
Answers

1 (a) NPV

	0	1	2	Time 3	4	5	6–10
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Market research costs (sunk)							
Development costs (sunk)	–						
Factory costs	(6,000)	(5,750)					
Project management company		(250)					
Machinery costs		(2,500)					
Depreciation (non-cash)	–	–	–	–	–	–	–
Maintenance			(250)	(250)	(250)	(250)	(250)
Production lines		(1,500)					
Sales revenue			5,000	8,000	21,000	21,000	25,000
Material costs			(625)	(1,250)	(3,750)	(3,750)	(6,250)
Labour			(500)	(1,000)	(3,000)	(3,000)	(5,000)
Fixed overheads (relevant as incremental)			(240)	(240)	(240)	(240)	(240)
Variable overheads			(250)	(500)	(1,500)	(1,500)	(2,500)
Head office costs (incremental element only)			(3,700)	(3,700)	(3,700)	(3,700)	(3,700)
Reduced Robovac contribution			(125)	(250)	(750)	(750)	(1,250)
Net cash flows	(6,000)	(10,000)	(690)	810	7,810	7,810	5,810
Discount factor	1	0.952	0.907	0.864	0.823	0.784	3.393
Discounted cash flows	(6,000)	(9,520)	(626)	700	6,428	6,123	19,713

The net present value of the project is \$16.818 m. The company should therefore proceed with it.

Workings

$$AF \text{ for } T6 - 10 = 7.722 - 4.329 = 3.393$$

(b) 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'. Examples of such past costs are the development costs and the market research 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. An example of such costs for the Robomum is the depreciation on the new machinery.

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. An example of such an opportunity cost for the Robomum is the lost contribution from decreased sales of Robovac.

Allocated fixed overheads are not normally incremental. In the case of the Robomum, however, the allocated fixed overheads relate to a factory that is being built entirely for the production of Robomum. The costs are therefore relevant because they are incremental.

As regards the allocated head office overheads, only the incremental part of these overheads is relevant i.e. the \$3.7m. The remainder of the \$4.5m is irrelevant to the NPV calculation since it would have been incurred, irrespective of the emergence of Robomum onto the market.

Certain other costs will also be excluded in the NPV calculation, such as 'finance costs'. This is because interest has already been taken into account in the discounting process.

(c) Capital and revenue expenditure

Capital expenditure is expenditure on the purchase of or improvement to fixed assets. Fixed assets are used in the business to generate income over a number of years. The expenditure on them is therefore charged to the profit and loss account over a number of years through a depreciation charge.

Revenue expenditure, on the other hand, is expenditure incurred in relation to sales, for example, materials and labour costs, or overhead costs. It also includes the cost of maintaining, but not improving, fixed assets.

The maintenance costs of \$250,000 per annum for the machinery are therefore revenue costs. This is because they do not enhance the value of the machinery but merely keep it running properly so that production can continue.

(d) (i) Hire purchase

Hire purchase is simply a form of financing an asset through paying in instalments. The supplier of the goods sells them directly to the financier (usually a finance house). The supplier then supplies the customer with the goods.

The customer will usually be required to pay a sizeable deposit towards the purchase price of the goods.

The goods remain the property of the financier until the end of the agreement, at which point the customer will have paid for the goods in full.

The customer makes regular payments throughout the course of the agreement that consist of partly capital repayment and partly interest.

(ii) Finance leases

A finance lease is similar in substance to a hire purchase agreement. The goods are sold to the lessor. The supplier of the goods then supplies the customer with the goods.

In return, the customer makes regular payments to the lessor. Over the period of the lease, the lessee will have paid for the full costs of the goods plus an additional amount equivalent to an interest charge.

Throughout the lease the lessee is responsible for maintaining the asset.

A finance lease usually has a primary period over which these significant payments are made. At the end of this primary period, the lessee then enters a secondary period. During this time, he will pay a notional charge (perhaps as low as \$1 per annum) but continue to have full use of the asset. Alternatively, he may sell the asset on behalf of the lessor, usually keeping most of the sale proceeds himself.

