

# SOLUTIONS TO END-OF-CHAPTER QUESTIONS

## CHAPTER 14

### ► RECALL AND REVIEW

#### ► Question 14.1

A budget is a plan in money terms which plans future outcomes such as future income, expenditure, cash inflows and cash outflows. Firms prepare budgets to give themselves a benchmark against which to measure and assess their actual performance. By making regular comparisons between budgeted and actual outcomes, organisations can ensure that their plans are on track. Where actual performance levels fall below budgeted levels, corrective action can be taken to bring actual performance back to or above the budgeted level.

Budgets and the budgeting process enable management to plan for the future, to communicate their plans to the rest of the organisation, to coordinate and integrate operations, to control outcomes, to allocate responsibility for achieving different parts of the plan and to motivate the workforce to perform to their best ability. In these ways, budgeting helps in the more effective management of any organisation.

#### ► Question 14.2

##### Sales budget

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Sales quantity	5,500	8,400	7,300	4,100
Selling price per unit	£70	£70	£68	£68
Total sales	£385,000	£588,000	£496,400	£278,800

##### Materials budget

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Sales quantity	5,500	8,400	7,300	4,100
Materials cost per unit	£28	£28	£28	£28
Material cost	£154,000	£235,200	£204,400	£114,800

##### Direct labour budget

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Sales quantity	5,500	8,400	7,300	4,100
Labour cost per unit	£15	£15	£15	£15
Labour cost	£82,500	£126,000	£109,500	£61,500

**Variable costs budget**

	<b>Quarter 1</b>	<b>Quarter 2</b>	<b>Quarter 3</b>	<b>Quarter 4</b>
Sales quantity	5,500	8,400	7,300	4,100
Cost per unit	£5	£5	£5	£5
Variable overhead	£27,500	£42,000	£36,500	£20,500

**Hermann plc: budgeted statement of profit or loss for 2022**

	<b>Quarter 1</b>	<b>Quarter 2</b>	<b>Quarter 3</b>	<b>Quarter 4</b>
	<b>£</b>	<b>£</b>	<b>£</b>	<b>£</b>
Sales	385,000	588,000	496,400	278,800
Cost of sales:				
Material cost	154,000	235,200	204,400	114,800
Labour cost	82,500	126,000	109,500	61,500
Variable costs	27,500	42,000	36,500	20,500
Cost of sales	264,000	403,200	350,400	196,800
Gross profit	121,000	184,800	146,000	82,000
Fixed costs	50,000	50,000	50,000	50,000
Net profit	71,000	134,800	96,000	32,000

**» DEVELOP YOUR UNDERSTANDING****» Question 14.3****Dave's ice cream van**

	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>Sept</b>	<b>Total</b>
Cash receipts							
Dave's own cash	5,000						5,000
Sales	3,500	5,500	7,500	7,500	7,500	2,500	34,000
<b>Total cash receipts</b>	<b>8,500</b>	<b>5,500</b>	<b>7,500</b>	<b>7,500</b>	<b>7,500</b>	<b>2,500</b>	<b>39,000</b>
Cash payments							
Ice cream purchases		1,750	2,750	3,750	3,750	3,750	15,750
Ice cream van hire	1,500			1,500			3,000
Van running expenses	250	250	250	250	250	250	1,500
Business insurance	500						500
Drawings	1,000	1,000	1,000	1,000	1,000	1,000	6,000
<b>Total cash payments</b>	<b>3,250</b>	<b>3,000</b>	<b>4,000</b>	<b>6,500</b>	<b>5,000</b>	<b>5,000</b>	<b>26,750</b>
Receipts – payments	5,250	2,500	3,500	1,000	2,500	(2,500)	12,250
Cash at start of month	—	5,250	7,750	11,250	12,250	14,750	
Cash at end of month	5,250	7,750	11,250	12,250	14,750	12,250	

**Dave: statement of profit or loss for the six months ended 30 September**

	£	£
Sales (all cash receipts)		34,000
Cost of sales (cash paid + outstanding payment for September of £1,250)		<u>17,000</u>
Gross profit		17,000
Expenses		
Ice cream van hire (cash paid)	3,000	
Van running expenses (cash paid)	1,500	
Business insurance (cash paid)	<u>500</u>	
		5,000
<b>Net profit for the six months</b>		<b><u><u>12,000</u></u></b>

**Dave: Statement of financial position at 30 September**

	£
<b>Current assets</b>	
Cash and cash equivalents (= cash balance in cash budget)	<u>12,250</u>
<b>Current liabilities</b>	
Trade payable (£2,500 × 50%, ice cream cost for September)	<u>1,250</u>
Net assets (12,250 – 1,250)	<u>11,000</u>
<b>Equity (capital account)</b>	
Cash introduced	5,000
Profit for the six months	12,000
Drawings	<u>(6,000)</u>
	<b><u><u>11,000</u></u></b>

**» Question 14.4**

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- See the accompanying spreadsheet in the online resources for the figures.
- The new venture makes a profit of £34,620,000 and has positive cash at the end of the first year of operation of £29,580,000.
- Therefore, the directors would be advised to go ahead with such a profitable and cash generative operation.

**» Question 14.5**

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- See the accompanying spreadsheet in the online resources for the figures.
- Based on the new projections, the venture now makes a profit of £6,540,000 and has year-end cash of £2,863,000. However, the cash does not become positive until some time in October (compared to positive cash from April onwards in the answer to Question 14.4).
- Therefore, the directors would now be advised to undertake careful sensitivity analysis of the figures to determine whether the project is still worthwhile from both a profit and a cash flow perspective.

