Answers

Tutorial note: *These model answers are considerably longer and more detailed than would be expected from any candidate in the examination. They should be used as a guide to the form, style and technical standard (but not in length) of answer that candidates should aim to achieve. However, these answers may not include all valid points mentioned by a candidate – credit will be given to candidates mentioning such points.*

1 (a) Strengths

(1) Strong brand identity particularly with the citizens of Oceania. A quoted recent survey suggested that 90% of people preferred to travel ONA for regional flights and 70% preferred to travel ONA for international flights. 85% of respondents were proud of their airline and felt that it projected a positive image of Oceania.

(2) ONA have an exemplary safety record. There have been no fatal accidents since its formation in 1997.

(3) Excellent customer service recognised by the Regional Airline of the Year award and the Golden Bowl as provider of the best airline food in the world.

(4) High business class load factors, particularly in the regional sector. This appears to suggest that ONA are particularly strong in the business market.

(5) Relatively strong cargo performance. In the period 2004–2006 when passenger air travel revenue had increased by 12% (and air travel to Oceania by 15%) and cargo revenue by 10%, ONA increased cargo revenue by 11%, just above the industry average.

(6) Financially, although the net profit margin has fallen (see weaknesses), the gross profit margin remains relatively stable. Hence the cost of sales (excluding wages, salaries and financing) has moved roughly in line with revenue. The gross profit margin for 2004 is 37·04% and for 2006 it is 36·98%, very little change.

(7) The settlement of debt is an important issue for an organisation. The average settlement period for receivables is concerned with how long it takes for customers to pay the amounts owing. This is low at ONA (29 days) and reducing, suggesting effective credit control and an industry where many customers pay before they are able to use the service. It is likely that much of the debt is tied-up with commission sales and cargo services.

(8) The gearing ratio measures the contribution of long-term lenders to the long-term capital structure of the business. Gearing for ONA remained relatively stable during the period 2004–2006. It stood at 71·13% in 2006, a marginal increase on the 2004 figure of 71·05%.

(9) Conveniently scheduled flights to business travel for the regional sector. Allows business to be conducted in one day, with a flight out in the morning and a flight back in the evening. Most cities in this sector also receive an extra flight in the middle of the day.

(10) Highly motivated, courteous employees.

Weaknesses

(1) High cost base. The most tangible evidence of this is the average pilot salary given in **Table 1**. Pilot salary costs appear to be over 10% higher than their competitors. The scenario also suggests that ONA pay above industry average salaries, offer excellent benefits (such as free health care) and have a generous non-contributory pension scheme. Other hints of high costs (insourced non-core activities such as catering, highly unionised) are also mentioned in the scenario. High costs are also hinted at in **Tables 1** and **2**, with ONA having relatively older aircraft, presumably requiring more maintenance, and lower utilisation hours than their competitors. The average wage of an employee rose by about 7% during the period under consideration.

(2) Poor growth rate. The scenario makes the point that in the period 2004–2006, passenger air travel revenue has increased world-wide by 12% (and revenue from air travel to Oceania by 15%). However, ONA only recorded a 4·6% increase in passenger revenue in this period.

(3) Low frequency of flights in the international sector, where there is on average only one flight per day to each destination. This makes it very difficult for the airline to gain any operational economies of scale in this sector.

(4) The mixed airliner fleet is largely a result of the merger of the two airlines that formed ONA. The airframes for the bulk of the fleet are from two competing manufacturers (Boeing and Airbus). The information given in **Table 1** suggests that the two aircraft types (Boeing 737 and A320) are very similar. The need to service and maintain two aircraft types creates an unnecessary cost.

(5) Although the airline offers on-line booking, it does not currently offer on-line check-in. Hence overheads still remain in the embarkation process. Business travellers particularly favour on-line check-in as it means they can leave their homes and meetings later. In 2006 the *New Straits Times* reported a recent global survey that showed that air travellers spend an average of four days in a year in queues at airline check-in counters.

(6) **Table 2** shows below average load factors in standard class seating. This is particularly significant on international sector flights.

(7) Return on capital employed (ROCE) and return on ordinary shareholders funds (ROSF) are important measures of profitability. Both of these ratios show a significant fall in 2006. The fall can be largely attributed to a decline in net profit due to increases in costs outstripping increases in revenue.

(8) The reduction in profitability is also revealed by the net profit margin which has reduced from 12·10% in 2004 to 9·66% in 2006. However, the gross profit percentage remains relatively stable and so it appears that it is the increased cost of wages, salaries and borrowing that has caused ONA profitability problems.

(9) Efficiency ratios are used to examine how well the resources of the business are managed. The sales revenue per employee has reduced during the period, perhaps suggesting a reduction in productivity that needs to be investigated. In contrast, the average settlement period for payables shows a marginal rise. Trade payables provide a free source of finance, but extending the average settlement period too far can lead to loss of goodwill with suppliers. ONA already have a high settlement period for payables, although this may be typical in this industry.

(10) Liquidity (both current and acid test ratios) fell significantly in 2006. This may affect the ability of the company to meet its short-term obligations.

