Financial Strategy – May 2001

Question One

Company's business and background
ErOs Limited is an unquoted company that specialises in corporate design products, including web page designs. It has been trading for 4 years and has obtained a reputation for being one of the most innovative and technologically advanced operators in this particular field.

The company was formed in 1997 by Eric Dee and Oscar George. The company borrowed £50,000 from the bank, secured on the two shareholders' personal property. It is repayable in 2007. Interest is paid at 10% each year.

When the company was launched, it operated from rented premises and leased much of its computing equipment. It has subsequently bought additional and replacement equipment and other assets such as furniture and fittings. It has also moved premises and has taken out a 25-year lease on office premises that are large enough to allow for significant expansion.

The company now employs 15 people and is planning to recruit additional designers and programmers to handle a large new contract it is hoping to obtain from a supermarket group. ErOs Limited "outsources" most administrative and accounting functions.
Future plans

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The company's two owners/directors have been approached by the marketing department of an investment bank and asked whether they have considered using venture capital financing to expand the business. No detailed proposal has been made but the bank has implied that a venture capital company would require a substantial percentage of the equity in return for a large injection of capital. The venture capitalist would want to exit from the investment in 4 to 5 years' time.

Neither Eric nor Oscar is wholly convinced that such a large injection of capital is appropriate for the company at the present time. Their objective has been to obtain a stock market listing in 2 to 3 years' time if their most optimistic expectations are realised. This would allow them to get some money back on their investment by selling some of their shares at the same time as raising additional funds for the company's expansion. However, the two directors have little financial expertise and have decided to take some independent advice from their accountants before responding to the investment bank.

Assume you are employed by ErOs Limited's firm of accountants. You have been asked to advise Eric and Oscar about the company's current financial situation and the various financing alternatives available to maximise ErOs Limited's growth potential. You spend some time reviewing the company's financial affairs and discussing future prospects with the directors and staff. You have managed to obtain the following information.

Financial information

Past data:

Turnover has grown from £50,000 in the first year of operations to £750,000 last year, the year to 31 March 2001. However, the company sustained losses in the first 3 years of operations and made only a small operating profit last year. The apparent poor results are primarily because of high research costs relative to sales. These were written off during the year. Expenditure on research and development will continue but not at such high levels. Other financial data for the year to 31 March 2001 is as follows:

Shares in issue (ordinary £1 shares)	10,000
Earnings per share	125 pence
Dividend per share	0
Net asset value	£385,000

Note:

The net assets of ErOs Limited are the net book values of purchased and/or leased buildings, equipment and vehicles plus net working capital. The book valuations are considered to reflect current realisable values.

Forecasts:

The company's forecast sales turnover for the year to 31 March 2002 is heavily dependent on whether or not the company obtains the new contract from the supermarket group. If it does, forecast sales turnover is £1·8 million for the year. The company's directors think they have a 50% chance of getting this contract. Although this contract will be prestigious for ErOs Limited and should lead to a long-term business relationship, the terms will prevent ErOs Limited from undertaking work for the supermarket's competitors, a number of whom have also shown interest in the company's designs. If ErOs Limited does not get this contract, it will bid for other work which is likely to be less profitable.

Sales turnover for the following year, to 31 March 2003, is dependent to some extent on the outcome of the year to 31 March 2002. Estimated turnover and probabilities are as follows:

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	Estimates for year 31 March 2002		Estimates for year to 31 March 2003
Probability	Turnover £000	Probability	Turnover £000
0.5	1,800 (Outcome 1)	0.8	2,500
		0.2	3,000
0.3	1,200 (Outcome 2)	0.5	1,700
		0.5	1,400
0.2	800 (Outcome 3)	0.5	1,000
		0.5	800

Operating costs, inclusive of depreciation, are expected to average 35% of turnover in the year to 31 March 2002, reducing to 30% in the year to 31 March 2003 as a result of economies of scale. Interest costs will remain at the present level for both years.

