Professional Level – Essentials Module

Business Analysis

Monday 9 December 2013

Time allowed
Reading and planning: 15 minutes
Writing: 3 hours

This paper is divided into two sections:

Section A – This ONE question is compulsory and MUST be attempted

Section B – TWO questions ONLY to be attempted

Do NOT open this paper until instructed by the supervisor.

During reading and planning time only the question paper may be annotated. You must NOT write in your answer booklet until instructed by the supervisor.

This question paper must not be removed from the examination hall.

Paper P3

The Association of Chartered Certified Accountants

ACCA

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The question paper begins on page 3.

Section A – This ONE question is compulsory and MUST be attempted

1 Arboria is a prosperous industrial country with an established consumer culture that is distinguished by demanding and assertive consumers. Many companies find it difficult to compete successfully in the country but MachineShop is a notable exception. MachineShop sells small electrical machines and tools to both trade (people who use the machines/tools in their work) and domestic customers (people who use the machines/tools at home). For example, it sells a range of paint strippers retailing from $100 to $3,500. These paint strippers are bought by both tradesmen (for example, decorators) and ordinary domestic customers who use them to maintain their own home. It is estimated that 65% of sales are to domestic customers. MachineShop currently has 50 brightly decorated stores throughout Arboria. On average, a further two stores are opened every month. The company has no direct competitors. Most firms offering similar machines only sell them to tradesmen. In many respects MachineShop has defined a new market and it is the only company which, at present, seems to understand the dynamics of this market.

MachineShop is a private company still wholly owned by its directors. The board is headed by Dave Deen, a dynamic entrepreneur who enjoys a high national media profile. He likes the excitement of business and is determined to rapidly grow MachineShop – an ambition shared by his fellow directors. In 2012, on a turnover of $50m, MachineShop recorded a gross profit margin of 28% and an operating margin of 17%. It delivered a Return on Capital Employed (ROCE) of 17·5%. It currently has a gearing ratio (defined as long-term loans/capital employed) of 15% and an interest cover ratio of 3·5.

Dave Deen has an ambitious growth plan, which he intends to achieve through a combination of internal growth, acquisition and, possibly, strategic alliances. The opening of further stores in Arboria is providing internal (organic) growth. Much of this drive for growth is fuelled by a desire to exploit MachineShop's unique competencies before the idea is copied, both within Arboria and elsewhere in the world. However, the company is having difficultly finding companies to acquire, as there are few equivalent companies to target, either in Arboria or elsewhere in the world. Although MachineShop has never traded outside Arboria, the search for acquisitions is worldwide, with Dave Deen particularly keen to explore international markets in his desire to build a worldwide brand. He has specifically identified the developing country of Ceeland as a potential target, because macroeconomic trends suggest that a consumer society is emerging there, which is similar to the one in Arboria.

Ceeland

The government of Ceeland has spent the last decade building an effective road transport system, supported by low fuel and road taxes which make it cheap to use. The government has also installed a fast digital communication network, providing broadband internet access to all of the population. This is important to MachineShop because internet order placement (either for collection or delivery) is an important part of their business model. The government has also lifted certain restrictions which had been in place under its predecessor. For example, it has removed the need for companies trading in the country to be registered in Ceeland and to have at least one Ceelander citizen on the board. Until recently, there were restrictions on what machines could be used by domestic customers. However, these restrictions have also been removed, as part of a government initiative to encourage the development of light manufacturing in the country. Indeed, one brand of products already stocked by MachineShop is made by a company based in Ceeland.

Fabrique Regle de Garrido (FRG)

Dave Deen has identified Fabrique Regle de Garrido (FRG) as a potential acquisition or strategic partner. FRG currently has 30 depots in Ceeland supplying large machine tools solely to trade customers. It does not sell products to domestic customers. It has an effective distribution network and a sales team which is experienced in selling to Ceeland businesses. MachineShop has the finance (in the form of bank loans and retained earnings) in place for an acquisition or a strategic partnership. Dave Deen has not yet opened up negotiations with FRG, but he has extracted some financial information from the company's most recently filed accounts (see Figure 1). He has also discovered that FRG is a privately owned company, with 30 shareholders, including a local trade union. Dave Deen sees the potential acquisition of FRG as an opportunity to introduce the MachineShop business model into Ceeland. He fully expects the country to become increasingly similar to Arboria and so it will be suitable for the sort of service and products which MachineShop offers. 'Achieving quick, substantial growth through acquisition will give us a powerful bargaining position. It will allow us to develop economies of scale, including purchasing in bulk to further drive down product prices. This will help us erect barriers to potential competition', he said.

