Answers

1 (a) Introduction

This first section of the required report analyses the internal competencies of ReInk (in terms of its strengths and weaknesses) and the external environment which the company currently operates in. This environment creates opportunities for, and threats to, the organisation.

Strengths

T*echnological expertise* is a significant strength of the company. It has successfully developed an innovative process for cheaply and successfully refilling ink cartridges. The technical elements of this process have been patented, which gives the company a further six years protection. The technical expertise of Dexter Black is acknowledged by his staff and his competitors. Many of the senior technical employees have been attracted to ReInk by the opportunity to work with an acknowledged expert in the field. Most of the skilled, experienced staff still remain at ReInk, although many are now seeking job opportunities elsewhere (see weaknesses).

The long-term contract with the government Department of Revenue Collections (DoRC) is an important asset. As well as providing 20% of the company's revenues, it also helps promote the legitimacy of ReInk as a significant and reliable supplier. Selling into other government departments may be a significant opportunity (see opportunities)

Location: Although ReInk is a high technology company, its operations are in a declining industrial town and are relatively cheap. Indeed, Dexter was originally attracted to the town by government grants and a rent-free period. Although this has now expired, the rent remains low. Furthermore, property prices in the area are also cheap, and the area offers a good standard of living. This means that staff can be attracted by relatively modest salaries, as one commented, 'I took a pay cut to come here. But I can now afford a bigger house and my children can breathe fresh country air.' In a market place where companies primarily compete on price, low production costs are important.

Weaknesses

The major weakness which has to be immediately addressed is the *financial state of the company*. Although ReInk is making a small operating profit, it is undermined by the need to service a considerable debt. The recent decision by Firmsure bank to reduce the company's overdraft facility has created a cash flow crisis which threatens the continued existence of the company. Capital needs to be injected into the company so that it can meet next month's payroll obligations.

Weak management team: The technological expertise of Dexter has been acknowledged. However, he has little commercial expertise or experience and the directors he has appointed to address this weakness have failed to deliver. The technologists at the company also have little faith in their management team, claiming that the sales director 'does not really understand the product' and the HR director 'clearly has no experience in dealing with professional staff'. The overall competence of the management team can be classified as a company weakness.

Demotivated staff: The employees are proud of their achievements and respect the technological expertise of Dexter. However, the attitude of senior management and the obvious financial problems of the company have combined to demotivate and demoralise them. A poorly thought out programme of cost cutting and staff regrading has compounded this attitude, and many are resigned to the company failing and are actively looking for other jobs.

The final weakness concerns *poor brand awareness*. Although ReInk is a technological leader, the public has little knowledge of its services and capabilities. Marketing has focused on the website, to the detriment of all other channels, where the company is up against competitors who appear to offer similar services and also have very similar trading names.

Opportunities

The continued decline of the economy provides a significant opportunity for ReInk. Both domestic and commercial users will be looking to reduce their printing costs and so the market place should be growing. Indeed, ReInk will have to monitor the economy to detect any upturn which could adversely affect the demand for its product.

Increased awareness of the need to reuse and recycle products should also provide the company with significant sales opportunities. The number of 'green consumers' is growing within the country. These consumers may have particular concerns about using printer cartridges which can only be used once, or which are expensive to recycle.

Government contracts: The economic problems in the country have accentuated the need for government departments to show value-for-money, as well as demonstrating excellent reuse and recycling practices.

Threats

Legal threats: It is important for the organisation to continually scan the legal environment to identify potential threats. Original Equipment Manufacturers (OEMs) have failed in their attempts to make refilling their products illegal. However, they continue to lobby political parties to change the law, citing their need for income from printer consumables to fund their investment in advances in printer technology. The company also has to be aware of threats to their patented process, or indeed to patents which might threaten their competitive edge.

Technical threats: Threats will continue to emerge from new technology. These threats might be to produce reusable ink services at a lower cost, or indeed to remove the need for ink replacement all together. The printer industry is very technology driven and ReInk will have to continuously monitor new innovations and product announcements to see if its services and products are threatened.

Competitive rivalry: The print consumables industry is very competitive. Entry costs into the industry are relatively low, and companies largely compete on price. This is partly why OEMs, with their higher costs, find it difficult to compete in this market. Consequently, they largely compete on quality and the generation of fear amongst consumers that unauthorised products could damage their printers, and, if they do, their printer warranty will be invalid. Thus it is an extremely competitive environment, with relatively low brand loyalty. If the potential damage to printers is overlooked, then there are no switching costs in moving to a different consumables supplier.

