
Answers

1 (a) Power of the Sun (POTS) Co

The growth of the EA Group (EA) was largely made possible by the profits produced by POTS Co in the decade 1995–2005. It provided the funding for such acquisitions as ENCOS and Neach Glass. Since 2005, the company has become steadily less profitable. Gross profit has fallen in each of the last four reported periods (from 25% to 21%). Net profit has fallen in line (from 11.04% to 7.00%) and is now less than half that of the company's heyday. Market growth has slowed considerably as alternative forms of energy have become available. However, POTS market share remains high as many of its competitors have either ceased business or scaled down their operations. In the last two years, when the market has grown by only 0.5%, the company has increased its market share from 25% to 30%. In Boston Box terms, POTS is probably a cash cow, with its high market share and presence meaning that it should be able to maintain unit costs below that of its competitors. However, there is concern within the Group that the company is being neglected and this is being reflected in its profitability. The best managers have been taken out of the company to work in new acquisitions and this has had a demoralising effect within the company. There is also evidence that the brand has grown tired and is not well recognised or respected. This is probably one of the problems with the cash cow. How can managers in the company be motivated when they see their hard-earned profits invested elsewhere in the Group? If EA is still committed to solar energy as an important energy source, then it would probably be beneficial for it to revisit the brand, review its operation and publically reaffirm its commitment to it.

Neach Glass

Neach Glass was an important supplier of POTS Co in the latter's formative years. The managing director, Kevin Neach, became a close personal friend of Ken Nyg, the managing director of POTS (and later the CEO of EA Group). When Neach was on the brink of going into administration it was purchased by EA to preserve the supply of high quality glass. It also allowed Ken Nyg to help out a personal friend. However, in the past five years substantial financial investment and the transfer of some of POTS' best managers have failed to improve performance. Although market share has increased in the last four years (from 7% to 9%), Neach remains a relatively small player in a declining market (reduced by 2% in the last year). Gross and net profit margins are improving (gross profit from 16.98% to 18.26%; net profit from 7.14% to 9.07%) but, in terms of performance within the Group, they remain stubbornly low. Despite using some of the Group's best managers, net profit has risen less than 2% since acquisition. In Boston Box terms the company is probably a dog. It seems to have inherent problems which the EA Group cannot solve. It was understandable that EA bought the company to preserve the supply line. But, in retrospect, this should have been a short-term response whilst POTS found a new supplier and the company should have then been sold. There are no obvious similarities between energy management and glass manufacture. Divesting this company from the portfolio remains the most appropriate response.

ENCOS

Acquiring ENCOS appeared to make sense. It was clear that other renewable alternatives to solar energy were becoming more common and that a more rounded approach to alternative energy management was required. ENCOS had expertise in energy control systems, but had little marketing expertise and lacked contacts with the large public sector organisations that were seeking to install such systems. EA could bring this knowledge to the company, together with more experienced managers and a higher profile. The acquisition appears to have been successful. It has an increasing market share (19% to 25.93%) in a growing market (15.71% growth in the four years under consideration). Furthermore, the growth of the company is outstripping the growth of the market. Gross and net profit margins are both growing (net profit margin up from 12.41% to 15.95% in the four years under consideration, gross profit up from 19.17% to 23.81%). In absolute terms, these returns are the highest of the companies considered here and net profitability continues to grow disproportionately, suggesting that operating costs appear to be falling. In Boston Box terms the company is a potential star, although further information would be required to confirm this. It has clear synergy with POTS and EA appear to have brought significant competencies to bear. It could be argued that it is performing much better under EA's guidance than it would have as an independent company.

Steeltown Information Technology

If the industry Steeltown Information Technology is competing in is defined as 'public sector technology', then it seems reasonable to suggest that the potential market growth is relatively high. The present government is committed to privatising non-core services, so it can be expected that many councils will follow the example of Steeltown City Council and outsource information technology. It could be argued that Steeltown Information Technology enjoys a very high market share in this new sector, so again potentially qualifying (in Boston Box terms) as a star. No conventional financial figures are available and although the cost plus contract agreed with the council does mean that profits will be reported for, at least, the last five years, these will be relatively modest. The real question with this acquisition is whether it makes sense. EA does have experience of gaining contracts within the public sector, but in energy and control technology, not information technology and systems. It has no experience of acquiring a public sector organisation and creating the degree of change required to move its culture to a profit-driven private sector company. Overall, EA is trying to broaden its product base, and the acquisition of Steeltown Information Technology is its vehicle for pursuing this strategy. Acquisition is an acknowledged way of entering a new market, but usually the acquired company is established in that market, which is not the case with the newly formed Steeltown Information Technology. Whether the perceived synergies with ENCOS will emerge is debateable. The two companies work in different markets. ENCOS is focused on technical control systems in the energy sector. In comparison, Steeltown Information Technology develops commercial information processing systems in a public sector environment. The drivers are quite different. ENCOS is focused on complex mathematical algorithms with little user intervention. Steeltown Information Technology deals with developing systems for end users who have difficulty in both defining and implementing the systems they commission.

