

COST ACCOUNTING

A Managerial Emphasis



HORNGREN, DATAR, RAJAN, WYNDER, MAGUIRE, TAN

ALWAYS LEARNING PEARSON

COST ACCOUNTING A Managerial Emphasis



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A Managerial Emphasis



HORNGREN, DATAR, RAJAN, WYNDER, MAGUIRE, TAN

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BRIEF

BRIEF CONTENTS

About the Australian authors	ix
About the US authors xii	
Preface xiv	
Acknowledgements xx	
Photo credits 1	

- 1 Management accounting in context 2
- 2 An introduction to costs terms and inventory costing 28
- 3 Determining how costs behave 76
- 4 Cost-volume-profit analysis 126
- 5 Product and service costing 166
- 6 Activity-based costing and activity-based management 208
- 7 Cost management, capacity costing and capacity management 262
- 8 Decision making and relevant information 298
- 9 Pricing decisions and customer-profitability analysis 342
- 10 Master budget and responsibility accounting 372
- 11 Flexible budgets, direct cost variances and management control 418
- 12 Flexible budgets, overhead cost variances and management control 466
- 13 Allocation of support-department costs, common costs and revenues 506
- 14 Measuring and reporting sustainability 540
- 15 Strategy, balanced scorecard and strategic profitability analysis 580
- 16 Balanced scorecard: quality, time and the theory of constraints 620
- 17 Inventory management, just-in-time and simplified costing methods 656
- 18 Capital budgeting and cost analysis 690
- 19 Management control systems, transfer pricing and multinational considerations 726
- 20 Performance measurement, compensation and multinational considerations 758

Appendix: Notes on compound interest and interest tables 792
Glossary 799

Index 809

About the Australian authors

CONTENTS

About	the US authors	xii	methods	54
Preface		xiv	Contribution margin versus gross margin Measuring costs requires judgement	55 55
		AIV	A framework for cost accounting and cost	33
Acknov	wledgements	XX	management	58
Photo o	credits	1	Problem for self-study	60
			Decision points	62
1	Management accounting		Terms to learn	63
	in context	2	Assignment material	64
Manag	gement accounting, financial accounting		Determining how costs	
	d cost accounting	4	behave	76
Sustair	nability	6		
Strate	gic decisions and the management		Basic assumptions and examples of cost functions	78
	countant	7	SUSTAINABILITY IN ACTION: Cost savings	
CON	CEPTS IN ACTION: Management accounting	1	from going green	80
bey	yond the numbers	8	Identifying cost drivers	81
Value	chain and supply chain analysis	8	The cause-and-effect criterion in choosing	
Decision	on making, planning and control: the		cost drivers	81
	e-step decision-making process	11	Cost drivers and the decision-making process	82
	anagement accounting guidelines	14	Cost estimation methods	83
	gement accountants in organisations	15	Steps in estimating a cost function using	٥.
	sional ethics	16	quantitative analysis	85
	m for self-study	19 20	Evaluating cost drivers of the estimated cost	89
	on points to learn	21	function	09
	ment material	22	CONCEPTS IN ACTION: Activity-based costing:	
Assign	imeni malenai	22	identifying cost and revenue drivers	92
	An introduction to costs terms		Cost drivers and activity-based costing	92
7	All illifodoction to costs terms		Non-linear cost functions	93 94
_	and inventory costing	28	Learning curves Data collection and adjustment issues	94 98
Costs	and cost terminology	30	Problem for self-study	100
Direct	costs and indirect costs	31	Decision points	102
Cost b	ehaviour patterns: variable costs and		Terms to learn	103
fixe	ed costs	32	APPENDIX 3-1: Regression analysis	104
CON	CEPTS IN ACTION: Changing cost structures		Assignment material	112
usi	ng software as a service (SaaS) vendors or		3	
арі	olication service providers (ASPs)	34	Cost-volume-profit	
	AINABILITY IN ACTION: How car sharing			126
	helping reduce business transportation costs	36		
	costs and unit costs	37	Essentials of CVP analysis	128
Busine	ss sectors, types of inventory, inventoriable		SUSTAINABILITY IN ACTION: Cleaner production	on
	sts and period costs	39	and eco-efficiency—turning waste into profit	132
Illustra	ting the flow of inventoriable costs and		Cost-volume-profit assumptions	132
	riod costs	41	Break-even point and target profit	133
	ble costing and absorption costing	46	CONCEPTS IN ACTION: The break-even point	
Absor	otion costing and performance measures	52	in the battle of the skies	135

A comparison of alternative inventory costing

Using CVP analysis for decision making	13 <i>7</i>	CONCEPTS IN ACTION: Successfully	
Sensitivity analysis and margin of safety	139	championing ABC	228
Cost planning and CVP	140	Using ABC systems for improving cost	
Effects of sales mix on income	143	management and profitability	229
Multiple cost drivers	144	SUSTAINABILITY IN ACTION: Managing	
CVP analysis in service and not-for-profit		environmental costs	229
organisations	145	Activity-based costing and department costing	22/
Problem for self-study	146	systems	231
Decision points	147	Cost allocation and costing systems	232
Terms to learn	147	Problem for self-study	237
APPENDIX 4-1: Break-even points in variable		Decision points	239
costing and absorption costing	148	Terms to learn	240
APPENDIX 4-2: Decision models and		Assignment material	241
	1.40		
uncertainty	149	7 Cost management canacity	
Assignment material	153	Cost management, capacity	
— D 1 · 1 · 1		costing and capacity	
Product and service		management	262
costing	166	Cost management and pricing	264
		Target costing for target pricing	265
Job-costing and process-costing systems	168		203
Job costing: an example	169	CONCEPTS IN ACTION: Extreme target pricing	0.40
Time period used to calculate indirect cost rates	173	and cost management at IKEA	269
SUSTAINABILITY IN ACTION: It's back to the		Life-cycle product budgeting and costing	273
future for the aviation industry	1 <i>7</i> 3	SUSTAINABILITY IN ACTION: Qantas's	
Normal costing	1 <i>75</i>	environmental improvement strategy: the role	
Variations from normal costing: a service sector		of continuous improvement and innovation	275
example	1 <i>77</i>	Capacity costing and capacity management	276
Budgeted indirect costs and end-of-accounting-		Choosing a capacity concept for capacity	
year adjustments	1 <i>7</i> 8	management	278
Process costing	181	More issues regarding capacity costs and	
Weighted-average method	186	capacity concepts	283
Transferred-in costs in process costing	188	Problem for self-study	284
CONCEPTS IN ACTION: Wicked Wolf and		Decision points	285
Buderim Ginger	189	Terms to learn	286
Hybrid costing systems	190	Assignment material	287
Problem for self-study	190		
Decision points	192	Decision making	
Terms to learn	193		298
APPENDIX 5-1: First-in, first-out method	194		
Assignment material	197	Information and the decision process	300
, tong i mai mai ona.	. , ,	The concept of relevance	300
Activity based section and		An illustration of relevance: choosing output	000
Activity-based costing and	000	levels	302
O activity-based management	208	Insourcing-versus-outsourcing and make-versus-bu	
Purposes of cost allocation	210	decisions	305
Criteria to guide cost-allocation decisions	211	SUSTAINABILITY IN ACTION: The challenge—	
Broad averaging and its consequences	212	integrating sustainability considerations in	
Simple costing system at Realenz Ltd	213	decision making	308
Refining a costing system	217	CONCEPTS IN ACTION: The changing benefits	
Activity-based costing systems	218	and costs of 'offshoring'	309
Implementing activity-based costing at	-	Opportunity costs and outsourcing	309
Realenz Ltd	222	Product mix decisions with capacity constraints	313
Comparing costing systems	226	Customer profitability, activity-based costing	2.0
Implementing ABC systems	227	and relevant costs	314
· · · · · · · · · · · · · · · · · · ·			