Finally, *the government is considering privatising the DoRC*. This could jeopardise the continuation of the contract to supply this department with reusable ink products and services, on which ReInk is highly dependent as it contributes 20% of its revenue.

In summary, the company is operating in a very competitive industry where OEMs also compete aggressively on non-price criteria. However, economic and environmental issues provide ReInk with opportunities for growth if they can properly harness their strengths and address the financial and management weaknesses of the company.

(b) Introduction

The second part of this report looks at the contextual features which will have to be taken into consideration if strategic change is to be successfully implemented at ReInk.

Time: refers to the amount of time available to implement change. An organisation which faces immediate problems has a quite different context for change than one which is stable enough to be able to plan carefully for incremental change over a number of years. ReInk has pressing financial problems and so Vi Ventures (VV) will have to move quickly to make their investment. However, once that investment is made, VV will then have some time to make the changes necessary to address the financial performance of ReInk. For example, investing in initiatives to increase brand awareness and increase sales which will increase the company's operating profit.

Preservation: In most change situations there is a need to preserve some elements of the current organisation. In particular, the change will have to safeguard the competencies which are vital if the change is to succeed. In the case of ReInk, these are the skills and experience of the technologists. These employees are key to the success of the company, but have become demotivated and restless, and some are actively looking for other jobs. If VV makes their proposed investment in ReInk, then they must move swiftly to reassure the senior technical staff and dissuade them from leaving the company.

Diversity: Diversity refers to *diversity of experience*. Change can be assisted by a significant degree of diversity of experience, views and opinions within the organisation. It is hampered by a homogenous view, formed from pursuing the same strategy for years. The latter seems more likely at ReInk. The focus has been on technical excellence and innovation. There are no clear groups offering a different perspective. If the proposed investment does take place, then VV can expect some resistance to change as they bring in new ideas and directions.

Capability: Capability concerns the experience the organisation has in managing change. Some organisations have experience of effectively managing change and also have a workforce which has readily accepted and implemented these changes. At ReInk, the opposite appears to apply. The management team has been unable to formulate any changes which have improved the financial performance of the company. Moreover, the changes they have implemented have not been accepted by the workforce and indeed have led to a fall in staff motivation. VV's experience of implementing change will be an important capability which they will bring to ReInk.

Capacity: Change programmes require management and financial resources. Capacity for change is concerned with whether the organisation has sufficient resources to effect the required change. In some circumstances, the organisation might have the *capability* to undertake the change, but they do not have the resources (*capacity*) to carry it out. At ReInk, the current management do not have the capability or the capacity. VV will have to invest financial and management resources to successfully implement strategic change.

Readiness: Readiness for change refers to how changes will be welcomed in the organisation. There may be certain employee groups who are resistant to change and will hamper the progress of change programmes. This appears unlikely at ReInk. The technologists are likely to positively embrace change as they are very disillusioned with the expertise of the current management team. VV should have little problem in convincing this group about the need for change, particularly as VV will be anxious that their competencies are *preserved* within the company. The most difficult group might be the current management team. Except for Dexter, it seems unlikely that they will have a role in the future. VV should be aware of this and ensure that the acquisition takes place in a way which does not alienate this group. Otherwise, the investment may not go ahead, as the management team protect their position, even if this is at the long-term detriment of the company.

Power: For change to be successful there has to be someone in the organisation who has the power to effect the desired changes. This again will influence the terms associated with VV's proposed investment. Given the situation, they need to be in a position in ReInk where they have such power, unencumbered by the current managing director or current members of the management team. They have to have an appropriate shareholder structure in place as part of the investment agreement, otherwise they may not be in a position to bring in the changes which their competencies and finances should allow.

Scope: A proposed change may just need to realign the organisation within the current organisational beliefs or assumptions. Alternatively, it may require fundamental transformational change. *Transformational change* is usually associated with an elemental change in strategic direction. The scope of change is often associated with the nature of change. *Incremental change* takes place over a longer period of time, *'big bang'* takes place very quickly, and is typically needed when the

organisation is facing crisis or needs to change direction very quickly. The scope and nature of change can be represented in the following table:

		Scope of the change	
Nature of the change		Realignment	Transformation
	Incremental	Adaptation	Evolution
	Big Bang	Reconstruction	Revolution

VV probably needs to implement **Reconstruction** change at ReInk. This type of change is rapid and usually brings about a great deal of upheaval, but it does not fundamentally change the paradigm of the organisation. It is typical of a turnaround situation where there is a need for major structural changes to deal with a decline in financial performance.

