

ACCOUNTING FOR DECISION MAKING

Professional 2 examination 11 June 2002

From 10.00 am to 1.00 pm
Plus ten minutes reading time from 9.50 am to 10.00 am.

Instructions to candidates

Answer **four** questions in total: **Question 1** from **Section A**, and **three** questions from **Section B**.

All workings should be shown. Where calculations are required using formulae, calculators may be used but steps in the workings must be shown. Calculations with no evidence of this (for example, using the scientific functions of calculators) will receive no credit. Programmable calculators are not permitted in the examinations room.

Formula sheets, statistical tables, graph paper and cash analysis paper are available from the invigilator, where applicable.



SECTION A (Compulsory)**1**

Pictureton Housing Association is a non-profit making organisation operating within a large urban area providing housing services to a number of separately identifiable housing sites. The Association's primary objective is to provide quality housing at affordable rents. In trying to achieve this they aim to:

- develop affordable solutions to housing needs;
- manage effectively, with financial responsibility and tenant involvement, the resources of the Association to deliver quality services; and
- perform at the highest levels expected of registered social landlords.

The Income and Expenditure Accounts for the last two years (ending 31 March) show the following:

	2000 - 2001	1999 - 2000
	£000	£000
Turnover	13,800	13,100
Less operating costs	(9,400)	(8,400)
	<hr/> 4,400	<hr/> 4,700
Surplus on sale of properties	800	1,200
Interest payments and similar charges	(5,700)	(5,700)
Surplus/(Deficit) on ordinary activities	<hr/> (500)	<hr/> 200

The Association operates a decentralised structure with a manager responsible for each of the sites. These managers are given significant levels of autonomy but are held ultimately accountable to the Chief Executive Officer of the Association. Each site is accountable for all incomes relating to their properties as well as the expenses they incur including centrally recharged overheads.

One of the managers is responsible for a site of 400 flats in the Jonestown area which she has had problems letting. The main obstacle to letting the flats has been the recent spate of burglaries and attacks on individuals within the vicinity of the properties. The manager has noted a sharp downturn in applications for the properties in the last two years which correlates to the upturn in crime related incidents. At present only 85% of the properties are let. Senior management in the Association have been pressurising the manager to review this position as significant deficits are linked to unlet properties. The security system presently operating is a somewhat rudimentary property entry system whereby entry to a building is achieved through residents using personalised codes. This allows the residents to enter the building themselves and allows visitors entry when the resident keys in their code from within the property. The present number of properties and those unlet are as follows:

	Total number of flats	Weekly rental £	Number presently unlet
Property type A	180	60	10
Property type B	120	70	20
Property type C	100	80	30
Total	<u>400</u>		<u>60</u>

The manager has recently formed a working group to consider how to rectify the situation. This group agreed that the problem is not to do with the quality of the flats but rather with security. The working group held meetings with the tenants and the issue of security was regarded as a key factor that required immediate attention. The large attendance at the meetings unanimously mandated the Association to put in place an appropriate system, with the introduction of Closed Circuit Television (CCTV) and secure and effective entry systems being regarded as popular choices. It was therefore decided that an invitation to tender document be drawn up seeking appropriate firms to proffer bids to upgrade the existing security systems. The document was written in broad terms to enable contractors to consider a wide number of possibilities. A number of tenders were received with two being regarded as viable. The working group has studied these documents and has detailed their implications as follows:

Tender 1

This company has suggested that they install and maintain a CCTV system that would cover the geographical area of the housing site and would be operational in hours of darkness. They believe that this, in addition to the existing although slightly outdated entry security system, would eradicate the incidence of crime. The contractor states that although the existing entry system is not “state of the art” it is sufficient. They have noted that the system has not been adequately maintained and part of their remit would be to maintain the systems in operational order.

Tender 2

This company has proposed that rather than a CCTV system, there be significant investment in lighting systems outside the properties as well as a complete overhaul and modernising of the entry security system. This system is not only outdated but also prone to breakdown. The company would install and maintain both systems.

Cost and income information

The total current fixed costs for running the 400 flats in Jonestown are £1,170,000 per annum, including a security entrance maintenance agreement of £20,000 for the existing entry system (which is due for renewal) with variable costs per occupied flat of £500 per flat per annum. It should also be noted that there is an annual per capita recharge for the Housing Association for central administration and running costs of £600 per occupied flat.

It is felt that should Tender 1 be accepted, there will be a reduction in all categories of unlet flats by 60%. It has also been agreed that all rentals would be increased by £1.50 per week which they believe they would be able to defend. The costs for the CCTV system will be £530,000 paid immediately, annual maintenance costs for the CCTV system and entry security system of £40,000 and the employment of shared security staff to view the CCTV output of £10,000 per annum. The contractor has stated that they would guarantee both the CCTV system and entry security system for 6 years after which they would both need to be renewed. There will be a residual value on the equipment at the end of the six year life of £20,000.

