



## **BRIEF CONTENTS**

#### PART ONE

## Introduction to management and cost accounting 2

- 1 Introduction to management accounting 4
- 2 An introduction to cost terms and concepts 26

#### **PART TWO**

## Cost accumulation for inventory valuation and profit measurement 48

- 3 Cost assignment 50
- 4 Accounting entries for a job costing system 88
- 5 Process costing 111
- 6 Joint and by-product costing 138
- 7 Income effects of alternative cost accumulation systems 156

#### PART THREE

#### Information for decision-making 176

- 8 Cost-volume-profit analysis 178
- Measuring relevant costs and revenues for decision-making 204
- 10 Pricing decisions and profitability analysis 238
- 11 Activity-based costing 265
- 12 Decision-making under conditions of risk and uncertainty 297
- 13 Capital investment decisions: appraisal methods 320
- 14 Capital investment decisions: the impact of capital rationing, taxation, inflation and risk 351

#### **PART FOUR**

## Information for planning, control and performance measurement 380

- 15 The budgeting process 382
- 16 Management control systems 419
- 17 Standard costing and variance analysis 1 450
- 18 Standard costing and variance analysis 2: further aspects 488
- 19 Divisional financial performance measures 513
- 20 Transfer pricing in divisionalized companies 545

#### **PART FIVE**

## Strategic performance and cost management, value creation and challenges for the future 580

- 21 Strategic performance management 582
- 22 Strategic cost management and value creation 616
- 23 Challenges for the future 658

#### **PART SIX**

## Addendum: The application of quantitative methods to management accounting 686

- 24 Cost estimation and cost behaviour 688
- 25 Quantitative models for the planning and control of inventories 712
- 26 The application of linear programming to management accounting 733

## **CONTENTS**

In Memoriam IX
Preface X
About the authors XVI
Acknowledgements XVII

# PART ONE Introduction to management and cost accounting 2

### 1 Introduction to management accounting 4

The users of accounting information 5

Differences between management accounting and financial accounting 6

The decision-making, planning and control process 6

The impact of the changing business
environment on management accounting 10
Focus on customer satisfaction and new
management approaches 16
Functions of management accounting 18
Summary of the contents of this book 20
Guidelines for using this book 20

## 2 An introduction to cost terms and concepts 26

Cost objects 26
Manufacturing, merchandising and service organizations 27
Direct and indirect costs 27
Period and product costs 30
Cost behaviour 32
Relevant and irrelevant costs and revenues 35
Avoidable and unavoidable costs 36
Sunk costs 36
Opportunity costs 37

Incremental and marginal costs 38
The cost and management accounting information system 39

# PART TWO Cost accumulation for inventory valuation and profit measurement 48

#### **3 Cost assignment** 50

Assignment of direct and indirect costs 51
Different costs for different purposes 52
Cost-benefit issues and cost systems
design 53

Assigning direct costs to cost objects 54
Plant-wide (blanket) overhead rates 54
The two-stage allocation process 55
An illustration of the two-stage process for a traditional costing system 57

An illustration of the two-stage process for an ABC system 62

Extracting relevant costs for decision-making 66
Budgeted overhead rates 67
Under- and over-recovery of overheads 68
Non-manufacturing overheads 69
Cost assignment in non-manufacturing organizations 70

The indirect cost assignment process 72 Appendix 3.1: Inter-service department reallocations 74

## 4 Accounting entries for a job costing system 88

Materials recording procedure 89 Pricing the issues of materials 90 Control accounts 91 Recording the purchase of raw materials 92
Recording the issue of materials 94
Accounting procedure for labour costs 95
Accounting procedure for manufacturing overheads 97

Non-manufacturing overheads 98 Accounting procedures for jobs completed and products sold 98

Costing profit and loss account 99
Job-order costing in service organizations 99
Interlocking accounting 99
Accounting entries for a just-in-time
manufacturing system 101

#### **5 Process costing** 111

Flow of production and costs in a process costing system 112

Process costing when all output is fully complete 113

Process costing with ending work in progress partially complete 118

Beginning and ending work in progress of uncompleted units 121

Partially completed output and losses in process 126

Process costing in service organizations 126 Batch/operating costing 126

Appendix 5.1: Losses in process and partially completed units 128

#### 6 Joint and by-product costing 138

Joint products and by-products 139
Methods of allocating joint costs 139
Irrelevance of joint cost allocations for decision-making 145
Accounting for by-products 146