(11) Finally, the interest cover ratio has declined considerably during the period covered in **Table 1**. In 2004, it was 5·44, but by 2006 it had declined to 3·73. The lower the level of profit coverage, the greater the risk to lenders that interest payments will not be met.

Credit will also be given to points which are discernible from the scenario but have not been covered above. The extent of unionisation and the percentage of sales made through commission sales might be thought of as strengths or weaknesses depending upon perspective.

(b) (i) A 'no frills' strategy combines low price with low perceived benefits of the product or service. It is primarily associated with commodity goods and services where customers do not discern or value differences in the products or services offered by competing suppliers. In some circumstances the customer cannot afford the better quality product or service of a particular supplier. 'No frills' strategies are particularly attractive in price-sensitive markets. Within the airline sector, the term 'no frills' is associated with a low cost pricing strategy. In Europe, at the time of writing, easyJet and Ryanair are the two dominant 'no frills' low-cost budget airlines. In Asia, AirAsia and Tiger Airways are examples of 'no frills' low-cost budget carriers. 'No frills' strategies usually exist in markets where buyers have high power coupled with low switching costs and so there is little brand loyalty. It is also prevalent in markets where there are few providers with similar market shares. As a result of this the cost structure of each provider is similar and new product and service initiatives are quickly copied. Finally a 'no frills' strategy might be pursued by a company entering the market, using this as a strategy to gain market share before progressing to alternative strategies.

(ii) 'No frills' low-cost budget airlines are usually associated with the following characteristics. Each of these characteristics is considered in the context of Oceania National Airlines (ONA).

– Operational economies of scale
Increased flight frequency brings operational economies and is attractive to both business and leisure travellers. In the international sector where ONA is currently experiencing competition from established 'no frills' low-cost budget airlines ONA has, on average, one flight per day to each city. It would have to greatly extend its flight network, flight frequency and the size of its aircraft fleet if it planned to become a 'no frills' carrier in this sector. This fleet expansion appears counter to the culture of an organisation that has expanded very gradually since its formation. **Table 1** shows only three aircraft added to the fleet in the period 2004–2006. It is likely that the fleet size would have to double for ONA to become a serious 'no frills' operator in the international sector. In the regional sector, the flight density, an average of three flights per day, is more characteristic of a 'no frills' airline. However, ONA would have to address the relatively low utilisation of its aircraft (see **Tables 1** and **2**) and the cost of maintenance associated with a relatively old fleet of aircraft.

– Reduced costs through direct sales
On-line booking is primarily aimed at eliminating commission sales (usually made through travel agents). 'No frills' low-cost budget airlines typically achieve over 80% of their sales on-line. The comparative figure for ONA (see **Table 2**) is 40% for regional sales and 60% for international sales, compared with an average of 84% for their competitors. Clearly a major change in selling channels would have to take place for ONA to become a 'no frills' low-cost budget airline. It is difficult to know whether this is possible. The low percentage of regional on-line sales seems to suggest that the citizens of Oceania may be more comfortable buying through third parties such as travel agents.

– Reduced customer service
'No frills' low-cost budget airlines usually do not offer customer services such as free meals, free drinks and the allocation of passengers to specific seats. ONA prides itself on its in-flight customer service and this was one of the major factors that led to its accolade as Regional Airline of the Year. To move to a 'no frills' strategy, ONA would have to abandon a long held tradition of excellent customer service. This would require a major cultural change within the organisation. It would also probably lead to disbanding the award winning (Golden Bowl) catering department and the redundancies of catering staff could prove difficult to implement in a heavily unionised organisation.

Johnson, Scholes and Whittington have suggested that if an organisation is to 'achieve competitive advantage through a low price strategy then it has two basic choices. The first is to try and identify a market segment which is unattractive (or inaccessible) to competitors and in this way avoid competitive pressures to erode price.' It is not possible for ONA to pursue this policy in the international sector because of significant competition from established continental 'no frills' low-cost budget airlines. It may be a candidate strategy for the regional sector, but the emergence of small 'no frills' low-cost budget airlines in these countries threaten this. Many of these airlines enter the market with very low overheads and use the 'no frills' approach as a strategy to gain market share before progressing to alternative strategies.

Secondly, a 'no frills' strategy depends for its success on margin. Johnson, Scholes and Whittington suggest that 'in the long run, a low price strategy cannot be pursued without a low-cost base'. Evidence from the scenario suggests that ONA does not have a low cost base. It continues to maintain overheads (such as a catering department) that its competitors have either disbanded or outsourced. More fundamentally (from **Table 2**), its flight crew enjoy above average wages and the whole company is heavily unionised. The scenario acknowledges that the company pays above industry salaries and offers excellent benefits such as a generous non-contributory pension. Aircraft utilisation and aircraft age also suggest a relatively high cost base. The aircraft are older than their competitors and presumably incur greater maintenance costs. ONA's utilisation of its aircraft is also lower than its competitors. It seems highly unlikely that ONA can achieve the changes required in culture, cost base and operations required for it to become a 'no frills' low-cost budget airline. Other factors serve to reinforce this. For example:

- Many 'no frills' low-cost budget airlines fly into airports that offer cheaper taking off and landing fees. Many of these airports are relatively remote from the cities they serve. This may be acceptable to leisure travellers, but not to business travellers – ONA's primary market in the regional sector.
- Most 'no frills' low-cost budget airlines have a standardised fleet leading to commonality and familiarity in maintenance. Although ONA has a relatively small fleet it is split between three aircraft types. This is due to historical reasons. The Boeing 737s and Airbus A320s appear to be very similar aircraft. However, the Boeings were inherited from OceaniaAir and the Airbuses from Transport Oceania.

