
Answers

1 Maybay Hospital

(a) Option 1: Continue with existing staff

	0	Time 1	2-5
	£'000	£'000	£'000
Full-time staff costs (1)		1,246	1,440
Part-time staff costs (2)		532	532
Cleaning materials		1,440	1,440
Insurance costs		6,500	6,500
Fines (3)		368	368
Administration costs		300	300
Research costs – ignore as sunk			
Net cash flow	0	10,386	10,580
10% discount factors (4)	1.000	0.909	2.882
Discounted cash flow	0	9,441	30,492

Total present value of costs of Option 1 over next five years is £39.933 million.

	T1	T2-5
	£'000	£'000
1. Full-time staff costs		
Wages: 85/100 staff x 35hrs at £5.70 x 52 weeks	882	1,037
Supervisors: 8 x £15,000	120	120
Other costs: £2,625 x 93/108	244	283
	<u>1,246</u>	<u>1,440</u>

	T1-5
2. Part-time staff costs	
Wages: 75 staff x 20hrs at £5.65 x 52 weeks	441
Other costs: £1,215 x 75	91
	<u>532</u>

3. Fines	
Serious breaches (22 x £10,000)	220
Minor breaches (74 x £2,000)	148
	<u>368</u>

4. Annuity factor
 Annuity factor T2 – T5 = 3.791 – 0.909 = 2.882

Option 2: Contracting out

	Time 0	1	2	3-5
	£'000	£'000	£'000	£'000
Annual contract fees		4,250	4,250	4,500
Revised insurance costs (£6.5m x 90%)		5,850	5,850	5,850
Revised fine costs (5)		270	130	130
Machine sales (150 x £4000)	(600)			
Saved revenue contribution		(1,200)	(1,200)	(1,200)
Administration costs		270	270	270
Redundancy costs (6)	640			
Net cash flow	40	9,440	9,300	9,550
10% discount factors (7)	1.000	0.909	0.826	2.055
Discounted cash flow	40	8,581	7,682	19,625

Net present value of costs of Option 2 is £35.928 million.

The hospital should therefore choose Option 2 and contract out the cleaning since the net present value of the costs is £4.005 million less than for Option 1.

	Yr 1	Yrs 2–5
	£'000	£'000
5. Revised fines		
Serious breaches (17/8 x £10,000)	170	80
Minor breaches (50/25 x £2,000)	100	50
	<u>270</u>	<u>130</u>
6. Redundancy costs		
Full-time: 83 x £5,000	415	
Part-time: 75 x £3,000	225	
	<u>640</u>	
7. Annuity factor		
Annuity factor T2 – T5 = 3.791 – 1.736 = 2.055		

Note: It is the difference in the NPVs of the two options that is important, rather than the NPVs themselves.

(b) Other factors

Other factors to be considered, apart from cost:

- (i) The experience of the external provider's cleaners in the area of hospital cleaning.
- (ii) The reliability of the cleaners in turning up for work.
- (iii) The quality of the cleaning provided.
- (iv) The effect on morale of remaining hospital staff if work is passed on to an outside provider and redundancies are made.
- (v) The extent to which reliance can be placed on the external provider's assertions re reducing fines and lost admissions.
- (vi) The extent to which the cleaning materials used by the contractors are environmentally friendly.

Note: Only four factors were required. Marks will be given for any sensible suggestion.

(c) Relevant costs

The following principles should be applied when identifying costs that are relevant to a project.

Relevant costs are future costs

A relevant cost is a future cost arising as a direct consequence of a decision. A cost which has been incurred in the past is therefore totally irrelevant to any decision that is being made now. Such past costs are called 'sunk costs'.

Relevant costs are cash flows

Only those future costs which are in the form of cash should be included. This is because relevant costing works on the assumption that profits earn cash.

Therefore, costs which do not reflect cash spending should be ignored for the purpose of decision-making.