- (b) The issues explored in this question are four of the eight contextual factors, identified by Balogun and Hope-Hailey, which significantly influence strategic change.

Time refers to the amount of time available for EA to implement the changes at Steeltown Information Technology. In some circumstances, time is a very critical factor, because the perilous financial nature of the organisation requires action to be taken quickly to arrest a decline in turnover or profitability, or indeed just to ensure its short-term financial viability. This was the situation at Neach Glass when it was acquired by EA. However, at Steeltown Information Technology the ten year contract with the city council, only reviewed after five years, means that there is no obvious need for the speedy implementation of change. Sufficient profitability is guaranteed for the next five years to maintain present levels of resources at Steeltown Information Technology and this, potentially, gives EA a long elapsed period to implement the changes that they envisage.

The *Scope* of change can be considered as either largely realignment, or largely transformational. Realignment can usually be accommodated within the current culture of the organisation, whilst transformational change requires a significant cultural shift. It seems reasonable to suggest that the change at Steeltown Information Technology will be transformational. Current work is inwardly focused, budget rather than profit-driven, run by managers with little experience of the private sector. There will have to be a fundamental change in the core assumptions of the organisation. Fortunately, there is no need to quickly implement these changes and so an *incremental* approach to change can be adopted. In the Balogun and Hope Hailey model (adapted by Johnson, Scholes and Whittington) this suggests an *evolutionary* approach to change, where paradigm change is required, but over a relatively long time period.

Capability refers to what experience there is of managing change in the organisation. Does the organisation have managers who have successfully managed change in the past? Is the workforce used to change and have they readily accepted changes in their work practices? In the context of Steeltown Information Technology, evidence suggests that employees have little experience of change. In fact, established work practices written into trade union agreements have tended to restrict change and this is one of the reasons why the city council decided that they wanted to separate off the information technology department. Employees have been very concerned and anxious throughout the whole process of outsourcing, from the initial decision, through tender evaluation, to agreeing the sale of the organisation to EA. On the other hand, EA does have experience of implementing change in the organisations that they have acquired. This is probably one of the competencies it perceives that it is bringing to Steeltown Information Technology. However, it has to be recognised that this capability has not appeared to be successful at Neach Glass and so some concern might be expressed about the validity of such a claim.

Readiness for change concerns the organisation's attitude towards change. Is it likely to embrace it or is there widespread opposition to change within the organisation or, indeed, do significant pockets of resistance exist? There is little doubt that, initially, there is evidence that there was considerable opposition to change. However, once the proposal was agreed and the sale made to EA, there appears to have been a greater acceptance of the need for change. Perhaps it is best illustrated by the manager who stated that 'he was against outsourcing in principle, but now the sale has been agreed, let's get on with it'. The resignation of the IT director and his deputy has removed a significant pocket of resistance to change and it should make EA's task easier.

- (c) Benchmarking is an attempt to assess the relative performance of an organisation. It is understandable that EA wants to benchmark Steeltown Information Technology. Although the contract with the city council is guaranteed for at least the first five years, it is important for EA to understand the performance of the organisation it has bought and the opportunity for driving out improvements and, hence, profitability.

There has been a tendency for organisations to increasingly attempt to benchmark themselves against the industry or sector they compete in, rather than against their historical performance. However, such historical benchmarking was traditionally used when Steeltown Information Technology was part of the City Council. Examples given in the scenario are the reliability of software as measured by reported faults and the satisfaction of users as measured by internally developed and analysed questionnaires. This evidence suggests that the software produced by the organisation is becoming more reliable. However, this may reflect the fact that fewer new systems were developed in the past two years as the council arranged for the technology department's transition to the private sector. Established software tends to have fewer faults than recently released software. Furthermore, the measure is an absolute one, not a relative one. The apparent improvements in user satisfaction may also reflect the hiatus associated with the transition from public to private sector. Furthermore, the overall figures do not seem very high even though the questions were set, collected and analysed by the technology department. In general, externally measured satisfaction surveys are to be preferred.