In conclusion, the CEO's decision to reject a 'no frills' strategy for ONA appears to be justifiable. It would require major changes in structure, cost and culture that would be difficult to justify given ONA's current position. Revolution is the term used by Baligan and Hope to describe a major rapid strategic change. It is associated with a sudden transformation required to react to extreme pressures on the organisation. Such an approach is often required when the company is facing a crisis and needs to quickly change direction. There is no evidence to support the need for a radical transformation. This is why the CEO brands the change to a 'no frills' low-cost budget airline as 'unnecessary'. The financial situation (**Table 3**) is still relatively healthy and there is no evidence of corporate predators. It can be argued that a more incremental approach to change would be beneficial, building on the strengths of the organisation and the competencies of its employees. Moving ONA to a 'no frills' model would require seismic changes in cost and culture. If ONA really wanted to move into this sector then they would be better advised to start afresh with a separate brand and airline and to concentrate on the regional sector where it has a head start over many of its competitors.

(c) Within the strategy clock, ONA might consider both differentiation and focus. A differentiation strategy seeks to provide products or services that offer different benefits from those offered by competitors. These benefits are valued by customers and so can lead to increased market share and, in the context of ONA, higher seat utilisation. Differentiation is particularly attractive when it provides the opportunity of providing a price premium. In other words, margins are enhanced through differentiation. Air travellers may be willing to pay more to travel with an airline that offers seat allocation and free in-flight food and drinks.

However, such a broad-based differentiation strategy may be inappropriate for ONA because of the need to service both business and leisure travellers. Consequently, the potential strategy also has to be considered in the context of the two sectors that the company perceives that it services. In the regional sector a focused differentiation strategy looks particularly attractive. Here, the strategy focuses on a selected niche or market segment. The most obvious focus is on business travel and building the company's strengths in this sector. This focus on the business traveller might be achieved through:

- Ensuring that flight times are appropriate for the business working day. This is already a perceived strength of the company. This needs to be built on.
- Providing more space in the aircraft by changing the seating configuration – and the balance between business and standard class. ONA currently has a low seat occupancy rate and a reduction in seat capacity could be borne.
- Fewer passengers in the aircraft may also lead to improved throughput times. Loading and unloading aircraft is quicker, minimising the delays encountered by the traveller.
- Providing supporting business services – lounges with fax and internet facilities.
- Speeding the process of booking and embarkation (through electronic check-in), so making the process of booking and embarkation easier and faster.
- Providing loyalty schemes that are aimed at the business traveller.

Although this focused differentiation is aimed at the business customer it is also likely that particular aspects of it will be valued by certain leisure travellers. Given the strong regional brand (people from Oceania are likely to travel ONA) and the nature of the leisure travel in this sector (families visiting relatives) it seems unlikely that there will be a significant fall off in leisure travel in the regional sector.

In the international sector, the strategic customer is less clear. This sector is serving both the leisure and business market and is also competing with strong 'no frills' competitors. The nature of customer and competition is different. A strategy of differentiation could still be pursued, although perhaps general differentiation (without a price premium) may be more effective with the aim of increasing seat occupancy rate. This sector would also benefit from most of the suggested improvements of the regional sector – providing more space in aircraft, faster passenger throughput, electronic check-in etc. However, these small changes will not address the relatively low flight frequency in this sector. This could be addressed through seeking alliances with established airlines in the continental countries that it services. Simple code share agreements could double ONA's frequencies overnight. Obviously, ONA would be seeking a good cultural fit – the 'no frills' low-cost budget airlines would not be candidates for code shares.

ONA's perception of market segmentation, reflected in splitting regional from international travel and distinguishing leisure from business appears to be a sensible understanding of the marketplace. However, it might also be useful for them to consider on-line customers and commission customers (travel agents) as different segments. Perceiving travel agents as the strategic customer would lead to a different strategic focus, one in which the amount and structure of commission played an important part.

Finally, whichever strategy ONA adopts, it must continue to review its operational efficiency. An important strategic capability in any organisation is to ensure that attention is paid to cost-efficiency. It can be argued that a continual reduction in costs is necessary for any organisation in a competitive market. Management of costs is a threshold competence for survival. ONA needs to address some of the weaknesses identified earlier in the question. Specific points, not covered elsewhere, include:

– Improved employee productivity to address the downward decline in efficiency ratios.
– Progressive standardisation of the fleet to produce economies of scale in maintenance and training. This should reduce the cost base.
– Careful monitoring of expenditure, particularly on wages and salaries, to ensure that these do not exceed revenue increases.

