Professional Level – Essentials Module

Business Analysis

Monday 10 December 2012

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.

The Association of Chartered Certified Accountants

Paper P3

ACCA

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The question paper begins on page 3.

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

The following information should be used when answering question 1.

1 Introduction

The EA Group has a portfolio of companies that currently specialise in alternative energy supply and associated products and services. It grew out of Power of the Sun (POTS) Co, one of the pioneers of solar heating, which still remains an autonomous company in the Group. The profits generated by POTS funded the initial development of the Group, which now comprises 12 companies. Only four of these companies are considered in this scenario.

Power of the Sun (POTS) Co

POTS Co was one of the first companies to realise the potential of solar powered energy solutions and it pioneered the use of the technology, particularly in government and city council (public sector) buildings. From 1995 to 2005 its net profit regularly exceeded 15%. Recent results for the company are shown in Figure 1. The approximate size of the overall market is also given (sector turnover).

All figures in $m	2011	2010	2009	2008
Sector turnover	357·00	357·00	356·00	355·00
POTS sales revenue	107·10	100·00	96·10	88·80
Gross profit	22·50	21·00	22·10	22·20
Net profit	7·50	7·00	8·70	9·80

Figure 1: Selected data for POTS Co

Although POTS was the main source of the profits which drove the expansion of the EA Group, many employees within POTS feel that it is now relatively neglected. Consumer surveys suggest that the brand is not as well recognised as it was and respondents who did recognise it saw it as a tired and traditional brand. Many of its most gifted managers have been promoted into the EA Group headquarters or other companies within the Group. It was expected that their expertise, gained with POTS, would help improve the performance of acquired companies. However, despite this loss of valuable resources, POTS still has recognised expertise and many valuable contacts and contracts in the public sector which the EA Group has been able to exploit. These contracts, particularly with city councils, have allowed the company to retain a significant presence in the solar powered energy market at a time when competitors have withdrawn from, or scaled down, their operations.

Neach Glass

The EA Group acquired Neach Glass in 2005. Neach Glass was founded by Kevin Neach to provide high quality glass products. These were used in the original solar panels developed by POTS and a close relationship was built up between Kevin Neach and the managing director of POTS, Ken Nyg. Ken later became chief executive officer (CEO) of the EA Group. The glass panels continue to be used in POTS products. In 2005, Kevin Neach informed Ken Nyg that Neach Glass was on the brink of going into administration. As a result, the EA Group acquired the company to help secure the supply of a vital component in the POTS product. Since that time, financial and management resources have been invested in Neach Glass in an attempt to improve market share and profitability. Some of POTS's best managers have been transferred to the company. Data for Neach Glass is shown in Figure 2. Again, the estimated size of the total market is shown as sector turnover.

All figures in $m	2011	2010	2009	2008
Sector turnover	88·20	89·00	89·50	90·00
Neach turnover	7·94	7·12	7·16	6·30
Gross profit	1·45	1·28	1·22	1·07
Net profit	0·72	0·57	0·57	0·45

Figure 2: Selected data for Neach Glass

ENCOS

In 2007, Ken Nyg recognised that other alternative energy sources other than solar power were becoming increasingly important. Council managers were increasingly requesting a combination of power sources with control systems that could be used to switch the power source to reflect the most economic combination of sources. As a result of this, the EA Group acquired ENergy COntrol Systems (ENCOS), a company with innovative control systems for monitoring power use and matching it to the most suitable and cheapest source of supply. ENCOS was acknowledged as a technical leader, but had little marketing expertise and few contracts in the public sector. ENCOS's control systems have sophisticated mathematical algorithms which are now used in many private sector applications. It has an excellent record in profitable delivery, with each contract carefully estimated and a detailed analysis of gross profit reported per contract. Financial data for ENCOS is shown in Figure 3. The market sector turnover is again given.

