Chapter 8 Questions

1. Pacey Bellamy manufactures umbrellas. The sales budget for the next three months of 2010 is as follows:

Month	**Units**
August	10,600
September	11,500
October	12,400

Opening inventory of finished umbrellas at 1 August 2010 is expected to be 7600 units. The directors plan to increase that inventory level by 500 units each month for the rest of the financial year.

Each umbrella uses €7.50 in raw materials. Raw materials inventory at 1 August 2010 is expected to be at the very low level of €3,450. By the end of August the company's directors plan to increase it to €6,800. By the end of September it should be €10 300 and by the end of October it will have increased to €16,400.

Calculate for each of the three months:

a) the production budget (in units)

b) the raw materials purchases budget (in €s).

2. Angel Fish Supplies is run in partnership by Angelina and her brother Arkady. The business supplies fish tanks and related goods to pet shops. Although the customers almost always eventually pay, the partners often have problems in collecting the cash due to them. The pattern of cash payment by customers, on average, is as follows:

Month following sale	30% of sales value
2 months following sale	40% of sales value
3 months following sale	20% of sales value
4 months following sale	10% of sales value

So, for example, 30% of the value of sales in February will actually be received in cash in March, 40% will be received in cash in April, and so on.

Angelina and Arkady are preparing budgets for the six months ending 30 June 2011. Actual invoiced sales for the September – December 2010 period are as follows:

	€
September	22,500
October	20,650
November	21,040
December	21,200

The partners expect to invoice sales as follows in each of the six months to 30 June 2011:

	€
January	18,400
February	18,000
March	19,600
April	20,400
May	22,600
June	23,100

By contrast with the slow receipt of cash for sales, Angelina and Arkady's suppliers expect to be paid immediately. Other expenses are also paid in the month in which they are incurred. So, there is no delay in paying for any goods or services by the partners. Cash payments/ expenses for the six months are expected to be as follows:

	€
January	18,650
February	14,200
March	22,400
April	16,800
May	19,450
June	14,000

In addition, each partner draws €1,000 from the business each month.

No other cash inflows or outflows are expected in the 6 months to 30 June 2011.

At 31 December 2010 the business has a bank overdraft of €3,050. It is permitted a maximum overdraft at any one time of €7,000.

a) prepare a cash flow forecast for the 6 months to 30 June 2011, noting the maximum forecast overdraft
b) calculate the profit or loss for the six month period.

3. **Bonita** is starting an art gallery business in part of a converted mill building. She sold her house, making €40,000 profit on the deal, and is currently renting a flat so that she can put the money she's made into the new venture. €30,000 was used as a deposit on the purchase of her space in the mill, and she obtained a commercial mortgage of €118,000 for the remainder of the purchase price. The interest rate on the mortgage is 5.7% and Bonita has negotiated a deal with the lender whereby she does not have to start paying off the capital sum until the third year of her business operation. The monthly interest-only payments are €561.

Bonita will stage one exhibition each month, and her plans for the first three months of her business are as follows:

January: exhibition of prints by major European artists of the 20th century. Bonita expects to sell about 50% of the exhibits, which would produce total sales of €52,000, the cash received immediately. €36,000 of this would be payable to the owner of the prints in February.

February: exhibition of the work of five sculptors. Working, again, on the expectation that 50% of the work will sell, total sales are likely to be €48,000. Bonita will retain one third of this sum; the balance will be paid to the artists in March.

March: exhibition by renowned artist, Pasha Quigley. Pasha rarely exhibits his work and it is a major coup for Bonita to have his paintings on show. Bonita expects to sell €85 000 of work, of which she will retain commission of €20,000. The €85,000 will be received from purchasers within the month of March, and Pasha will be paid in April.

