P10 – Test of Professional Competence in Management Accounting

Monday 4 September 2006

Instructions to candidates

You are allowed three hours to answer this question paper.
You are allowed 20 minutes reading time before the examination begins during which you should read the question paper and, if you wish, make annotations on the question paper. However, you will **not** be allowed, **under any circumstances**, to begin using your computer to produce your answer, or to use your calculator during the reading time.
This booklet contains the examination question and both the pre-seen and un-seen elements of the case material.
Answer the question on page 15, which is detachable for ease of reference.
The TOPCIMA Assessment Matrix, which your script will be marked against, is available on page 16.
Maths Tables and Formulae are provided on pages 23 to 26.
Your PC will contain two blank files – one Word file and an Excel file. Please ensure that you check that the file names for these two documents correspond with your candidate number.

P10 – Test of Professional Competence in Management Accounting

TURN OVER

Kadgee Clothing

Clothing manufacturing in Europe

Since the 1960’s there has been a decline in the number of UK and European clothing manufacturers due to competition from cheaper, and sometimes higher quality, imported clothes. The clothing industry generally has become much more fashion conscious and price sensitive. This has led to a reduced number of companies that are still in business in Europe. Some companies have moved all or part of their manufacturing processes to other countries to achieve a cheaper operating base, and up until recently this has allowed them to continue to compete on price.

Many companies have had contracts to supply High Street retailers for over four decades and are highly dependant on retaining these key customers who wield immense buying power over the small manufacturers. A number of family owned manufacturing companies, that had been highly profitable once, have ceased trading, or are operating at very low margins, as a direct result of the High Street retailers being able to dictate terms of business and prices.

An additional factor that has put the main High Street retailers under more price pressure has been the appearance and market growth of new High Street retailers and their new brands, who have procured their goods mainly from overseas sources.

The result is that the few companies that are based in the UK and Europe which are left in the business of clothing manufacturing are having to look very hard at their strategic plans in order for them to manage to maintain their business over the next few years.

Kadgee’s personnel

The career histories of Kadgee’s Directors and key employees are shown in Appendix 1 starting on page 8.

History of Kadgee Fashions (Kadgee)

Kadgee was formed in post World War Two in a European country, and has remained as an unlisted company, although its shares are now held by others outside of the founding family. Kadgee quickly established itself as a high quality manufacturer of both mens and ladies clothes. It had no difficulty selling its products to retailers, as the demand for ready-to-wear clothing was very high during the 1950’s and 1960’s. Kadgee recruited several designers who based their designs on famous designer labels, but without causing any copyright breaches.

By the 1960’s Kadgee had a turnover equivalent to €25 million, and had nine factories operating in two European countries. The founder of Kadgee, Bruno Burnak, wanted to expand the manufacturing base and introduce new machinery, but the then Sales Director had considered that the company should continue to establish a stronger customer base before Kadgee expanded and invested further. Each of Kadgee’s factories then employed between 70 and 100 employees, who were mainly female employees, with many working part-time. Some of the employees had a range of specialised skills and were considered to be very experienced. Kadgee’s Head Office was run by the then Managing Director, Anton Kramer.

During the late 1960’s Kadgee suffered its first major fall in sales, and found that it had large stocks of men’s clothes that had been manufactured without specific sales contracts. Kadgee managed to sell off some of the stocks, albeit at below cost price. However, the management decided that it should not manufacture clothes without a firm contract from a retailer in future. The company had been caught unaware and had believed that the previous high demand for its products would continue.

In the early 1970’s the range and design of its mens clothing was changed several times, but it continued to make little profit. In 1973, Kadgee sold its mens clothing range and designs and some of its manufacturing equipment to a large listed company. Kadgee decided to concentrate on expanding its ranges of ladies clothing to meet the growing demands of its main customers (see below). The reduced range of clothing, following the termination of all manufacturing of men's clothing, necessitated closing three of its factories. This left Kadgee with six factories operational in 1973.

During the next few years, Kadgee consolidated its position and its profitability increased again. In the early 1980's its then Chief Designer persuaded the Managing Director to expand its clothing range to include a range of girls' clothes. This new limited range was launched in 1982 and was immediately sold out, as many of Kadgee's customers realised that there was a demand for well designed and well finished children's clothing. Kadgee has positioned itself at the upper price range of clothing, and has never tried to mass produced low cost clothing.

During the 1980's Kadgee continued to expand its ranges of ladies' and girls' clothes, but retained the same manufacturing base of six factories. New equipment had been installed and the overall manufacturing capacity at the six factories had been increased by over 20% due to new sewing and packaging machinery. A further change that occurred was that many of Kadgee's customers were starting to dictate the styles and types of clothing required and Kadgee's designers had to manufacture to customers' specifications.

However, during the 1990's Kadgee suffered a number of setbacks. It also saw many of its competitors suffer losses and some to cease trading. Kadgee had been able to stay profitable only because of its particular customer base and because it sold high quality clothes that commanded a premium price. However, Kadgee saw its margins on many product lines reduced greatly and also it started to lose many of its smaller customers, who choose to import, at much lower prices, clothing produced in Asia.

Bruno Burnak, the founder and then Chairmen of Kadgee retired in 1997 and his son Andrin Burnak took over as Chairman. Furthermore, the Managing Director, Anton Kramer left in 1998, and Andrin Burnak undertook this role in addition.

Kadgee's shareholders

Kadgee has remained an unlisted company and at the end of 2005 its shares were held as follows:

	Shareholding
Bruno Burnak	29%
Andrin Burnak	29%
Anton Kramer	10%
Dieter Stutt	8%
Frankie Bayane	2%
Andre Schnaffer	10%
Employee-held shares	12%
	100%

The company has 200,000 shares of €0·10 each in issue and has a total of 400,000 authorised shares.

The shares are not traded but the last time the shares were exchanged was in 1998, when Frankie Bayane purchased shares at €8·00 each.