In summary, VV needs to be aware of the context of change at ReInk before it finalises its investment and the terms of that investment. It needs to ensure that it has the *power* to speedily implement the required changes and *preserve* the competencies of the company. It will bring important *capabilities, capacity* and *diversity* of experience to a company which lacks them. In return, it will find a company which generally is *ready for change* and should welcome it, although vested interests in the current management team will have to be carefully considered during negotiations on the terms of the proposed investment. Finally, it will need to *reconstruct* ReInk, quickly implementing the required changes, but not fundamentally changing the nature and direction of the business.

(c) Introduction

This final section of the report uses a TOWS matrix to generate strategic options. Each quadrant of the matrix is used to identify options which address a different combination of internal factors (strengths and weaknesses) and external factors (opportunities and threats).

		Internal factors	
External factors		Strengths (S)	Weaknesses (W)
	Opportunities (O)	SO	WO
	Threats (T)	ST	WT

TOWS analysis of ReInk:

SO – this quadrant is used to generate options which use the strengths of the business to take advantage of identified opportunities. The government of the country is committed to environmental policies and demonstrating value-for-money. ReInk has a product which fulfils both of these criteria and it also has a track record in the sector, through its contract with the DoRC. A strategy of focusing on a market niche of government and public sector organisations may be very lucrative and generate good short-term results. It will take time to address the weakness of brand awareness (see WO), but focusing sales and marketing on a well-defined business-to-business sector should be much easier.

WO – is concerned with options which take advantage of opportunities by overcoming weaknesses in the organisation. The growth of the green consumer has been recognised as an opportunity. In general, individual consumers are increasingly keen to recycle products, particularly if it also brings economic benefits, as they are likely to be affected by living in a country which is experiencing continuing economic decline. ReInk can offer reusability and cost savings. However, its brand awareness is low. Addressing this weakness should allow it to take advantage of the opportunities offered by the green consumer movement. Like many WO options, this is a medium-term initiative.

ST – this quadrant is used to generate options which use strengths to avoid or counter threats. One of the threats which affect ReInk is the continual technology development from an industry which is committed to deliver better and cheaper technology. Continual research of the technical environment, combined with internal innovation, reinforces the need for a strategy which is committed to continual product development. It particularly needs to ensure that new patented processes are in place when its current patent runs out. Like many ST options, this is a medium-term initiative.

WT – is concerned with generating options which minimise weaknesses or avoid threats. These are primarily defensive, aiming to avoid threats and the impact of weaknesses. To a large extent, the weaknesses identified in the SWOT analysis are being addressed by inviting investment and participation from Vi Ventures. However, it is unlikely that the company will ever have the financial strength and brand awareness of the large OEMs which it is competing with. One of these companies (Landy) is aggressive in its statements about warranty and is litigious. Avoiding this company in the marketplace, by not offering refills for its products, could be a reasonable defensive strategy.

In summary, there are viable strategic options in all quadrants of the TOWS matrix. In many respects, the investment of money and expertise by VV represents a reasonable initial strategy in the WT quadrant. The WO and ST quadrants seem to both offer medium-term initiatives. However, the analysis of the SO quadrant, focusing sales and marketing on a well-defined business sector (government and public sector organisations), appears to offer achievable short-term success which would help address the profitability of the company and offer VV early rewards for its investment in ReInk.

2 **Tutorial note:** *A number of different legitimate approaches could be used to answer this question. The structure used here is based on the one produced by Ken Garrett in his article on Business Strategy and Pricing, published in the February 2011* Student Accountant*. However, alternative frameworks are acceptable as long as appropriate points are made.*

(a) **Mission and marketing objectives**

Pricing is ultimately part of an organisation's strategy. It should reflect the organisation's self-perception and its feeling about its position in the market. Marco wants to position iTTrain as a quality provider to the business market. Does his suggested price of $750 per delegate reflect this? It could be argued that this is a reasonable price as long as other factors support it. He is not providing a 'no frills' service to self-financed candidates, so his price can reflect this. His main benchmark is AQT, and he is suggesting a price which undercuts their list price ($900), and their discounted price ($810), so his company theoretically offers the same (or better) quality at a more competitive price.

Pricing objectives

In the short term, there can be a variety of pricing objectives. Sometimes, irrespective of long-term objectives, the need to survive and increase short-term cash flows will dictate price cuts. At present, Marco is not in this position. He wishes to establish iTTrain in the market place, and he is looking for short-term modest profitability. His price should reflect this.

Costing and financial analysis

Tutorial note: *The financial analysis may be undertaken in a variety of ways and appropriate credit will be given to alternatives. In the following analysis, Marco's suggested price of $750 per delegate is used as a basis of the analysis. Expected contribution is calculated by using the values from AQT.*

Figure 1 shows the contribution for class sizes of three to nine delegates on a course. iTTrain will not run courses with fewer than three delegates, and the training rooms at CityCentre have a maximum capacity of nine delegates.