Candidates may address this question in a number of ways. In the model answer given above, the strategy clock is used – as it uses the term 'no frills' in its definition and so it seems appropriate to look at other options within this structure. However, answers that use other frameworks (such as Ansoff's product/market matrix) are perfectly acceptable. Furthermore, answers which focus on the suitability, acceptability and feasibility of certain options are also acceptable.

2 (a) The production of initial documentation concerning the business case and initiation of the project would have addressed many of the issues that subsequently arose in the website re-design. This documentation would typically include:

– A summary of the business justification of the project. These are the business objectives that have been defined in the business case to justify the project.
– The scope of the project, defined in terms of project objectives and ultimate deliverables.
– Constraints and targets that apply to the project.
– Project roles and responsibilities, for example; the definition of the project sponsor and the project manager. It is useful if this part of the document specifies the level up to which named individuals (or roles) can authorise:
  – The commitment of resources
  – The sign-off of deliverables
  – Changes to project objectives and deliverables
  – Changes to constraints
– Resources committed to the project
– Risks and assumptions associated with the project.

These are considered below in the context of the clothing company's website re-design project.

The business justification of the project
The MM does specify business objectives such as 'increase sales revenue' and 'improve market visibility' (see meeting 1) but these are poorly defined objectives in that they are not quantified. A formal cost-benefit analysis undertaken at the start of the project would have forced the MM to quantify how much sales would increase and by when. The MM would also have been required to document the assumptions behind these predictions and to demonstrate a causal link between the functionality of the website and sales volume. The other suggested objective, improve market visibility, also requires further specification and quantification. The MM provides no evidence of current market visibility (and what this actually means) and how its improvement will be measured. Some research is needed to quantify market visibility and to set realistic targets for its improvement. The statement of the project's business benefits is an important issue in contemporary project management. It is suggested that these benefits are kept constantly under review to ensure that the project has not strayed from its original justification. Furthermore, at the end of the project, the business benefits have to be reviewed to assess whether they have been realised. Because the MM has not specified measurable objectives in advance, the success of the project is impossible to assess. There is no benchmark to assess it against.

The scope of the project
On at least two occasions there appears to be confusion about the scope of the project. The TD originally produces a design that is too like the current site, 'We expected it to do much more' (meeting 2). However, the most significant misunderstanding about scope is between the board and the MM. It concerns the interpretation of the scope of the word 're-design'. The board appears to perceive that re-design does not include the development and implementation of the software, while the MM holds the opposite view. The scope of the re-design would have been clarified in a project initiation document.

Constraints that apply to the project
Constraints are often defined in terms of cost and time. The absence of a formal cost-benefit analysis for this project has already been recognised, so costs (and budget) were not formally agreed at the start of the project. There is also no evidence that a projected delivery time for the project was agreed at the start of the project. Indeed, it was the elapsed time, as well as the escalating cost, that first caused the board to be alarmed about the website re-design project. It also appears that the TD had technical constraints in mind which were also not articulated. These emerged in meeting 4 and caused delays documented in meetings 5 and 6. Again, technical constraints should have been documented in the project initiation document.

Project roles and responsibilities
Although it is not clearly stated, it appears that the sponsor of the project is the MM. However, at one critical point of the project the RP makes a decision to accept a design (meeting 4) which is subsequently overturned by the MM. This confusion of responsibility causes both cost and delay. If project roles and responsibilities had been properly defined, then it would have been recognised that the RP did not have sufficient authority to sign-off deliverables. Furthermore, the formal allocating of roles would have also meant that a project manager would have been nominated with the responsibility of delivering the project. In the scenario there is never any clear indication of who is playing the role of project manager and this is a major flaw.

Resources committed to the project
There is no evidence that the resources available to the project had been identified and documented at the start of the project. Problems only begin to emerge late in the project when the Board's decision to launch on 1 March prompts the TD to express concern that there are not enough developers to deliver the system on time.

Risks and assumptions associated with the project
Most project management methods suggest that risks should be formally documented and managed. Each risk is identified and its potential effect quantified. For each significant risk, avoidance actions are suggested which are steps that can be taken to prevent the risk from occurring. Mitigation actions are also defined for each risk. These are steps that can be taken to reduce the impact of the risks if they occur. Again there is no evidence to show that this has been done. As problems emerged in the project they were dealt with on an ad hoc basis. A consideration of risk at the outset of the project can lead to changes in how the project is conducted. For example, the risk of poor scoping of requirements could have prompted a more formal definition of requirements scope (an avoidance action).

Initial project structure and arrangements for management control
This is an initial project structure describing how the project will be broken down into stages with an associated list of project milestones. It is a very high-level plan which provides a context for the detailed plans that will follow. There is no evidence of such a structure in the website re-design project and so the absence of detailed planning (see below) goes unnoticed. The project initiation document might also include management control information concerning, for example, progress reporting and monitoring arrangements. If these had been defined in advance then their absence (see below) would have been clear in the actual project.