TURN OVER

Kadgee's customer base

Kadgee manufactures clothing for a number of European and international clothing retailers, including many well known High Street retailers. It manufactures clothing in the medium to higher price ranges and its customers require top quality designs and finishing to maintain their brand reputation. Kadgee has several contracts that were established over 40 years ago, although it has two contracts that have been secured within the last 10 years. Kadgee still manufactures ladies' and children's clothing for two retailers who had selected Kadgee in the 1980's, when the children's range had first been launched.

The majority of Kadgee's clothing is manufactured for its customers under the customers' own label, for example, clothing manufactured for one of its customers called Portrait is labelled as 'Portrait'.

In 2005, Kadgee's customer base, analysed by sales value, was as follows:

Customer	*2005 revenue* *€ million*	*% of Kadgee's total sales*
Portrait	24·0	32·3%
Forum	16·8	22·6%
Diamond	13·5	18·1%
Zeeb	5·1	6·9%
JayJay	4·5	6·0%
Other retailers of ladies' clothes	7·3	9·8%
Haus (children's clothes only)	3·2	4·3%
Total	74·4	100·0%

Most of Kadgee's contracts are renewed at the start of each fashion season. Kadgee is currently negotiating for clothing sales for the summer season of 2007.

Human Resources

In the clothing manufacturing business one of the most crucial aspects to achieve customer satisfaction is quality. Kadgee has been very fortunate in having a skilled, very dedicated workforce who have always adapted to new machinery and procedures and have been instrumental in suggesting ways in which quality could be improved. This has sometimes involved a very minor change in the design of a garment and the designers now work much more closely with the operational staff to ensure that the garments can be assembled as quickly and efficiently as possible.

The employees include a number of very talented people, whose skills are highly valued by the management team at Kadgee. There are five very highly skilled sewing machine operatives whose parents previously worked for Kadgee and they have passed their skills on. The machinery that is used to sew garments is very sophisticated but it is always the skills of the machine operatives which can make the difference to a finished garment. Additionally, Kadgee has always completed certain finishing touches by hand and this quality is appreciated by its customers. Kadgee is dependent on the skills of its employees to continue to deliver the same high quality on which it has established its reputation.

Losses made by Kadgee

Kadgee has suffered from falling operating profit margins due to the pressure exerted by its customers over the last ten years. For the first time in Kadgee's history, it experienced losses for five years starting in 1998 through to, and including, 2002. During this time Kadgee increased its loans and its overdraft to finance operations.

In 2000, Kadgee refinanced with a ten year loan, which was used to repay existing debt, and also to invest in the IT solutions discussed below, as well as to purchase some new machinery. Kadgee also invested in its design centre (see below), which was completed in 2001.

During 2001, the company invested in new IT solutions enabling its customers to be able to track all orders from the garment cutting process right through to completion of garments and through to the delivery to customers' premises.

The IT solutions also enabled Kadgee to monitor its production processes including machine usage, wastage at various stages of production and speed of production through the various stages. This has enabled Kadgee's management to reduce areas that did not add value to the finished garment. The use of TQM throughout the business has also increased Kadgee's efficiency and enabled it to eliminate some other areas which did not add value to the finished garments.

While margins are still low, Kadgee has been operating profitably again since 2003, albeit at lower margins to those achieved in the past.

Kadgee's employees have also taken an active role in increasing the throughput of garments and speeding up the manufacturing process. In fact, many of the changes made were at the instigation of key employees, who understood the actual processes and were able to identify where there were bottlenecks which caused delays. The reasons for the delays were reduced, leading to a faster manufacturing process. This enabled Kadgee to increase its annual number of garments manufactured from 8.25 million in 1998 to 10·9 million in 2005.

The consequences of some of the changes meant that some employees were made redundant at Kadgee's factories, and these were often part time workers, who worked fewer than 16 hours per week. The Kadgee management team fully understood that many of its skilled employees are female and that they do not wish to work full-time. However, Kadgee now do not employ anyone for fewer than 24 hours per week, and over half of the employees in the factories now work full-time. Many of these employees chose to work full-time rather than face redundancy. When employees are made redundant, Kadgee is legally bound to pay redundancy payments, which are payments made to employees as compensation for future salary payments, which are paid at the point when the employee's contract of employment ceases.

Many other European clothing manufacturers have ceased trading and Kadgee's employees have concerns that they would not find any other employment within their specialised field in the local area. Therefore, they chose to stay with Kadgee, but are working longer hours than perhaps they wish to.

Loss of sales contract with Forum

Forum is one of Kadgee's key customers and in 2005 generated revenues of €16·8 million, which is almost 23% of Kadgee's total revenue. The operating profit achieved on sales to Forum, in 2005, was €0·3 million. The operating profit on sales to Forum has been severely eroded over the last few years, with some product lines barely generating a positive margin at all.

Forum has over 50 retail stores throughout Europe and Kadgee has manufactured clothes for Forum since the early 1950's. The latest contract negotiations looked promising despite an expected price cut. Dieter Stutt, the Sales Director, felt that a price cut of 4% could be agreed. He had forecast that some of this lost operating profit could be recouped with cost savings that could be made in packaging and reduced material costs.

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However, in the middle of April 2006, Forum's Managing Director contacted Andrin Burnak directly to state that Forum would no longer be purchasing clothes from Kadgee from the end of May 2006. Andrin Burnak was astounded that one of Kadgee's oldest customers was giving a mere six weeks notice of the termination of the supply contract. Following various high level negotiations, Forum has since agreed to extend the current sales contract though to the end of August 2006. After this date Forum will no longer purchase any clothing from Kadgee.

The loss of the Forum contract was announced to Kadgee employees during May 2006, before it was announced in the national press. Employees were naturally concerned about their jobs. Staff morale is low and the quality of the clothing currently being produced is lower than normal. It is expected that initially there will be 34 redundancies in September 2006, affecting three of

Kadgee's factories as a result of the loss of this major customer. Further job cuts are likely later in 2006 at the three factories which have manufactured the range of clothing for Forum.