The expected contribution per course has been calculated using the probabilities derived from courses at AQT. The delegate fee is $750.

Course length	3 days	All financial figures in $							
Probability	Delegates	Lecturer	Room	Manual*	Lunch	Total cost	Income	Contrib	Exp contrib
0·15	3	450	250	60	30	2,250	2,250	0	0
0·21	4	450	250	80	40	2,300	3,000	700	147
0·25	5	450	250	100	50	2,350	3,750	1,400	350
0·19	6	450	250	120	60	2,400	4,500	2,100	399
0·07	7	450	250	140	70	2,450	5,250	2,800	196
0·08	8	450	250	160	80	2,500	6,000	3,500	280
0·05	9	450	250	180	90	2,550	6,750	4,200	210
*Manual cost is per delegate per course							Total expected contribution		1,582

Figure 1: Contribution for class sizes of three to nine delegates

The expected contribution per course is $1,582.

Thus the breakeven on a course basis is $65,000/1,582 = 41·09 courses.

The company plans to offer 40 courses per year. If the contribution per course is $1,582, then iTTrain will make a small operating loss (40 x $1,582 = $63,280 – $65,000) = ($1,720).

A consideration of the profitability at different delegate volume levels is also instructive, showing that an average attendance of six delegates per course is required to achieve operating profitability assuming that 40 courses a year actually do run. In other words, classes have to operate at a minimum of two-thirds capacity, on average, for the company to be profitable if only 40 courses actually run during the first year.

All financial figures are in $

Number of delegates	Contribution	Fixed overheads	Operating profit (loss)
3	0	65,000	(65,000)
4	28,000	65,000	(37,000)
5	56,000	65,000	(9,000)
6	84,000	65,000	19,000
7	112,000	65,000	47,000
8	140,000	65,000	75,000
9	168,000	65,000	103,000

A number of options might be considered:

– To increase the price towards their nearest competitor. For example, assuming the same attendance pattern as above, increasing the price towards that of their nearest competitor (AQT), at just under $800 per delegate, would maintain their competitive price advantage while potentially increasing the expected value, realising a modest profit. (Note that sensitivity analysis could be undertaken to verify this using the same method used to calculate the expected value based on a delegate price of $750.)

- Decreasing costs: The lecturer and training room rates are standard rates. It may be possible to agree bulk booking discounts. A 5% discount on lecturing and room booking rates increases the expected contribution per course to $1,687·00 (assuming a course fee of $750). On 40 courses, this gives an expected income of $67,480, producing an operating profit $2,480, returning a modest operating margin of 3·68% (2,480/67,840).
- An exploration of other scenarios which combine increasing the price and decreasing the costs.
- Revisiting overheads, although little information is given in the scenario about this. Marco might be prepared to take less income from the firm in its formative years.

The financial analysis suggests that the $750 delegate fee suggested by Marco appears to be too low to produce the modest profit he would like. It also has to be recalled that the analysis is based on statistical probabilities which are from a well-established training company. Marco has to consider the likelihood of a newly formed training company initially having the same attendance pattern as an established company such as AQT.

Importantly, he has also assumed that all 40 scheduled courses will run. This assumption has to be examined and the sensitivity of profitability to only a certain proportion of courses running has to be explored. Consideration might also be given to the likely proportion of under-subscribed courses at the price actually set. At first sight it appears that a course which does not attract enough delegates will not incur any cost, because all training provision costs are variable. However, there may be cancellation costs associated with the training venue and the freelance lecturer.

Competition

It appears that price is not the only determinant of consumer selection, otherwise the cheaper training providers would dominate the market. Consumers are clearly also affected by non-price factors such as quality of the training and the quality of the place (where the training is provided). Consequently, Marco can price the training at the price he has suggested because there is considerable evidence that consumers (particularly corporate buyers) are willing to pay that price (or more) to get a service which they are satisfied or delighted with.

Consumers

Suppliers have to keep in mind how much consumers are willing to pay. Evidence from AQT suggests that corporate customers (iTTrain's target market) are able to pay the price which Marco has suggested. In contrast, the cheaper 'no frills' training providers appear to appeal to self-financed customers for whom price is an issue. The existence of training brokers as intermediaries in the supply chain does complicate the situation. If Marco wishes to offer them a margin as great as AQT, then he has to reduce his price (to training brokers) to $675 per delegate, which will obviously affect contribution.

Controls

The market is not subject to any legislative pricing controls.