Irrelevance of past costs and equipment-replacement decisions	318	Flexible budgets, direct cost variances and	
Decisions and performance evaluation Problem for self-study	320 321	management control	418
Decision points	322	The use of variances	420
Terms to learn	323	SUSTAINABILITY IN ACTION: Small changes	
APPENDIX 8-1: Linear programming	324	equal big savings for the environment	421
Assignment material	328	Standard costs	422
Outsing all statems and		Static budgets and static-budget variances	424
Pricing decisions and		Flexible budgets	425
7 customer-profitability		Flexible-budget variances and sales-volume	40.4
analysis	342	variances	426
Pricing decisions	344	Price variances and efficiency variances for	428
Market-based pricing	346	direct cost inputs Implementing standard costing	435
SUSTAINABILITY IN ACTION: Carbon tax and		Management uses of variances	435
pricing policy	347	CONCEPTS IN ACTION: Hospitals use variance	
Cost-based (cost-plus) pricing	348	analysis to provide more efficient, quality	
Costing and pricing for the long run	351	healthcare	437
Costing and pricing for the short run	351	Variance analysis and activity-based costing	438
The impact of Australian law on pricing	352	Benchmarking and variance analysis	440
CONCEPTS IN ACTION: Best Buy decides that		Problem for self-study	442
not all customers are welcome	353	Decision points	443
Customer-profitability analysis	352	Terms to learn	444
Using the five-step decision-making process to		APPENDIX 11-1: Further variances: sales and	d
manage customer profitability	359	substitutable inputs	444
Problem for self-study	360 362	Assignment material	452
Decision points Terms to learn	363		
Assignment material	363	The Flexible budgets, overhed	ıd
		12 Flexible budgets, overhed cost variances and	
1 Master budget and		management control	466
responsibility accounting	372	<u> </u>	468
, ,		Planning of variable and fixed overhead costs Standard costing at Webb Ltd	469
Budgets and the budgeting cycle	374	Developing budgeted variable overhead cost	407
SUSTAINABILITY IN ACTION: Budgeting for the		rates	469
environment	375	Developing budgeted fixed overhead rates	470
Advantages of budgets	376	Variable overhead cost variances	471
Developing an operating budget	378 378	SUSTAINABILITY IN ACTION: Cleaner	
Steps in developing an operating budget Financial planning models and sensitivity	3/0	production = overhead savings	474
analysis	387	Fixed overhead cost variances	476
Budgeting and responsibility accounting	388	Production-volume variance	477
CONCEPTS IN ACTION: Budgeting with ERPs	389	CONCEPTS IN ACTION: Variance analysis	
Human aspects of budgeting	391	and standard costing help Sandoz manage	
Kaizen budgeting	393	its overhead costs	479
Budgeting in multinational companies	393	Journal entries for fixed overhead costs and	
Problem for self-study	394	variances	479
Decision points	395	Integrated analysis of overhead cost variances	481
Terms to learn	396	Production-volume variance and sales-volume variance	484
Assignment material	397 <i>402</i>	Variance Variance analysis and activity-based costing	484 485
Assignment material	402	Overhead variances in non-manufacturing and	400