Figure 1 – Extracted financial information for FRG

All figures in $000	**2012**
Revenue	9,000
Cost of sales	(7,500)
Gross profit	1,500
Other expenses	(700)
Finance costs	(300)
Profit before tax	500
Income tax expense	(100)
Profit for the year	400
Non-current liabilities	
Share capital	9,500
Retained profit	400
Long-term loans	2,500

MachineShop acquisitions

MachineShop does have some experience in acquisitions. In 2010 it acquired two companies based in Arboria which still trade as independent companies. The purchase of LogTrans was prompted by the need for MachineShop to have a dedicated and reliable logistics supplier. The post-acquisition performance of the company was spoilt by a dispute between Dave Deen and the senior management of LogTrans. This was due to a personality clash, caused by a different way of doing business. Eventually, the senior management of LogTrans was removed and replaced by people more aligned with the corporate culture of MachineShop. EngSup was also acquired in 2010 to provide an enhanced service facility to people who had purchased machines from MachineShop. Customer feedback showed that many customers were unimpressed by MachineShop's after sales service. EngSup already provided support for many domestic electrical products and so MachineShop bought the company with the intention of using it to provide support for MachineShop's customers. However, initial feedback was negative because EngSup's service engineers provided a poor level of service, coupled with an arrogant approach to the customer. A retraining scheme, together with selected redundancies, has now addressed these problems. Extracts from the current year's figures for both companies, compared with the last full pre-acquisition period of the company, are shown in Figure 2.

Figure 2 – Extracted financial information for LogTrans and EngSup

All figures in $000	**LogTrans**		**EngSup**	
Extracted data	**2012**	**2009**	**2012**	**2009**
Revenue	700	650	350	325
Cost of sales	(575)	(510)	(275)	(250)
Gross profit	125	140	75	75
Other expenses	(60)	(70)	(35)	(30)
Finance costs	(30)	(15)	(10)	(8)
Profit before tax	35	55	30	37
Income tax expense	(15)	(10)	(7)	(10)
Profit for the year	20	45	23	27
Non-current liabilities				
Share capital	500	400	250	100
Retained profit	80	70	40	170
Long-term loans	100	50	30	20

Required:

(a) Internal growth, acquisition and strategic alliances are three methods of pursuing growth.

Explain and evaluate each of these three methods of pursuing growth in the context of MachineShop's development to date and its ambitions for future growth and development. (18 marks)

(b) MachineShop is considering the acquisition of FRG. They have asked you, as a business analyst, to write a report which advises them on this potential acquisition.

Write a report, using the criteria of suitability, acceptability and feasibility, which evaluates the potential acquisition of FRG, concluding with whether you would recommend MachineShop to acquire FRG. (18 marks)

Professional marks will be awarded in part (b) for the structure of the report, the clarity of the analysis and the soundness of the conclusion or recommendation. (4 marks)

(c) Dave Deen has heard about Porter's 'diamond' and wants an explanation of the principles, relevance and application of this model.

Explain the principles of Porter's 'diamond' and use it to assess the relative attractiveness of Ceeland and Arboria in providing an environment in which MachineShop's growth ambitions could be achieved. (10 marks)

(50 marks)

Section B – TWO questions ONLY to be attempted

2 ATD is a medium-sized engineering company providing specialist components for the marine engineering market. The sales manager is currently under pressure from the other departmental managers to explain why his sales revenue forecasts are becoming increasingly unreliable. Errors in his forecasts are having consequential effects on production, inventory control, raw materials purchasing and, ultimately, on the profitability of the company itself. He uses a 'combination of experience, intuition and guesswork' to produce his sales forecast, but even he accepts that his forecasts are increasingly inaccurate.