Expenses include the following:

i. Cost of exhibition catalogues. A catalogue for each exhibition will cost €5 000 to produce. The catalogue for the first exhibition will have been paid for in December out of Bonita's remaining €10,000. The catalogues for the second and third exhibitions will also be paid for one month in advance.

ii. Gallery premises costs. Business rates are to be paid monthly; the cost is €750 per month. Electricity costs will average out at €60 per month and Bonita expects to receive a bill for the first three months electricity in March, and to pay it in April.

iii. Wages. Bonita will pay a part time assistant €550 per month.

iv. Other expenses. Bonita estimates that a total of €1,000 in other expenses will be paid each month.

v. Drawings. She plans to draw €700 per month in cash.

vi. Private view expenses. In each of the three months Bonita will have to spend an estimated €450 on buying in wine and other refreshments for the private view. This figure also includes the cost of hourly paid waiting staff to take drinks round to guests.

vii. Advertising. The initial round of press adverts will appear in December, and the €3,000 cost will be paid for out of Bonita's remaining €10,000. Each month €400 will be paid for brochures and postage costs to send out to people on the gallery's mailing list.

The bank balance at 1 January 2011 will be €2,000 after advertising and catalogue costs have been paid for. The advertising and catalogue costs form part of Bonita's start up capital.

The gallery premises are to be depreciated over 25 years on the straight-line basis, with an assumption of nil residual value.

Prepare for Bonita:

a) a budget cash flow statement for the three months of January, February and March 2011

b) a budget profit and loss account for the three months ending 31 March 2011

c) a budget balance sheet at 31 March 2011

d) briefly discuss whether or not you think Bonita's business is going to be successful, identifying any areas where cash flow might be a problem.

Chapter 8 Answers

1. Pacey Bellamy

a) Production budget (in units) August – October 2010

First, calculate the expected level of closing inventory at the end of each month:

Closing inventory at end of August: 7,600 + 500 units = 8,100

Closing inventory at end of September: 8,100 + 500 units = 8,600

Closing inventory at end of October: 8,600 + 500 units = 9,100

The production budget is the balancing figure in the following table:

	Opening inventory – units	Production – units	Transfers out of production (for sales) – units	Closing inventory – units
September	7,600	11,100	(10,600)	8,100
October	8,100	12,000	(11,500)	8,600
November	8,600	12,900	(12,400)	9,100

b) Raw materials purchases budget: August - October 2010

Closing inventory + raw materials used in production – opening inventory = raw materials purchases

Purchases of raw materials is the balancing figure in the following table:

	Opening inventory of raw material €	Purchases of raw materials € (bal. fig)	Raw materials used in production €	Closing inventory of raw material €
August	3,450	86,600	11,100 x €7.50 = (83,250)	6,800
September	6,800	93,500	12,000 x €7.50 = (90,000)	10,300
October	10,300	102,850	12,900 x €7.50 = (96,750)	16,400

2. Angel Fish Supplies

a)

Working 1: cash receipts

e.g. September 2010 sales will be received as follows:

30% in October

40% in November

20% in December

10% in January

Once the pattern is established, it is easy to fill in the boxes in the table below:

	Jan €	Feb €	Mar €	April €	May €	June €
Sept (10% x €22,500)	2,250					
October (20%/10% x €20,650)	4,130	2,065				
November (40%/20%/10% x €21,040)	8,416	4,208	2,104			
December (30%/40%/20%/10% x €21,200)	6,360	8,480	4,240	2,120		
January (30%/40%/20%/10% x €18,400)		5,520	7,360	3,680	1,840	

February (30%/40%/20%/10% x €18,000)			5,400	7,200	3,600	1,800
March (30%/40%/20% x €19,600)				5,880	7,840	3,920
April (30%/40% x €20,400)					6,120	8,160
May (30% x €22,600)						6,780
Total	21,156	20,273	19,104	18,880	19,400	20,660

It is now possible to complete the cash flow forecast:

Angel Fish Supplies: Cash flow forecast for the six months ending 30 June 2011

	Jan €	Feb €	Mar €	April €	May €	June €
Cash receipts (see working 1)	21,156	20,273	19,104	18,880	19,400	20,660
Cash payments	18,650	14,200	22,400	16,800	19,450	14,000
Drawings	2,000	2,000	2,000	2,000	2,000	2,000
Total payments	20,650	16,200	24,400,	18,800	21,450	16,000
Opening balance	(3,050)	(2,544)	1,529	(3,767)	(3,687)	(5,737)
Add: receipts	21,156	20,273	19,104	18,880	19,400	20,660
Less: payments	(20,650)	(16,200)	(24,400)	(18,800)	(21,450)	(16,000)
Closing balance	(2,544)	1,529	(3,767)	(3,687)	(5,737)	(1,077)