Setting prices

As stated before, Marco wishes to set prices to show a short-term modest profit.

Strategic approaches (tactics or ploys)

A number of tactics or ploys can be used within the pricing strategy, for example: price skimming, penetration pricing, product-line pricing, etc. None of these appear to be particularly appropriate to iTTrain. However, many training companies (like airlines) provide 'early-bird' (early booking) discounts in an attempt to quickly reach a critical mass. Early-bird payments also improve cash flow. iTTrain might also wish to consider 'late booking' discounts, perhaps through training brokers, to provide extra contribution in courses which they are already committed to run.

Summary

Taking all factors into consideration, the suggested price of $750 per delegate appears to be broadly acceptable, except for its likely impact on the financial performance of the company as a whole, specifically the achievement of Marco's modest profit objective. He should consider raising the price to just under $800 per delegate, which gives him some margin of safety, particularly if costs can be reduced through bulk discounts. It also provides more leeway with the discounts he will have to give to training brokers. To some extent, Marco can experiment with the price level. It is the most flexible part of the marketing mix. In business nothing will remain constant. The economy, taste, innovation and competitor actions will change constantly, forcing prices to be continually reappraised. In reality most companies are price-takers, rather than price makers and Marco's pricing approach will have to reflect this.

(b) The **physical environment** in which the service is offered is often central to the consumer's understanding of the service and to their satisfaction or enjoyment of the service. It must reflect customer expectations and the overall brand positioning. Marco has taken this into consideration in the selection of the CityCentre training centre as his course venue. As a result, delegates should experience a physical environment which reflects the quality of the teaching and course documentation. Marco also has the opportunity to give prospective buyers a feel for the physical environment by providing a virtual tour of the location on iTTrain's website. Physical evidence of good quality documentation and teaching can be provided through sample hand-outs and a sample teaching presentation. In the niche which Marco is trying to position iTTrain, physical evidence of the quality of the company is very important.

Most services require direct interaction between the consumer and the **people** who represent the service provider's organisation. In conventional terms, employee selection, training and motivation are significant considerations. Most

successful businesses devote time and resources to managing their customer-facing staff. In the context of iTTrain, this is particularly significant. One of the most important people in the process, the lecturers, are not employees of iTTrain, they are self-employed contractors. Marco must ensure that lecturers are properly briefed, conduct themselves correctly and act in such a way that is consistent with the quality branding. Formal audits (observation of courses, feedback questionnaires) will be both a source of control and of marketing material (delegate testimonies). Marco also has to recognise that although he might make the initial sale, many subsequent sales may be down to the customer's enjoyment of the course and pass rates, and central to this will be the performance of the lecturers.

The **process** which surrounds the service is often perceived, by the customer, as part of that service. There is a significant difference between purchasing a product and a service. The service is often consumed only once (course attendance) whilst a product (such as a computer) might be used many times. The service often requires direct interaction between the person ordering and consuming the service and the service provider (the lecturer). In contrast, the producer of a computer seldom meets the customer. Service is often abstract and transitory and this can accentuate the consumer's expectations and their reflections on the success of the experience. They often perceive that the ordering process, the ease of payment and the accuracy of joining instructions are part of the service and include them in their assessment. Thus Marco must ensure that all the processes which precede and follow the actual teaching process are effective and customer focused.

3 (a) **Tutorial note:** *The structure of this answer is just one way which Bridge Co could have procured the software package in a structured way. Other answers with an appropriate approach will be given credit.*

Stage One: Evaluation

This is concerned with establishing whether a commercial off-the-shelf software package would be an appropriate way of automating the CRM requirements. A framework such as the Harmon process – strategy matrix could be used. There is no evidence in the scenario that any alternative (outsourcing, bespoke software development) to the software package approach was considered. Generally, CRM applications are likely to be relatively complex and of medium strategic importance. Consequently, by chance, a software package approach does appear a reasonable response, although it would have been beneficial for that decision to stem from a proper evaluation, rather than the whim and the will of the new sales and marketing executive.

Stage Two: Business case

This stage would require the definition of a formal business case, including a financial evaluation of the proposed investment. This was avoided by negotiating the price down to below the capex threshold at Bridge Co. If this had not been done, then a business case would have been required. The failure to produce a business case has two consequences. First, it meant that no other likely costs associated with the software purchase were ever considered. These were either avoided (such as the training costs) or had to be funded out of the operational budget (the cost of data migration). Second, and more importantly, there was no attempt to establish what benefits the Custcare CRM package offered the organisation. These could have been financial benefits (so could be compared with costs using an appropriate investment appraisal technique) or they could have been intangible benefits (such as improved customer satisfaction). Both tangible and intangible benefits could have been subject to a benefits realisation review at the end of the project, to see whether the anticipated benefits had materialised. The failure to document the anticipated benefits in advance means that although the software is being used, there is an air of disappointment and deflation about the project outcome.

