on the profitability of the operation. He believes sales levels can be increased and that a better understanding of the cost structure of the business, Production

## Recommended Reading and References

Each chapter features a list of comprehensive readings and references, comprising the latest research and practitioner-oriented literature, to broaden your knowledge and understanding of the chapter topics.



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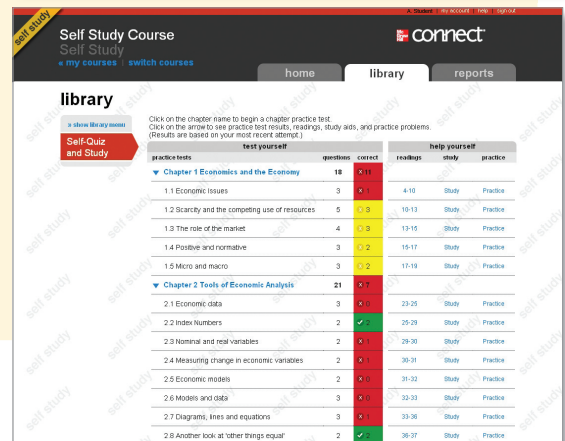
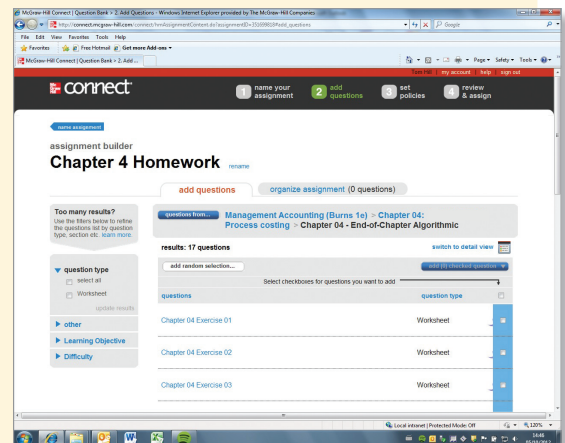
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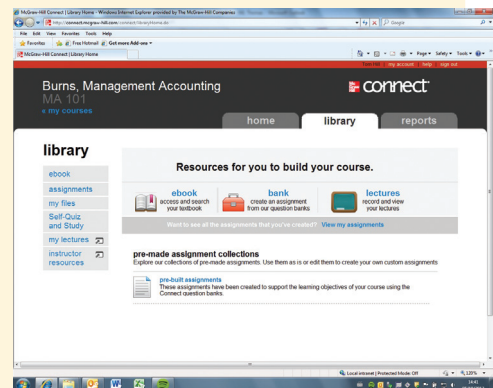
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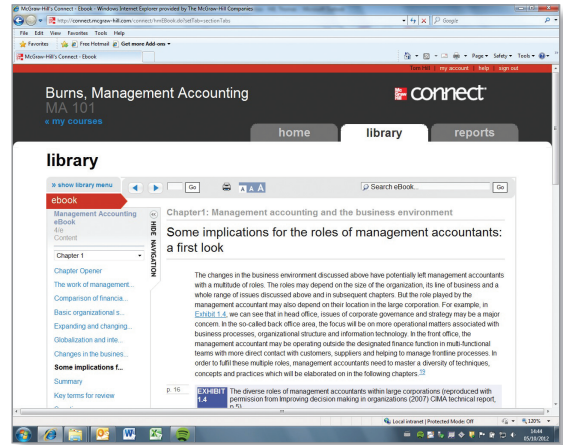


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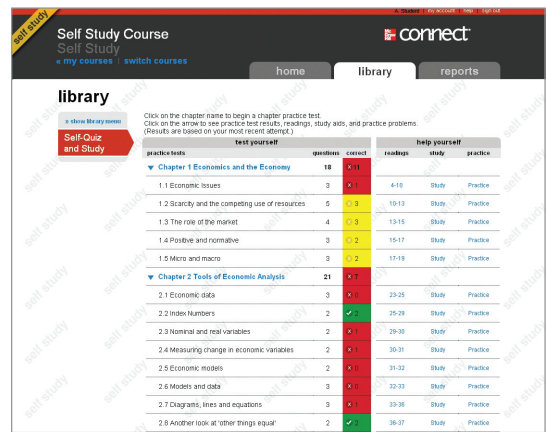
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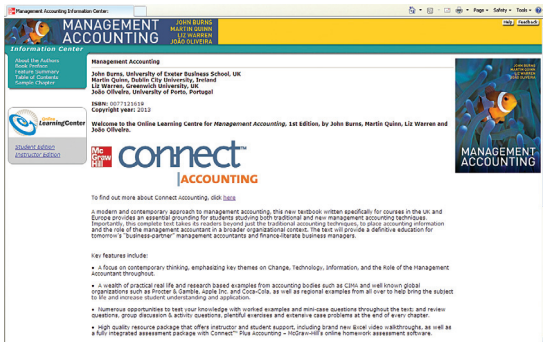
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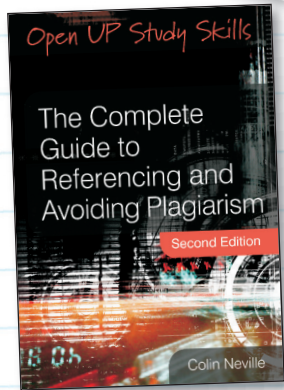
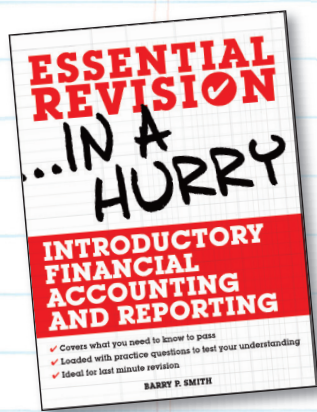
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