Tax is expected to be payable at 30%. Assume book depreciation equals capital allowances for tax purposes. Also assume that profit after interest and tax equals free cash flow.

Growth in earnings in each of the years to 31 March 2004 and 2005 is expected to be 40%, falling to 10% each year after that. This assumes that no new long-term capital is raised. If the firm is to grow at a faster rate, then new financing will be needed.

Competitor / industry information

This is a niche market and there are relatively few listed companies doing precisely what ErOs Limited does. However, if the definition of the industry is extended to include all companies involved in electronic design and associated products, the following figures are relevant.

P/E ratios:

Industry average	27
Range (individual companies)	12 to 82

Increase in market capitalisation over the past 24 months:

Industry average	22
Range (individual companies)	-10% to +2,000%

Cost of equity:

Industry average (net of tax)	16%
Individual companies	Not available

Share price movements of competitor companies are extremely volatile. Recently, two similar companies, one listed in 1999 and one unquoted, have gone into liquidation. These and other failures of internet-style companies have caused widespread concern. Calls for improved regulation of "new economy" companies have been made, largely because of the huge potential debts involved in some cases and suspicions of trading irregularities. Tougher regulatory controls might address the composition of boards of directors and require more substantial trading history before flotation can be considered.

Question One

Required:

(a) Write a report to the directors of ErOs Limited that explains the various methods by which the company might be valued and the alternative types of financing available for expansion.

You should include in your report:

(i) Calculation of a range of values for the company that could be used in negotiation with a venture capitalist, using whatever information is currently available and relevant. Make and state whatever assumptions you think are necessary.

(15 marks)

(ii) Discussion of the methods of valuation you have used. Explain, briefly, the relevance of each method to a company such as ErOs Limited.

(9 marks)

(iii) Discussion of the advantages and disadvantages of using either venture capital financing to assist with expansion or alternatively a flotation on the stock market in 2 to 3 years' time. Include in your discussion likely exit routes for the venture capital company.

(9 marks)

(iv) Discussion of alternative types of financial support that could be used by ErOs Limited to assist the company to expand. Advise on the issues that the directors should consider before deciding on the most appropriate type of finance.

(9 marks)

(Total for part (a) = 42 marks)

(b) Advise the company's directors on what actions / measures the company might take to protect itself against the risk of loss of key staff with technical expertise.

(8 marks)

(Total = 50 marks)

Answer Question One

Requirement (a)

Report

To: Directors of ErOs Limited
From: An Accountant
Subject: Company valuation and financing for expansion
Date: 22 May 2001

Introduction and terms of reference

You have asked me to provide you with the following information: .

? A range of values for the company to be used as a basis for discussion with an investment bank and venture capitalist.
? An explanation of the methods of valuation and their relevance to your situation.
? Discussion of the advantages and disadvantages of using venture capital financing to expand compared with stock market flotation in 2-3 years' time.
? Discussion of alternative types of financial support that are available to assist your company realise its growth potential and advice on the issues you should consider before deciding on the most appropriate type of finance.

Range of values

There are three basic methods that could be used to value an unquoted company such as ErOs Limited: asset value, PIE ratio basis and discounted cash flow basis. Each is discussed in turn.

Asset value

The book value of ErOs Limited's net assets is a little under £400,000 at the last balance sheet date. This value has little relevance except in specific circumstances such as a liquidation or disposal of parts of a business. In your company's situation it has even less relevance than in a company with a high level of tangible assets as much of your value is in your employees' expertise, or intellectual capital. We need not therefore consider the book value of assets further. However, as the amount in the balance sheet does reflect realisable value, then this is a "floor" level valuation.

P/E Ratio

In a listed company, the PIE ratio is used to describe the relationship between the share price (or market capitalisation) and earnings per share (or total earnings). It is calculated by dividing the price per share by the earnings per share. Market capitalisation is the share price multiplied by the number of shares in issue. Market capitalisation is not necessarily the true value of a company as it can be affected by a variety of extraneous factors, but for a listed company it provides a benchmark that cannot be ignored in, say, a take-over situation.