Should Tender 2 be accepted, there would be a reduction in all categories of unlet flats by 30%. It has also been agreed that all rentals would be increased by £1 per week which they would be able to defend. The costs for the new entry and lighting system will be £356,000 paid immediately and annual maintenance costs for the lighting and entry security system of £30,000. The contractor has stated that they would guarantee both the new lighting and entry security system for 8 years after which they would both need to be renewed. At the end of the 8 year life it is thought that the equipment will be sold for £10,000.

Note that under both tenders the existing security system maintenance contract would not be extended and maintenance would be covered by the new contractors.

The Pictureton Housing Association have surplus reserves at present and are currently earning 7.8% gross on their funds.

All of the above costs are at current cost with inflation running at 2.6% affecting all cash flows. You should ignore the effects of VAT and taxation.

In assessing alternative options for taking forward a service development the housing association wishes to assess this security development for Jonestown in relation to 6 criteria:

- A. Level of security of tenants.
- B. Acceptability to tenants.
- C. Creation of community.
- D. Minimisation of disruption to tenants during installation.
- E. Financial.
- F. Confidence relating to proposals' suggested filling of unlet flats.

In assessing the relative importance of the above criteria the working group has agreed that weightings in relation to their importance should be given as follows:

- D should be weighted as 1
- B, C, E and F should be weighted as 2
- A should be weighted as 3

The working group has met to discuss and score the projects above and have agreed on the following scores where 10 is the highest score possible and zero the lowest: (Note that these scores have not yet been weighted):

		Option 1	Option 2
A	Level of security of tenants	8	4
B	Acceptability to tenants	6	8
C	Creation of community	9	8
D	Minimisation of disruption to tenants during installation	3	5
E	Financial		
F	Confidence of filling of voids (unlet flats)	3	6

The working group has not yet considered nor scored the financial implications.

• **Requirement for question 1**

(a) Outline the decision making processes that you would advise should be in place in any capital project within the public sector, indicating problem areas that may be encountered. Your answer should include the concepts of bounded rationality and satisficing. 6

(b) Before the ultimate decision is made, the manager has asked that a report should be prepared for the working group (most of whom do not have financial management skills) covering the following:

(i) A financial evaluation.

Evaluate the financial implications of the two options using three methods advocated by the Association for decision making of this nature. These methods are:

- Total cash flows
- Net present value (NPV)
- Internal rate of return (IRR)

Your report should include comment on the findings of your financial evaluation.

(ii) Non-financial information.

Your report should include a weighted score of each option against the criteria set.

(iii) An explanation and summary of the financial and non-financial position facing the Association including assumptions, requirements for further information and recommendations. 26

(c) The working group was involved in initiating and co-ordinating the tendering process. Outline the tendering processes that should be in place to ensure that correct suppliers are selected in tendering situations. 8

SECTION B (answer three questions)**2**

Ailwell City Council Sport and Leisure Department presently provides a number of non-floodlight football and hockey parks which are used widely by different sections of the community. These facilities are available for use and show utilisation rates of 47% when the parks are available for bookings.

The Council have been concerned about the amount of subsidy that has been given to the Sport and Leisure Department in the past and have recently completed an activity based review. The running of the football and hockey parks was seen as a separate activity and costed separately.

The objectives of the Sport and Leisure Department include:

- To increase participation and raise standards of sport performance within the whole community (including groups with special needs) in a wide range of activities embracing clear policies of sport equity.
- To increase usage of the facilities without adding significantly to the running costs.
- To promote positive attitudes by all to health, life style, self esteem and the local areas.

The review revealed that the projected annual costs for the running of the football and hockey parks were as follows:

Fixed costs	£
Maintenance staff salaries (gross)	96,000
Estates related costs	63,000
Supplies and services	42,000
Administration	32,000

The variable costs are £5 per park booked, relating to such costs as heating and water for changing rooms, postage of booking confirmations etc.

The fixed costs of running the parks are all incurred locally at the Sports and Leisure Department, apart from 40% of the estates costs and 50% of the administration costs, which are incurred centrally.

The price charged per park at present is £38 which results in demand of 3,800 bookings per annum.

The Council are only willing to provide a subsidy of £75,000 per annum and are seeking reassurances that the department will not be in excess of this amount.

The department have carried out a market research exercise regarding the prices that are set for the parks. It was found that for every increase/decrease in the price by £1 it was estimated that demand for the parks would fall/rise by 100 bookings.

The Council have had an initial meeting with a team of consultants who are proposing a “Business Process Re-engineering” (BPR) approach to cutting costs. They believe that through this process they may be able to cut localised fixed costs by 15% and variable costs by 5%. Their consultancy costs for this project would be £15,000.

It is also believed that the pricing policy is outdated and could be improved upon.