Andrin Burnak has requested Peter Coletta, the Factory Operations Director, to take action to ensure that Kadgee's quality does not fall. Dieter Stutt is very concerned that two other major customers of Kadgee may try to use the excuse of falling quality to reduce their purchase price for further clothing contracts, following the discovery of a number of faults from recent production.

Changes in the supply chain

Many of Kadgee's customers have needed to speed up the process of supplying clothing to their shops, so as to meet the demands of the market and to remain competitive. Kadgee has worked closely with its customers in order to achieve shorter lead times from design to delivery of finished products.

In 2001, Kadgee introduced a new design centre, centralised at its Head Office. The design centre uses computer aided design techniques, which has helped Kadgee's customers to appreciate the finished appearance of new designs. Andrin Burnak is confident that this has helped Kadgee to win new business and to retain its current customers.

It has also contributed to Kadgee's ability to speed up the process from design board to finished article. Kadgee has also benefited from working closer with its customers and this has resulted in additional orders, which Kadgee's customers' would otherwise have procured from overseas sources.

Growing competition from China

During the 1990's and into the 21st century China has had a massive impact on the textile industry. China's manufacturing base is forecast to grow further and this will have a negative impact on many companies operating at a higher cost base elsewhere.

Many European companies have spent millions of Euros establishing manufacturing bases outside their home countries in the last 15 years. Many have opened factories in countries which have much lower operating costs. These include countries such as Turkey, Sri Lanka and Pakistan, as well as Eastern European countries.

The companies which have set up operations in these low cost countries did so in an effort to cut costs by taking advantage of low overheads and lower labour rates, but still managed to maintain quality. However, even the companies that have moved some, or all, of their manufacturing bases and have taken steps to reduce their costs, now have to reconsider their cost base again. This is because of the very low cost of Chinese imports, which they are having difficulty competing against.

Following the relaxation of trade barriers, there has recently been a deluge of Chinese clothing imports into Europe, the UK and the USA.

The quality of Chinese manufactured clothing is improving rapidly and it is now globally recognised that the "Made in China" label represents clothing of a higher quality than many European manufactured garments. Furthermore, the Chinese manufactured garments are being produced at a substantially lower manufacturing cost.

Kadgee has so far been operating in a market that has not been significantly affected by imported goods, as it produces medium to higher priced clothing, rather than cheaper ranges of clothes. However, many of Kadgee's customers are now looking to reduce their costs by either buying more imported clothes or by negotiating substantial price cuts from their existing suppliers. The purchasing power of European retailers being exerted on its suppliers is immense and Kadgee is under much pressure to deliver high quality goods at reduced operating profit margins from all of its customers.

TURN OVER

Kadgee personnel

Bruno Burnak – Founder and first Chairman

Bruno Burnak retired from Kadgee in 1997, aged 75, but has kept a close personal interest in the company that he founded in 1947 using family finances. His son Andrin Burnak is the current Chairman and Managing Director. The Burnak family is very entrepreneurial and Bruno Burnak's brother founded another company after the Second World War, which is also still trading profitably. Bruno Burnak has still retained his 29% shareholding in Kadgee.

Anton Kramer – First Managing Director

Anton Kramer retired from Kadgee in 1998, as he felt that he did not have the necessary skills to direct the company into the 21st century. However, he has retained his 10% shareholding in the company and has confidence that Andrin Burnak will manage to increase Kadgee's profitability to the levels previously attained.

Andrin Burnak – Current Chairman and Managing Director

Andrin Burnak, son of the founder Bruno Burnak had studied textiles and had worked in another European country for over 10 years for a large clothing manufacturer. He returned home in 1993 and joined the family company. He took over as Chairman and Managing Director when his father retired in 1997. Andrin Burnak was concerned that the clothing manufacturing industry was undergoing rapid changes, and he was confident that he could introduce the changes that would be required in order for Kadgee to remain successful.

Dieter Stutt – Sales Director

Dieter Stutt, now 39, had worked in sales for a number of clothing manufacturers before Andrin Burnak recruited him in 1999. He has had a challenging time since joining Kadgee, not only trying to secure new sales contracts and negotiate on prices, but has had to fight to retain Kadgee's current customers.

Dieter Stutt has established very good relationships with many of the key personnel in all of Kadgee's customers' companies. He has spent a lot of time personally dealing with several layers of management at all of Kadgee's customers, to ensure that Kadgee can deliver what they want when they require it. His excellent reputation has enabled Kadgee to be one step ahead of many of the customers' requests. In many instances Dieter Stutt would have already established what the customers wants, or fed back to his colleagues some comments on current deliveries. He has often found out about the demand level for a particular product line, or the need for a wider range of colours or perhaps fabric changes, from a manager within a customers' company, before Kadgee even receives the manufacturing order. This has enabled Kadgee to be seen to be meeting many of its customers' requests promptly and efficiently, due to Dieter Stutt's established connections.

Frankie Bayane – Chief Designer

Frankie Bayane, aged 35, joined Kadgee in 1998 from a rival manufacturing company. She has a degree in textiles and design and she first worked for a top couture house in France for three years and gained much experience. When she joined Kadgee, the two areas that she considered would have an impact on sales would be to increase the "speed to the market" from design board to finished product at the retailer and to use the latest computer design technology to create designs. She considered that Kadgee had been too slow in the past reacting to changes in trends and latest fashions, and that there was a need to have a greater number of designs and smaller production runs, thereby giving customers a wider range of products to order. Frankie Bayane has trained and recruited a small team of designers over the last eight years who have worked closely with Kadgee's customers.

Andre Schnaffer – Finance Director

Andre Schnaffer, aged 48, has held the role of Finance Director for the last four years when the previous Finance Director retired early due to ill health. He has worked for Kadgee for over 18 years and prior to that had worked for several companies in a range of finance roles, all related to the clothing business. He has a good working relationship with Andrin Burnak, who trusts Andre Schnaffer's cautious judgement.

Andre Schnaffer has managed to renegotiate bank loans and has extended credit arrangements with many of Kadgee's material suppliers and this has helped Kadgee to manage its cash flow during several difficult trading periods.