(b) Effective project management could have improved the conduct of the website re-design project in the following ways:

Detailed planning
During the delivery of the project the lack of a formal detailed plan means that there is no baseline for review and control. The absence of monitoring progress against that plan is also very evident. The meetings are events where, although progress appears to have been made, it is unclear how much progress has been made towards the delivery of the final re-designed website. Effective project management would have mandated the production of a detailed plan. There is no mention of a project plan, a critical path analysis, a Gantt chart or supporting project management software.

Effective monitoring and control
The board were not kept up to date about progress and were only alerted to potential issue when the finance director became concerned about spiralling costs. This is a failure of monitoring and control, aggravated by the fact that there is no project plan to monitor against. Effective project management would have required formal progress to the sponsor (in this case the board). Such monitoring should lead to project control, where suggested actions are considered and implemented to deal with project slippage. The planning, monitoring and controlling aspects of project management are completely absent from the scenario and so none of the usual project management monitoring and reporting structures were in place to alert the board.

Mandating of substitutes
Initial progress is hampered by the absence of key personnel at meetings 3 and 4 and the inappropriate sign-off by the RP (already discussed above) of the technical design. The requirement for the TD to produce a technical report also slows progress. These problems could have been addressed by ensuring that substitutes were available for these meetings who understood their role and the scope of their authority. Effective project management would have ensured that progress would not have been delayed by the absence of key personnel from the progress meetings.

Standards for cost-benefit analysis
The cost-benefit analysis provided by the MM is flawed in two ways. Firstly, the assumptions underpinning the benefits are not explained. There is no supporting documentation and it appears, at face value, that year four and five benefits have been greatly inflated to justify the project. Secondly, it would be usual to discount future costs and benefits using an agreed discount rate. This has not been done, so the time value of money has not been taken into account. Effective project management would have defined standards for the cost-benefit analysis based on accepted practice.

Estimating, risks and quality
The reaction of the board to the cost-benefit analysis also appears unrealistic. They appear to have suggested a budget and a timescale which does not take into account the complexity of the remaining work or the resources available to undertake it. The estimating part of the project management framework appears to be lacking. It is clear at the final meeting that the website will not be ready for launch. However, the MM decides to take the risk and achieve the imposed deadline and take a chance on the quality of the software. This decision is made against the advice of his TD and without any information about the quality of the software. Effective project management would have mandated a framework for considering the balance between risk and quality.

The MM does not inform the board of the TD's advice. The MM, like many project managers (because the MM now appears to have adopted this role) finds it politically more acceptable to deliver a poor quality product on time than a better quality product late. Unfortunately the product quality is so poor that the decision proves to be the wrong one and the removal of the software (and the resignation of the MM) ends the project scenario.

3 (a) *Inbound logistics*: Handling and storing bulk orders delivered by suppliers and stored on large pallets in regional warehouses. All inbound logistics currently undertaken by the food suppliers or by contractors appointed by these suppliers.
Operations: Splitting bulk pallets into smaller packages, packing, sealing and storing these packages.
Outbound logistics: Delivery to neighbourhood shops using locally contracted distribution companies.
Marketing & Sales: Specially commissioned signs and personalised sales literature. Promotions and special offers.
Service: Specialist in-store display units for certain goods, three monthly meeting between franchisee and representative.

(b) *Perfect Shopper* currently has a relatively short upstream supply chain. They are bulk purchasers from established suppliers of branded goods. Their main strength at the moment is to offer these branded goods at discounted prices to neighbourhood shops that would normally have to pay premium prices for these goods.

In the upstream supply chain, the issue of branding is a significant one. At present, *Perfect Shopper* only provides branded goods from established names to its customers. As far as the suppliers are concerned, *Perfect Shopper* is the customer and the company's regional warehouses are supplied as if they were the warehouses of conventional supermarkets. *Perfect Shopper* might look at the following restructuring opportunities within this context:

- Examining the arrangements for the delivery of products from suppliers to the regional warehouses. At present this is in the hands of the suppliers or contractors appointed by suppliers. It appears that when *Perfect Shopper* was established it decided not to contract its own distribution. This must now be open to review. It is likely that competitors have established contractual arrangements with logistics companies to collect products from suppliers. *Perfect Shopper* must examine this, accompanied by an investigation into downstream distribution. A significant distribution contract would probably include the branding of lorries and vans and this would provide an opportunity to increase brand visibility and so tackle this issue at the same time.
- Contracting the supply and distribution of goods also offers other opportunities. Many integrated logistics contractors also supply storage and warehousing solutions and it would be useful for *Perfect Shopper* to evaluate the costs of these. Essentially, distribution, warehousing and packaging could be outsourced to an integrated logistics company and *Perfect Shopper* could re-position itself as a primarily sales and marketing operation.
- Finally, *Perfect Shopper* must review how it communicates orders and ordering requirements with its suppliers. Their reliance on supplier deliveries suggests that the relationship is a relatively straightforward one. There may be opportunities for sharing information and allowing suppliers access to forecasted demand. There are many examples where organisations have allowed suppliers access to their information to reduce costs and to improve the efficiency of the supply chain as a whole.