Benchmarking against competitors is problematic in the context of Steeltown Information Technology because of choosing what sector to compare it with. It is possible to make comparisons, using published government statistics, with other public sector organisations and indeed it seems to compare relatively well, reporting greater user satisfaction and software reliability. However, again these figures have to be treated with care. Did the user satisfaction surveys in the other councils use the same assessment criteria? Now that it has been privatised, the uniqueness of the Steeltown Information Technology experiment makes it almost impossible to find IT companies providing exclusive services to a public sector client against which it might be benchmarked. EA has suggested benchmarking it against the performance of ENCOS. However, the technology it provides and the nature of the client it serves make such comparisons very tenuous. The focus of development has been quite different. ENCOS reports on profit per contract, but Steeltown Information Technology currently only has one contract and is unlikely to have any relevant data, as profitability was not an objective of the organisation. In any case, a major concern with such industry comparisons is that the whole industry might be performing badly and, in some circumstances, losing out to industries or technologies that can satisfy customers' needs in a different way. For example, poor performing companies providing bespoke software solutions may lose out to an organisation providing a standard off-the-shelf software package solution.

The shortcomings of industry norm comparisons have encouraged organisations to seek best practice wherever it can be found. Johnson, Scholes and Whittington comment that 'the real power of this approach is ... shaking managers out of the mindset that improvements in performance will be gradual as a result of incremental changes in resources or competencies'. They give an example of a police force studying a call centre as a way of improving their response to emergency telephone calls. However, software development is quite specific and it will be difficult to think of any appropriate, innovative comparisons.

Finally, benchmarking has been criticised on a number of accounts. Firstly, it can lead to a situation where you get what you measure, which may not have been the intended strategic outcome. If the strategy is flawed, then the benchmarking will encourage the organisation to continue, perhaps even accelerate, in the wrong direction. For example, a focus on measuring the certification of staff is only valid if there is a proven causal link between certification and software quality.

Secondly, since benchmarking compares inputs, outputs or outcomes, it does not, itself, identify the reasons for good or poor performance. The benchmark does not directly compare competencies. As mentioned earlier, improvements may be due to external environmental factors, not directly linked to what the organisation is striving to achieve.

Although benchmarking seems superficially attractive, it appears quite difficult to use effectively at Steeltown Information Technology. EA might be better focused, in the short term, on successfully implementing change and improving employee motivation and processes rather than trying to establish and measure sensible benchmarks.

- 2 (a) Many issues will need to be considered in the formulation of a strategy for the estate. However, in the context of the scenario, special attention will have to be paid to the expectations of stakeholders, to external environmental factors beyond the control of the estate and to the strategic capabilities of the estate itself. These are now considered in turn.

Expectations of stakeholders

Any proposed strategy will have to take into account the expectations of many stakeholders, some of which have conflicting objectives. From an internal perspective, the strategy has to take into account the objectives of volunteers who make up 90% of the workforce. Any strategy that alienates volunteers may leave the charity unable to maintain the estate or meet its basic operational obligations. Volunteers have different objectives to a paid workforce and these needs have to be understood. Replacing volunteers is not as straightforward as replacing a paid workforce, where scarce labour can be attracted through improved pay and conditions.

Most organisations have relatively straightforward relationships with their customers. Providing a service or product to one customer rarely conflicts with offering a service or product to another. Where it does conflict, for example in providing audit and consultancy services, a supplier can usually elect not to supply the customer, who then looks elsewhere for a similar service. In the case of Moor Farm, potential customers do conflict. There are documented examples of cyclists clashing with walkers and dog walkers with farmers. Access to the land is free (a stipulation of the charitable bequest) and so it is difficult to exclude potential customers. Consequently, a strategy has to be developed that is sensitive to the conflicting needs of customers, within the constraints of the charitable bequest.

Finally, the Moor Farm estate also surrounds two villages where private homeowners are angry about the increasing number of visitors to certain parts of the estate. Attractions have been created, causing traffic problems. As well as having a moral responsibility to these homeowners, the estate also depends, to some extent, on rental income from some of the houses in these villages. Again, residents need to be considered in the definition of the estate's strategy.

External environmental issues

The estate needs to continually scan the external environment to identify issues that might affect its situation. Strategy may have to be developed to either exploit or reflect these external changes, most of which are outside the control of the estate. At best, it can only lobby those responsible for creating these influences.