Consequently, he has asked a business analyst to investigate more rigorous, appropriate ways of forecasting. The business analyst has suggested two possible alternatives. The first (summarised in Figure 1) is least squares regression. The second (summarised in Figure 2) is time series analysis. The actual sales figures in both of these examples are for ATD, so the company is currently in quarter 3 – 2013. However, the business analyst has left the company before completing and explaining either the basis for, or implications of, these two alternative approaches to forecasting.

Figure 1: Least squares analysis

Year/quarter	Quarter	Sales ($000)			
	x	y	x^2	xy	y^2
2010 quarter 1	1	110	1	110	12,100
2010 quarter 2	2	160	4	320	25,600
2010 quarter 3	3	155	9	465	24,025
2010 quarter 4	4	96	16	384	9,216
2011 quarter 1	5	116	25	580	13,456
2011 quarter 2	6	160	36	960	25,600
2011 quarter 3	7	153	49	1,071	23,409
2011 quarter 4	8	100	64	800	10,000
2012 quarter 1	9	128	81	1,152	16,384
2012 quarter 2	10	180	100	1,800	32,400
2012 quarter 3	11	169	121	1,859	28,561
2012 quarter 4	12	99	144	1,188	9,801
2013 quarter 1	13	137	169	1,781	18,769
2013 quarter 2	14	180	196	2,520	32,400
		1,943	1,015	14,990	281,721
			b	1·84	
			a	125·022	
			r	0·253	

The equation of a straight line is $y = a + bx$

Figure 2: Time series analysis

Quarter	Sales ($000)	Trend	Deviation	Svar (1)	Residual	Sadj (2)
2010 quarter 1	110					124·70
2010 quarter 2	160					127·77
2010 quarter 3	155	131·00	24·00	22·55	1·45	132·45
2010 quarter 4	96	131·75	–35·75	–40·08	4·33	136·08
2011 quarter 1	116	131·50	–15·50	–14·70	–0·80	130·70
2011 quarter 2	160	131·75	28·25	32·23	–3·98	127·77
2011 quarter 3	153	133·75	19·25	22·55	–3·30	130·45
2011 quarter 4	100	137·75	–37·75	–40·08	2·33	140·08
2012 quarter 1	128	142·25	–14·25	–14·70	0·45	142·70
2012 quarter 2	180	144·13	35·88	32·23	3·64	147·77
2012 quarter 3	169	145·13	23·88	22·55	1·33	146·45
2012 quarter 4	99	146·25	–47·25	–40·08	–7·17	139·08
2013 quarter 1	137					151·70
2013 quarter 2	180					147·77

	1	2	3	4	
Analysis of seasonal variation			24·00	–35·75	
	–15·50	28·25	19·25	–37·75	
	–14·25	35·88	23·88	–47·25	
Totals	–29·75	64·13	67·13	–120·75	
Average	–14·88	32·06	22·38	–40·25	–0·69
Adjustment	0·17	0·17	0·17	0·17	
Svar (1)	–14·70	32·23	22·55	–40·08	

Note 1: Svar: seasonal variation

Note 2: Sadj: seasonally adjusted figures

The failure of the company to meet sales targets for quarters 1 and 2 of 2013 has prompted the Chief Executive Officer (CEO) to put into place a broad cost-cutting policy. He has banned business travel, cancelled a number of marketing initiatives and introduced a complete freeze on recruiting for posts which become vacant on the resignation of the current post holder. He claims that 'our failure to meet sales targets means we must ruthlessly cut costs'. However, many of the departmental managers are critical of such an indiscriminate approach and believe that the measures might be counter-productive.

This cost-cutting has particularly demotivated the production manager and the inventory manager, who both blame the sales director for setting unrealistic targets. The production manager has commented that, 'I am working tirelessly to keep costs down, but my only reward is that I cannot replace one of my best purchasing administrators who left last month'. In general, departmental managers at the company feel 'powerless and undervalued'.

The company currently does not have a formal budgeting process in place. The production manager is sure that such a process, particularly if senior managers were involved in the budget setting process, would help address issues around forecast reliability, the low morale of departmental managers and the seemingly indiscriminate cost-cutting of the CEO.