(iii) Operating leases

This type of lease is very different from a hire purchase agreement or finance lease. The equipment is supplied directly to the lessee by the lessor. The lessee will make regular payments under the lease.

The lessor will be responsible for maintaining the asset so the lessee avoids the risks of ownership.

The period of the lease is often much shorter than the full life of the asset.

Since the machinery for Robo Clean is built-to-order, an operating lease would not be appropriate.

2 All Weather Windows

(a) Working capital requirements

	\$'000
Sales revenue for the year:	<u>7,600</u>
Raw materials costs	
\$7,600,000 x 22%	1,672
Direct labour costs	
\$7,600,000 x 18%	1,368
Variable production overheads	
\$7,600,000 x 7%	532
Fixed production overheads	
\$7,600,000 x 12%	912
Other costs	
\$7,600,000 x 5%	<u>380</u>
	<u><u>4,864</u></u>

Current assets:			
Inventory			
Raw materials	6/52 x \$1.672m	\$'000	\$'000
			193
W-I-P			
Materials	3/52 x \$1.672m x 80%	77	
Direct labour	3/52 x \$1.368m x 75%	59	
Variable and fixed production overheads	3/52 x (\$532k + 912k) x 50%	42	
			178
Finished Goods			
Materials and direct labour	5/52 x (\$1.672m + \$1.368m)	292	
Variable and fixed production overheads	5/52 x (\$532k + \$912k)	139	
			431
Total inventory value			802
Trade receivables	2.5/52 x \$7,600,000		365
Total value of current assets			<u>1,167</u>
Current liabilities			
Accounts payable:			
Materials	8/52 x \$1.672m	(257)	
Labour	2/52 x \$1.368m	(53)	
Variable production overheads	4/52 x \$532k	(41)	
Fixed production overheads	6/52 x \$912k	(105)	
Other costs	3/52 x \$380k	(22)	
Total value of current liabilities			<u>(478)</u>
Working capital required			<u><u>689</u></u>

(b) (i) Gearing

It is calculated as follows:

$$\frac{\text{Prior-charge capital}}{\text{Shareholders' funds}} \times 100\%$$

$$= \frac{\$6\text{m}}{\$3\text{m} + \$1\text{m}} \times 100\%$$

$$= 150\%$$

All Weather Windows' gearing is 150% as compared to an industry average of 100%. The company is therefore said to be 'highly geared' because its borrowings are simply too high compared to its level of equity.

(ii) Interest cover

It is calculated as follows:

$$\frac{\text{Profit before interest}}{\text{Interest}}$$

$$= \frac{\$1,200,000}{\$500,000}$$

$$= 2.4 \text{ times}$$

All Weather Windows' interest cover is only 2.4 times, meaning that its interest payments are only covered by its profits 2.4 times. The industry average for interest cover is 3 times. Therefore, compared to the industry that the company operates in, its interest cover is deemed to be low, meaning that the profitability of the company is too low given its level of interest.

3 Cool Ski Ltd

(a)	Jan \$'000	Feb \$'000	Mar \$'000
Cash inflows			
Sales revenue: non-members	325	375	175
Sales revenue: members (5% discount)	309	356	166
Cash inflows	<u>634</u>	<u>731</u>	<u>341</u>
Cash outflows			
Purchases (w.1)	38	180	260
Staff costs	45	60	70
Packaging costs	7	10	12
Distribution costs	50	58	28
Other costs excl. rent (w.2)	33	43	13
Rent (3 x \$30k)			90
Cash outflows	<u>173</u>	<u>351</u>	<u>473</u>
Net cash flows	461	380	(132)
Opening balance	(500)	(42)	338
Overdraft interest	(3)	–	–
Closing balance	<u>(42)</u>	<u>338</u>	<u>206</u>
Workings			
1. Purchases	Nov \$'000	Dec \$'000	Jan \$'000
Gross sales revenue	95	450	650
Purchases at 40%	<u>38</u>	<u>180</u>	<u>260</u>
2. Other costs	Each month Jan \$'000	Feb \$'000	Mar \$'000
Per question	75	85	55
Less depreciation	(12)	(12)	(12)
Less rental costs	<u>(30)</u>	<u>(30)</u>	<u>(30)</u>
	<u>33</u>	<u>43</u>	<u>13</u>