Relevant costs are incremental costs

A relevant cost is the increase in costs which results from making a particular decision. For example, an opportunity cost – the value of a benefit foregone as a result of choosing a particular course of action – will always be a relevant cost. This is because it is a future incremental cost.

Any costs or benefits arising as a result of a past decision should be ignored, for example, costs to which the business is already committed.

Finance costs

Certain other costs will also be irrelevant to decision-making, such as 'finance costs'. This is because interest has already been taken into account in the discounting process.

2 Health Foods Ltd

(a) Projected cash flow statement	£'000
Operating profit	8,085
Depreciation	200
Finance costs	(785)
Tax paid (w.1)	(1,836)
Dividends paid (w.2)	(1,577)
Fixed asset purchases (w.3)	(500)
Increase in stock (w.4)	(1,078)
Increase in debtors (w.5)	(775)
Decrease in trade creditors (w.6)	(14)
Projected increase in cash over the year	<u>1,720</u>

Reconciled as follows:	£'000
Cash per BS at 30/06/06	(1,264)
Cash per BS at 30/06/07	<u>2,984</u>
Projected increase in cash over the year	<u>1,720</u>

Workings

1. Tax paid	£'000
Tax payable b/f at 01/07/06	(1,895)
Tax charge for y/e 30/06/07	(2,230)
Tax payable c/f at 30/06/07	<u>2,289</u>
Therefore cash paid	<u>(1,836)</u>
2. Dividends paid	
Dividends payable b/f at 01/07/06	(1,542)
Dividend charge for y/e 30/06/07	(2,270)
Dividends payable c/f at 30/06/07	<u>2,235</u>
Therefore cash paid	<u>(1,577)</u>
3. Fixed asset purchases	
Fixed assets b/f at 01/07/06	8,000
Depr'n charge for y/e 30/06/07	(200)
Fixed assets at 30/06/07	<u>(8,300)</u>
Therefore cash paid	<u>(500)</u>
4. Increase in stock	
Stock as at 30/06/07	3,245
Stock as at 30/06/06	<u>(2,167)</u>
Increase	<u>1,078</u>
5. Increase in debtors	
Debtors as at 30/06/07	3,318
Debtors as at 30/06/06	<u>(2,543)</u>
Increase	<u>775</u>
6. Decrease in trade creditors	
Trade creditors as at 30/06/07	1,723
Trade creditors as at 30/06/06	<u>(1,737)</u>
Decrease	<u>(14)</u>

Note: full marks given for any method of arriving at projected increase in cash over the year. An example of another approach is summarised below

	£'000
Receipts (20,350 + 2,543 – 3,318)	19,575
Payments for operating expenses (12,265 – 1,723 + 1,737 – 200 + 3,245 – 2,167)	(13,157)
Interest paid	(785)
Tax paid (w.1)	(1,836)
Dividends paid (w.2)	(1,577)
Fixed asset purchases (w.3)	<u>(500)</u>
	<u>1,720</u>

(b) Drawbacks of Baumol model

1. It does not take into account costs associated with running out of cash.
2. The model only works properly for a firm which uses up cash at a steady rate throughout the year. In practice, most firms are likely to have large inflows or outflows of cash from time to time.
3. In practice, it will be difficult to predict future cash requirements with certainty.
4. Future interest rates are difficult to estimate.
5. It assumes that transaction costs are constant but, in practice, they may vary.

3 Shoes For You Ltd

(a)					Days
Raw materials stock period:					
Raw materials	x 365	=	133,000	x 365	77
Purchases			630,000		
Credit taken from suppliers:					
Creditors	x 365	=	73,000	x 365	(40)
Credit overheads (w.1)			670,000		
Work in progress:					
Work in progress	x 365	=	195,000	x 365	77
Cost of sales (w.2) x degree of completion			1,430,000 x 65%		
Finished goods:					
Finished goods	x 365	=	325,000	x 365	83
Cost of sales			1,430,000		
Credit allowed to debtors:					
Debtors	x 365	=	410,000	x 365	60
Sales			2,500,000		
					257

The cash operating cycle is therefore approximately 257 days.