All figures in $m	**2011**	**2010**	**2009**	**2008**
Sector turnover	81·00	76·00	71·50	70·00
ENCOS turnover	21·00	17·00	14·30	13·30
Gross profit	5·00	4·00	2·75	2·55
Net profit	3·35	3·00	1·85	1·65

Figure 3: Selected data for ENCOS

Steeltown Information Technology

Steeltown City Council is the second largest city council in the country. Two years ago, responding to government initiatives to outsource non-core activities, it decided to outsource its information technology department to the private sector. The department developed and implemented bespoke in-house systems to support the departments of the council (housing, education, social services etc). Trade unions in the council mounted a vigorous campaign against the plan and employees were overwhelmingly against it. Many of the employees had worked for the council for many years and had experienced a stable work environment. However, this opposition hardened the council's resolve and they forced through the plan, citing the union's restricted working practices as a major problem. The council invited private sector companies to tender for the work and resources of the department.

The EA Group were keen to broaden their technological services to the public sector and saw this as an opportunity to acquire an organisation that could spearhead its growth. As Ken Nyg said 'we must avoid being too narrow in focus. We started out in solar energy, before broadening out into other energy sources and services. We now wish to broaden again into information technology services in general and the acquisition of the Steeltown City Council's information technology department is a perfect vehicle for this. We see clear technology synergies with ENCOS who are technical leaders in control software design and development.'

Steeltown Information Technology, as the company is now called, has entered into a ten year exclusive contract with Steeltown City Council to supply information technology services. The contract price is based on current costs, plus inflation, plus a 5% gross profit margin. The contract will be renegotiated after five years, when it is expected that savings made by the company can be passed on to the council.

The IT director and his deputy, who both vigorously opposed privatisation, have not been transferred to the new company. They both took voluntary redundancy from the council. Other managers are philosophical, glad that the uncertainty of the last two years was behind them. One manager commented that although 'he was against outsourcing in principle, now the sale has been agreed, let's get on with it'. Very few new systems have been developed in the last two years whilst the future of the department was being discussed. There is now a backlog of applications to develop for a number of council departments. Users in these departments usually find it very difficult to specify system requirements in advance and there have been very few successfully implemented IT solutions.

Although the Steeltown City Council contract is on a cost plus basis, managers who have always been budget and service-driven will be expected to profitably deliver solutions to other potential customers in the public sector.

As part of preparing for strategic change at Steeltown Information Technology, the EA Group wishes to benchmark its performance. They have been provided with the information given in Figure 4.

	2011	**2010**	**2009**	**2008**
User satisfaction (1)	48%	46%	45%	44%
Faults reported (2)	200	250	375	425
User satisfaction (nationwide) (3)	45%	44%	44%	43%

Figure 4: Data for Steeltown City Council information technology department

(1) measured by internally constructed and analysed user surveys at Steeltown City Council
(2) measured by reported faults in software at Steeltown City Council
(3) reported by city councils throughout the country

As another part of their preparation for strategic change at Steeltown Information Technology, the EA Group also wish to understand the contextual factors that will affect such change. They want to explore these factors before they firm up their proposed strategy for the newly acquired company.

Required:

(a) **Analyse the performance of each of the four companies described in the scenario and assess each company's potential future contribution to the EA Group portfolio of businesses.** (24 marks)

Professional marks will be awarded in part (a) for the clarity and structure of the answer. (4 marks)

(b) Time, scope, capability and readiness for change are four contextual factors that affect strategic change.

Evaluate the potential influence of these four factors at Steeltown Information Technology on any strategic change proposed by the EA Group. (12 marks)

(c) **Discuss the principles, together with the advantages and the disadvantages, of benchmarking in the context of Steeltown Information Technology.** (10 marks)

(50 marks)

Section B – TWO questions ONLY to be attempted

2 Moor Farm is a large estate in the rural district of Cornaille. The estate covers a large area of forest, upland and farmland. It also includes two villages, and although many of the properties in these villages have been sold off to private homeowners, the estate still owns properties which it rents out. The estate also has a large mansion house set inside a landscape garden designed in the 19th century by James Kent. The garden, although now overgrown and neglected, is the only surviving example of his work in the district. The estate was left as a gift to a charitable trust ten years ago. The trust is based at the estate. A condition of the gift to the trust was that the upland and forest should be freely accessible to visitors.