Financial and non-financial performance		15 Strategy, balanced scorecard and strategic	
measures	489	scorecard and strategic	
Problem for self-study	490 492	profitability analysis	580
Decision points Terms to learn	492	, , ,	
Assignment material	494	What is strategy? Building internal capabilities: quality improvement	582
		and re-engineering at Chipset	584
13 Allocation of support- department costs, commo		Strategy implementation and the balanced	
department costs, commo	n	scorecard	585
costs and revenues	506	SUSTAINABILITY IN ACTION: Strategy for	
	300	sustainability at Qantas	592
Allocating costs of a support department to operating departments	508	Evaluating the success of strategy and	
SUSTAINABILITY IN ACTION: The Qantas Gra		implementation	593
	ουρ	Strategic analysis of operating profit	594
and resource consumption (water, electricity	E 1 2	CONCEPTS IN ACTION: Growth may finally	
and waste diverted directly to landfill) Allocating costs of multiple support departments	<i>513</i> 513	be paying off for YouTube	600
Allocating common costs	520	Applying the five-step decision-making framewor	к 601
Cost allocations and contracts	522	to strategy Downsizing and the management of capacity	601
CONCEPTS IN ACTION: Cost allocations at		Problem for self-study	604
Australia Post	522	Decision points	608
Revenue allocation and bundled products	523	Terms to learn	608
Revenue-allocation methods	523	APPENDIX 15-1: Productivity measurement	609
Problem for self-study	526	Assignment material	611
Decision points	528		
Terms to learn	<i>529</i>	Balanced scorecard: quality, time and the	
Assignment material	529	auglity time and the	
		quality, fifthe drid fife	
1 4 Magguring and		theory of constraints	620
Measuring and	540	theory of constraints	620 622
14 Measuring and reporting sustainability	540	theory of constraints Part one: Quality as a competitive tool	620 622
The sustainability shift	542	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental,	622
The sustainability shift Definition of sustainability		theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs	622 623
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What	542 542	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental,	622 623 623
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas	542 542 543	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measures of customer satisfaction	622 623 623 626
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good	542 542 543 545	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measures of customer satisfaction The internal-business-process perspective: analysis	622 623 623 626 ing
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities	542 542 543	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measures of customer satisfaction The internal-business-process perspective: analysis quality problems and improving quality	622 623 623 626
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions	542 542 543 545	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measures of customer satisfaction The internal-business-process perspective: analysi quality problems and improving quality The learning-and-growth perspective for quality	622 623 623 626 ng 626
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities	542 542 543 545 546	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measures of customer satisfaction The internal-business-process perspective: analysi quality problems and improving quality The learning-and-growth perspective for quality improvements	622 623 623 626 ing
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems	542 542 543 545 546 548 549 553	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measure: of customer satisfaction The internal-business-process perspective: analysi quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality	622 623 623 626 ng 626 630
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems The business case for sustainability	542 542 543 545 546 548 549	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measure: of customer satisfaction The internal-business-process perspective: analysi quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality performance	622 623 623 626 ng 626
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems The business case for sustainability CONCEPTS IN ACTION: Environmental	542 542 543 545 546 548 549 553 557	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measures of customer satisfaction The internal-business-process perspective: analysi quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality performance CONCEPTS IN ACTION: Customer service at	622 623 623 626 626 630 630
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems The business case for sustainability CONCEPTS IN ACTION: Environmental innovation at Mercedes Benz	542 542 543 545 546 548 549 553 557	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measure: of customer satisfaction The internal-business-process perspective: analysi quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality performance CONCEPTS IN ACTION: Customer service at Telstra: diagnosis and remedy	622 623 623 626 ng 626 630
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems The business case for sustainability CONCEPTS IN ACTION: Environmental innovation at Mercedes Benz A strategy for sustainability	542 542 543 545 546 548 549 553 557 557	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measures of customer satisfaction The internal-business-process perspective: analysi quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality performance CONCEPTS IN ACTION: Customer service at	622 623 623 626 626 630 631 633
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems The business case for sustainability CONCEPTS IN ACTION: Environmental innovation at Mercedes Benz A strategy for sustainability Life-cycle analysis	542 542 543 545 546 548 549 553 557 557 558 561	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measure: of customer satisfaction The internal-business-process perspective: analysic quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality performance CONCEPTS IN ACTION: Customer service at Telstra: diagnosis and remedy Part two: Time as a competitive tool	622 623 623 626 626 630 631 633
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems The business case for sustainability CONCEPTS IN ACTION: Environmental innovation at Mercedes Benz A strategy for sustainability Life-cycle analysis Sustainability management accounting tools	542 542 543 545 546 548 549 553 557 558 561 564	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measures of customer satisfaction The internal-business-process perspective: analysis quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality performance CONCEPTS IN ACTION: Customer service at Telstra: diagnosis and remedy Part two: Time as a competitive tool Customer response time and on-time performance	622 623 623 626 630 630 631 633 e 633
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems The business case for sustainability CONCEPTS IN ACTION: Environmental innovation at Mercedes Benz A strategy for sustainability Life-cycle analysis Sustainability management accounting tools Problems for self-study	542 542 543 545 546 548 549 553 557 558 561 564 565	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measure: of customer satisfaction The internal-business-process perspective: analysic quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality performance CONCEPTS IN ACTION: Customer service at Telstra: diagnosis and remedy Part two: Time as a competitive tool Customer response time and on-time performance Time drivers and costs of time CONCEPTS IN ACTION: Overcoming wireless data bottlenecks	622 623 623 626 630 630 631 633 633 634
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems The business case for sustainability CONCEPTS IN ACTION: Environmental innovation at Mercedes Benz A strategy for sustainability Life-cycle analysis Sustainability management accounting tools	542 542 543 545 546 548 549 553 557 558 561 564	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measure: of customer satisfaction The internal-business-process perspective: analysi quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality performance CONCEPTS IN ACTION: Customer service at Telstra: diagnosis and remedy Part two: Time as a competitive tool Customer response time and on-time performance Time drivers and costs of time CONCEPTS IN ACTION: Overcoming wireless data bottlenecks Part three: Theory of constraints	622 623 623 626 630 630 631 633 633 634 635 638
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems The business case for sustainability CONCEPTS IN ACTION: Environmental innovation at Mercedes Benz A strategy for sustainability Life-cycle analysis Sustainability management accounting tools Problems for self-study Decision points	542 542 543 545 546 548 549 553 557 558 561 564 565 572	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measure: of customer satisfaction The internal-business-process perspective: analysi quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality performance CONCEPTS IN ACTION: Customer service at Telstra: diagnosis and remedy Part two: Time as a competitive tool Customer response time and on-time performance Time drivers and costs of time CONCEPTS IN ACTION: Overcoming wireless data bottlenecks Part three: Theory of constraints Managing bottlenecks	622 623 623 626 630 630 631 633 633 634 635 638
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems The business case for sustainability CONCEPTS IN ACTION: Environmental innovation at Mercedes Benz A strategy for sustainability Life-cycle analysis Sustainability management accounting tools Problems for self-study Decision points Terms to learn	542 542 543 545 546 548 549 553 557 557 558 561 564 565 572 573	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measure: of customer satisfaction The internal-business-process perspective: analysi quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality performance CONCEPTS IN ACTION: Customer service at Telstra: diagnosis and remedy Part two: Time as a competitive tool Customer response time and on-time performance Time drivers and costs of time CONCEPTS IN ACTION: Overcoming wireless data bottlenecks Part three: Theory of constraints Managing bottlenecks Balanced scorecard and time-related measures	622 623 623 626 630 630 631 633 634 635 638 638 640
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems The business case for sustainability CONCEPTS IN ACTION: Environmental innovation at Mercedes Benz A strategy for sustainability Life-cycle analysis Sustainability management accounting tools Problems for self-study Decision points Terms to learn	542 542 543 545 546 548 549 553 557 557 558 561 564 565 572 573	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measure of customer satisfaction The internal-business-process perspective: analysic quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality performance CONCEPTS IN ACTION: Customer service at Telstra: diagnosis and remedy Part two: Time as a competitive tool Customer response time and on-time performance Time drivers and costs of time CONCEPTS IN ACTION: Overcoming wireless data bottlenecks Part three: Theory of constraints Managing bottlenecks Balanced scorecard and time-related measures Problem for self-study	622 623 623 626 630 630 631 633 633 634 638 638 640 641
The sustainability shift Definition of sustainability SUSTAINABILITY IN ACTION: What sustainability means for Qantas Sustainability and maximising the social good An organisation's impact—externalities Internalising externalities: the emissions trading scheme (ETS) External reporting Environmental management systems The business case for sustainability CONCEPTS IN ACTION: Environmental innovation at Mercedes Benz A strategy for sustainability Life-cycle analysis Sustainability management accounting tools Problems for self-study Decision points Terms to learn	542 542 543 545 546 548 549 553 557 557 558 561 564 565 572 573	theory of constraints Part one: Quality as a competitive tool SUSTAINABILITY IN ACTION: Environmental, social and economic costs The financial perspective: costs of quality The customer perspective: non-financial measure: of customer satisfaction The internal-business-process perspective: analysi quality problems and improving quality The learning-and-growth perspective for quality improvements Making decisions and evaluating quality performance CONCEPTS IN ACTION: Customer service at Telstra: diagnosis and remedy Part two: Time as a competitive tool Customer response time and on-time performance Time drivers and costs of time CONCEPTS IN ACTION: Overcoming wireless data bottlenecks Part three: Theory of constraints Managing bottlenecks Balanced scorecard and time-related measures	622 623 623 626 630 630 631 633 634 635 638 638 640

17 Inventory management, just-in-time and simplified costing methods	656	An illustration of transfer pricing Market-based transfer prices Cost-based transfer prices Hybrid transfer prices	734 736 738 740
Inventory management in retail organisations CONCEPTS IN ACTION: Inventory managemen at the heart of Woolworths' strategy	658 t— 662	A general guideline for transfer pricing Multinational transfer pricing and tax implication CONCEPTS IN ACTION: Using transfer pricing to	
Estimating inventory-related relevant costs and their effects Just-in-time purchasing	663	minimise tax Problem for self-study Decision points	744 745 747
SUSTAINABILITY IN ACTION: Sustainable supply chain management Inventory management and MRP	669 670	Terms to learn Assignment material	748 749
Inventory management and JIT production Backflush costing Problems for self-study	671 674 679	Performance measurement compensation and multinational	1†,
Decision points Terms to learn	681 682		758
Assignment material	683	Financial and non-financial performance measures Choosing between different performance	760
18 Capital budgeting and cost analysis	690	measures: step 1 Choosing the time period of the performance	<i>7</i> 61
Two dimensions of cost analysis Stages of capital budgeting Discounted cash flow	692 693 694	measures: step 2 Choosing alternative definitions for performance measures: step 3	766 767
Sensitivity analysis Payback method SUSTAINABILITY IN ACTION: Qantas	698 699	Choosing measurement alternatives for performance measures: step 4 Choosing target levels of performance: step 5	767 770
passengers are investing in sustainability projects worldwide	700	Choosing the timing of feedback: step 6 Performance measurement in multinational companies	<i>77</i> 1
Accrual accounting rate-of-return method Evaluating managers and goal-congruence issue Relevant cash flows in discounted cash flow	702 s 703	CONCEPTS IN ACTION: Australian exporting companies hit hard by rising dollar	771
analysis Managing the project	703 709 709	Distinction between managers and organisation units Performance measures at the individual activity	774
Strategic considerations in capital budgeting CONCEPTS IN ACTION: International capital budgeting at Disney	710	level Executive performance measures and	<i>7</i> 76
Problems for self-study Decision points Terms to learn	712 714 715	compensation SUSTAINABILITY IN ACTION: Is it really fair? Strategy and levers of control	776 <i>777</i> 778
Assignment material 1	716	Problem for self-study Decision points Terms to learn	779 781 782
transfer pricing and multinational) 	Assignment material	783
considerations	726	Appendix: Notes on compound interest and interest tables	792
Management control systems	728	Glossary	799
Organisation structure and decentralisation SUSTAINABILITY IN ACTION: Qantas:	729 <i>7</i> 32	Index	809
an integrated approach to sustainability Transfer pricing	732 732		

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The American Institute of Certified Public Accountants presented its first Outstanding Educator Award to Horngren.