The maximum overdraft reached in the six month period is €5737.

b) Angel Fish Supplies: profit and loss account for the six months ending 30 June 2011

	€
Sales (18,400 + 18,000 + 19,600 + 20,400 + 22,600 + 23,100)	122,100
Expenses (18,650 + 14,200 + 22,400 + 16,800 + 19,450 + 14,000)	(105,500)
Profit	16,600

3. Bonita

Working 1: opening capital = €40,000

€30,000 of this is in the cost of the building, €5,000 in catalogue expenditure, €3,000 in advertising and €2,000 in cash.

Working 2: depreciation of building

Total cost = €30,000 + €118,000 = €148,000

Depreciation over 25 on the straight line basis = €148,000/25 = €5,920 per year

For three months: €1,480

Working 3: sales

The value of sales for Bonita is the total commission earned each month:

Sales value for January: €52,000 – 36,000 = €16,000

Sales value for February: €48,000 – 32,000 (2/3) = €16,000 (1/3)

Sales value for March: €85,000 – €65,000 = €20,000

Total sales to appear in the three month profit and loss account: €16,000 + €16,000 + €20,000 = €52,000.

Bonita: forecast cash flow statement for the three months to 31 March 2011

	January	February	March
	€	€	€
Cash inflows			
Receipts of cash	52,000	48,000	85,000
Cash outflows			
Payments to artists/owners		36,000	32,000
Catalogues	5,000	5,000	
Business rates	750	750	750
Wages	550	550	550
Other expenses	1,000	1,000	1,000
Drawings	700	700	700
Private view expenses	450	450	450
Brochures and postage	400	400	400
Interest on mortgage	561	561	561
	9,411	**45,411**	**36,411**
Opening balance	2,000	44,589	47,178
Add: receipts	52,000	48,000	85,000
Less: payments	(9,411)	(45,411)	(36,411)
Closing balance	**44,589**	**47,178**	**95,767**

b) Bonita: profit and loss account for the three months ending 31 March 2011

	€
Sales (working 3)	52,000
Less: expenses	
Catalogues	15,000
Business rates	2,250
Wages	1,650
Other expenses	3,000
Private view expenses	1,350
Brochures and postage	1,200
Interest on mortgage	1,683
Depreciation (working 2)	1,480
Advertising	3,000
Electricity	180
Total expenses	30,793
Net profit	21,207

c) <u>Bonita: budget balance sheet at 31 March 2011</u>

	€	€
Property at cost	148,000	
Less: depreciation	(1,480)	
		146,520
Current assets		
Cash at bank	95,767	
Current liabilities		
Accrual (electricity)	180	
Due to Pasha	65,000	

	65,180	
Net current assets		30,587
		177,107
Long term loan (mortgage)		(118,000)
		59,107
Capital introduced (working 1)		40,000
Profit for the period		21,207
Less: drawings		(2,100)
		59,107

d) discussion of Bonita's budget for the first three months of business

Bonita's budget profit and loss account shows a profit of over €20,000 in just three months, on total capital invested of €40,000 – an impressive result. However, much is dependent on whether or not her expectations as to sales are fulfilled. She could run into trouble quite quickly if actual sales at any of the exhibitions are disappointing. Also, even if her forecasts are accurate, there may be some short-term cash flow problems. She is starting the business at the beginning of January with only €2,000 in the bank. Because she expects to receive cash for artwork a month or so before she has to pay anything to the artists she has a significant cash flow advantage. However, she has to make payments of over €9,000 in the first month of business, and she may have to juggle the timing of the payments carefully to make sure that her cash position remains sound.

If Bonita's forecasts are accurate, however, she could make a very good living out of the new business.