In the scenario, mention is made of a changed political landscape where government funding is to be reduced on initiatives such as tree planting, protected pasture land and rural employment. This will affect the income of the estate. Changes in weather patterns are also causing problems for the mansion that is situated in the estate. Built originally to resist cold dry weather typical of the time, it has proved susceptible to the warmer, wetter winters now experienced in this part of the country. This is causing long-term maintenance issues as the fabric of the mansion deteriorates.

Finally, the population of the country is increasingly vocal about the 'rights' of individuals. The survey suggests that individuals believe that they have a 'right to roam' on private land, even when this violates the 'rights' of others, such as farmers and other land users. The estate has to take into account this social trend and potential stakeholder conflicts in its planned strategy.

Strategic capability

Finally, the strategy has to take into account the internal resources and competencies of the estate. The estate has significant tangible resources, such as land and property. It also has a unique resource, the only landscape garden developed by James Kent in the district. This is a unique resource which the strategy should aim to exploit. There are also other internal capabilities that should be recognised. A happy, motivated volunteer workforce must be properly utilised by any strategic change, not alienated. Amongst these are volunteers with exceptional skills in land management which could be used to exploit other opportunities on similar estates in the country. Leadership style also needs to be considered. The previous manager was well-liked and successful. Any sudden change in style may cause disruption and a fall in morale. The new leader has to be

sensitive to her predecessor's leadership style, whilst building on the success of the previous leader by improving the visitor experience.

The estate has valuable and, in some cases, unique resources, which it needs to exploit with a varied set of stakeholders who sometimes come into conflict with each other. A stakeholder analysis, leading to appropriate stakeholder management policies, seems key here, and may provide some insights into how the website might be improved (part (b) of this question). One of these stakeholders, the government, needs to be particularly monitored, as their policies threaten the funding of the trust.

- (b) There is little point in having a well-designed website if it is difficult to find. The role of search engines is significant here. Moor Farm needs to be near the top of the search engine listings for search terms that are directly relevant. The estate needs to discuss what these terms might be. 'Moor Farm' is an obvious one, but searches such as 'walking in rural Cornaille' may bring in visitors who are not aware of the estate's existence. There is conflicting advice on how to structure a website to achieve a high position in a search engine listing. One fool-proof way is to buy sponsored links which are shown as such at the top of the displayed page. Some commercial organisations are dubious about the value of such links, but they seem completely appropriate in the context of a charitable estate.

Although the website is well regarded and well presented, it does not appear to have weather feeds that would avoid people coming on days when the weather was so poor that it might be dangerous, or, as in the quote, when it might spoil a family's enjoyment. The website may have a weather forecast, a feed on current conditions, and perhaps webcams showing the actual weather at a number of agreed locations. Of course, these feeds and webcams will also show good weather conditions as well, perhaps enticing people to the estate who were prevaricating about their visit.

The website currently shows information about events, but it does not allow customers to book these events. The *interactivity* of the site has to be improved, allowing customers to book and pay in advance, so that they can be sure that they will be able to attend the event and avoid the disappointment of the family who travelled 100 km only to find the event fully booked. Such a facility also has advantages for the estate. For example, it has some feel about the popularity of the event before it is run, so that the scale of the event can be altered to reflect the likely demand. Furthermore, payment is received in advance, thus improving cash flow.

Feedback from satisfied customers can be an important factor in attracting new customers. At present the site does not appear to allow visitors to post comments, photographs and recommendations. This means that an effective marketing tool, unsolicited recommendations, do not appear on the site. Comment has also been made about the enthusiasm and knowledge of the volunteers. This could be harnessed on the site by asking volunteers to write blogs, explaining what they are doing and what is going on. This could be linked through to Twitter and other social networking sites.

Finally, there is obviously a group of regular visitors to Moor Farm who wish to become more involved. As the quotation suggests 'we really want to know what is going on!'. The website can be used to develop a community that supports and promotes the estate. This could be achieved by asking users to register with their email address. They will then receive newsletters, special offers and information about forthcoming events. Special events can be offered to this community and part of the website can be set aside for members of this community. Not only will this provide the estate with valuable resource, it will also allow them to build up a marketing profile of likely visitors and, through surveys and questionnaires, continue to understand what different types of visitor want from the estate.