Required:

(a) Explain and analyse the data in the least squares regression and time series analysis spreadsheets (Figure 1 and 2) left by the business analyst and evaluate the appropriateness of both techniques to sales forecasting at ATD. (15 marks)

(b) Analyse how introducing a formal budgeting process would address the issues of inaccurate forecasting, low morale and indiscriminate cost cutting at ATD. (10 marks)

(25 marks)

3 Housham Garden is a large garden in the country of Euphorbia, where gardening and visiting gardens is a popular pastime. For many years the garden was neglected, until bought by the Popper family who painstakingly restored the garden and four years ago opened it to the public. The garden is now owned and operated by a charitable trust set up by the Popper family – the Housham Garden Trust (HGT) – with initial funding provided by a legacy from the late Clive Popper.

However, HGT is finding it difficult to meet its costs and it is gradually spending the legacy. It is estimated that fixed costs are currently $60,000 per annum. The price of entry into the garden is $5 per visit. At present, there are approximately 1,000 visits per month and the garden is open for eight months a year. It is closed for a period when the weather is usually much colder and few plants are flowering. HGT feels that few people would wish to visit the garden and so they have always closed it for the four 'cold' months.

There is a café in the garden and it is estimated that 60% of visitors visit the café and buy drinks and food. However, each purchase is relatively modest. The current trust administrator estimates that the average contribution is $1·25 per visitor using the café.

A recent survey undertaken by a local university revealed that most consumers felt that the admission price for a garden such as Housham was too high. It revealed that the average consumer would be willing to pay an entry fee of $3·25, and indeed similar gardens in Euphorbia charge about this amount.

HGT currently advertises the garden in the monthly magazine 'Heritage Gardens'. Each display advertisement costs $500 per issue. Adverts have been booked for the next six months, but it is possible to cancel the last three of these without incurring cancellation charges. The advertisements, like HGT's brochure, stress the historical nature of the garden (it is the only surviving garden designed by William Wessex) and the painstaking nature of the restoration. However, these were not factors that figured highly in a recent visitor survey. Table 1 shows the most common primary reasons for visitors visiting the garden. Two hundred visitors were surveyed and they were only allowed to choose one reason for visiting Housham Gardens

Table 1: Primary reasons for visiting the gardens: one day survey on 13 March 2012

Reason for visiting Housham Garden	Number of respondents
To walk in a peaceful, beautiful, safe environment	100
To enjoy the plants and flowers of the garden	70
To see the restoration work carried out by the trust	20
To visit the café and shop	5
To observe the work of William Wessex	5

Respondents were critical of the food offered by the café. One respondent commented that quality 'had gone down since the café was moved into the garden. Really, there is very little choice, and I could not find anything substantial enough for lunch'. Her reference to the relocation of the café into the garden refers to the fact that the café used to be in the gatehouse of the garden. At this time, many people just visited Housham to use the café and did not pay for admission into the garden. It was decided that moving the café inside the garden would encourage people to pay for garden entry. However, this has not occurred. It is estimated that the café has lost about 500 visits per month and this has had an adverse effect on staff morale and food quality. The gatehouse area where the café was originally situated is still empty.

In the recent consumer survey, 20% of the respondents said that they would buy an annual (calendar year) ticket giving access to the garden for eight months if it were offered for $9. The customer survey also asked visitors where they had heard of the garden. Table 2 summarises their responses. Again, the 200 respondents were only allowed to make one choice for how they heard about Housham Gardens.

Table 2: How visitors heard about the gardens: one day survey on 13 March 2012

How did you hear of Housham Gardens?	Number of respondents
Personal recommendation from a friend	110
Recent articles in the local newspaper	50
Internet	10
Heritage Gardens magazine	10
Other	20

The reference in Table 2 to recent articles in the local newspaper concerns a series of articles written by the HGT administrator outlining the problems of the trust and the fact that short-term cash flow problems might cause the garden's temporary closure. One visitor commented that 'we had never heard of Housham Gardens until then, and we only live four kilometres away'.

HGT also has a simple informative web site showing the location of the garden, giving opening times, showing pictures of the restoration and providing a biography of William Wessex.