In the case of an unlisted company, a PIE ratio that is representative of similar quoted companies might be used as a starting point for arriving at an estimated market value. The potential market capitalisation would be the company's latest earnings multiplied by the benchmark PIE ratio.

The PIE ratio can be viewed as indicative of expected growth, which is why some companies in your industry have very high PIE ratios at the present time. A relatively high PIE would suggest that investors are prepared to pay a premium for the company's shares, based upon present earnings, because they anticipate growth in future earnings beyond growth rates expected in comparable companies. I show below the potential value of your company using the average and range of PIEs for your industry:

ErOs Limited's earnings 2001	£12,500 (10,000 shares at 125p EPS)		
PIE Ratio	12	27	82
Estimated value (£000)	150	337	1,025

This valuation is very rough and ready and takes no real account of your own specific circumstances and potential.

It might be more appropriate to take the average PIE ratio and apply it to next year's expected earnings of £643,000. This would give an estimated market capitalisation of £17·36 million.

Discounted cash flow

This method values your company using your own cash flow forecasts based on your expected sales growth and associated costs.
The approach is as follows:

1 Estimate sales income using your forecasts and estimated probabilities for the years to 31 March 2002 and 2003.
2 Calculate earnings/cash flows for the years to 31 March 2002-2005 based on your estimates of growth.

Note: Assuming earnings equal cash flows is a simplification for examination purposes. In reality, this would be affected by, for example: depreciation, movements in working capital, and sale and purchase of non-revenue items.

3 Calculate discounted cash flows using the industry average cost of capital of 16%.
4 Estimate the present value of cash flows from 2006 to infinity using the dividend valuation model.

Note: This again is an oversimplification but provides a useful "short cut". ErOs Limited has not in the past paid any dividends, but the earnings figure is equally acceptable: the basic form of the model assumes all earnings are paid as dividends.

5 Add the present value of all future estimated cash flows.

Estimation of earnings and cash flows for 2002-2003

Year to:	31 March 2002			31 March 2003		
	Probability	Turnover	Expected turnover	Probability	Turnover	Expected turnover
		£000	£000		£000	£000
	50%	1,800	900	50% x 80%	2,500	1,000
				50% x 20%	3,000	300
	30%	1,200	360	30% x 50%	1,700	255
				30% x 50%	1 ,400	210
	20%	800	160	20% x 50%	1,000	100
				20% x 50%	800	80
Total			1 ,420			1,945

Operating costs (35% + 30%)	(497)
Interest	(5)
Profit after interest	918
Tax at 30%	(275)
Earnings/cash flow	643

Estimation of cash flows for 2004-2005

			£000
2004	=	£949,000 x 1.40	1,329
2005	=	£1,329,000 x 1.40	1,861

Discounted cash flows for 2002-2005

Year	Cash flows	Discount	DCF
	£000	factor at 16%	£000
2002	643	0.862	554
2003	949	0.743	705
2004	1,329	0.641	852
2005	1,861	0.552	1.027
Total			3.138

Estimation of value of cash flows from 2006 to infinity

Earnings in 2006 assuming 10% growth on 2005:	£1,861 x 1.1	=	£2,047
In today's money, D_1 = £2,047,000 x 0.552		=	£1,130

$$P_o = \frac{D_1}{k_e - g}$$

$$= \frac{1{,}130}{(0{\cdot}16 - 0{\cdot}10)}$$

= £18,833

Present value of all future estimated cash flows

	£000
2002 - 2005	3,138
2006 onwards	18,833
Total	21,971

This method suggests a company valuation of almost £22 million.

The P/E ratio basis could of course be used together with forecast earnings, but the unreliability of the method, noted above, would still apply.