The estate has a manager, four full-time staff and 45 volunteers. These volunteers undertake most of the work on the estate, including the continuing excavation of Kent's original garden design. They are happy, well-motivated and fully support the current manager who is due to retire in the very near future. Three of the volunteers have become acknowledged experts on land management, through their work on the estate. Government grants for initiatives such as tree planting, protected pasture land and rural employment have been received by the estate in the past. However, a recent change in government means that this funding is unlikely to continue. This will also affect funding for the maintenance of the mansion. It was built almost 80 years ago when the climate of the area was much colder and drier. Recent warm wet winters have caused the fabric of the building to decay and increased the cost of maintaining it.

The estate has appointed a new manager who is due to take over the estate when the current manager retires. She is working alongside the current manager so that she understands her responsibilities and how the estate works. As a one-off project, she has commissioned a stakeholder survey which has requested information on the visitor experience to help with a planned re-design of the estate's website. The website is generally thought to be well structured and presented, but it receives fewer visitors than might reasonably be expected. It provides mainly static information about the estate and forthcoming events but currently users cannot interact with the site in anyway.

Here are some extracts from the survey:

'I live in one of the villages and I am angry about visitors crowding around the village attractions – the tearooms, the craft shops, the souvenir stalls. We feel that we are prisoners in our own village and the traffic is terrible.' **Homeowner, from a village on the estate**

'We had a good day, but the weather was awful. If we had known it was going to rain all day, then we probably would have postponed the visit until a fine day. It spoilt a family day out.' **Visitor with small family**

'We were very disappointed, on arrival, to find that the family fun day was fully booked.' **Visitor who had travelled 100 kms with two small children to visit a special event**

'We all love it here, but we didn't know you had a website!! We almost had to type in the complete website address before we found it! I am sure more people would come if they could only find the website!' **Visitor aged mid-20s**

'As usual, we had a great time here and took great photos. It would have been nice to be able to share our pleasure with other people. We would recommend it to anyone who loves the outdoors.' **Visitor – family with teenage children**

'We met the volunteers who were excavating the buildings in the landscape garden. They were so helpful and knowledgeable. They turned something that looked like a series of small walls into something so much more tangible.' **Visitor – elderly couple**

'I was disappointed that I was not allowed into the farmland with my dog. As a human being, I have the right to roam. It is a basic human right.' **Visitor – elderly female dog-walker**

'We are regular visitors and we really want to know what is going on! There are many of us who would like to really be involved with the estate and help it thrive. We need more than just occasional questionnaires.' **Visitor – hiking group**

'We came out for a nice walk and ended up dodging cyclists. Next time we will go somewhere where they are not welcome.' **Visitor – hiking group**

'As a farmer, I am appalled with the reckless attitude of some dog walkers. Last week, I lost two sheep, ravaged by dogs that should not have been off their leads.' **Farmer – estate tenant**

‘I’m a volunteer and I love it here. We are a happy, social group of people. I hope the new manager is not going to change things.’ **Volunteer**

Required:

(a) Evaluate the strategic position of the estate with specific reference to the expectations of stakeholders, to the external environmental factors beyond the control of the estate and to the strategic capabilities of the estate itself. (15 marks)

(b) Discuss how the website could be further developed to address some of the issues highlighted in the survey. (10 marks)

(25 marks)

3 Emile Gonzalez is an industrial chemist who worked for the government of Pablos for more than 20 years. In his spare time, he continually experimented with formulating a product that could remove graffiti from all surfaces. Graffiti is a particular problem in Pablos and all previous removal methods were expensive, dangerous to apply and did not work on all surfaces. After many years of experimentation, Emile formulated a product that addressed all these issues. His product can be applied safely without protective clothing, it removes graffiti from all surfaces and it can be produced economically in small, as well as large, volumes.