(b) Venture capitalists

Factors that a venture capitalist organisation will take into account are as follows:

(i) Level of expertise of Cool Ski Co's management

Venture capitalists will believe that the success of Cool Ski Co's business is dependant on the quality of the management. They will expect the three directors/shareholders to show a high level of commitment to the business. As all of the existing owners of the business are all involved in the running of the company, this should be proof of their commitment. The venture capitalists will also look at the amount of money that the owners themselves have invested in the project in assessing their level of commitment. The venture capitalists will expect a place on Cool Ski Co's Board of Directors so that they can have a say in future business strategy.

(ii) Level of expertise in the area of service

The venture capitalists will seek assurance that the directors have the necessary know-how and technical support to be able to run the business properly. The fact that the business has been supplying the public direct through its website for the last three years is evidence of the ability of the directors/shareholders to run the company. However, running a manufacturing business is going to be different from simply being a retailer, and dealing with wholesale customers is different from dealing with the public direct. The directors have a lot to prove.

(iii) The nature of Cool Ski Co's product

In order to succeed in manufacturing and selling their own brand of skiwear, the directors need to show that they have excellent designs for a range of skiwear that people will want to buy and wear. The business already has a customer base with members buying skiwear at reduced prices. This should help the directors in persuading the venture capitalists that they have a likeable brand.

(iv) The market and competition

They will seek assurance that there is actually a market for the ski wear, as there are already some similar memberships available in the market place. They will ask to see the market research that has already been carried out. The venture capitalists will also look at the threat posed by new entrants in the market, and current rival membership schemes.

(v) **Future prospects**

Since the risk involved in investing in a new or expanding company is fairly high, the venture capitalists will seek to ensure that the prospects for future profits compensate for the risk. They will therefore want to see the business plan setting out the future business strategy.

(vi) **Exit routes**

The venture capitalists will consider potential exit routes before they invest in the venture. They will not invest money in a share of the business unless they are confident that it can be sold at some point in the future.

Note: Only five factors were required.

4 (a) **Debt factoring**

'Debt factoring' is a service provided by factors whereby the factor collects accounts receivable on behalf of their client and often invoices their client's customers as well. The factor also advances, to its client, a proportion of the money it is due to collect (typically about 80% is advanced.)

Mr Trusty would find the service useful because he could both receive cash early and also delegate the administration of his invoicing, accounting and accounts receivable collection work.

There are two types of factoring agreements: 'with recourse' and 'without recourse' agreements. With the first of these agreements, although the factor advances monies, the risk of non-payment of accounts receivable balances stays with the client. If a balance is not recovered, the factor has 'recourse' to their client for the money. If the agreement is 'without recourse' the factor bears the risk of non-payment.

Debt factoring has to be paid for, usually as a percentage of the amounts advanced and as a percentage of turnover. Agreements without recourse to the client obviously cost more. Mr Trusty would have to compare the cost to those of employing an individual to do his invoicing and obtaining insurance against unpaid accounts receivable balances. In addition, there may be some stigma attached to debt factoring as clients sometimes assume that a business using a factor must be in financial difficulty.

(b) **Difference from invoice discounting**

Invoice discounting is a service whereby a provider (often a factoring company) purchases invoices from a client at a discount. In this case, they are merely advancing cash, rather than providing an accounts receivable collection service. For this reason, there is no administration fee payable (like there is for factoring), making invoice discounting a cheaper option.

(c) **Whether to factor accounts receivables**

Cost of factoring	
New sales level = \$2,550,000 x 125%	\$3,187,500
Accounts receivable reduced to 35 days: \$3,187,500 x 35/365	\$305,651
	\$
80% advanced by factor at 12%: \$305,651 x 80% x 12%	29,342
20% still financed by overdraft: \$305,651 x 20% x 10%	6,113
Admin fee: \$3,187,500 x 1.3%	41,438
	<u>76,893</u>
Cost of not factoring but employing new staff	
Accounts receivable reduced to 40 days: \$3,187,500 x 40/365	\$349,315
	\$
Overdraft cost \$349,315 x 10%	34,932
Credit controller costs	47,000
	<u>81,932</u>

Waste Co should use the services of the factor since this will produce a saving, over the next year, of \$5,039, compared to employing a credit controller.