The suggestions listed above assume that *Perfect Shopper* continues to only supply branded goods. Moving further upstream in the supply chain potentially moves the company into the manufacture and supply of goods. This will raise a number of significant issues about the franchise itself.

At present *Perfect Shopper* has, by necessity, concentrated on branded goods. It has not really had to understand how these goods sell in specific locations because it has not been able to offer alternatives. The content of the standing order reflects how the neighbourhood shop wishes to compete in its locality. However, if *Perfect Shopper* decides to commission its own brand then the breadth of products is increased. Neighbourhood shops would be able to offer 'own brand' products to compete with supermarkets who also focus on own brand products. It would also increase the visibility of the brand. However, *Perfect Shopper* must be sure that this approach is appropriate as a whole. It could easily produce an own brand that reduces the overall image of the company and hence devalues the franchise. Much more research is needed to assess the viability of producing 'own brand' goods.

(c) A number of opportunities appear to exist in the downstream supply chain.

As already mentioned above, *Perfect Shopper* can revisit its contract distribution arrangements. At present, distribution to neighbourhood shops is in the hands of locally appointed contract distributors. As already suggested, it may be possible to contract one integrated logistics company to carry out both inbound and outbound logistics, so gaining economies of scale and opportunities for branding.

One of the problems identified in the independent report was the inflexibility of the ordering and delivering system. The ordering system appears to be built around a fixed standard delivery made every two weeks, agreed in advance for a three month period. Variations can be made to this standard order, but only increases – not decreases. Presumably, this arrangement is required to allow *Perfect Shopper* to forecast demand over a three month period and to place bulk orders to reflect these commitments. However, this may cause at least two problems. The first is that participating shops place a relatively low standard order and rely on variations to fulfil demand. This causes problems for *Perfect Shopper*. Secondly, any unpredictable fall in demand during the three month period leads to the shop having storage problems and unsold stock. This potentially creates problems for the shop owner, who may also begin to question the value of the franchise. Hence *Perfect Shopper* might wish to consider a much more flexible system where orders can be made to match demand and deliveries can be made as required. This would also remove the requirement for a three monthly meeting between the franchisee and the sales representative from *Perfect Shopper*. Investments in IT systems will be required to support this, with participating shops placing orders over the Internet to reflect their requirements. This move towards a more flexible purchasing arrangement may also make the outsourcing of warehousing and distribution even more appealing.

Perfect Shopper may also wish to investigate whether they can also provide value added services to customers, which not only simplify the ordering system but also allow the shop managers to better understand their customers and fulfil their requirements. The supply chain may legitimately include the customer's customers, particularly for franchisers. This is already acknowledged because *Perfect Shopper* produces tailored marketing material aimed at the end-consumer. Point of Sales (PoS) devices feeding information back to *Perfect Shopper* would allow sales information to be analysed and fed back to the shopkeeper as well as allowing automatic replenishment based on purchasing trends. However, this may be culturally difficult for independent neighbourhood shopkeepers to accept. Furthermore, it would potentially include information outside the products offered by *Perfect Shopper* and the implications of this would have to be considered. However, a whole shop sales analysis might be a useful service to offer existing and potential franchisees.

Customers are increasingly willing to order products over the Internet. It seems unlikely that individual shopkeepers would be able to establish and maintain their own Internet-based service. It would be useful for *Perfect Shopper* to explore the potential of establishing a central website with customers placing orders from local shops. Again there are issues about scope, because *Perfect Shopper* does not offer a whole-shop service. However, Michael de Kare-Silver has identified groceries as a product area that has good potential for Internet purchase. In his electronic shopping potential test any product scoring over 20 has good potential. Groceries scored 27.

4 (a) Quality

Quality has become an increasingly important issue in organisations. For some companies it is an important differentiator, allowing the organisation to pursue a high price/high quality strategy. For other organisations, such as UPC, the quality threshold requirements for their products have increased significantly over the last few years. Customers have increased expectations of product construction, longevity and reliability. Quality is rarely absolute; and it is usually constrained by such factors as selling price. This particularly applies in UPC's market where it is likely that the quality of the product is limited by the relatively low price consumers are willing to pay for it. Quality concerns how a product meets its designed purpose and satisfies its original requirements. The target selling price is likely to be one of those requirements.

At UPC quality appears to be defined in terms of the physical condition of the products (no breakages, cracks or chips) and in the accurate positioning of the printed image on the product. These are the reasons given by the UPC management for setting up the inspection team. However, this perception of quality would have to be confirmed by the customer. It may be that other issues, such as the density of the printed image, are also important to the customer but have not yet been fed back to UPC.

Many definitions of quality include references to the customer. They stress meeting the requirements of the customer or user of the product. UPC might benefit from re-considering who it perceives to be the customer. Their current perception appears to be that the customer is the gift shop that sells the product. It is not the ultimate person or consumer who buys the product from the shop and uses it. For this consumer, other issues may be significant such as:

– The ability to wash the item in a dishwasher.
– The long-term safety of the product, for example: the handle does not break off a cup and spill its content on the drinker.
– The long-term clarity of the image on the item after many washes.