- 3 (a) Johnson and Scholes have identified franchising as a form of strategic alliance in their classification of methods of strategy development. In this approach, franchises are independently run businesses that would enter into a licence agreement with Graffoff to purchase training, equipment and materials in return for an exclusive geographical franchise area. The proposal is that the franchisee would buy or lease appropriate premises, not Graffoff as in Emile's organic expansion plan. Most franchises are required to make a large up-front payment, which would provide Emile with significant funds for investment or, indeed, for further dividend payments. There are also a number of avoided costs as franchisees usually pay for all the operating costs of the franchise.

Running their own business is usually sufficient to motivate the franchise owners and the motivation of any staff they employ is also their responsibility. Emile has already acknowledged that he is not a people person and so franchising neatly sub-contracts this issue. Thus, Emile could continue running Graffoff more or less as it is currently and he would avoid the problem of raising significant finance and managing a difficult period of expansion.

However, it is possible (but not inevitable) that the long-term returns to Graffoff might be lower than through directly owned or leased depots. Franchisees will take most of the profits and Graffoff will be dependent for income from materials supply and, usually, from a relatively small percentage of the franchise's annual sales specified in the licence contract. There are also important issues to consider in the appropriate selection and control of franchises. Although the initial fee will be received by Graffoff irrespective of the franchise's success, continuing income (and brand awareness) is dependent upon the success of the franchise. Graffoff has no experience in selecting appropriate franchisees, neither is there any evidence that it has systems in place to control quality and audit performance. These would be needed to ensure that the product is being used correctly and that the correct percentage of sales is being paid to Graffoff. Such systems will need investment and development and need to be in place before the franchise scheme is launched.

Furthermore, the success of franchises is often determined by the visibility of the brand. Emile himself recognises that Graffoff has a very low profile and he acknowledges that he has very little expertise in this area. Also, it would be obvious to potential franchisees that it may be difficult to maintain sales volumes once the patent has expired. Thus, there may be problems in

attracting franchisees, particularly those willing to invest a significant amount for a product which, they may consider, has a relatively short lifetime and whose brand awareness is low. Emile could address the first of these issues by employing marketing expertise and launching vigorous campaigns. He might also address the patent issue by looking at improving the product. Thus focusing on product development (what he is good at) and not business expansion, where he has little experience and interest.

Although franchising appears to reduce financial risk, it is unlikely to produce the financial returns as quickly as the internal growth option. Emile must not underestimate the time taken to draw up the licence agreement, develop systems to support the franchise and recruit and appoint franchisees. He must also accept that some franchises are likely to fail and that returns will be low in the early years of operation as the fledgling franchises seek to establish themselves as viable independent companies.

- (b) **Tutorial note:** *There are a range of strategic alliances that the candidate might consider. Two are explicitly evaluated in the model answer. However, appropriate alternatives will be given credit.*

Strategic alliances take place where two or more organisations share resources and activities to pursue a strategy. Many organisations recognise that they need to acquire materials, skills, innovation, finance or access to markets, and increasingly recognise that these may be more readily obtained through cooperation rather than ownership. The franchising option is a type of alliance, and Emile sees it as a way of funding his expansion without incurring employee motivational and management issues that he is not confident in addressing.

In terms of Graffoff, the motivation for an alliance is likely to be *co-specialisation*, where each partner concentrates on activities that best match their capabilities. Graffoff specialises in product design and product development. Its weaknesses, in the context of the planned expansion, appear to lie in marketing, retail and finance. Franchising has already been considered as a type of alliance. Another type of alliance that Emile might consider is a *joint venture*, where a new organisation is set up jointly owned by its parents. It is often used by companies to enter a new geographical market where one of the companies provides the expertise and the other local knowledge and labour. This is not the case here, where expansion is within the country. Furthermore, there is no obvious candidate for a joint venture and, even if a partner could be found, it would take time to establish a contractual relationship. Emile, as an entrepreneur, might also find it difficult to work within a framework of a joint venture where he would need to cede a certain amount of control.