Three years ago, Emile left his government job to focus on refining the product and bringing it to market. He formed a limited liability company, Graffoff, with initial share capital funded by his savings, his family's savings and a legacy from a wealthy relative. He is the sole shareholder in the company, which is based in a factory in central Pablos. The company has filed two years of results (see Figure 1 for extracted information from year (2), and it is expected to return similar net profit figures in its third trading year. Emile takes a significant dividend out of the company each year and he wishes that to continue. He also wishes to remain the sole owner of the company.

Four years ago, Emile was granted a patent for the formula on which his product is based and a further patent on the process used to produce the product. In Pablos, patents are protected for ten years and so Emile has six further years before his formula becomes available to his competitors. Consequently, he wants to rapidly expand the company and plans to lease premises to create 30 new graffiti removal depots in Pablos, each of which will supply graffiti removing services in its local region. He needs $500,000 to finance this organic growth of his company.

Emile does have mixed feelings about his proposed expansion plan. Despite the apparent success of his company, he prefers working in the laboratory to managing people. 'I am just not a people person', he has commented. He is aware that he lacks business experience and, despite the technical excellence of the product, he has failed to build a highly visible brand. He also has particular problems in the accounts receivables department, where he has failed to address the problems of over-worked and demotivated employees. Emile dislikes conflict with customers and so he often offers them extended payment terms to the dismay of the accounts receivables section, who feel that their debt collecting effectiveness is being constantly undermined by his concessions. In contrast, Graffoff pays bills very promptly, due to a zealous administrator in accounts payable who likes to reduce creditors. Emile is sanguine about this. 'I guess we have the money, so I suppose we should pay them.'

In Pablos, all goods are supplied to customers on 30 days credit. However, in the services sector that Graffoff is trading in, the average settlement period for payables (creditors) is 40 days. One supplier commented that 'Graffoff is unique in its punctuality of payment.'

Emile is currently reviewing how to finance his proposed organic growth. He is unwilling to take on any further external debt and consequently he has also recently considered franchising as an alternative to organic growth. In his proposed arrangement, franchisees would have responsibility for leasing or buying premises to a specification defined in the franchise agreement. The franchise would have exclusive rights to the Graffoff product in a defined geographical region.

The Equipment Emporium has 57 superstores throughout the country selling tools and machines such as air compressors, generators and ventilation systems. It is a well-recognised brand with a strong marketing presence. It focuses on selling specialist products in bright, well-lit superstores. It has approached Graffoff to ask whether it can sell the Graffoff product through its superstores. Emile has rejected this suggestion because he feels that his product requires proper training if it is to be used efficiently and safely. He sees Graffoff as offering a complete service (graffiti removal), not just a product (graffiti removal equipment) and so selling through The Equipment Emporium would be inappropriate.

Figure 1: Extracted financial data for Graffoff's second year of trading, reported at 31 December 2011

Extract from the statement of financial position: as at 31 December 2011

All figures in $000:

ASSETS	
Non-current assets	
Property, plant and equipment	1,385
Intangible assets	100
Total non-current assets	1,485
Current assets	
Inventories	100
Trade receivables	260
Cash and cash equivalents	30
Total current assets	390
Total assets	1,875
EQUITY AND LIABILITIES	
Share capital	1,500
Retained earnings	30
Total equity	1,530
Non-current liabilities	
Long-term borrowings	250
Total non-current liabilities	250
Current liabilities	
Trade and other payables	75
Current tax payable	20
Total current liabilities	95
Total liabilities	345
Total equity and liabilities	1,875

Extracts from the income statement: as at 31 December 2011

All figures in $000

Revenue	1,600
Cost of sales	(1,375)
Gross profit	225
Administrative expenses	(100)
Finance costs	(15)
Profit before tax	110
Income tax expense	(20)
Profit for the period	90

Required:

(a) **Evaluate the franchising option being considered by Graffoff, highlighting the advantages and disadvantages of this approach from Emile's perspective.** (10 marks)

(b) Johnson, Scholes and Whittington have identified franchising as a form of strategic alliance.