Andre Schnaffer is very concerned over the number of rival manufacturing companies which have ceased trading, and he is very worried about the increasing pressure to reduce margins, which are very low already.

Sam Skala - Marketing Director

Until 2003, all marketing was undertaken by the Sales Director, but Dieter Stutt identified that all of his time was taken up in negotiating and securing sales and the important role of marketing was being neglected. Dieter Stutt pushed hard to get the Marketing Director role established, at a time when Andrin Burnak wanted to reduce management costs.

Sam Skala had established his reputation when he worked for a High Street retailer of ladies' clothing, which had expanded rapidly in the nine years he had held the role of Marketing Manager. Previous to that, he had worked in marketing for an international sportswear company. When he joined Kadgee he had hoped that the high quality of Kadgee's products and its ability to bring the latest products to the market quickly would enable him to establish its brand into many more high street retail chains. To date he has not been very successful in identifying new customers, but he has undertaken extensive, and much needed market research to try to establish gaps in the market for clothing manufacture.

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Peter Coletta – Factory Operations Director

Peter Coletta, aged 52, has worked for several clothing manufacturers and joined Kadgee in 2001 when he was made redundant from his last company when it ceased trading following a severe downturn in business. He is very aware of the need to maintain quality and to reduce costs, having worked for his previous employer for over 15 years and seen the company decline due to competitive pressures. He has brought with him a wealth of operational experience and is well respected by all of the factories' employees, as well as by fellow directors. He has been instrumental in introducing improved working conditions and the use of TQM quality circles is as popular now as when it was first introduced in Kadgee by Peter Coletta's predecessor in 1990. The use of TQM has enabled Kadgee to be forever searching for new innovative ways to improve both the speed and quality of its output.

Lars Veel – Human Resource Director

Lars Veel, now 52, joined Kadgee in 1994, but he has not acquired any shares in the company. He has helped Kadgee to achieve increased employee efficiency and has seen the company's manufacturing capacity (in terms of the number of garments manufactured) rise by over 32% in the last seven years, still utilising the same six factories. This increase in Kadgee's manufacturing capacity has been achieved by changed work patterns, reduced wastage, changed factory layouts and much greater motivation by almost all of Kadgee's employees.

Lars Veel is very concerned for the future of Kadgee's employees, and understands the strains that have been put on them by high speed output and the need to maintain Kadgee's excellent quality reputation. He has had two employees, who are hard workers and have been with the company for many years, off work in the past 2 years with stress related illnesses, brought on by the constant pressure that all employees feel that they are under to achieve, or exceed, agreed targets.

Lars Veel introduced an employee share scheme 10 years ago, and many employees have been given free shares. However, none of the shares have been traded or sold yet. He has also encouraged the active involvement of all employees in the use of TQM techniques to reduce internal failures.

Jan Berzin – IT Director

Jan Berzin, now 35, joined Kadgee from the consultancy company that he had worked in for over ten years. Kadgee had appointed this consultancy company for advice on a range of IT solutions in 2000 and Jan Berzin was the consultant in charge of the Kadgee IT project. Jan Berzin quickly identified that there were several areas in which the use of IT could help Kadgee to compete with other manufacturing companies. Before Jan Berzin joined Kadgee, the Finance Director, Andre Schnaffer was responsible for IT. Andre Schnaffer agreed that Kadgee needed to embrace the use of IT in a far more comprehensive way than had been done and invited Jan Berzin to join the company. This additional expertise at Board level has enabled Kadgee to identify in which areas of the business the limited IT development budget could be best spent.

Extract from Kadgee's accounts for 2005 – Chairman's Statement

The clothing industry in general has seen another difficult year and competition from all areas of the world has increased. However, against that backdrop, we are pleased to state that Kadgee has had another successful year and that we have managed to retain all of our customers and to increase the volume of sales.

Despite a very slow and difficult year's trading, I am pleased to report that Kadgee is still trading profitably, which is a significant achievement following the trading losses made only a few years ago.

I would like to record my thanks to all members of the Kadgee management team and to all of our loyal and hard working employees who have committed themselves to achieving these good results.

Trading in 2006 started well and orders placed for the Autumn season are slightly up on this time last year and I look forward to reporting a further growth in sales next year. We continue to work closely with all of our key customers, all of whom I am pleased to report are still showing their continued commitment to buying Kadgee's high quality ranges of clothes.

Andrin Burnak

Andrin Burnak
Chairman

31 March 2006

TURN OVER

Appendix 3

Kadgee's Balance Sheet, Income Statement and Statement of changes in equity

Note: All data in this Appendix is presented in international financial reporting format

Balance Sheet	**At 31 December 2005**		**At 31 December 2004**	
	€000	**€000**	**€000**	**€000**
Non-current assets (net)		**9,830**		**11,514**
Current assets				
Inventory	8,220		6,334	
Trade receivables and rent prepayments	19,404		18,978	
Cash and short term investments	119		131	
		27,743		**25,443**
Total assets		**37,573**		**36,957**
Equity and liabilities				
Equity				
Paid in share capital	20		20	
Share premium reserve	450		450	
Retained profits	21,787		20,863	
		22,257		**21,333**
Non-current liabilities				
Loans:				
Bank loan at 8% interest per year (repayable in 2010)		**4,500**		**4,500**
Current liabilities				
Bank overdraft	1,520		940	
Trade payables and accruals	8,900		9,667	
Tax	396		517	
		10,816		**11,124**
Total equity and liabilities		**37,573**		**36,957**

Note: Paid in share capital represents 200,000 shares of €0·10 each at 31 December 2005

Income Statement	**Year ended 31 December 2005**	**Year ended 31 December 2004**
	€000	**€000**
Revenue	74,420	75,553
Total operating costs	72,580	73,320
Operating profit	1,840	2,233
Finance costs	520	509
Tax expense	396	517
Profit for the period	**924**	**1,207**