Investigating the issue of quality from the perspective of the consumer may identify other problems that need addressing.

Finally, quality has to be considered in the context of responsibility. UPC currently uses a courier company to deliver its products to the gift shops. This means that freedom from breakage is only partly under UPC's control. The delivery condition of products is partly determined by the care with which the courier company handles the package. Hence delivery quality depends on courier performance as well as on packaging care. In contrast, the quality of the printed image on the item is completely within the control of UPC.

Quality control

Quality Control (QC) is primarily concerned with checking and reviewing work that has been done. It is an inspection system for ensuring that pre-determined quality standards are being met. In theory, the responsibility for the control of quality lies with the person undertaking the process, whether it is the production of goods, delivery of a service or the passing of information. QC is the part of quality management focused on fulfilling quality requirements.

In many quality control systems, sample products are removed and inspected. Defects in these sampled products may lead to the whole batch being inspected and defective items destroyed. This is essentially the role of the inspection team at UPC, where 1 in 20 packed packages are inspected for accuracy of printing and correctness of packing. Incorrect packing in a sampled package will lead to the inspection (and potential re-packing) of all packages packed by that employee. Failure in the accuracy of the printed image is likely to lead to the destruction of the whole batch, and the re-setting of the production imaging machine to address the positional inaccuracy of the image. It has to be stressed that, in this instance, quality control is a *sampling* activity and so it is very likely that defective batches will get through to the customer. To criticise the inspection unit for failing to find defective batches ('the quality inspection team is just not working') fails to recognise the sampling nature of the role.

In the context of UPC there are at least three further factors that inhibit effective quality control.

– The quality control of the positioning of the image takes place too late in the process. It should take place before packing, not after it. Valuable packing time and materials can be wasted by packing items with defective images which are found when the package is inspected.

– The reward system for packers is based on the throughput of packages rather than the quality of packing. In the past many manufacturing organisations have valued productivity more than quality and reflected this in their reward system. This is the case at UPC where faults in packing are not reflected in the reward system of the packers. In fact, the very opposite appears to be true. Packers are incentivised to pack quickly, not effectively. Beckford suggests that 'a major barrier to quality may be built into the reward system of the organisation'.

– There is evidence that the inspection team has participated in the achievement of the required throughput targets by passing packages that did not meet the required quality. This is clearly giving the wrong message, but the inspection team is only reflecting the need for the company to meet certain deadlines.

Quality Assurance
Quality Assurance (QA) is the part of quality management focused on providing confidence that quality requirements will be fulfilled. It may be defined as a set of procedures designed to ensure that quality standards and processes are adhered to and that the final product meets or exceeds the required technical and performance requirements. Quality assurance covers activities such as product design, development, production, installation and servicing. It also sets the pre-determined standards required for effective quality control. If quality control is primarily concerned with detecting defective products, then quality assurance is primarily about the prevention of quality problems through planned and systematic activities.
There is little evidence of quality assurance at UPC. However, the company may wish to consider:

– Setting quality targets and delegating responsibility for achieving those targets to the people who are meant to achieve them. In UPC it would be preferable to give responsibility for product quality to the employees who actually make the products and to reflect this in their reward structure. One of the roles of QA is to enable quality improvement initiatives. A possible initiative is to investigate the purchasing of imaging machines (or adopting the current ones) with a facility to automatically assess the accuracy of the image before printing. If the image falls outside certain tolerances then it may be feasible for the machine to automatically adjust it before printing. If these machines were installed, it would be the responsibility of QA to ensure that they were calibrated correctly and to verify that every product had undergone the necessary check.

– QA also offers quality advice and expertise and trains employees in quality matters. They would set standards for materials used in packing and establish systems for monitoring raw materials sent by suppliers to ensure that these standards were met. It may also be possible to improve how items are physically laid out in the package to reduce the chance of damage. The internal layout of the packages may be constructed in such a way that they only allow products to be packed in a prescribed pattern. QA would be involved in defining that prescribed pattern and training packers to use it – as well as subsequently monitoring that the prescribed pattern had been followed.

– The increased importance of quality means that many customers now demand some proof that the supplier is capable of consistently producing quality products. This proof is part of the 'confidence' factor of QA and may be demonstrated by a third party certification, such as ISO 9000. Certification helps show the customer that the supplier has a commitment to consistently supplying a quality product. QA will be concerned with gaining and maintaining such certification and this should assist the company in securing and retaining contracts.

At UPC the current inspection team is focused on QC. The responsibility for this should be moved to the production process itself or to the people who actually undertake that process. The inspection team could then focus on QA, setting standards for quality, establishing how those standards should be monitored, and then ensuring that such monitoring is being performed. In making this transition, the company will move to a culture of attempting to prevent faults rather than relying solely on detecting them.