Working 1: Credit overheads

	£
Production overheads	350,000
Sales overheads	320,000
	670,000

Working 2: Cost of sales

Materials	630,000
Wages	450,000
Production overheads	350,000
Cost of sales	1,430,000

(b) Increase in raw material holding period

Advantage – Since prices are increasing, it makes sense to buy more raw materials before prices increase even more. Overall purchase costs will therefore be lower.

Disadvantage – Stock holding costs will increase. These include the costs of working capital tied up in stock, warehousing costs and deterioration costs.

(c) The general problems associated with inflation

(i) Redistribution of income and wealth

Inflation will lead to a redistribution of income and wealth. This is because debts, for example, lose their real value with inflation. This kind of random redistribution is undesirable as those in positions of economic power tend to gain at the expense of others.

In Shoes For You Ltd's case, however, their income is received in sterling. Since this is a stable currency the value of the company's debts is not decreasing much in real terms.

(ii) The balance of trade may suffer

If a country has a higher rate of inflation compared to that of the countries it trades with, then its exports become more expensive for its overseas partners and its imports become cheaper for its residents. This affects the balance of trade adversely.

In the case of Shoes For You Ltd, the reason the shoes are made in Bushai is because of relatively low materials and labour costs. Whilst production labour costs are not yet increasing because of fixed wages, materials costs are already increasing dramatically and it may soon become cheaper to set up a factory elsewhere. In the long-term, labour costs will have to increase as well otherwise workers will presumably seek employment elsewhere.

(iii) Higher interest rates

The central bank in Bushai may counter inflation by raising interest rates. This makes the cost of borrowing higher and therefore limits investment opportunities. Since all the finance for Shoes For You Ltd is obtained from the UK, this problem will not affect Shoes For You Ltd.

4 Sources of finance

(a) Sources of finance for SMEs

Equity

When the business is first set up, the first (probably main) source of finance will be equity injected by the owner, and possibly by family and friends. The owner may have to re-mortgage his home to obtain funds.

Since the business will have few tangible assets at this stage, it will be difficult to obtain equity from elsewhere.

Once the business becomes more established, equity finance will become more readily available. Shares can be sold privately to investors. Since equity owners also have the right to participate in the running of the business, through voting, the initial owner may wish to sell a small number of shares to a number of investors so as to maintain control.

Overdrafts

An overdraft is a deficit on a bank current account.

Overdrafts are suitable for short-term borrowing only. This is because they are usually expensive, both in terms of arrangement fees and in terms of interest charges. Also, they are repayable on demand. This means that the bank can withdraw the facility at any time, usually at a time when the business most needs the cash because of financial difficulties.

Although overdrafts are not suitable for long term borrowing, they are often used as a permanent source of finance.

Loans

If an overdraft appears to be becoming too permanent, the bank may suggest that it is converted into a medium term loan. In this way, the business is forced to start repaying some of it.

The bank may also provide loans for the purchase of fixed assets or for expansion of the business.

In general terms, overdrafts are more suitable for the financing of working capital and loans are more suitable for longer term assets or projects.

Trade credit

Trade credit is often used as a source of finance for small and medium-sized enterprises (SMEs), particularly when the business is first starting up. Ironically, this is the time when such finance can be difficult to obtain, due to lack of the business's reputation and credit history.

The cost of trade finance has to be weighed up, taking into account both loss of early payment discounts and loss of supplier goodwill.

Business angel financing

Business angels may be either individuals or groups of individuals. They are characterised by their wealth! Such forms of financing tends to be informal and it is very much a question of knowing the right people.

The informal nature of this type of financing can be both a strength and a weakness. It is a strength because many of the onerous formalities relating to provision of information to financiers are avoided. However, it is a weakness because of the lack of a formal business angel market through which finance can be sought.