(d) Roles of a credit controller

May include some/all of the following:

- Updating the sales ledger
- Dealing with customers' queries
- Assessing creditworthiness of new customers
- Establishing/updating payment terms for customers
- Regular review of the sales ledger
- Pursuing overdue accounts receivable balances
- Providing references for customers

	<i>Marks</i>
1 (a) NPV	
Market research costs ignored	1
Development costs ignored	1
Project management company	1
Factory costs	1
Machinery costs	1
Depreciation ignored	1
Maintenance	1
Production lines	1
Sales revenue	1
Material costs	1
Labour	1
Fixed overheads	2
Variable overheads	1
Head office costs (incremental element)	2
Reduced Robovac profits	2
Net cash flows	0.5
Discount factors/annuity factors	1
Discounted cash flows	0.5
NPV	1
Conclusion	1
Total marks	<u>22</u>
(b) Relevant costs	
Future costs	1
Ignore sunk	1
Cash flows	1
Depreciation	1
Incremental	1
Opportunity costs	1
Lost contribution from Robovac	1
Fixed overheads	1
Head office	1
Finance costs	1
Max marks	<u>6</u>
(c) Capital/revenue costs	
Capital costs	2
Revenue costs	2
Maintenance costs	2
	<u>6</u>
(d) HP agreements and leasing	
HP agreements	2
Finance leases	2
Operating leases	2
Correct mention of Robo Clean	1
Max marks	<u>6</u>
Total marks	<u><u>40</u></u>

		<i>Marks</i>
2	(a) Working capital requirements	
	Calculation of each cost for year	0.5
	Max marks	<u>2.5</u>
	Calculation of current assets:	
	Raw materials	1
	WIP	3
	Finished goods	2
	Debtors	<u>1</u>
		<u>7</u>
	Calculation of current liabilities	
	Accounts payable:	
	Creditor	0.5
	Labour	0.5
	Variable overheads	0.5
	Fixed overheads	0.5
	Other costs	<u>0.5</u>
		<u>2.5</u>
	Working capital required	1
	Presentation	<u>1</u>
		<u>14</u>
(b)	(i) Gearing	
	Ratio calculation	1
	Explanation	<u>2</u>
		<u>3</u>
	(ii) Interest cover	
	Ratio calculation	1
	Explanation	<u>2</u>
		<u>3</u>
	Total marks	<u><u>20</u></u>
3	(a) Cash budget	
	Sales	2
	Purchases	2
	Staff costs	0.5
	Packaging costs	0.5
	Distribution costs	0.5
	Other costs (excl. rent)	1
	Rent	1
	Net cash flows	0.5
	Balance b/f	0.5
	Overdraft interest	1
	Balance c/f	<u>0.5</u>
		<u>10</u>
(b)	Venture capital	
	Per factor	<u>2</u>
	Max marks	<u>10</u>
	Total marks	<u><u>20</u></u>

	<i>Marks</i>
4 (a) Factoring	
Definition	1
Includes administration	1
With recourse agreements	1
Without recourse agreements	1
Other points	1
Max marks	<u>4</u>
(b) Invoice discounting	
Advancing cash only	1
No a/cs rec'ble collection service	1
Cheaper	1
Max marks	<u>2</u>
(c) Cost of factoring	
New sales level	1
New accounts receivable	1
12% factoring charge	1
10% overdraft charge	1
1.3% admin fee	1
Cost of not factoring	
New a/cs rec'ble figure	1
Overdraft cost	1
Credit controller cost	1
Logical approach	1
Conclusion/saving	1
	<u>10</u>
(d) Roles of credit controller	
Each role	1
Max marks	<u>4</u>
Total marks	<u><u>20</u></u>
Total marks for paper	<u><u>100</u></u>