Statement of changes in equity	**Share capital €000**	**Share premium €000**	**Retained earnings €000**	**Total €000**
Balance at 31 December 2004	20	450	20,863	21,333
Profit for the period	-	-	924	924
Dividends paid	-	-	-	-
Balance at 31 December 2005	**20**	**450**	**21,787**	**22,257**

Appendix 4

Kadgee's Cash Flow Statement

	Year ended 31 December 2005		Year ended 31 December 2004	
	€000	**€000**	**€000**	**€000**
Net cash inflow from operations:				
Operating profit		1,840		2,233
Add back depreciation	1,965		1,949	
(Increase)/Decrease in inventory	(1,886)		(535)	
(Increase)/Decrease in trade receivables	(426)		(1,526)	
Increase/(Decrease) in trade payables and accruals	(767)		(604)	
		(1,114)		(716)
Net cash flow from operations		726		1,517
Finance costs paid		(520)		(509)
Taxation paid		(517)		(390)
Purchase of tangible fixed assets		(281)		(350)
Dividends paid		0		0
Cash Inflow/(Outflow) before financing		(592)		268
Increase/(Decrease) in bank overdraft		580		(194)
Increase/(Decrease) in cash and short term investments		(12)		74

End of Pre-seen Material

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Kadgee Clothing – Unseen material provided on examination day

Additional (Unseen) information relating to the case is given on pages 17 to 21.

Read ***all*** of the additional material before you answer the question.

ANSWER THIS QUESTION

You are the consultant appointed by the Kadgee Board.

Prepare a report that prioritises, analyses and evaluates the issues facing Kadgee, and makes appropriate recommendations.

Note: The TOPCIMA Assessment Matrix, against which your script will be marked, is on the next page for your reference.

September 2006 – Assessment Matrix for TOPCIMA - Kadgee

Criterion	Marks	Clear Pass	Pass	Marginal Pass	Marginal Fail	Fail	Clear Fail
Technical	**5**	Thorough display of relevant technical knowledge. **5**	Good display of relevant knowledge. **4**	Some display of relevant technical knowledge. **3**	Identification of some relevant knowledge, but lacking in depth. **2**	Little knowledge displayed, or some misconceptions. **1**	No evidence of knowledge displayed, or fundamental misconceptions. **0**
Application	**10**	Knowledge clearly applied in an analytical and practical manner. 9-10	Knowledge applied to the context of the case. 6-8	Identification of some relevant knowledge, but not well applied. 5	Knowledge occasionally displayed without clear application. 3-4	Little attempt to apply knowledge to the context. 1-2	No application of knowledge displayed. **0**
Diversity	**5**	Most knowledge areas identified, covering a wide range of views. **5**	Some knowledge areas identified, covering a range of views. **4**	A few knowledge areas identified, expressing a fairly limited scope. **3**	Several important knowledge aspects omitted. **2**	Many important knowledge aspects omitted. **1**	Very few knowledge aspects considered. **0**
Focus	**10**	Clearly distinguishes between relevant and irrelevant information. 9-10	Information used is mostly relevant. 6-8	Some relevant information ignored, or some less relevant information used. 5	Information used is sometimes irrelevant. 3-4	Little ability to distinguish between relevant and irrelevant information. 1-**2**	No ability to distinguish between relevant and irrelevant information. **0**
Prioritisation	**10**	Issues clearly prioritised in a logical order and based on a clear rationale. **9-10**	Issues prioritised with justification. **6- 8**	Evidence of issues being listed in order of importance, but rationale unclear. **5**	Issues apparently in priority order, but without a logical justification or rationale. **3-4**	Little attempt at prioritisation or justification or rationale. **1-2**	No attempt at prioritisation or justification. **0**
Judgement	**20**	Clearly recognises alternative solutions. Judgement exercised professionally. **16-20**	Alternative solutions or options considered. Some judgement exercised. **11-15**	A slightly limited range of solutions considered. Judgement occasionally weak. **10**	A limited range of solutions considered. Judgement sometimes weak. **5-9**	Few alternative solutions considered. Judgement often weak. **1-4**	No alternative solutions considered. Judgement weak or absent. **0**
Integration	**10**	Diverse areas of knowledge and skills integrated effectively. **9-10**	Diverse areas of knowledge and skills integrated. **6-8**	Knowledge areas and skills occasionally not integrated. **5**	Knowledge areas and skills sometimes not integrated. **3-4**	Knowledge areas and skills often not integrated. **1-2**	Knowledge areas and skills not integrated. **0**
Logic	**20**	Communication effective, recommendations realistic, concise and logical. **16-20**	Communication mainly clear and logical. Recommendations occasionally weak. **11-15**	Communication occasionally unclear, and/or recommendations occasionally illogical. **10**	Communication sometimes weak. Some recommendations slightly unrealistic. **5-9**	Communication weak. Some unclear or illogical recommendations, or few recommendations. **1-4**	Very poor communication, and/or no recommendations offered. **0**
Ethics	**10**	Excellent evaluation of ethical aspects. Clear and appropriate advice offered. **9-10**	Good evaluation of ethical aspects. Some appropriate advice offered. **6-8**	Some evaluation of ethical aspects. Advice offered. **5**	Weak evaluation of ethical aspects. Little advice offered. **3-4**	Poor evaluation of ethical aspects. No advice offered. **1-2**	No evaluation of ethical aspects. Unethical, or no, advice offered. **0**
TOTAL	**100**						

Kadgee – Unseen material provided on examination day

Read this information before you answer the question

Meeting with Kadgee's bankers

Following the announcement of the loss of business from Forum, which was Kadgee's second largest customer, Kadgee's bankers, PGB, called a meeting in early July 2006. Both Andre Schnaffer and Andrin Burnak attended the meeting to reassure PGB that Kadgee had plenty of current orders and that business looked promising for the next 6 months. PGB has provided all of the loan finance to Kadgee which is due for repayment in 2010. Kadgee's existing loans of €4,500,000 are secured against the property owned by Kadgee. There is the capacity to borrow an additional €3,000,000 against Kadgee's assets.