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Rajan has won several teaching awards at Wharton and Stanford, including the David W. Hauck Award, the highest undergraduate teaching honour at Wharton. Rajan has taught in a variety of executive education programs, including the Stanford Executive Program, the National Football League for Managers and the National Basketball Players Association Program, as well as custom programs for firms including nVidia, Genentech and Google.

Preface

Studying cost accounting is one of the best business investments a student can make. Why? Because success in any organisation—from a small corner store in Darwin to a large multinational corporation like BHP Billiton—requires the use of cost accounting concepts and practices. That's because an organisation's successful strategy development and implementation depends on good decision making. This textbook provides a decision-making framework and demonstrates how the analytical tools that students will learn prepare them to contribute to an organisation's success. As cost accountants, they will provide data, perform analyses and estimate the effects on revenue and costs. Increasingly, organisations are also concerned with the social and environmental impacts of their decisions, and the cost accountant has a role to play in recognising and measuring those impacts. Rapidly changing social, environmental and economic conditions present opportunities and threats. To be economically sustainable, organisations must recognise and manage the interrelationships between social, environmental and economic performance. In Chapter 1 the concept of sustainability is introduced; then, throughout the book, connections between cost accounting and sustainability are demonstrated with real-world examples from Qantas. In Chapter 14, the rationale and application of sustainable business behaviour is considered in depth.

The first Australian edition was a response to the feedback from Australian academics who have called for a book that their students can relate to and engage with. The second edition continues in this vein, presenting the best of both worlds—among the authors are world leaders in the development of contemporary cost accounting and their ideas are illustrated with Australian examples that make the textbook come alive for students. In addition to stories about Australian and international organisations in every chapter, the efforts of the Australian airline Qantas to improve sustainability are used where relevant to demonstrate the connection between cost accounting concepts and sustainability.

Hallmark features of Horngren Cost Accounting

- Exceptionally strong emphasis on managerial uses of cost information
- Clarity and understandability of the text
- Excellent balance in integrating modern topics with existing content
- Emphasis on human behaviour aspects
- Extensive use of real-world examples, both international and Australian
- Ability to teach chapters in different sequences
- Excellent quantity, quality and range of assignment material
- Coverage of new, cutting-edge topics
- Streamlined presentation

The second Australian edition maintains the structure and emphasis of the first edition. In preparing that edition, we took note of comments by users of the thirteenth US edition and the Australian first edition, reviewers and our own experience in teaching management accounting. While responding to the need for a strong Australian context, we recognised that many companies operate in a global context and that many of our students are from other countries. The second edition accordingly maintains an Australian flavour within a global context.

We have retained the following features of the first edition:

- A total of 20 chapters.
- ▶ The five-step decision-making process that appears throughout.
- The modular, flexible organisation that permits a unit to be custom tailored and to facilitate diverse approaches to teaching and learning.
- There is a cohesive focus on costing and cost management through grouping product and service costing, activity-based costing, activity-based management, cost management and capacity management (Chapters 5–7). These chapters connect strongly with pricing (Chapter 9).
- ▶ There is a similar focus on management control, responsibility accounting, budgeting, standard costing and variance analysis (Chapters 10–12).
- Explaining the rationale and principles of sustainability (Chapter 14), which provides the basis for considering the importance of social and environmental issues in the various strategic and operational decisions discussed throughout this text.

Improvements made include a greater emphasis on integrating sustainability into traditional cost management techniques, with calculative examples and questions to illustrate those connections.

- We have adjusted the chapter sequence in response to feedback from users. Determining how costs behave (Chapter 3) precedes cost-volume-profit analysis (now Chapter 4) to provide a foundation for cost behaviour before dealing with it. Decision making and relevant information (Chapter 8) has been moved from its earlier placing so that students can apply knowledge to the decisions that they have acquired from earlier chapters. Allocation of support department costs, common costs and revenues (Chapter 13) has been moved to facilitate the flow of earlier chapters.
- ▶ Some chapters have been restructured and streamlined (for example, Chapter 12 presents a streamlined discussion of overhead variances.

All chapter content has been reviewed and revised where required:

- Many new vignettes and concepts in action have been introduced while the best of the rest have been retained.
- We have introduced new end-of-chapter questions, exercises and problems to all chapters and have reworked many of those that have been retained.
- Chapter 1 introduces sustainability briefly, followed by sustainability in action features in all chapters. Where relevant, these relate to Qantas's sustainability policy and activities.
- We have increased the emphasis on the service sector. Several concepts in action boxes focus on the service sector.

There is ample text and assignment material in the textbook's 20 chapters for a two-semester course while the first 12 chapters provide the essence of a one-semester course, with the opportunity to add chapters as required. This textbook can be used immediately after the student has completed an introductory course in financial accounting or it can build on an introductory course in managerial accounting.

Key features of the Australian edition



- LEARNING OBJECTIVES 1 Explain the way in which cost accounting supports management accounting and financial accounting
 - 2 Explain the role of management accounting in sustainability decisions
 - 3 Explain the way in which management accountants influence strategic decisions
 - 4 Describe the set of business functions in the value chain
 - 5 Identify the key success factors that customers expect companies to meet
 - 6 Explain the five-step decision-making process and its role in management accounting
 - 7 Describe three guidelines management accountants follow to support managers
 8 Describe how management accounting fits into an organisation's structure.
 - 8 Describe how management accounting fits into an organisation's structure
 9 Explain how professional ethics impacts on management accountants' decision

Learning objectives open each chapter and outline the key concepts to be covered. They are then signposted in the margins to indicate where a particular objective is covered.

Decision points are included throughout the chapters so that students can check their progress towards achieving the learning objectives.



Decision making, planning and control: the five-step decision-making process



The five-step decision-making process provides a framework that may be used in a number of situations to make a variety of decisions. In subsequent chapters of this book, we describe how managers use this five-step decision-making process. We illustrate the five-step decision-making process using the example of the Daily News, a city newspaper.

The Daily News has a strategy to differentiate itself from its competitors by focusing on in-depth analyses of news by its highly rated journalists, using colour to enhance attractiveness to readers and advertisers, and developing its website to deliver up-to-the-minute news, interviews and analyses. It has the capability to deliver on this strategy. It

the-minute news, interviews and analyses. It has the capability to deliver on this strategy. It owns an automated, computer-integrated, state-of-the-art printing facility and has developed a web-based information technology infrastructure. Its distribution network is one of the best in the newspaper industry.