**» Question 14.6****(a)**

	July £	August £	Sept £	Oct £	Nov £	Dec £
Cash receipts:						
Capital	6,000					
Cash sales	4,000	4,000	4,000	4,400	4,840	5,324
<b>Total receipts</b>	<b>10,000</b>	<b>4,000</b>	<b>4,000</b>	<b>4,400</b>	<b>4,840</b>	<b>5,324</b>
Cash payments:						
Rent	2,000	1,000	1,000	1,000	1,000	1,000
Insurance	500					
Advertising	450	450	450			
Food and drink	1,600	1,600	1,600	1,760	1,936	2,130
Wages	2,000	2,000	2,000	2,000	2,000	2,000
Utilities			1,050			1,050
<b>Total payments</b>	<b>6,550</b>	<b>5,050</b>	<b>6,100</b>	<b>4,760</b>	<b>4,936</b>	<b>6,180</b>
Net cash flow	3,450	(1,050)	(2,100)	(360)	(96)	(856)
Opening balance	0	3,450	2,400	300	(60)	(156)
Closing balance	3,450	2,400	300	(60)	(156)	(1,012)

- (b)** Extra funding is required in October, November and December as the budgeted closing cash balance shows a deficit in each of these months.

## » Question 14.7

(a)

	July £	August £	Sept £	Oct £	Nov £	Dec £
Cash receipts:						
Capital	6,000					
Cash sales	3,680	3,680	3,680	4,048	4,453	4,898
<b>Total receipts</b>	<b>9,680</b>	<b>3,680</b>	<b>3,680</b>	<b>4,048</b>	<b>4,453</b>	<b>4,898</b>
Cash payments:						
Rent	2,000	1,000	1,000	1,000	1,000	1,000
Insurance	500					
Advertising	450	450	450			
Food and drink	1,792	1,792	1,792	1,971	2,168	2,385
Wages	2,000	2,000	2,000	2,000	2,000	2,000
Utilities			1,050			1,050
<b>Total payments</b>	<b>6,742</b>	<b>5,242</b>	<b>6,292</b>	<b>4,971</b>	<b>5,168</b>	<b>6,435</b>
Net cash flow	2,938	(1,562)	(2,612)	(923)	(715)	(1,537)
Opening balance	0	2,938	1,376	(1,236)	(2,159)	(2,874)
Closing balance	2,938	1,376	(1,236)	(2,159)	(2,874)	(4,411)

(b) Based on the worst case scenario, the business will be in a cash deficit position by the end of September, so it will need an injection of additional funding from this month onwards. John might consider introducing more of his own money into the restaurant or proceed with an application for a bank loan in order to meet the budgeted short-term deficit.

## »» TAKE IT FURTHER

## »» Question 14.8

## Budgeted sales for September to December

	September £	October £	November £	December £
Size A	1,000	1,200	1,400	1,300
Size B	960	1,200	1,560	1,080
Size C	1,350	1,650	1,800	1,200
Size D	1,080	1,260	1,440	900
<b>Total</b>	<b>4,390</b>	<b>5,310</b>	<b>6,200</b>	<b>4,480</b>

**Budgeted variable costs**

	<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>
	<b>£</b>	<b>£</b>	<b>£</b>	<b>£</b>
Size A	500	600	700	650
Size B	720	900	1,170	810
Size C	990	1,210	1,320	880
Size D	900	1,050	1,200	750
<b>Total</b>	<b><u>3,110</u></b>	<b><u>3,760</u></b>	<b><u>4,390</u></b>	<b><u>3,090</u></b>

**Budgeted statements of profit or loss for September to December**

	<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>
	<b>£</b>	<b>£</b>	<b>£</b>	<b>£</b>
Total sales	4,390	5,310	6,200	4,480
Cost of sales:				
Variable costs	<u>3,110</u>	<u>3,760</u>	<u>4,390</u>	<u>3,090</u>
Gross profit	1,280	1,550	1,810	1,390
Expenses:				
Rent	800	800	800	800
Insurance	50	50	50	50
Utilities	250	250	250	250
General and administration	200	200	200	200
Advertising	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>
<b>Net profit/(loss)</b>	<b><u>(80)</u></b>	<b><u>190</u></b>	<b><u>450</u></b>	<b><u>30</u></b>

**Cash budgets for September, October, November and December**

	September	October	November	December
	£	£	£	£
Cash receipts:				
Capital	2,000			
Sales	4,390	5,310	6,200	4,480
<b>Total receipts</b>	<b>6,390</b>	<b>5,310</b>	<b>6,200</b>	<b>4,480</b>
Cash payments:				
Variable costs	3,110	3,760	4,390	3,090
Rent	800	800	800	800
Insurance	200			
Utilities		500		500
General and administration	200	200	200	200
Advertising	240			
<b>Total payments</b>	<b>4,550</b>	<b>5,260</b>	<b>5,390</b>	<b>4,590</b>
Net cash flow	1,840	50	810	(110)
Opening cash balance	0	1,840	1,890	2,700
Closing cash balance	1,840	1,890	2,700	2,590

**»» Question 14.9**

Clothing manufacturing company

- See the accompanying spreadsheet in the online resources for the figures.

**»» Question 14.10**

Plastic chair manufacturer

- See the accompanying spreadsheet in the online resources for the figures.