Stage Three: Requirements definition

This stage is concerned with defining the requirements which the software package is to be evaluated against. No formal requirements definition was performed at Bridge Co. Teri was enthusiastic about the product, based on her experience at her previous company. She felt that the requirements would be very similar at Bridge Co. In fact, she was proved correct, as far as the functional requirements were concerned. The sales and marketing staff appear to be quite happy with the features of the software and, indeed, it has provided valuable functionality which they did not anticipate. However, important non-functional and technical requirements were missed. These concerned the technical interface with the order processing system and the overall slow performance of the software. Performance and interface requirements should have been part of the requirements specification which the package was evaluated against. More thought could also have been given to supplier requirements: what Bridge Co would like from the supplying company. This would have prompted thoughts about support requirements and also the geographical location of the supplier. At the end of the interview Mick says, 'I just wish we had chosen a product produced by a company here in Deeland.' This could have been one of the evaluation criteria.

Stage 4: Evaluation of competing products

The need to compile and issue a formal Invitation to Tender (ITT) would have required Bridge Co to consider alternative products and suppliers. Even just following the capex requirements at Bridge Co would have forced the sales and marketing department to consider three competitive responses to their requirements. This was not done, no alternatives were considered. It may have been possible to find a solution which did fulfil the technical interface requirements and achieved the required performance. However, even if this were not possible, and Custcare remained the best solution, the formality of the ITT process would have allowed Teri to demonstrate that the package had been selected after proper consideration of alternatives. It would have introduced an element of due diligence and transparency which is missing from the project.

Stage 5: Contract negotiation

Once a potential solution is identified, a detailed investigation of the contract is required to remove or amend clauses which the customer is unhappy about. Contracts are usually framed in favour of the software supplier. It is at this stage that Bridge Co would have identified two issues which subsequently caused problems. First, the legal jurisdiction of the contract; this could have been changed, through negotiation, from Solland to Deeland. Second, the restriction on who can be employed as contract staff on Custcare projects. Again, this would probably have been removed after negotiation (or a preferential contract rate agreed). Contractual arrangements are very difficult to change retrospectively. They need to be reviewed before the purchase is completed. If insurmountable problems occur (for example, a reluctance to vary a clause), then the customer can legitimately withdraw at this stage, citing the unacceptable risk the clause exposes them to.

Stage 6: Implementation

Effective training, appropriate documentation and successful data migration are central to the success of the project. Proper consideration of them also contributes to the business case (stage 2). Omitting training has been a false economy at Bridge Co, leading to too much use of an inadequate support agreement. Data migration had to be separately funded and turned out to be disproportionally expensive.

(b) The Custcare solution did provide a quick solution to the CRM requirement at Bridge Co. *Speed of implementation* is a claimed advantage of commercial off-the-shelf software packages and this is valid in this scenario. It would be at least 18 months before the IT department could even start to look at the sales and marketing department's requirement. In contrast, the Custcare solution was up and running within three months.

The Custcare solution did provide comprehensive functionality. The sales and marketing department were impressed with the package. It did all the things they wanted it to do and it also gave them ideas and possibilities which they would never have thought of. Software packages have the advantage of incorporating *industry best practice* within a broad, comprehensive functionality. Custcare allows an organisation without a CRM, such as Bridge Co, to quickly get up to speed and to offer services as least as good as some of its competitors.

Despite the extra costs of data migration, the software package does appear to offer a relatively cheap solution. In general, software packages, where the cost of development and maintenance is shared amongst many customers, are *usually much cheaper* than bespoke alternatives. The Custcare solution has still cost less than $30,000. The internal IT department has quoted a price of $18,000 just for requirements analysis. Given that they still have to develop and test the solution, this suggests that the overall cost will be much greater than the money spent on the Custcare solution.

There have been no complaints about the robustness of the Custcare solution. The only difficulties concern its failure to meet certain requirements, and the problems of support and training. In general, software packages are of *better quality* than bespoke alternatives. The package has been extensively used by many users in a range of organisations and problems will have been progressively identified and solved. It is impossible to exhaustively test bespoke solutions, so they are often beset with robustness and reliability problems, particularly in the period just after implementation.