In a *network arrangement*, two or more organisations work in collaboration without a formal relationship. The Equipment Emporium already has 57 superstores in the country selling tools and machines. Emile rebuffed their initial advance offering to sell his product in the store, because of the need for mandatory product training. However, he might return to them and offer to set up small in-store outlets where his product could be demonstrated and its services sold. The Equipment Emporium would be paid a fee, but such an approach would, in essence, be the same as his organic growth plan but without the need for large scale capital investment. Furthermore, the locations already exist and are backed up by significant marketing expertise and high brand awareness. This kind of *opportunistic alliance* is a quick way of achieving the expansion that Emile requires and it draws on both partners' expertise. There is a concern in such a loose arrangement that one partner might steal the other's ideas or products, but that seems unlikely here. Graffoff is not interested in becoming a general machine superstore and The Equipment Emporium is primarily focused on products not services. From Emile's perspective, this *opportunistic alliance* provides a potential way of piloting his proposed organic growth expansion strategy before moving into dedicated premises or, indeed, offering the outlets to franchisees.

- (c) The consultant has suggested to Emile, that the company has internal sources of finance it can exploit to fully meet its required funding for organic growth. Typical sources of internal finance are retained profits, tighter credit control, reduced inventory and delayed payment to creditors. Given that Emile is committed to high dividend payments and that no information is given about inventory, two of these are relevant here.

Tightening up credit control makes it possible to release money for funding. The average settlement period for receivables can be calculated as $(\text{trade receivables}/\text{sales revenue}) \times 365$. For the second year trading this is $(260/1,600) \times 365 = 59$ (59·31) days. Thus, customers take, on average, 59 days to pay their debts, despite agreeing to a 30 day payment term.

Reducing this to the agreed 30 days would realise about \$128,500, which could be used to invest in the business. Reducing it to 40 days (the sector-wide standard) would realise approximately \$84,500.

However, these gains would only be achieved through implementing better procedures in accounts receivable. Emile realises that this section is poorly motivated and under-staffed. Thus some of the proposed savings may be offset by increased staffing costs. He is also very sensitive to upsetting his customers and so the need to strictly adhere to payment terms may create initial difficulties and strain customer relations. He will have to refrain, in future, from intervening in the debt collection process, and not offer the generous terms of payment that currently undermine the debt collection efforts of the accounts receivable department.

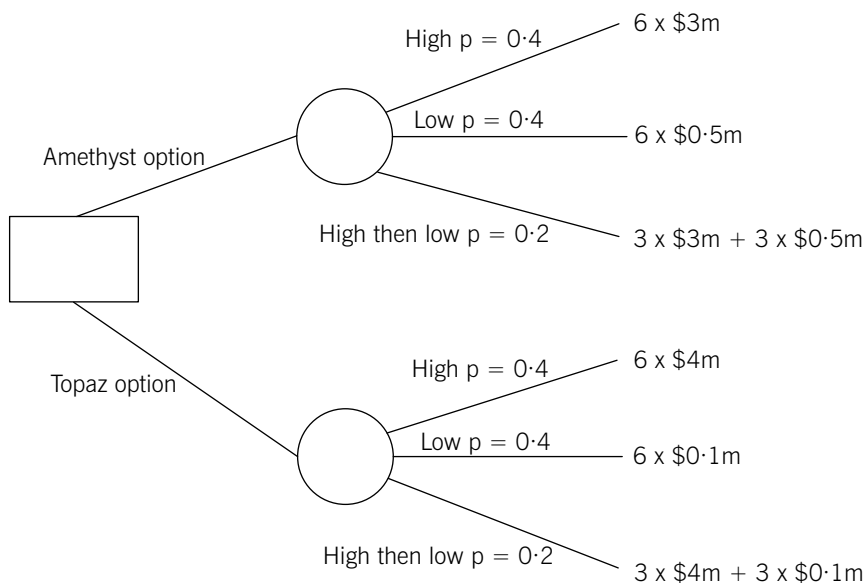
This approach might be allied to delaying payments to creditors. Given the limited information, a crude estimate of the average settlement period for payables (creditors) can be calculated by $(\text{trade payables}/\text{cost of sales}) \times 365$. In this instance this is $(75/1,375) \times 365 = 20$ (19·91) days. Thus Graffoff pays its creditors within 20 days, whilst 40 days is common in this sector. Bringing the company in line with this practice would realise up to a further \$75,500 which again could be used for investment. There is no suggestion that this will cause a problem. The current fast payment of invoices seems to reflect the zeal of the administrator in accounts payable, rather than any policy of the company. If Graffoff elects to pay within 30 days (the normal credit terms for the country), this will still realise about \$38,000.

This means that up to approximately \$204,000 could be raised by Graffoff if customers adhered to payment terms and suppliers accepted sector-wide practice. This would result in a short-term, one-off acceleration of cash inflow.