A key challenge for Nancy Wong, manager of the *Daily News*, is to increase revenues. To decide what she should do, Nancy works through the five-step decision-making process.

I Identify the problem. The problem is how to increase revenue. Two possible ways are: (1) to

- I Identify the problem. The problem is how to increase revenue. Two possible ways are: (1) to increase the selling price per newspaper; or (2) to increase the rate per page charged to advertisers. Part of the problem is that Nancy does not know the potential effect on demand of any increase in price or rates. Any increase in price or rates may lead to a decrease in demand, which could offset the higher price or rate and lead to lower overall revenues.
- 2 Collect relevant information. Gathering information before making a decision helps managers get a better understanding of the uncertainties. Nancy asks her marketing manager to talk to some representative readers to gauge how they might react to an increase in the newspaper's selling price. She asks her advertising sales manager to talk to current and potential advertisers to get a better understanding of the advertising market. She also reviews the effect that past price increases had on readership. Tony Cantelli, the management accountant at the Daily News, provides information about past increases or decreases in advertising rates and the subsequent changes in advertising revenues. He also collects and analyses information on advertising rates charged by competing media outlets, including other newspapers.
- 3 Determine possible courses of action and consider the consequences of each. On the basis of information she has obtained, Nancy considers the potential consequences of the possible courses of action, namely to increase the price or rates. She concludes that readers would be quite upset if she increased prices and is fairly certain that it would lead to a decrease in readership. She has a different view when it comes to advertising rates. She anticipates a market-wide increase in advertising rates and therefore believes that increasing these rates will have little effect on the number of pages of advertising sold.

A framework for decision making

is introduced in Chapter 1 for managers to utilise when making decisions. The framework introduced in the US text has been revised in line with reviewer suggestions and is interwoven throughout every chapter. It helps students see how the demand for various types of management accounting information is a response to the decision-making needs of managers.

accounting information to make decisions; decisions related to strategy, research and development, budgeting, production plannin and pricing, among others. Sometimes these decisions involve trade-offs. While reading the vignette below, think about the strategic



Australian Weaving Mills' strategic choices ensure survival

and success
Goff Parker is the chief executive of Australian Weaving Mills in Devanport, Tasmania, the last of the towel me factures in Australia. The company was one of nine in 1985—the other eight closed down or moved offshor countries like China following the reduction of toriff protein and apolas. He was quoted in the Sunday Tasman We lanew we would have to compete in a different way to survive ... If you compete on price, especially in

We knew we would have to compete in a different way to survive ... If you compete on price, especially in the towell market, you are dead in the water.'

Of the Australian market of 180 tonnes a week, Australian Weening Mis is now supplying 50 tonnes of towels weekly. Among it selents are major Australian restalers Myer, David Jolnes, Big W, Target and Spollight. Their towels are marketed under a number of brands including Dri Glo, Esprit and Dickies.

Knowing that Australian Weeving Mills could not use price as a factor to compete in this market, Parker developed a number of strategies.

Ultra-short lead times

Ultra-short lead times

Custamers usually but yowels, both mats, foce clothes and hand towels as sets. If one item is out of stock in a particular colour, the other items of the same colour do not sell. Australian Weaving Mill has installed state of the-art machinery allowing cutting, stitching and dyeing to be performed robotically. This artematicity reduces the time required to manufacture the towels. Overseas manufacturers can take months to refill orders, whereas Australian Weaving Mills takes only dops. Although retailers do not give the mill much warning of upcoming sales—they don't wort their competitors to find out—the ultra-short lead times nevertheless allow Australian Weaving Mills to maintain 'the wall of colour', as Parker puts it.

Although relations do not make as much per unit of stock from Australian Weaving Mills, their profits increase because they sell more stock overall owing to the short lead times. Australian Weaving Mills has also installed special software that is able to read tills in 260 stores in Australia. Says Farker: We read them each night, find out what the store sold and restock them within 72 hours." This means

Concepts in action boxes cover real-world cost accounting issues across a variety of industries from Australia and internationally. Real company vignettes open each chapter. The vignettes engage the reader in a business situation, or dilemma, illustrating why and how the concepts in the chapter are relevant in business.



Management accounting beyond the numbers

When you hear the job tille "accountant", what comes to mind? The person who does your tax return each year? Individuals who prepare budgets at Dell or Sony? To people outside the profession, it may seem like accountants are just 'numbers people'. It is true that most accountants are object financial managers, yet their stills do not stop there. To be successful, management accountants must possess certain values and behaviours that reach well beyond basic analytical abilities.

Working in crass-functional demas and as a business partner of managers. It is not enough that management accountants simply be technically competent in their area of study. They also need to be able to work in teams, to learn about business issues, to understand the motivations of different individuals, to respect the views of their colleagues and to show empethy and trust.

Promoting fact-based analysis and making tough-minded, critical judgements without being adversarial. Management accountants must raise tough questions for managers to consider, especially when preparing budgets. They must do so thoughfully and with the intent of improving plans and decisions. One would expect management accountants to have raised questions about the operating and/or financing strategies and tractics of Chickenfeed and Gunns before these companies difficulties reached the news.

Leading and motivating people to change and be innovative. Implementing new ideas, however accod thev may he is Leading and motivating people to change and be innovative. Implementing new ideas, however accod thev may he is Leading and motivating people to change and be innovative. Implementing new ideas, however accod the vmay he is

ponies' difficulties reached the news.

Leading and motivating people to change and be innovative. Implementing new ideas, however good they may be, is seldom easy. When the United States Department of Defense sought to consolidate more than 320 finance and accounting systems into a centralised platform, the accounting services director and his team of management accountants made sure that the vision for change was well understood throughout the agency. Ultimately, soci Individual's performance was aligned with the transformative change and incentive pay was introduced to promote adoption and drive innovation within this secular management.

sure that the vision for change was were unaesassous introgues are against the most continued with the transformative change and incentive pay was introduced to promote adoption and drive innovation within this new framework.

Communicating clearly, openly and candidly. Communicating information is a large part of a management accountant's job. A few years ago, Pittery Bowes Inc. [PBI], a \$4 billion global provider of integrated mail and document management solutions, implemented a reporting initiative to give managers feedback in key areas. The initiative succeeded because it was clearly designed and openly communicated by PBI's team of management accountants. Having a storag sense of integrity. Amanagement accountants must never succumb to pressure from managers to manipulate financial information. They must always remember that their primary commitment is to the organisation and its shareholders. At VerlaCom, under pressure from senior managers, members of the accounting stof forcesded billions of dollars in expenses. Because the accounting stof forcesded billions of dollars in expenses. Because the accounting stof forcesded billions of dollars in expenses. Because the accounting stoff lacked the integrity and courage to stand up to and report corrupt senior managers, WorldCom undered in bankruptcy. Some members of the accounting stoff and the senior executive team served prison terms for their accions.