PGB has also provided Kadgee with an overdraft facility. The overdraft is currently standing at €1,750,000 at the end of August 2006. This overdraft has increased from €1,520,000 at the end of December 2005. The agreed overdraft limit is €2,500,000. PGB stated that Kadgee will not be allowed to exceed the agreed limit, whatever the circumstances. PGB stated that if Kadgee were to exceed the limit, then the bank would call in the overdraft entirely.

PGB has requested Andre Schnaffer to supply a copy of Kadgee's cash flow forecast up to the end of 2006 together with a copy of Kadgee's latest financial plans, to reassure PGB. Andre Schnaffer agreed to these requests, and stated that they would be supplied after Kadgee had reviewed a number of strategic issues and possible contracts that it was currently considering.

Loss of another customer

In addition to the loss of one customer, Forum, another of Kadgee's customers, Zeeb, notified Kadgee in August 2006 that it would not be procuring any further clothing from Kadgee after its current contract for the 2006/07 winter season finishes. Sales to Zeeb amounted to 6·9% of Kadgee's sales revenue in 2005.

Some of Kadgee's other major customers are concerned about Kadgee's future ability to continue to manufacture and supply to them. Whilst Andrin Burnak has reassured all of Kadgee's remaining customers that Kadgee will continue to operate and manufacture to the same high standard that its reputation is based on, he considers that until a further large order is secured, Kadgee will see its profits substantially eroded. Andrin Burnak has communicated the loss of Zeeb to PGB (Kadgee's bankers) which has re-confirmed that the maximum overdraft that will be made available is €2,500,000.

Kadgee has six factories operational with a capacity to manufacture 10·9 million garments in 2005. The loss of both Forum and Zeeb results in an annual loss of around 3·3 million garments.

Forecast operating profit

The actual operating profit for 2005 was €1,840,000. Following Forum and Zeeb's decision not to place further orders with Kadgee, together with some deterioration in operating margins from other customers, Kadgee's latest forecast operating profit for 2006 is around €1,500,000. The forecast figures for 2006 include the 3 month trial for GREN (see below), but NOT the proposed one year contract with GREN.

The latest operating profit forecast for 2007, following the departure of both Forum and Zeeb, is €1,200,000. This does not include the proposed one-year contract with GREN.

TURN OVER

August 2006 Kadgee Board meeting

At the Kadgee Board meeting held on 4 August 2006, the directors discussed how Kadgee could compete with the increasingly high quality output from China and the large volumes of imports into Europe.

The discussion included the following:

- Improve the quality or range of clothing, such as the proposed contract with GREN using recycled textiles, as outlined below;

- Move some, or all, of Kadgee's production to China. The Kadgee Board is agreed that the option of setting up in China on its own is not feasible, as it would face enormous obstacles which could delay production for several years. Therefore, a joint venture with a Chinese company should be considered. Alternatively, there is the possibility of subcontracting work to a Chinese manufacturer, as outlined below;

- Kadgee could aim to produce clothing for a selected market that is *not* currently being targeted by Chinese manufacturers, such as the proposed WintaWarm range of clothing, as outlined below.

New contract won by Kadgee

In May 2006, Kadgee recruited a new designer who has established a reputation for designing ranges of clothes using recycled textiles. The recycled textiles are procured at a very low cost from an international charity. Each new manufactured garment is different and requires a higher input from skilled manpower, especially cutters. Following discussions, a contract for a three month trial period was signed in late June 2006 between Kadgee and a new customer, GREN for deliveries in July, August and September 2006.

GREN launched a limited range in one of its flagship shops at the end of August. GREN has over 120 shops in several European countries. The average sales price per garment to GREN for the trial was €18·00 for an agreed volume of 60,000 garments for the three month trial period.

The trial has been a media success for GREN, and the garments using recycled materials were sold out in days. GREN is planning to expand the range and volume of clothes in this new recycled range and has offered Kadgee a 12 month contract, to commence after the three month trial period, ending in September 2007. However, the proposed one year contract will be at a lower sales price per garment, of €16·20. GREN believes that Kadgee should be able to achieve economies of scale and reduced manpower time spent due to the learning curve effect, as the contracted volume in the proposed one year contract is for 1 million garments.

The marginal cost per garment for manufacturing clothes using recycled textiles is €15·60.

If Kadgee accepts the GREN contract for the next year it would utilize over 9% of Kadgee's manufacturing capacity of 10·9 million garments. The proposed manufacture of 1 million garments using recycled textiles will be undertaken at two of its factories only. These two factories have spare capacity following the loss of the Forum and Zeeb contracts.

GREN has requested Kadgee to advise its intention to agree to the proposed one year contract by the end of September 2006, before the trial finishes. GREN has also used other companies for the trial, but has offered the one year contract to Kadgee only.

The Kadgee management team is very pleased with the success of the trial of recycled materials and the proposed one year contract to the end of September 2007. However, the reduced sales price, and therefore the reduced margin, is a great concern to Andre Schaffner, the Finance Director. Andre Schnaffer also has concerns about GREN's ability to meet Kadgee's usual payment terms. Whilst some payment delays are expected, at present Kadgee has not received any payments at all for any of the supplies to GREN for the 3 month trial. The first deliveries that were invoiced during July are now over 60 days old and have still not been paid. GREN has a poor reputation in dealings with its suppliers, including regular late payment of around 4 months after delivery.

Andre Schnaffer has forecast that the proposed one year contract will necessitate working capital financing of €1 million. The finance costs of the increase in working capital would be 13% per year, based on Kadgee's current overdraft rate. The cost of financing the working capital is *not* included in the above forecast cost figures.

Andrin Burnak was very pleased for Kadgee to be at the forefront of this new fashion trend. Additionally, Kadgee was receiving much positive PR associated with the high profile launch of the new recycled textiles.

Proposal to move some manufacturing to China

At the Board meeting in August 2006, there were some detailed discussions on the possibility of moving some of Kadgee's manufacturing to China. This could enable Kadgee to operate more profitably and would allow the company to be more confident in its ability to retain its existing customer base and also to allow it to compete much more effectively in order to win new business.