Finally, the acknowledged problems with credit control might also cause Emile to consider factoring the company invoices. Debt factoring involves a third party taking over the businesses debt collection. Most factoring companies are willing to pay 80% of approved trade receivables in advance. At current values, this should lead to an immediate cash input of \$208,000 and this might be an attractive alternative to trying to manage receivables internally. It might also address the problems of motivation and staffing in the accounts receivables section. Factoring might be very valuable in a period of expansion, improving cash flow and removing, from the company, responsibility for credit investigation and debt chasing.

Whichever options are chosen, internal finance resources cannot completely raise the \$500,000 required for the organic growth plan and so the consultant is incorrect in his assertion. Emile would have to seek external sources of finance to make up the shortfall. However, the amount raised through internal sources may be sufficient to effectively finance either the franchising option or the building of an opportunistic alliance with The Equipment Emporium.

4 (a) A decision tree for the information in the scenario is given below.



The expected value of Amethyst is:

$$(\$18m \times 0.4) + (\$3m \times 0.4) + (\$10.5m \times 0.2) = \$10.5m \text{ MINUS cost of } \$7m = \$3.5m$$

The expected value of Topaz is:

$$(\$24m \times 0.4) + (\$0.6m \times 0.4) + (\$12.3m \times 0.2) = \$12.3 \text{ MINUS cost of } \$8m = \$4.3m$$

The analysis suggests that the Topaz option should be chosen.

This decision tree is based on the information available at this point in time. The probabilities set in the workshop are subjective and are not based on an analysis of past statistical data. As the divisional director recalls in the scenario, 'it was relatively hard to get everyone to agree and debate at the workshop became a little heated.' The sensitivity of the outcome to slight alterations in probability assessments should be undertaken. It is also unlikely that the predicted returns will be completely accurate. The basis of these estimates is not given, but a further sensitivity analysis, this time focusing on returns, would be valuable. The predicted annual return of Topaz (\$4m per annum) under conditions of high demand needs particular attention. This value (and its associated probability) contributes about 78% of the total expected value of this option. If the annual returns are overestimated by 10% (say \$3.6m per annum not \$4.0m), then this ceases to be the best option.

Software prices may also be negotiable, and changes in prices and structure may also need to be experimented with. The decision tree will have been just one input into the procurement decision.

(b) As highlighted in the first part of the answer, the decision tree is only one input to the procurement decision. The scenario states that the returns used in the decision tree analysis were based on tangible benefits. The business case for each option would also have to state *intangible benefits* offered by each option. For example, the Topaz option offers a more contemporary user interface and this may provide intangible benefits associated with a better user experience. Intangible benefits need to be identified and listed for each option.

Importantly, the risk associated with each option will also have to be considered and documented. An element of this is reflected in the scenario. Amethyst, a well-established supplier, is perceived as a less risky option than the relatively newly formed, smaller Topaz. The relative supplier risk is not reflected in the decision tree. This risk, and other risks identified for each option, must be documented in the business case.

It may also be necessary to assess the relative impact on the organisation of each option. The options appear to differ in their functional scope and power and these differences might have disproportionate effects on the degree of change necessary within the organisation to accommodate the solution and the effect that each option has on organisational processes and the people with responsibility for those processes.

Finally, an effective selection process should allocate appropriate weight to features associated with the supplier of the solution. This is not just financial robustness, but also factors such as the availability of support, the presence and effectiveness of a user group, process certification etc. Similarly, the product needs to be assessed for functional fitness and for overall product characteristics, such as usability, flexibility and its overall design philosophy. We are told that Topaz is modular and up-to-date and this may be in its favour, but it will not be reflected in the decision tree analysis.

- (c) The risk assessment for Topaz has documented concerns about the long-term viability and stability of the supplier. Current financial analysis reveals a profitable, liquid and lowly geared company. However, the company is relatively young and it has a very small turnover compared to WE. It also has to be recognised that WE intends to enter a long-term relationship with this supplier. Hence the continuing success and viability of Topaz is important to WE. A *risk avoidance strategy* would be to avoid purchasing from small, newly-established companies. Hence Topaz would not be considered.