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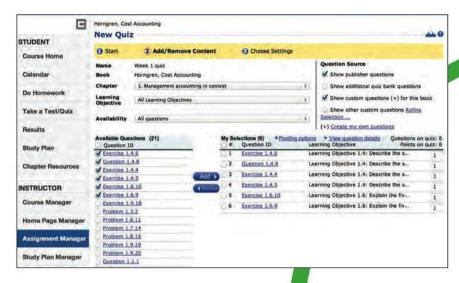
How car sharing is helping reduce business transportation costs ransportation costs iring partol price, high insurance costs and help parking fees how forced many businesses to reconsider the ownering for company or feet cars. In Sydney and Melbourne, card-haring businesses, such as Flociar, Golde Cardibrer and Charter Drive, how emerged as an attractive alternative. These businesses provide an or-demand option for the plus businesses and individuals to test a car by the days or even the hour. Business, members make a reservation by hy businesses and individuals to test a car of the hour desired, where the second provider of the provider and the survey of the provider of the hour. Business members makes a reservation by highbore or internet, go to where the car is located (neurly by welfing or politic transportation), whose an electronic order and the provider of the provider of the provider of the contractive of th $\overline{\mathbb{Z}}$ ACTION

Sustainability in action boxes occur in most chapters and show how integral sustainability issues are in cost and management accounting. The internationally renowned Australian airline, Qantas, is used where relevant to illustrate the kind of changes that are occurring in managing sustainability.

MyAccountingLab for Horngren, Cost Accounting 2e A guided tour for students and educators

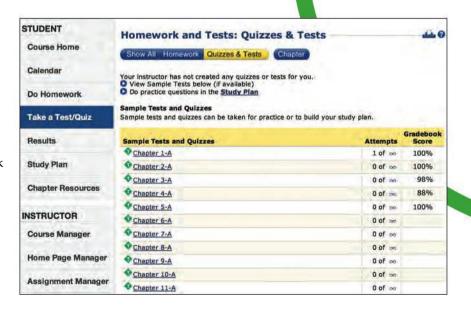
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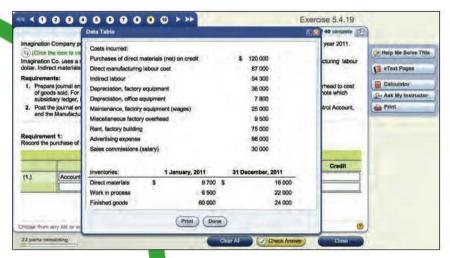


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- Step-by-step Guided Solutions
- · Graphing Tool
- eText linked to sections for Study Plan questions



Study Plan:

A study plan is generated from each student's results on quizzes and tests. Students can clearly see which topics they have mastered and, more importantly, which they need to work on.

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CHAPTER Management accounting in context



LEARNING OBJECTIVES

- Explain the way in which cost accounting supports management accounting and financial accounting
- Explain the role of management accounting in sustainability decisions
- Explain the way in which management accountants influence strategic decisions
- Describe the set of business functions in the value chain
- Identify the key success factors that customers expect companies to meet
- Explain the five-step decision-making process and its role in management accounting
- Describe three guidelines management accountants follow to support managers
- Describe how management accounting fits into an organisation's structure
- Explain how professional ethics impacts on management accountants' decisions

All businesses are concerned about revenues and costs. Whether their products are motor vehicles, fast food or the latest designer fashions, managers must understand the influence of revenues and costs on their operations or risk losing control. Managers use management accounting information to make decisions; decisions related to strategy, research and development, budgeting, production planning and pricing, among others. Sometimes these decisions involve trade-offs. While reading the vignette below, think about the strategic choices that Australian Weaving Mills has made for survival and success.



Australian Weaving Mills' strategic choices ensure survival and success

Geoff Parker is the chief executive of Australian Weaving Mills in Devonport, Tasmania, the last of the towel manufacturers in Australia. The company was one of nine in 1985—the other eight closed down or moved offshore to countries like China following the reduction of tariff protection and quotas. He was quoted in the *Sunday Tasmanian*: 'We knew we would have to compete in a different way to survive ... If you compete on price, especially in the towel market, you are dead in the water.'

Of the Australian market of 180 tonnes a week, Australian Weaving Mills is now supplying 50 tonnes of towels weekly. Among its clients are major Australian retailers Myer, David Jones, Big W, Target and Spotlight. Their towels are marketed under a number of brands including Dri Glo, Esprit and Dickies.

Knowing that Australian Weaving Mills could not use price as a factor to compete in this market, Parker developed a number of strategies.

Ultra-short lead times

Customers usually buy towels, bath mats, face clothes and hand towels as sets. If one item is out of stock in a particular colour, the other items of the same colour do not sell. Australian Weaving Mill has installed state-of-theart machinery allowing cutting, stitching and dyeing to be performed robotically. This dramatically reduces the time required to manufacture the towels. Overseas manufacturers can take months to refill orders, whereas Australian Weaving Mills takes only days. Although retailers do not give the mill much warning of upcoming sales—they don't want their competitors to find out—the ultra-short lead times nevertheless allow Australian Weaving Mills to maintain 'the wall of colour', as Parker puts it.

High-level customer service

Although retailers do not make as much per unit of stock from Australian Weaving Mills, their profits increase because they sell more stock overall owing to the short lead times.

Australian Weaving Mills has also installed special software that is able to read tills in 260 stores in Australia. Says Parker: 'We read them each night, find out what the store sold and restock them within 72 hours.' This means that stores do not have to hold stock or reorder it—Australian Weaving Mills take care of it. Importers are not able to match this level of service.

Quality towels

As well as the domestic market, about 15% of stock is exported to the Middle East and Asia, primarily to hotel chains such as Marriott, Hilton and Intercontinental. Mr Parker says: 'Again, we can't compete on price—only on service

and quality.' Australian Weaving Mills guarantee the number of washes for which a towel will last and this length of service (for the price) makes the towels competitive. They are currently developing a radio-tracking system for each towel. So if a hotel sends a new batch of towels with, say, 80 washes left to a laundry, they can make sure they get those towels back rather than towels with only five washes left from another hotel using the same laundry.

Technology and location

All this investment in technology is not cheap. Mr Parker estimates that Australian Weaving Mills has spent over \$8.4 million in technology, but it has paid off in sales. As well as shrewd investment in technology, location plays a part in the success of Australian Weaving Mills. Tasmania has a stable workforce, lower fixed costs than the mainland and good distribution links at reasonable cost. Stock can travel to Melbourne by ferry overnight to reach the stores the next morning. Frequently, it takes longer to restock from a Melbourne warehouse to city stores.

This story about Australian Weaving Mills illustrates not only the way in which the company's choice of a differentiation strategy over a low-cost strategy has ensured its survival and success, but also the favourable impact of technology and location. Apart from concepts and techniques, management accounting is about context. To provide useful information to management, the management accountant must be aware of the company's relationship with its environment, the dynamics of this relationship, potential strategies, appropriate technologies, relative complexity, location and the like.

The study of modern cost accounting yields insights into how managers and accountants can contribute to operations. It also prepares them for leadership roles. Many large companies, such as Telstra, Sony Pictures and Mallesons Stephen Jacques (a law firm), have senior executives with accounting backgrounds.

Source: Vowles, G. 2009, 'Success Sewn Up', Sunday Tasmanian, 1 March, p. 21.

period to the next.

Management accounting, financial accounting and cost accounting



As many of you have seen in your financial accounting unit(s), accounting systems take economic events and transactions, such as sales and purchases of materials, and process the data into information helpful to managers, sales representatives, production supervisors and others. To process an economic transaction, we collect, categorise, summarise and analyse data. For example, we collect costs by category, such as materials, labour and shipping, and summarise the detail to determine total costs by month, quarter or year. We analyse the results to highlight, for example, how costs have changed relative to revenues from one

Accounting systems provide the information found in the income statement, the balance sheet¹, the statement of cash flow and in performance reports, such as the cost of operating a plant or of providing a service. Managers use accounting information to administer the activities, businesses or functional areas they oversee and to coordinate those activities, businesses or functions within the framework of the organisation. This book focuses on how management accounting assists managers in these tasks.