## 7 Income effects of alternative cost accumulation systems 156

External and internal reporting 157
Variable costing 159
Absorption costing 160
Variable costing and absorption costing: a comparison of their impact on profit 161
Some arguments in support of variable costing 162
Some arguments in support of absorption

Some arguments in support of absorption costing 164

Alternative denominator-level measures 165
Appendix 7.1: Derivation of the profit function for an absorption costing system 168

# PART THREE Information for decision-making 176

#### 8 Cost-volume-profit analysis 178

Curvilinear CVP relationships 179
Linear CVP relationships 180
A numerical approach to CVP analysis 182
The contribution margin ratio 183
Relevant range 184
Margin of safety 186
Constructing the break-even or CVP chart 186
Alternative presentation of CVP analysis 187
Multi-product CVP analysis 189
Operating leverage 191
CVP analysis assumptions and limitations 192
The impact of information technology 195

## 9 Measuring relevant costs and revenues for decision-making 204

Identifying relevant costs and revenues 205 Importance of qualitative/non-financial factors 205

Special pricing decisions 206
Product mix decisions when capacity constraints exist 210

Replacement of equipment – the irrelevance of past costs 213

Outsourcing and make-or-buy decisions 214
Discontinuation decisions 218
Determining the relevant costs of direct
materials 220

Determining the relevant costs of direct labour 220

Appendix 9.1: The theory of constraints and throughput accounting 222

## 10 Pricing decisions and profitability analysis 238

The role of cost information in pricing decisions 239

A price-setting firm facing short-run pricing decisions 239

A price-setting firm facing long-run pricing decisions 240

A price-taking firm facing short-run product mix decisions 244

A price-taking firm facing long-run product mix decisions 245

Surveys of practice relating to pricing decisions 247

#### VI CONTENTS

Limitations of cost-plus pricing 247
Reasons for using cost-plus pricing 248
Pricing policies 248
Customer profitability analysis 250
Appendix 10.1: Calculating optimal selling prices using differential calculus 255

#### 11 Activity-based costing 265

The need for a cost accumulation system in generating relevant cost information for decision-making 266

Types of cost system 267
A comparison of traditional and ABC systems 267

The emergence of ABC systems 269 Volume-based and non-volume-based cost drivers 270

Designing ABC systems 273
Activity hierarchies 275
ABC profitability analysis 277
Cost versus benefits considerations 279
Time-driven ABC 280
Resource consumption models and unused capacity 283

Periodic review of an ABC database 285 ABC cost management applications 285

#### 12 Decision-making under conditions of risk and uncertainty 297

Risk and uncertainty 298
Probability distributions and expected value 300
Measuring the amount of risk 301
Attitudes to risk by individuals 302
Decision tree analysis 304
Buying perfect and imperfect information 306
Maximin, maximax and regret criteria 307
Risk reduction and diversification 308

## **13 Capital investment decisions: appraisal methods** 320

The opportunity cost of an investment 322
Compounding and discounting 323
The concept of net present value 325
Calculating net present values 326
The internal rate of return 328
Relevant cash flows 331
Timing of cash flows 331
Comparison of net present value and internal rate of return 332
Techniques that ignore the time value of

money 334

Payback method 334
Accounting rate of return 338
The effect of performance measurement on capital investment decisions 339
Qualitative factors 340

#### 14 Capital investment decisions: the impact of capital rationing, taxation, inflation and risk 351

Capital rationing 351
Taxation and investment decisions 353
The effect of inflation on capital investment appraisal 356
Calculating risk-adjusted discount rates 358
Risk-adjusted discount rates and the weighted average cost of capital 362
Sensitivity analysis 363
Initiation, authorization and review of projects 365

#### PART FOUR Information for planning, control and performance measurement 380

#### 15 The budgeting process 382

The strategic planning, budgeting and control

process 383
The multiple functions of budgets 386
Conflicting roles of budgets 387
The budget period 387
Administration of the budgeting process 388
Stages in the budgeting process 389
A detailed illustration 391
Computerized budgeting 400
Activity-based budgeting 401
The budgeting process in non-profit-making organizations 403
Zero-based budgeting 404
Criticisms of budgeting 406

## 16 Management control systems 419

Control at different organizational levels 420
Different types of control mechanism 420
Feedback and feed-forward controls 422
Harmful side-effects of controls 423
Management accounting control systems 424
Responsibility centres 425
The nature of management accounting
control systems 427

The controllability principle 428
Setting performance targets and determining how challenging they should be 432
Determining how much influence managers should have in setting targets 433
Different approaches that managers use to evaluate budgetees' performance 434
Contingency theory 435
Alternative uses of management accounting information 436