Andrin Burnak stated that Kadgee had been approached by a Chinese manufacturing company called LIN. It has proposed a joint venture with Kadgee. It proposes that Kadgee should concentrate on what it does best, which is designing and distributing to the European market. It proposes that Kadgee should continue to work with its current customers and agree designs, which could then be electronically transferred to a factory in China to manufacture. Kadgee would then continue to supply existing customers, but with clothes manufactured in China. This would necessitate closure of all six of Kadgee's European factories. The proposal is for the joint venture to be LIN 60% and Kadgee 40% for investment and all financial aspects of the proposed joint venture. The proposed joint venture with LIN would require the construction of a large purpose built factory with a manufacturing capacity of over 20 million garments per year. If Kadgee chose to invest in the joint venture, the investment cost is forecast to be €22·5 million, of which Kadgee's share at 40% would be €9 million.

However, both Sam Skala and Peter Coletta are very concerned whether the proposed joint venture could work well for the longer term and are worried about the security of Kadgee's intellectual property.

Andrin Burnak has also been consulting for the last few months with a Chinese businessman, Won Dong, who he has personally known for 30 years through business and family connections. Won Dong is based in China but travels extensively. Won Dong has advised Andrin Burnak of two different Chinese companies to which he considers Kadgee should subcontract work to, as an alternative to the proposed joint venture with LIN, which he knows little about. However, if Kadgee were to subcontract manufacturing work to either of the companies in China that Won Dong has suggested, it would necessitate closing most, or all, of its European factories.

Proposed new product line

Kadgee has, to date, only manufactured fashion clothing and has not made any outerwear such as jackets and coats. Following extensive market research by Sam Skala, he has identified that there is a substantial gap in the number of high quality coats manufactured for the North American market, including Canada.

Kadgee has purchased, on a trial basis, a small quantity of a new lightweight synthetic fabric called "WintaWarm" that is both warm and waterproof. The company manufacturing this new material is Ruzic, which is based in Europe. The new material is thin but hard wearing and has had favourable press coverage, following its launch in December 2005. All purchases of the material will be paid for in Euros.

TURN OVER

Capital expenditure of €8 million will be required for the new product line.

Sales would be invoiced in US Dollars or Canadian Dollars. The NPV's in the table below *include* the forecast capital expenditure of €8 million. This proposal requires Kadgee Board approval in order to meet a launch date of January 2007.

NPVs for WintaWarm proposal	**Probability**	**Number of garments manufactured per year**	**NPV's of post-tax cash flows for WintaWarm proposal assessed over 5 years** € million
High sales	10%	0·6 million	6·1
Medium sales	50%	0·5 million	3·6
Low sales	40%	0·4 million	0·9

However, Andre Schnaffer is concerned whether Kadgee can raise €8 million in loan finance to purchase the required new machinery. If the machinery is hired or leased instead of being purchased, the present value of the hire or leasing costs, post-tax, is forecast to be €10 million for the 5 year period over which the project is being assessed.

Legal case against Kadgee

Kadgee is facing a major legal case for allegedly copying designs by a major fashion designer, SM. Several of Kadgee's designs from its latest range bear a remarkable similarity to SM's designs, but Kadgee's designs were drawn up before the famous designer's clothes were launched. Kadgee has so far refused to back down and the publicity has boosted sales of Kadgee's designs to many of its customers.

Sam Skala has stated that all publicity is good publicity, and that Kadgee should not give into the pressure from SM, as the Kadgee management team is confident that it had not copied the designs. He stated that Kadgee should be flattered that it is being taken to court by such a famous fashion house. However, Kadgee's legal advisors are worried that if it is unsuccessful in the legal case, the damages could lead to major financial problems and that the costs of the case and legal damages, if Kadgee is unsuccessful, could exceed €3 million. If the case is settled out of court, Kadgee would have legal costs of €0·2 million and Kadgee would have to withdraw the designs.

The net effect on the operating profit of withdrawing these designs is forecast to be a reduction of €0·3 million in total for the lifetime of the designs. However, if Kadgee decides to defend the case, if it went to court, the chances of success are 50%.

Fire at one of Kadgee's factories

At the very end of August 2006, a fire broke out during the night at one of Kadgee's factories located in the town of Dem. The fire has destroyed the entire inventory of finished goods held there awaiting transportation to customers, as well as a large amount of work-in-progress and raw materials. The factory was one of Kadgee's larger factories, which manufactured 2·4 million garments each year.

In addition to the total loss of all inventories, there was several days loss of data from the computer systems at that factory. In accordance with usual routines, the IT systems had been backed up each night, but the back up files had not been stored in a fire-proof cabinet or off site, as required by Kadgee's IT instructions. Therefore, the factory manager has not been able to ascertain what deliveries have been made to customers over the preceding four days before the fire. Many of Kadgee's customers are still chasing Kadgee for deliveries in the confusion following the fire less than a week ago. Kadgee's management has been busy transferring orders to its other factories, and some orders may have been repeated. Also, as delivery data had not been transferred to the finance department, there was some confusion over what should, or should not, be invoiced, Several of Kadgee's customers have complained that they have been invoiced twice for goods that they never received.

The fire had also spread to neighbouring domestic houses and caused much damage. There has been much adverse press coverage of the fire and the damage caused. Local residents are seeking compensation from Kadgee for losses not covered by their own insurance policies. Kadgee is fully insured for the fire at its premises and there were no suspicious circumstances. The expected insurance payment, due in November 2006, will be for around €7·0 million. However, the forecast cost of rebuilding a similar factory with the same capacity, using the latest machinery, is €10·0 million.

The employees at the factory burnt down in the town of Dem are unwilling to relocate to any of Kadgee's other factories. The nearest of Kadgee's other five factories is over 200 kilometres away. The factory that burnt down employs 84 employees, all of whom have been put on half pay for 1 month. If the site is permanently closed, redundancy payments of €1·1 million as well as other closure costs of €0·3 million will be incurred.