Should this risk actually take place, and Topaz goes out of business, then its impact may be mitigated by the following:

- The software used in the product is perceived to be innovative, modular and up-to-date. WE should ensure that this software is lodged in an *escrow* agreement. In such an agreement the source code is stored with an independent third party. If Topaz goes out of business, then their customers (including WE) have access to the software source code which should allow them, or their appointed agents, to maintain and support it.
- WE should also consider establishing in-house expertise in the programming language used by the Topaz product. This could have two objectives:
 - (1) As a basis for developing a long-term in-house software application that could be used to replace the software elements of the product offered by Topaz. The team could also be used to develop other significant applications required by the company. The software is contemporary and powerful and so other applications within WE should not be difficult to find.
 - (2) To provide a basis for enacting the escrow agreement if Topaz goes out of business. Access to the source code is particularly appropriate if an in-house team is able to pick up the software, maintain it and develop it.
- WE is a very significant company, with considerable assets. It should be relatively easy for it to maintain funds which could be used for purchasing Topaz should it run into difficulties. Many large companies take this approach as it secures software supply and potentially severs the supply, in this case, of the software to competitors.

WE need to maintain a contingency plan for moving to an alternative supplier or an in-house team. This contingency plan could be linked to monitoring the financial performance of Topaz. Many financial organisations offer a continuous monitoring facility to ensure that suppliers are not just evaluated at the point of purchase, but throughout the subsequent business relationship. This is particularly important when the supplier's application is business-critical to the customer and any interruption in supply would have significant implications.

The key lessons learned from the fatal air crash should result in WE developing risk avoidance or mitigation actions to make sure that such catastrophic events do not happen again, or, if they do happen, that they have less impact on the organisation. Potential actions include:

1. Not permitting teams to travel together – the complete evaluation team was in the aircraft. Many organisations insist that key employees do not travel together to conferences and meetings.
2. Looking for safer transport alternatives – the fatal journey was on a small commuter plane travelling a distance which might have been undertaken by car or train. The riskiness of different ways of travelling needs to be considered. Small commuter airlines and aircraft may have less stringent safety procedures than larger, mainstream airlines. Again, this would have to be investigated.
3. Eliminating unnecessary travel – was the journey necessary? Encouraging employees to work from the home or the office reduces the risk of travel accidents by avoiding travel in the first place. The company might not only consider electronic meetings as a way of cutting costs, but also as a way of reducing the chance of fatal travel accidents.
4. Finally, ensuring that all documentation is up-to-date and self-explanatory, so that it can be picked up easily by other employees of the organisation, hence avoiding the situation described in the scenario where the divisional director has to piece together fragments of documentation left by the unfortunate team.

- 1 (a)** 1 mark for each relevant point up to a maximum of 5 marks for analysing the strategic position of each company and 1 mark for assessing what to do with each company as part of the portfolio of the EA Group. Four companies in the portfolio giving a total of 24 marks.
- The mark allocation may include, for each company, where appropriate:
- Percentage analysis of decline/growth: 0.5 marks
 - Market share calculation: 0.5 marks
 - Market growth calculation: 0.5 marks
 - Correct portfolio classification: 0.5 marks
- Professional marks are allocated as follows:
- Up to 2 marks for the clarity of the answer
 - Up to 2 marks for the structure of the answer
- (b)** 1 mark for each relevant point up to a maximum of 12 marks
- (c)** 1 mark for each relevant point up to a maximum of 10 marks
- 2 (a)** 1 mark for each appropriate point up to a maximum of 15 marks
- (b)** 1 mark for each relevant point up to a maximum of 10 marks
- 3 (a)** 1 mark for each appropriate point up to a maximum of 10 marks
- (b)** 1 mark for each relevant point up to a maximum of 7 marks
- (c)** 1 mark for each relevant point up to a maximum of 8 marks
- The evaluation of the claim may include:
- Receivables calculation: 1 mark
 - Value of reducing receivables to norm: 1 mark
 - Creditors calculation: 1 mark
 - Value of increasing this to norm: 1 mark
- 4 (a)** Up to 5 marks for the decision tree analysis and decision tree diagram
- Typically this will include (up to a maximum of 5 marks)
- Diagram of the decision tree: 1 mark
 - Expected income from Amethyst: 1 mark
 - Expected value of Amethyst: 1 mark
 - Expected income from Topaz: 1 mark
 - Expected value of Topaz: 1 mark
 - Conclusion (Topaz): 1 mark
- Other marks (up to 4 marks) including subjective nature of probabilities, sensitivity analysis, only part of the procurement decision
- (b)** 1 mark for each relevant point up to a maximum of 6 marks
- (c)** 1 mark for each appropriate point up to a maximum of 5 marks for software vendor issues, 1 mark for each appropriate point up to a maximum of 5 marks for employee travel issues – maximum of 10 marks for this sub-question