Venture capital

Venture capitalists tend to invest in new businesses and specific expansion schemes. They tend to be attracted to businesses that will eventually be listed on the stock exchange, both because businesses of this size will generate the largest profits and because this also gives them an exit route in the future. Many of the smaller SMEs will simply not be big enough for venture capital finance. Also, venture capitalists will want to become involved in running the business because of their need to protect their investment.

Note: Only four sources were required.

(b) Limitations of ratio analysis

- On their own, ratios do not provide information that can be used to assess a business's performance. They are only useful when comparative figures are also available, whether these be budgeted figures, prior year figures, or figures for similar companies.
- Where price inflation has occurred, ratios comparing different time periods will not be directly comparable. The wrong conclusions may therefore be drawn about a business's performance. In order to rectify this, adjustments would have to be made to allow for price differences.
- Many of the key ratios used actually have numerous different definitions. For example, there are several ways of defining gearing. It is therefore essential to ensure that the exact same definition is being used before ratio analysis is relied upon.

- When the performance of different companies is being compared, ratios are usually calculated from the companies' financial statements. The problem with this is that these accounts will not have been prepared using exactly the same accounting policies. For example, one company may use the straight line method for depreciation whilst the other uses the reducing balance method. Therefore, once again, inaccurate conclusions may be drawn.
- Ratio analysis is only useful to the extent that key information is readily available. It may be that a business has changed its management accounting system in the year meaning that comparable information is not available in the required format.
- The information on which the ratios are based is historical – not current. A lot might have happened between the date that the accounts were prepared and the date when they are being analysed.

NOTE: Only four limitations were required.

	Marks
1 Maybay Hospital	
(a) NPV of costs	
Not contracting out:	
F/T staff costs	5
P/T staff costs	2
Cleaning materials	1
Insurance costs	1
Fines	1
Administration costs	1
Annuity factor calculation	1
Net cash flow	1
DCF	2
Contractors' research costs ignored	1
Net present value	1
Max marks	<u>16</u>
Contracting out	
Annual contract costs	1
Insurance cost savings	1
Revised fine costs	2
Lost admissions	1
Machine sales	1
Reduced administration costs	1
Redundancy costs	1
Net cash flow	1
DCF	2
Net present value	1
	<u>12</u>
Presentation	1
Conclusion	1
	<u>2</u>
Total	<u>30</u>
(b) Other factors	
Each factor	1
Max marks	<u>4</u>
(c) Relevant costs	
Future costs	1
Cash flows	1
Incremental costs	1
Opportunity costs	1
Committed costs	1
Finance costs	1
	<u>6</u>
Total marks	<u>40</u>

Marks

2 Health Foods Ltd

(a) Projected cash flow	
Operating profit	1
Depreciation	1
Interest paid	1
Tax paid	2
Dividends paid	2
Fixed asset purchases	2
Increase in stock	2
Increase in debtors	2
Decrease in trade creditors	2
Projected cash flow	1
	<hr/>
	16
(b) Drawbacks of Baumol model	
Each drawback	1
	<hr/>
Max marks	4
	<hr/>
Total marks	20

3 Shoes For You Ltd

(a) Cash operating cycle	
Credit overheads calculation	1
COS calculation	2
RM days	1
Creditor days	1
WIP days	2
FG days	1
Debtor days	1
Length of cycle	1
	<hr/>
	10
(b) Raw material holding period	
Advantage	2
Disadvantage	2
	<hr/>
	4
(c) General problems of inflation	
Redistribution – max.	2
Balance of trade	2
Higher interest rates	2
	<hr/>
Max marks	6
(1 mark for each sensible comment, subject to the maximum)	
Total marks	20

	Marks
4 Sources of finance	
(a) Sources for SMEs	
Equity	3
Overdrafts	3
Loans	3
Trade credit	3
Business angels	3
Venture capital	3
Max marks	<u>12</u>
(b) Limitations of ratio analysis	
Each limitation	2
Max marks	<u>8</u>
Total marks	<u>20</u>