- **Requirement for question 2**

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|-----|--|---|
| (a) | Outline to management the purposes of, and stages to, a BPR exercise and how it might be utilised within the department. | 5 |
| (b) | Calculate the optimal price per park that should be set by the department given that the BPR based consultancy is undertaken. | 6 |
| (c) | Given your findings in (b), and the consultant’s predictions, forecast the likely subsidy should the prices be altered and the consultant employed, commenting on your findings. | 4 |
| (d) | Outline what other changes could be introduced to the pricing structure in order to improve the number of users and adhere to the department’s objectives. | 5 |

(20)

3

Brigton City Hospitals Trust was established in 1999, providing acute healthcare services. It has eleven hospitals, one of which is the City Dental Hospital and School. This facility provides specialist services as well as having close links with the local university to facilitate the education of undergraduate dental students.

Concern has been raised about the Oral Surgery (removal of teeth by surgical intervention) Department. The hospital has recently undertaken a business excellence exercise. The results of the exercise have revealed the following for two of the hospital's departments:

Criteria	Maximum score available	Oral Surgery Department	Orthodontics (Correction of Dental development in respect of facial growth) Dept
Leadership	70	24	52
People management	56	22	40
Policy and strategy	63	19	24
Resources	63	55	40
Processes	98	70	72
Total enablers	<u>350</u>		
People satisfaction	140	40	94
Customer satisfaction	63	25	48
Impact on society	42	25	32
Business results	<u>105</u>	70	74
Total results	<u>350</u>		
Total business unit score	<u>700</u>		

A benchmarking exercise has been carried out with a similar oral surgery department in the UK. The following performance details have been collected:

	Brighton City Hospital Trust Oral Surgery Dept.	Comparative dept.
Number of patients	24,000	28,000
Number of medical staff	12	11
Number of administrative staff	4	3
Waiting list time	2 months	3 months
Repeat referrals (due to treatment not being successful)	8%	4%
Space	300 metres square	400 metres square
Department (deficit)/surplus in relation to department budget (comparing cost and income streams)	(5%)	+1%

- **Requirement for question 3**

(a) Explain what you understand by internal/external benchmarking and the business excellence models, suggesting how they might be used in the above case. 10

(b) From the information above, analyse the performance of the Oral Surgery Department and suggest actions the Department can take to improve their position. 10

(20)

4

Burstin City University are considering opening a new hall of residence close to the main campus. The University's mission statement is broad regarding its role in making a student's learning experience as fulfilling as possible. This has included an attempt to establish an infrastructure within the University that will best meet a student's learning experience.

If the residence is constructed then it will also be used in the summer vacations for visiting tourists at which point premium rates will be charged.

The capital costs of the residences will be dependent on the expected demand from students and tourists and the related size of the residence. Two plans have been proposed as follows:

Residence plan A	Maximum occupation 550	Capital cost £3.5million
Residence plan B	Maximum occupation 450	Capital cost £3 million

There is uncertainty about both student demand during term time and tourist demand. Market research and discussions with the student services department (who currently look after student accommodation) have made the following predictions regarding student and tourist demand for accommodation:

Students	Probability	Associated Present Value
350 per week	.4	+ £2m
450 per week	.3	+ £2.9m
550 per week	.3	+ £3.8m
Tourists		
250 per week	.4	+ £1m
350 per week	.6	+ £1.5m

Present Values (PVs) have been calculated based on all discounted relevant cash flows (except the capital costs above) over a twenty-year period.

Should the larger residence be built a further option is available to the University. At present plan A includes 3 large common rooms and a games room. The plans could be altered such that a refectory facility could be built with one of the common rooms being left out of the plans and the other common rooms and the games room being reduced in size. The capital costs of this additional option are £620,000. The refectory facility will only be open during term time as it is felt that the tourist market would be too specialised in comparison to the more basic requirements of students. This option is not available for plan B due to the limited dimensions of the original plan. Senior management have also stated that the refectory option should only be considered if student demand is 400 or greater per week, as below this level the expenses will outweigh incomes and benefits.

The extra PV cash flows relating to the refectory (excluding the capital costs) depend on the number of students using the accommodation, and of those, the percentage who will utilise the refectory. Predictions have been made as follows:

Students in residence	% of students in residence using the refectory	Probability of students using the refectory	Associated Present Values
450 per week	60%	.6	£450,000
	80%	.4	£650,000
550 per week	60%	.6	£600,000
	80%	.4	£900,000

• **Requirement for question 4**

- (a) Construct a decision tree clearly showing the options open to the University. 4
- (b) Evaluate the decisions that the University should take based on expected monetary values. 6
- (c) Write a brief report outlining the process you have undertaken and its limitations, and make recommendations based solely on the financial considerations. 6
- (d) What other factors should be taken into consideration before arriving at a final decision? 4

(20)

5

Management accounting practice has traditionally focused on the internal environment. This has led to the management accounting function being criticised for not addressing the needs of senior management. Criticism has focused on the lack of information that will assist an organisation in meeting its long term strategic objectives and identifying the impact on strategy of changes in the external environment.

- **Requirement for question 5**

- (a) Critically evaluate the weaknesses of “traditional” management accounting identified above and discuss the contribution that strategic management accounting has made to addressing these criticisms. *10*
 - (b) Describe how strategic management accounting (SMA) may be applied within the public sector using four different SMA techniques to illustrate your argument. *10*
- (20)*