Accidents at several Kadgee factories

Peter Coletta is under pressure from his fellow Board members to take action following a series of minor accidents during July and August at all six factories. Maintenance has been reduced and machine breakdown is common.

As a result of reduced maintenance and also due to much of the machinery reaching, or exceeding, the end of its useful life, there has been an increasing number of machine breakdowns. Most employees are under pressure to meet their daily targets of number of garments worked on, and choose to attend to the machine breakdowns themselves. They have had little direct training on machine maintenance. At one of the factories, when one of the main cutting machines broke down, many employees were unable to meet their daily targets and they lost a proportion of their wages that related to volumes produced. Therefore employees are keen to take action when machinery breaks down. In most cases the repairs are simple and straightforward and the machine is up and running again very quickly. However, there are a growing number of minor accidents that are happening on an almost daily basis and the employees are frustrated that management is ignoring these incidents.

The general feeling in the factories is that a major accident will occur before the management team either replaces the faulty and aged machinery, or improves the level of maintenance. The forecast costs of replacing *just* the machinery that has the worst breakdown records is €3·0 million or alternatively the increased maintenance costs to attempt to prevent many of the breakdowns is forecast to be €0·8 million per year.

Other Human Resource issues

Kadgee's employees are very concerned for their future employment, having seen many other clothing manufacturers in the same towns in which they work cease trading. Kadgee's manufacturing capacity has increased due to efficiencies in recent years. However, there is increasing unrest amongst employees that all of their efforts are not appreciated. There are a few employees that are trying to demand a better pay rate for their skills, but to date have been unsuccessful. The standard of quality is starting to fall. Furthermore, Kadgee employs a high proportion of skilled female employees and many are unhappy and have complained that they are paid a lower pay rate than their male colleagues who are doing the same work. However, Peter Coletta has explained to Lars Veel, the HR Director, that this is due to the extra responsibilities that many of the male employees undertake.

Appointment of a consultant

At the Kadgee Board meeting held on 1 September 2006, it was agreed that a consultant would be appointed to advise the Board on the issues facing Kadgee.

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MATHS TABLES AND FORMULAE

Present value table

Present value of 1.00 unit of currency, that is $(1 + r)^{-n}$ where r = interest rate; n = number of periods until payment or receipt.

Periods	Interest rates (r)									
(n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149

Periods	Interest rates (r)									
(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.079	0.065
16	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045
18	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038
19	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026

Cumulative present value of 1.00 unit of currency per annum, Receivable or Payable at the end of each year for *n* years $\left[\frac{1-(1+r)^{-n}}{r}\right]$

Periods	Interest rates (*r*)									
(*n*)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201
19	17.226	15.679	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365
20	18.046	16.351	14.878	13.590	12.462	11.470	10.594	9.818	9.129	8.514

Periods	Interest rates (*r*)									
(*n*)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	7.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
16	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870

FORMULAE

Valuation Models

(i) Irredeemable preference share, paying a constant annual dividend, *d*, in perpetuity, where P_0 is the ex-div value:

$$P_0 = \frac{d}{k_{pref}}$$

(ii) Ordinary (Equity) share, paying a constant annual dividend, *d*, in perpetuity, where P_0 is the ex-div value:

$$P_0 = \frac{d}{k_e}$$

(iii) Ordinary (Equity) share, paying an annual dividend, *d*, growing in perpetuity at a constant rate, *g*, where P_0 is the ex-div value:

$$P_0 = \frac{d_1}{k_e - g} \text{ or } P_0 = \frac{d_0[1+g]}{k_e - g}$$

(iv) Irredeemable (Undated) debt, paying annual after tax interest, $i(1-t)$, in perpetuity, where P_0 is the ex-interest value:

$$P_0 = \frac{i[1-t]}{k_{dnet}}$$

or, without tax:

$$P_0 = \frac{i}{k_d}$$

(v) Future value of *S*, of a sum *X*, invested for *n* periods, compounded at *r*% interest:

$$S = X[1 + r]^n$$

(vi) Present value of £1 payable or receivable in *n* years, discounted at *r*% per annum:

$$PV = \frac{1}{[1+r]^n}$$

(vii) Present value of an annuity of £1 per annum, receivable or payable for *n* years, commencing in one year, discounted at *r*% per annum:

$$PV = \frac{1}{r}\left[1 - \frac{1}{[1+r]^n}\right]$$

(viii) Present value of £1 per annum, payable or receivable in perpetuity, commencing in one year, discounted at *r*% per annum:

$$PV = \frac{1}{r}$$

(ix) Present value of £1 per annum, receivable or payable, commencing in one year, growing in perpetuity at a constant rate of g% per annum, discounted at r% per annum:

$$PV = \frac{1}{r - g}$$

Cost of Capital

(i) Cost of irredeemable preference capital, paying an annual dividend, d, in perpetuity, and having a current ex-div price P_0:

$$k_{pref} = \frac{d}{P_0}$$

(ii) Cost of irredeemable debt capital, paying annual net interest, $i(1 – t)$, and having a current ex-interest price P_0:

$$k_{d\,\text{net}} = \frac{i[1 - t]}{P_0}$$

(iii) Cost of ordinary (equity) share capital, paying an annual dividend, d, in perpetuity, and having a current ex-div price P_0:

$$k_e = \frac{d}{P_0}$$

(iv) Cost of ordinary (equity) share capital, having a current ex-div price, P_0, having just paid a dividend, d_0, with the dividend growing in perpetuity by a constant g% per annum:

$$k_e = \frac{d_1}{P_0} + g \quad \text{or } k_e = \frac{d_0[1 + g]}{P_0} + g$$

(v) Cost of ordinary (equity) share capital, using the CAPM:

$$k_e = R_f + [R_m – R_f]ß$$

(vi) Weighted average cost of capital, k_0:

$$k_0 = k_e\left[\frac{V_E}{V_E + V_D}\right] + k_d\left[\frac{V_D}{V_E + V_D}\right]$$

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P10 – Test of Professional Competence in Management Accounting

Monday 4 September 2006