## 17 Standard costing and variance analysis 1 450

Operation of a standard costing system 451

Establishing cost standards 453 Purposes of standard costing 457 A summary of variance analysis for a variable costing system 458 Material variances 458 Labour variances 463 Variable overhead variances 464 A generic routine approach to variance analysis for variable costs 465 Fixed overhead expenditure or spending variance 466 Sales variances 466 Reconciling budgeted profit and actual profit 469 Standard absorption costing 470 Reconciliation of budgeted and actual profit for a standard absorption costing system 474 Appendix 17.1: A generic routine approach to

## **18 Standard costing and variance** analysis 2: further aspects 488

variance analysis 477

Recording standard costs in the accounts 488
Direct materials mix and yield variances 493
Sales mix and sales quantity variances 497
Distinguishing between planning and operating variances 498

The investigation of variances 500
The role of standard costing when ABC has been implemented 501

## **19** Divisional financial performance measures 513

Divisional organizational structures 514
Advantages and disadvantages of
divisionalization 515
Prerequisites for successful
divisionalization 516

Distinguishing between the managerial and economic performance of the division 518

Alternative divisional profit measures 518

Surveys of practice 519

Return on investment 520

Residual income 521

Economic value added (EVA(TM)) 522

An illustration of the calculation of EVA(TM) 523

Determining which assets should be included in the investment base 526

The impact of depreciation 527

The effect of performance measurement on capital investment decisions 528

Addressing the dysfunctional consequences of short-term financial performance

### 20 Transfer pricing in divisionalized companies 545

measures 530

Purpose of transfer pricing 546

Alternative transfer pricing methods 547
Market-based transfer prices 548
Cost plus a mark-up transfer price 549
Marginal/variable cost transfer prices 551
Full cost transfer prices without a
mark-up 552
Negotiated transfer prices 552
Marginal/variable cost plus opportunity cost
transfer prices 553
Comparison of cost-based transfer pricing
methods 554
Proposals for resolving transfer pricing

conflicts 555

Domestic transfer pricing
recommendations 558
International transfer pricing 559

Appendix 20.1: Economic theory of transfer
pricing 563

# PART FIVE Strategic performance and cost management, value creation and challenges for the future 580

## 21 Strategic performance management 582

The performance management framework 583 Strategy and strategic positioning 583 Performance measurement and performance management systems 585 Alternative performance management frameworks 585
The balanced scorecard 585
Linking performance evaluation with the balanced scorecard 596
Benefits and limitations of the balanced scorecard approach 597

### 22 Strategic cost management and value creation 616

Cost management and the value chain 617
Life cycle cost management 620
Target costing 621
Kaizen costing 626
Activity-based management 627
Benchmarking 631
Business process reengineering 632
Just-in-time systems 632
Quality cost management 638

#### 23 Challenges for the future 658

A brief historical review of management accounting 659
Globalization and management accounting practices 660
Environmental and sustainability issues 661
Focus on ethical behaviour 666
Information technology and digitalization 668
Intellectual capital and the knowledge-based economy 673
Integrated reporting 675
Implications for management accounting 676

# PART SIX Addendum: The application of quantitative methods to management accounting 686

#### 24 Cost estimation and cost behaviour 688

General principles applying to estimating cost functions 689 Cost estimation methods 690 Tests of reliability 696 Relevant range and non-linear cost functions 697

A summary of the steps involved in estimating cost functions 698

Cost estimation when the learning effect is present 699

Estimating incremented hours and incremental cost 702

Appendix 24.1: Multiple regression analysis 704

#### 25 Quantitative models for the planning and control of inventories 712

Why do firms hold inventories? 713
Relevant costs for quantitative models under conditions of certainty 713
Determining the economic order quantity 714
Assumptions of the EOQ formula 716
Application of the EOQ model in determining the optimum batch size for a production run 717

Quantity discounts 718

Determining when to place the order 719

Uncertainty and safety stocks 719

The use of probability theory for determining safety stocks 720

Control of inventory through

Control of inventory through classification 722

Other factors influencing the choice of order quantity 723

Materials requirement planning 724 Just-in-time (JIT) purchasing arrangements 724

## 26 The application of linear programming to management accounting 733

Linear programming 734
Graphical method 735
Simplex method 740
Uses of linear programming 743

Bibliography 754 Glossary 764 Appendices 775 Answers to review problems 777 Index 861