The two problems reported by Mick are relatively easy to solve. A piece of bespoke software could be developed as a bridge between the CRM and the order processing system. This *bridge* would import files from the CRM system in one format and then convert them into the format required by the order processing system, and vice versa. The performance of the software could be addressed by improving the specification of hardware at Bridge Co, or by scheduling jobs so that complex reports and queries are run when the system is not busy, for example, overnight. These solutions are not ideal, but provide a reasonable way forward. Overall, the software package approach still seems a reasonable way forward.

4 (a) **Overview**

The table presented in the scenario suggests that the project is currently financially viable. It returns a net present value of $10,925. However, the basis of the discount rate selection could be questioned. Although there is little information in the scenario about this, it might be felt that it has been set artificially low to produce a positive NPV. Also, the duration of the investment appraisal is quite long (seven years). Three and five year appraisals are more common. So again, the basis of this could be questioned. Perhaps seven-year investment periods are common at the IIA, but this needs to be investigated and confirmed.

It would also be beneficial to perform a sensitivity analysis on the data. A relatively small change in the initial cost of the software makes the NPV negative.

Costs

Software costs

Although the software package has a fixed cost, the IIA wishes to make a number of significant bespoke amendments. The actual detail of these amendments is still under discussion. They are currently estimated at $25,000 and this cost is part of the year 1 payment. However, this estimate may change once the detail of the requirement is agreed. The IIA must keep bespoke requirements under review to ensure that costs do not rise substantially, invalidating the financial business case for the investment. The scenario also suggests that there are problems in defining the detail of the requirement and these may lead to project delays, meaning that benefits may not begin to accrue until year 3 (or beyond), which will seriously affect the financial viability of the project. The final delivered cost of the project will also determine the maintenance cost, as it is

calculated at 10% of the final delivered software cost. So, an increase in the initial cost of the software will also have long-term implications which may again affect the overall viability of the project.

Question bank costs

External consultants are to be paid a fixed fee for each question they successfully deliver to the question bank. The current estimate is for the initial delivery of 2,000 questions (with payments spread over year 0 and year 1) and then the subsequent update and amendment of 100 questions per year. These costs are within the control of the IIA and so appear reasonably definite. However, it is unclear why a question bank cost of $50,000 would be incurred immediately (year 0) as question setters are only paid on the acceptance of their question. This demands further investigation. If it is incorrect and the costs are actually incurred in years 1 and 2, then the NPV of the project will be increased.

Security costs

This is a definite cost; a fixed price has been agreed with a security firm who have guaranteed it for the duration of the project.

Disruption costs

The IIA believes that implementing the new assessment system will lead to a temporary reduction in productivity and staff morale in the examinations department. They have estimated that this will cost them $15,000 in year 1 and 2 of the project. However, this is really an intangible cost and is impossible to accurately predict in advance.

Benefits

Reduced marker costs

The reduction in marker costs can be accurately predicted. Manual marking will not be required once the new assessment method is in place. In Ward and Daniel's terms this is a *financial benefit*, and it can be accurately predicted in advance. The only issue may be the timing of the benefits, given the current problems in specifying the bespoke system requirements.

Reduced administrative costs

The reduction in administrative costs is difficult to predict accurately in advance because the undefined bespoke software amendments will affect the administration of the assessment process. However, by simulating the new work process, it should be relatively easy to forecast how many administrative posts will be lost and at what cost. Thus, using Ward and Daniel's classification, this is either a *financial* (at best) or *quantifiable* (at worst) benefit. The IIA should revisit their cost saving estimates as soon as the bespoke element of the software is agreed.

Increased student numbers

The final benefit is extra income from increased student numbers attracted by the convenience of computer-based assessment. It is difficult to put a credible value on this in advance of the project. At best, using Ward and Daniel's classification, this is a *measurable* benefit. It concerns an aspect of performance which is currently being measured (student numbers), but it is not possible to estimate how much performance will improve when the computer-based assessment system has been implemented. It may be possible to get credible evidence from other professional bodies which have implemented computer-based assessment to support this, but there is no evidence that this has been done. It is the IIA's best guess.

Summary

There is a strong argument for taking disruption costs and increased student numbers out of the financial appraisal of the project. It is difficult to put credible values on these in advance of the project. The effect of doing this (for information) is shown below.

All figures in $000s					Year			
Costs	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Initial software	200	200						
Software maintenance			40	40	40	40	40	40
Question bank	50	50	5	5	5	5	5	5
Security			20	20	20	20	20	20
Total costs	250	250	65	65	65	65	65	65
Income/Savings								
Marker fees	0	0	125	125	125	125	125	125
Admin saving	0	20	30	30	30	30	30	30
Total benefits	0	20	155	155	155	155	155	155
Benefits – costs	(250)	(230)	90	90	90	90	90	90
Discount factor	1	0·926	0·857	0·794	0·735	0·681	0·630	0·583
Present value	(250)	(212·98)	77·13	71·46	66.·15	61·29	56·70	52·47
						Net present value		(77·78)

The net present value is now less than zero, so there is no financial case for the project. However, this does not mean that the project should not go ahead. IIA management may feel that intangible benefits make the investment worthwhile and so the project may be progressed.