Managers with different responsibilities often require the information in an accounting system to be presented or reported in different ways. Consider, for example, sales order information. A sales manager may be interested in the total dollar amount of sales to determine the commissions to be paid. A distribution manager may be interested in the sales order quantities by geographic region and by customer-requested delivery dates to ensure timely deliveries. A manufacturing manager, to schedule production, may be interested in the quantities of various products and their desired delivery dates. An ideal database—sometimes called a data warehouse or infobarn—consists of small, detailed pieces of information that can be used for multiple purposes. For instance, the sales order database will contain detailed information about product,

¹ These terms for financial statements will be used throughout the book because they are commonly understood and widely used. However, the official terms are 'statement of comprehensive income' and 'statement of financial position' according to a 2009 revision to AASB 101.

quantity ordered, selling price and delivery details (place and date) for each sales order. The database stores information in a way that allows managers to access the information they need. Many companies are building their own enterprise resource planning (ERP) systems, single databases that collect data and feed it into applications that support the company's business activities, such as purchasing, production, distribution and sales.

Management accounting and financial accounting have different goals. Management accounting measures, analyses and reports financial and non-financial information that helps managers make decisions to fulfil the goals of an organisation. Managers use management accounting information to choose, communicate and implement strategy. They also use management accounting information to coordinate product design, production and marketing decisions, and to evaluate performance. Management accounting information and reports do not have to follow set principles or rules. The key questions are always: (1) how will this information help managers do their jobs better? and (2) do the benefits of producing this information exceed the costs?

Financial accounting focuses on reporting to external parties, such as investors, government agencies, banks and suppliers. It measures and records business transactions and provides financial statements that are governed by Australian generally accepted accounting principles (GAAP), which are, in turn, influenced by Australian accounting standards and international financial reporting standards (IFRSs). Since 2002 the internationalisation of financial reporting has led to significant convergence of the three elements mentioned above. While an examination of these developments is beyond the scope of this book, we recognise that managers' compensation is often directly affected by the numbers in these financial statements. Consequently, managers are interested in both management accounting and financial accounting.

Table 1-1 summarises the major differences between management accounting and financial accounting. At the same time, note that reports such as balance sheets, income statements and statements of cash flows are common to both management accounting and financial accounting.

Cost accounting provides information for management accounting and financial accounting. Cost accounting measures, analyses and reports financial and non-financial information relating to the costs of acquiring or using resources in an organisation. For example, calculating the cost of a product is a cost accounting process that answers financial accounting's inventoryvaluation needs and management accounting's decision-making needs, such as choosing which products to offer. Modern cost accounting takes the perspective that collecting cost information is a function of the management decisions being made. Thus, the distinction between management

TABLE 1-1 Major differences between management accounting and financial accounting

	Management accounting	Financial accounting
Purpose of information	Help managers make decisions to achieve an organisation's goals	Communicate organisation's financial position to investors, banks, regulators and other outside parties
Primary users	Managers of the organisation	External users, such as investors, banks, regulators and suppliers
Focus and emphasis	Future oriented (budget for 2014 prepared in 2013)	Past-oriented (reports on 2013 performance prepared in 2014)
Rules of measurement and reporting	Internal measures and reports are based on cost—benefit analysis; they do not have to follow GAAP	Financial statements must be prepared in accordance with GAAP and be certified by external, independent auditors
Time span and type of reports	Varies from hourly information to 15–20 years, with financial and non-financial reports on products, departments, territories and strategies	Annual and quarterly financial reports, primarily on the company as a whole
Behavioural implications	Designed to influence the behaviour of managers and other employees	Primarily reports economic events but also influences behaviour because managers' compensation is often based on reported financial results

accounting and cost accounting is not clear-cut, and we often use these terms interchangeably in the book.

The term **cost management** encompasses the approaches and activities of managers to use resources to increase value to customers and to achieve the organisation's goals. The term cost management shifts the emphasis from ascertaining costs to managing those costs. Although managers cannot, in fact, manage costs—they can only manage activities—cost management is a well-established term. Cost management decisions include decisions such as the amounts and kinds of materials used, changes in plant processes and changes in product designs. Information from accounting systems helps managers to manage activities (costs), but the information and the accounting systems themselves are not cost management.

Cost management has broad application and is an integral part of general management strategies and their implementation. It is not practised in isolation. Examples of cost management include programs that enhance customer satisfaction and quality, as well as research and development (R&D) and marketing programs to promote 'blockbuster' new products. Cost management is inextricably linked with revenue and profit planning. As part of cost management, managers often deliberately incur additional costs, for example in advertising and product modifications, to enhance revenues and profits.



DECISION POINT 1:

What information does cost accounting provide?

Sustainability



What do hybrid cars, Al Gore's documentary *An Inconvenient Truth*, solar-powered cars racing across Australia and a television series about 'green houses' have in common? The common thread is sustainability.

According to *Our Common Future* (Brundtland 1987),² **sustainability** is 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. Sustainability would rarely, if ever, have featured in corporate annual reports or vision statements 20 or more years ago. With a significant

change in society's expectations, companies increasingly pay regard to and report on sustainability. More and more, businesspeople are finding that the search for sustainable solutions for the planet offers good business opportunities.

Morris Kaplan (2009) observes that landfill is becoming increasingly expensive and environmentally unacceptable.³ He reports on a venture by Tom Rudas, a microbiologist. Through his company, Anaeco, Rudas has established a commercial plant in Perth to process organic waste, with plans for plants throughout Australia. According to Rudas:

If you put food waste into the ground, it potentially impacts on two fronts ... It leaches and contaminates ground water and releases methane, which is a greenhouse gas that is 21 times worse than CO_2 .

With the contemporary focus on sustainability, we expect companies to report on it in their corporate responsibility reports, to refer to it in their vision statements and to incorporate it into their strategies. From a societal viewpoint, management accounting contributes by bringing relevant costs and benefits of sustainability to the attention of decision makers in the public arena, such as city councillors or government ministers. For instance, a for-profit enterprise that is accountable for sustainability would also need to make its decisions with due regard for sustainability. At one time, the decision to set up a new plant would have been made on the basis only of costs and benefits impacting the company concerned. Concern for sustainability requires that we now consider externalities, such as the pollution of air and water. Management accounting is again well placed to inform these decisions by recognising the relevant costs and benefits. Where sustainability is specified as a cost object, activity-based costing allows the highlighting of the costs and benefits involved.

Brundtland, G. H. 1987, Our Common Future, Report of the World Commission on Environment and Development, United Nations, http://worldinbalance.net/intagreements/1987-brundtland.php, accessed 10 February 2013.

³ Kaplan, M. 2009, 'Microbiologist Realises a Trashy Vision', The Weekend Australian, 31 October–1 November, p. 30.

Among the many issues dealt with in this book, we place sustainability on centre stage. Chapter 14 deals extensively with this topic and its interface with management accounting, outlining how sustainability is reported and measured. Sustainability in action boxes also appear in most chapters, showing how management accounting connects with sustainability.



DECISION POINT 2:

How does management accounting assist in sustainability decisions?