Summary of methods and values

	£000
Asset value	385
P/E based value	150 – 1,025 (or £17,361 if 2002 earnings used)
DCF value	21,971

As discussed, the asset value is largely irrelevant, the PIE basis is highly unreliable because of difficulties in comparing one company with another, the DCF method is the most likely to be reliable, but the figures produced are very rough and ready. A more detailed exercise needs to be undertaken.

Venture capital finance versus flotation

If we accept a company valuation of around £22 million, this is still relatively small for a full listing. A listing on the Alternative Investment Market (AIM) might be an acceptable alternative and less expensive although the relative length of the "queues" for listing (controlled by the Stock Exchange) needs to be considered. The main advantage of any sort of listing is that it provides a readily available benchmark valuation for the shares. However, the number of shares to be sold needs serious consideration. If a small percentage of the shares is sold, this may deter institutional investors as there may not be a ready market in the shares if they want to sell. If a high percentage is issued, control is lost.

However, if venture capital finance were to be sought, control would be surrendered anyway as these organisations typically require a large equity stake, high returns and an assured exit route. Normally, an exit route would be to sell the shares on the market either via a placing or offer for sale or to another venture capital company. The original owners of the company might be able to buy back their shares via an earn-out basis. This method allows the venture capitalist to sell shares back to the owners on the basis of the company achieving certain levels of return.

No details of what investment would be required to allow the company to grow at a faster rate is given in the question. In a company such as this, the value is in the intellectual capital and this might be in short supply.

Alternative types of finance
At present you are considering only two alternatives: to use venture capital money to aid expansion beyond the present projects, with the implications for control, or to wait until you have built up your profits over the next year or so and then fioat the company. Alternatives you could consider are:

Increase your bank loan, secured on your assets or possibly in exchange for a stake in the equity of the company.

Issue new shares and sell a non-controlling proportion to private investors. There are schemes available to encourage investment in small, growing companies.

Conduct a review of your terms and conditions of sale - it could be that there are opportunities for substantial increases in revenue by entering into revenue-sharing agreements with Internet providers.

Bring forward your plans to fioat the company, perhaps on the AIM. Given the growth potential of companies in your sector, it is possible a much higher PIE ratio might be awarded to your company than suggested earlier in this report. If we combine the highest PIE with your most optimistic earnings forecast, the potential value is £815,500 x 82 = approximately £67 million (based on sales of £1,800,000 for 2002.)

Before deciding on a course of action, you must clarify your own short and long-term objectives. If your aim is to maximise your own personal wealth in the shortest possible time, then an early flotation is probably the best alternative. If you would prefer to retain control of your company, then the other alternatives might be more appropriate.

Other issues to consider are:

- ? Timing and cost of a flotation, and how many other similar companies might be coming to market at the same time.
- ? The implications of the proposed changes in regulation, both on your existing business and potential market value.

Conclusion and recommendation

This report has provided a range of values for ErOs Limited using three well-known methods of valuation. A very large range of values has been calculated: £150,000 to almost £22 million (or £67 million at the most optimistic and unrealistic valuation). A more detailed exercise is required including analysis of income and costs, competitive activity, and risks.

Venture capital financing would almost certainly involve loss of control of the business in the short-medium term, but would avoid the costs and delays involved in a stock market listing. Alternative methods of financing growth should be considered.

Signed: An Accountant

Requirement (b)

Protection against loss of technical expertise

The risk is that the company's employees might sell the company's ideas to a competitor, which is a high risk for them as it is illegal, or move to another company taking their ideas and designs with them. The highest risk would be if a group of employees left to join a competitor or set up on their own.

A number of actions could be taken:

1. Key person insurance to provide cover if a key member of staff falls long-term sick or leaves. This could be expensive and the terms of insurance, if it is to be worthwhile, may be difficult to arrange.

2. Provide good working conditions and adequate remuneration to try and retain key staff. If the company plans to go public, share options are an ideal method of retaining staff loyalty, at least as long as the share options are valid and valuable.

3. Contracts that restrict what staff can do if they leave to join a competitor or set up on their own. These, however, are difficult to enforce.