(b) A *benefit owner* is someone who has responsibility for defining, agreeing and delivering a benefit defined in the business case. Without benefit owners, benefits are unlikely to happen. It is very unlikely that the project manager responsible for a change project (as alluded to by the IIA director) would be the benefit owner. Their responsibility is to deliver the project, not to operationally run the outcome of the project. This must be the responsibility of the business and so the benefit owner should be a person who has authority to make business decisions which help deliver the benefits. Many projects which have promised cost savings have not delivered them because no-one had responsibility for making those savings. It is very important that the IIA appoints a benefit owner for the administrative cost reductions. First, because the extent of those savings cannot be reliably estimated due to problems in requirements definition and, second, because someone has to actually make these staff cuts when the new system is in place to deliver the benefits promised in the initial business case.

A *benefits map* helps the benefit owner determine what has to be put in place to deliver the promised benefit. The map can also be used to show how the benefits relate to the objectives of the organisation. For example, increased student numbers may be part of improving the accessibility of the qualification. Benefits may require business changes and *enabling changes* which have to be put in place to deliver the benefit. For example, the eventual elimination of marker costs (a benefit) will only be achieved once a question bank has been defined (an identified cost). A process will have to be put in place to define how questions will be commissioned, how they will be evaluated and how they will be entered and maintained in the question bank. These business and enabling changes require tasks which will have to be estimated and scheduled in a project plan. They form the link between the IT enabler (the software solution) and actually delivering the benefit. The benefits map shows exactly what has to be done to actually deliver the promised benefit.

Benefits realisation is a post-implementation activity which actually compares the delivered benefits with the promised benefits (and costs) forecast in the business case. This is another key role for benefit owners. Also, because of the nature of the financial case (where benefits are delivered annually), it is useful if benefits realisation is a series of reviews. The primary objective is to establish which benefits have been delivered and which have not. Undelivered benefits are investigated and remedial action may be taken. Unanticipated benefits may have also emerged and these are also considered in the reviews. Lessons learnt are fed back into the *benefits management process*. It is often very difficult to disaggregate benefits as time passes. For example; an increase in student numbers may be due as much to the improvement of marketing, to the decline of competing institutes or to demographic change, as it is to computer-based assessment. However, benefits realisation remains worthwhile, if only to stress that someone has to have continuing responsibility for realising the promised benefits which justified the financial investment made by the organisation.

1 **(a)** 1 mark for each relevant point. Up to 6 marks for each heading under the SWOT analysis up to a maximum of 20 marks.

(b) 1 mark for each relevant point up to a maximum of 14 marks.

(c) 1 mark for each relevant point up to a maximum of 3 marks for each quadrant of the matrix, up to a maximum of 12 marks.

Up to 4 professional marks for the complete assessment required by Vi Ventures; up to 1 mark for appropriate quality, up to 1 mark for fluency and up to 1 mark for appropriate report tone and up to 1 mark for the professionalism of the complete answer.

2 **(a)** For the non-financial analysis: 1 mark for an appropriate point up to a maximum of 9 marks. For the financial analysis, up to a maximum of 10 marks. There is a maximum of 16 marks for the complete part question.

- Table of figures showing values for different class sizes (2 marks)
- Expected contribution per course (2 marks)
- Breakeven analysis (2 marks)
- Course running value and implication (1 mark)
- Options for flexing (2 marks)
- Assumptions (2 marks)

(b) 1 mark for each appropriate point up to a maximum of 3 marks for each part of the marketing mix. Three parts are specified (physical evidence, people and process), so there is a maximum of 9 marks.

3 **(a)** 1 mark for each relevant point about stages in the process of software procurement up to a maximum of 15 marks.

(b) 1 mark for each relevant point made for discussing the relative advantages of a software package over a bespoke solution up to a maximum of 10 marks.

4 **(a)** 1 mark for each appropriate point up to a maximum of 6 marks for issues concerning costs. 1 mark for each appropriate point up to a maximum of 6 marks for issues concerning benefits (including benefit classification). 1 mark for each appropriate point in the overall evaluation, up to a maximum of 3 marks.

(b) 1 mark for each appropriate point up to a maximum of 4 marks for each concept (benefit owner, benefits map, benefits realisation). Up to a maximum of 10 marks.