Evaluate how other forms of strategic alliance might be appropriate approaches to strategy development at Graffoff. (7 marks)

(c) A consultant has suggested that Graffoff should be able to completely fund its proposed organic expansion (at a cost of $500,000) through internally generated sources of finance.

Evaluate this claim. (8 marks)

(25 marks)

4 World Engines (WE) is one of the largest producers of aircraft and ship engines in the world. It has assets in excess of $600bn. It is currently considering improvements to its marine engine production facilities. These improvements include the introduction of specialist hardware and software engine testing technology. Two companies have been shortlisted for supplying this technology.

Amethyst is a well-established company whose product provides sophisticated testing facilities and costs $7m. The software that supports the product is written in a conventional programming language. The solution is widely used, but it is relatively inflexible and it has an out-of-date user interface. Amethyst has been trading profitably for 20 years and currently has an annual turnover of $960m.

Topaz is a relatively new company (formed three years ago) whose product is more expensive ($8m) but it offers significant advantages in high volume performance and stress testing. It has a modular software design that allows it to be easily maintained and upgraded. It is written in a relatively new powerful programming language and it also has an attractive and contemporary user interface. Topaz currently has a turnover of $24m per year. Some WE executives are concerned about purchasing from such a young, relatively small company, although externally commissioned credit reports show that Topaz is a profitable, liquid and lightly geared company.

On a recent evaluation visit to Amethyst, WE's complete evaluation team of five people, including the financial specialist, were killed when their aircraft crashed on its approach to landing. It was a small, 12 seat commuter aircraft that was flying the WE team on a short 100 km flight from the international airport to a small rural airport close to Amethyst's base. It later emerged that small commuter airlines and aircraft were subject to less stringent safety procedures than larger aircraft used by established airlines.

Later that year, one of the divisional directors of WE was given responsibility for picking up and running the testing technology evaluation project. He has found the following table (Figure 1) produced by the financial specialist in the evaluation team who was killed in the air crash. The divisional director recalls that these returns were based on 'tangible benefits resulting from the two options. The returns reflect the characteristics of the two products. Topaz produces better returns if demand for testing is high, but is less effective in low demand circumstances. This is a reflection of the fact that the two solutions differ slightly in terms of their functional scope and power'.

Figure 1: expected returns for three demand and supplier combinations.

Option	Supplier	IF High demand	IF Low demand
A	Amethyst	$3m per annum	$0·5m per annum
B	Topaz	$4m per annum	$0·1m per annum

The divisional director also recalls a workshop convened to consider future market demand.

'Demand in the marine industry is currently affected by global economic uncertainty and it is increasingly difficult to predict demand. I remember that we were also asked to estimate demand for our marine products for the next six years. We eventually came up with the following figures, although it was relatively hard to get everyone to agree and debate at the workshop became a little heated'.

– High demand for six years: probability $p = 0{\cdot}4$
– Low demand for six years: probability $p = 0{\cdot}4$
– High demand for three years, followed by low demand for three years: probability $p = 0{\cdot}2$

These figures are confirmed by a document also recovered from the air crash site. 'As I recall', said the divisional director, 'the financial specialist intended to develop a decision tree to help us evaluate the Amethyst and Topaz alternatives. However, there is no evidence that he ever constructed it, which is a pity because we could have taken the procurement decision on the basis of that decision tree'.

Required:

(a) **Develop a decision tree from the information given in the scenario and discuss its implications and shortcomings.**

Ignore the time value of money in your analysis. (9 marks)

(b) The divisional director suggests that the procurement decision could have been taken on the evidence of the decision tree.

Discuss what other factors (not considered by the decision tree analysis) should also be taken into consideration when deciding which option to select. (6 marks)

(c) WE executives are concerned about the risk of Topaz, as a relatively new company, going out of business. They have also expressed concern about the loss of the evaluation team in a fatal accident and they believe that this should lead to a review of the risks associated with employee travel.

Discuss how EACH of the above risks (supplier business failure and employee travel) might be avoided or mitigated. (10 marks)

(25 marks)

End of Question Paper