Strategic decisions and the management accountant



Strategy relates to how an organisation matches its capabilities with the opportunities in the marketplace to accomplish its objectives. In other words, strategy describes how an organisation chooses to compete and the opportunities its managers should seek and pursue. Many businesses follow one of two broad strategies. Some companies, such as Virgin Blue, JB Hi-Fi and The Warehouse (New Zealand), have been profitable and have grown over the years by providing quality products or services at low prices. In contrast, as shown in the opening vignette, Australian Weaving Mills carefully decided not to compete on low price but to dif-

ferentiate its product in a number of ways. Parker Hannifin (Australia) and David Jones are other companies that choose to generate their profits and growth based on their ability to offer differentiated or unique products or services, often at higher prices than those of their competitors.

Deciding between these strategies is a critical part of what managers do. Management accountants work closely with managers in formulating strategy by providing information about the sources of competitive advantage; for example, the cost, productivity or efficiency advantage of their company relative to that of competitors or the premium prices a company can charge relative to the costs of adding features that make its products or services distinctive. Strategic cost management describes cost management that specifically focuses on strategic issues.

Management accountants help to formulate strategy by helping managers to answer questions such as:

- Who are our most important customers, and how do we deliver value to them? For example, success in selling online has encouraged many businesses to develop the capability to sell online by building the necessary information and technology infrastructure. Toyota has built flexible computer-integrated manufacturing (CIM) plants that enable it to use the same equipment to produce a variety of cars in response to changing customer tastes. As reported in the opening vignette, Australian Weaving Mills has developed manufacturing and information technology for superior customer service.
- What substitute products exist in the marketplace, and how do they differ from our product in terms of price and quality? For example, Hewlett-Packard designs new printers after comparing the functionality, quality and price of its printers with other printers available in the marketplace.
- What is our most critical capability? Is it technology, production or marketing? How can we leverage it for new strategic initiatives? Kellogg Company, for example, uses the reputation of its brand to introduce new types of cereal.
- Will adequate cash be available to fund the strategy, or will additional funds need to be raised? These questions are pertinent to Amcor Ltd's proposed purchase of key divisions of Alcan's packaging business from Rio Tinto Ltd for a consideration of \$2.8 billion to be funded by debt and equity.

The best-designed strategies and the best-developed capabilities are useless unless they are executed effectively. In the next section, we describe how management accountants help managers to take actions that create value for their customers.



DECISION POINT 3:

How do management accountants support strategic decisions?

Management accounting beyond the numbers

When you hear the job title 'accountant', what comes to mind? The person who does your tax return each year? Individuals who prepare budgets at Dell or Sony? To people outside the profession, it may seem like accountants are just 'numbers people'. It is true that most accountants are adept financial managers, yet their skills do not stop there. To be successful, management accountants must possess certain values and behaviours that reach well beyond basic analytical abilities.

Working in cross-functional teams and as a business partner of managers. It is not enough that management accountants simply be technically competent in their area of study. They also need to be able to work in teams, to learn about business issues, to understand the motivations of different individuals, to respect the views of their colleagues and to show empathy and trust.

Promoting fact-based analysis and making tough-minded, critical judgements without being adversarial. Management accountants must raise tough questions for managers to consider, especially when preparing budgets. They must do so thoughtfully and with the intent of improving plans and decisions. One would expect management accountants to have raised questions about the operating and/or financing strategies and tactics of Chickenfeed and Gunns before these companies' difficulties reached the news.

Leading and motivating people to change and be innovative. Implementing new ideas, however good they may be, is seldom easy. When the United States Department of Defense sought to consolidate more than 320 finance and accounting systems into a centralised platform, the accounting services director and his team of management accountants made sure that the vision for change was well understood throughout the agency. Ultimately, each individual's performance was aligned with the transformative change and incentive pay was introduced to promote adoption and drive innovation within this new framework.

Communicating clearly, openly and candidly. Communicating information is a large part of a management accountant's job. A few years ago, Pitney Bowes Inc. (PBI), a \$4 billion global provider of integrated mail and document management solutions, implemented a reporting initiative to give managers feedback in key areas. The initiative succeeded because it was clearly designed and openly communicated by PBI's team of management accountants.

Having a strong sense of integrity. Management accountants must never succumb to pressure from managers to manipulate financial information. They must always remember that their primary commitment is to the organisation and its shareholders. At WorldCom, under pressure from senior managers, members of the accounting staff concealed billions of dollars in expenses. Because the accounting staff lacked the integrity and courage to stand up to and report corrupt senior managers, WorldCom landed in bankruptcy. Some members of the accounting staff and the senior executive team served prison terms for their actions.

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Value chain and supply chain analysis

Customers demand much more than a fair price from companies. For example, they also expect a quality product or service delivered in a timely way. These multiple factors drive how a customer experiences a product or service and the value or usefulness a customer derives from that product or service (see opening vignette on Australian Weaving Mills). How, then, does a company go about creating this value?



Value chain analysis

The **value chain** is the sequence of business functions in which customer usefulness is added to products or services. Figure 1-1 shows six business functions: R&D, design, production, marketing, distribution and customer service. We illustrate these business functions using Sony's television division.

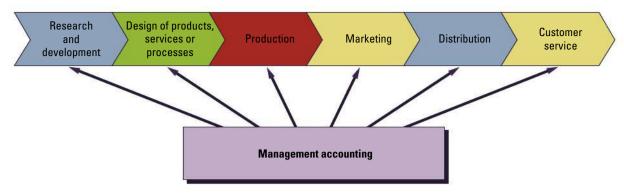


FIGURE 1-1 Managers in different parts of the value chain

- **Research and development**—generating and experimenting with ideas related to new products, services or processes. At Sony, this function includes research on alternative television signal transmission (analogue, digital, high definition) and on the clarity of different shapes and thicknesses of television screens.
- **Design of products, services or processes**—detailed planning and engineering of products, services or processes. Design at Sony includes determining the number of component parts in a television set and the effect of alternative product designs on quality and manufacturing costs.
- Production—acquiring, coordinating and assembling resources to produce a product or deliver a service. Production of a Sony television set includes the acquisition and assembly of the electronic parts, the cabinet and the packaging used for shipping.
- Marketing (including sales)—promoting and selling products or services to customers or prospective customers. Sony markets its televisions through trade shows, advertisements in newspapers and magazines, and on the internet.
- **Distribution**—delivering products or services to customers. Distribution for Sony includes shipping to retail outlets, catalogue vendors, direct sales via the internet and other channels through which customers purchase televisions.
- Customer service—providing after-sales support to customers. Sony provides customer service on its televisions in the form of customer-help telephone lines, support on the internet and warranty repair work.

Each of these business functions is essential to Sony satisfying its customers and keeping them satisfied and loyal over time. Companies use the term customer relationship management (CRM) to describe a strategy that integrates people and technology in all business functions to enhance relationships with customers, partners and distributors. CRM coordinates all customer-facing activities (i.e. marketing, sales calls, distribution and post-sales support) and the design and production activities necessary to get products to customers.

Figure 1-1 depicts the usual order in which different business function activities physically occur. Do not, however, interpret Figure 1-1 as implying that managers should proceed sequentially through the value chain when planning and managing their activities. Companies gain (in terms of cost, quality and the speed with which new products are developed) if two or more of the individual business functions of the value chain work concurrently as a team. For example, inputs into design decisions by production, marketing, distribution and customer service managers often lead to design choices that reduce total costs of the company.

Management accountants track the costs incurred in each value chain category. Their goal is to reduce costs in each category and to improve efficiency. Cost information also helps managers make cost-benefit trade-offs. For example, is it cheaper to buy products from outside vendors or to do manufacturing in-house? Is it worthwhile to invest more resources in design and manufacturing if it reduces costs in marketing and customer service or increases revenues?