(b) In many ways Six Sigma started out as a quality control methodology. It focused on measurement and the minimisation of faults through pursuing Six Sigma as a statistical measure of some aspects of organisational performance. However, Six Sigma has developed into something much more than a process control technique. It includes a problem-solving process called DMAIC and a comprehensive toolkit ranging from brainstorming to balanced scorecards and process dashboards. It also has defined team roles for managers and employees, often with martial arts names such as Black Belt, Green Belt and Master Black Belt.

Six Sigma was first used in organisations in the early 1990s. However, it was its adoption and promotion by Jack Welch, the CEO of GE that brought Six Sigma wider publicity. He announced that 'Six Sigma is the most important initiative GE has ever undertaken'. As Paul Harmon comments, 'Welch's popularity with the business press, and his dynamic style, guaranteed that Six Sigma would become one of the hot management techniques of the late 1990s'.

Six Sigma uses an approach called DMAIC in its problem solving process. This stands for Define, Measure, Analyse, Improve and Control. Three aspects of this are considered below in the context of how they would address the problems at UPC.

Defining the problem
Part of defining the problem is the identification of the customer. It is important to understand what customers really want and value and one of the main themes of Six Sigma is its focus on the customer. Six Sigma explicitly recognises the 'voice of the customer' (VOC) in its approach. In the UPC situation quality requirements are currently defined by the physical condition of the goods and by the alignment of the image. However, this may be a limiting view of quality because there is no evidence

of any systematic investigation of the requirements of the customer. Solving these problems may not lead to any significant long-term gain; they may be quickly replaced by other 'quality issues'. Furthermore, the customer is also perceived in a limited way. These quality requirements are in the eye of the gift shop owner who is interested in saleable products. The end customer – the consumer – who buys and uses the product may have other requirements which can also be addressed at this time. By considering the VOC the problem and scope of the project becomes re-defined and the solution of the problems potentially more valuable.

Measurement
Measurement is fundamental to Six Sigma. This includes the gathering of data to validate and quantify the problem. The creation of the inspection team was based on initial evidence about an increase in breakages. This needs to be quantified. The inaccurate printing of the image had been quantified as 500 units per month, out of the 250,000 shipped out of the company. This equates to a failure rate of 0·2%, so that 99·8% of items are shipped with a correctly aligned image. This sounds quite reasonable but it still raises issues and complaints that have to be dealt with, as well as creating wastage costs of $10,000 per month. The problem is that even a relatively low percentage of defects can lead to a lot of unhappy customers. Aiming for Six Sigma would reduce defects down to about one faulty item per month, reducing the wastage cost to $20.

Analysis
Analysis is concerned with understanding the process to find the root cause. Six Sigma focuses on processes and their analysis. Analysis concerns methods, machines, materials, measures, Mother Nature and people. The alignment problem needs investigation to find out what causes the imaging machine to irregularly produce misaligned images. Management currently appear to blame the *machine* but it may be due to the way that certain *people* load the machine. The analysis of the breakages is particularly important. It is unclear at present where these breakages occur (for example, are some of the items broken before they leave UPC's despatch facility) or are they all broken in transit? Neither is it understood why the breakages occur. Management appear to blame the packers for packing incorrectly and not following the correct *method*. However, it may be that the *material* is just not strong enough to withstand heavy handling by couriers who are outside the control of UPC. Additionally, the breakages may be due to some manufacturing problem or raw material imperfection in the items that break. Six Sigma stresses understanding the problem before solving it.

Although DMAIC has been selected as the framework for the sample answer, focusing on other aspects of Six Sigma would be acceptable – as long as they are presented in the context of the UPC scenario.

1 **(a)** Up to 2 marks for each identified strength up to a maximum of 10 marks for strengths
Up to 2 marks for each identified weakness up to a maximum of 10 marks for weaknesses

(b) **(i)** Up to 1 mark for each relevant point up to a maximum of 4 marks

(ii) Up to 2 marks for each relevant point concerning the inappropriateness of a no-frills solution, up to a maximum of 13 marks
Professional presentation of coherent argument: up to 3 marks

(c) Explanation of alternative strategies: Up to 2 marks for each significant point up to a maximum of 8 marks.
2 marks also available for professional presentation and coherence of the complete answer.

2 **(a)** Up to 2 marks for each relevant point relating to the scenario
Up to a total of 15 marks

(b) Up to 2 marks for each relevant point relating to the scenario
Up to a total of 10 marks

3 **(a)** Up to 1 mark for each part of the value chain up to a maximum of 5 marks
Total 5 marks

(b) Up to 3 marks for each relevant point relating to the scenario
Up to a total of 10 marks

(c) Up to 3 marks for each relevant point relating to the scenario
Up to a total of 10 marks

4 **(a)** Up to 2 marks for the definition of quality
Up to 3 marks for issues of quality at UPC

Up to 2 marks for the definition of quality control
Up to 3 marks for issues at quality control at UPC

Up to 2 marks for the definition of quality assurance
Up to 3 marks for issues at quality assurance at UPC

(b) Up to 3 marks for description of Six Sigma

Application of Six Sigma to UPC up to a maximum of 7 marks.