You are a business analyst who undertakes voluntary work for the trust. You have been asked to suggest immediate short-term changes as well as long-term marketing initiatives for the trust. Short-term changes should be proposals which can be implemented immediately or within three months and will generate quantifiable income or savings. Long-term marketing initiatives are proposals which will take longer than three months to implement.

Required:

(a) Using the data provided, show why HGT is losing money and recommend immediate and other short-term (within three months) changes for HGT, quantifying the increased income or cost savings that these changes should bring. (15 marks)

(b) Recommend, with justifications, longer-term marketing strategies (longer than three months) for HGT. (10 marks)

(25 marks)

4 The country of Umboria has two professional business analysis associations, both running certification examination schemes for business analysts worldwide. These are the Association of Benefits Consultants (ABC) and the Institute of Consultants, Finance and Commerce (ICFC). Many private and public sector learning providers run accredited training courses to prepare candidates for the examinations. Some learning providers provide courses for both associations, whilst others focus on niche markets. Umboria itself is a wealthy country with high labour costs and property prices, particularly in the capital city of Ambosium.

Victor is the editor of the *BA Times*, a subscription magazine, published once a month, which provides news and articles preparing students for the examinations of both business analysis associations. The magazine is edited and printed in offices and an adjoining factory in Ambosium. The offices and factory are leased and the magazine currently employs 20 people, all of whom live close to the offices. It is the only independent magazine in the sector. Each association has its own magazine and website, but relatively tight control is maintained over their editorial policy. Victor was the editor of the ABC magazine (*Business Analysis Today*) for 16 years before establishing the *BA Times* nine years ago. Because of its independence, the *BA Times* can be a little more controversial and provocative than its rivals and it is popular with students and well respected by the profession.

However, despite such recognition, the magazine is currently unprofitable due to increased production, distribution and office costs, falling subscriptions and reduced advertising. Changing reading habits in Umboria, particularly amongst the young, has led to less reading of printed media. All of the traditional media providers are experiencing financial problems. The sales of printed magazines and the profits of publishers are both falling dramatically throughout Umboria. Furthermore, advertisers are increasingly unconvinced about the effectiveness of advertising in printed magazines and so the advertising revenues of these magazines are also falling.

The *BA Times* currently has a website but its role is to convince the visitor to order the printed magazine. The website offers extracts of news and articles, often with provocative headlines, which may only be read in full in the printed magazine.

Recent survey

A recent survey of people who had decided not to renew their *BA Times* subscription revealed the following comments:

I am studying the ABC syllabus and so in-depth articles on ICFC topics and examinations are not relevant to me. I quite enjoy reading the news parts, but not the in-depth analysis of examinations that I am not taking.
ABC student

I have reached the final stage of my examinations. I do not want to read articles about the stages I have already passed. I reckon only about 15% of *BA Times* is relevant to me now.
ABC Final Stage student

Some of the readers' letters are really irritating or just plain wrong, but the editor seldom makes a comment! It really annoys me!
ICFC student

I became a business analyst to get a job, not just to sit examinations and read about examining bodies.
ICFC student

The examinations are getting more demanding and Victor is under pressure to increase the number of technical examination articles in the magazine, despite the fact that this will make the magazine longer and heavier and so increase print and distribution costs.

Victor is aware that new technology and new media offer opportunities for changing the business model and the financial performance of the *BA Times*. However, he likes the physical, tactile feel of printed magazines and he feels that some of his subscribers do as well. Also, he cannot see how harnessing new technology will make him money, particularly if it leads to decreasing sales of the printed magazine. He is also concerned about how his subscribers and advertisers will react to technological change. He feels that some subscribers will not have access to online technology and that many advertisers would prefer to continue with display advertisements in a printed magazine.

Required:

(a) Analyse how the principles of interactivity, individualisation, intelligence and independence of location offered by the internet and other new media could be exploited by Victor in his development of a new business model for the *BA Times*. (15 marks)

(b) Write a short report which addresses the specific concerns Victor has about the effect of any potential technology or media change on his subscribers, on his advertisers and on the financial viability of his company. (10 marks)

(25 marks)

End of Question Paper