

# ACCOUNTING FOR DECISION MAKING

**Professional 2**  
**December 2002**

## MARKING SCHEME

The logo for CIPFA, featuring the letters 'CIPFA' in a serif font. The letter 'I' is stylized with a curved line above it that loops around the top of the 'P'.

**Question 1**

(a) Activity Based Management

- The management processes that use the information provided by an activity based cost analysis to improve organisational profitability and cost efficiency.
- Requires activity based costs to be prepared via allocating costs to activity pools and then dividing by the number of cost driver incidences.
- Need for a strong causal relationship to exist between cost drivers and costs for this approach to be meaningful.
- Aim of ABM is to perform activities more efficiently.
- Focuses on value adding and non-value adding activities.
- Concentrates management on their business processes.
- May include building stronger relationships with clients and suppliers to achieve greater efficiency and effectiveness.
- May lead to outsourcing in certain circumstances.

Value analysis

- A planned approach to cost reduction which reviews the cost composition of a service so that modifications can be made which do not reduce the value to the consumer of the service.
- This approach also takes cognisance of the value provided by a service.
- The approach may look at ways of increasing this value or reducing costs without affecting significantly the value proffered to consumers.
- In the public sector there may be a need to arrive at a surrogate price that consumers would be willing to pay for a service.

*1 mark per point made, up to a maximum of 4 for each technique*

(8)

(b)

<b>Allocation of overheads to Farm Department</b>	£	Total cost driver incidences	ABC	Cost driver incidences in Dept of Farm Management	Overheads
Cost driver: Staff in academic departments	665,000	125	5,320.00	6.5	34,580
Cost driver: Academic staff	80,000	90	888.89	6	5,333
Cost driver: Number of modules	75,000	150	500.00	6	3,000
Cost driver: Student FTE's	1,175,000	2,400	489.58	80	39,167
Cost driver: Books/journals	400,000	27,500	14.55	3,000	43,636
Cost driver: Space	580,000	7,000	82.86	600	49,714
Total central overheads	<u>2,975,000</u>	Total overheads charged via cost drivers (to be allocated to activities via tuition hours)			<u>175,431</u>
Other overheads to be charged via tuition hours:					
Departmental head: 60% x £45,000					27,000
Administrators					8,000
Consumables: 50% x £40,000					20,000
					<u>230,431</u>

Accounting for Decision Making  
Marking Scheme

December 2002

Dept. of Farm Management: Income and cost streams to activities	Bases of allocation to activities	FMYR1	FMYR2	FMYR3	FHRYR2	FECYR2	FADMYR2	Other	Total
Income	As given	112,500	96,000	51,000	40,000	40,000	40,000	30,000	409,500
<b>Direct costs</b>									
Teaching costs £150,000 + (.4 x £45,000 re HOD))	Tuition hours	26,133 (840/5,400)	22,400 (720/5,400)	19,911 (640/5,400)	22,400 (720/5,400)	22,400 (720/5,400)	22,400 (720/5,400)	32,356 (1,040/5,400)	168,000
Direct costs (50% x £40,000)	Number of students	6,250 (150/480)	5,000 (120/480)	2,500 (60/480)	2,083 (50/480)	2,083 (50/480)	2,083 (50/480)	0	20,000
Total direct cost		32,383	27,400	22,411	24,483	24,483	24,483	32,356	188,000
Contribution earned by module		80,117	68,600	28,589	15,517	15,517	15,517	-2,356	221,500
Overheads to be charged on basis of tuition hours	Tuition hours	35,845 (840/5,400)	30,724 (720/5,400)	27,310 (640/5,400)	30,724 (720/5,400)	30,724 (720/5,400)	30,724 (720/5,400)	44,379 (1,040/5,400)	230,431
Surplus/deficit		44,272	37,876	1,279	-15,207	-15,207	-15,207	-46,735	-8,931

Marks:

*Calculation of activity based costs .5 marks per cost driver = 3*  
*Recognition of the different activities 2 mark*  
*Allocation of income to activities 1 mark*  
*Recognition of direct teaching cost 1 mark*  
*Allocation of teaching cost 1 mark*  
*Allocation of direct costs 1 mark*  
*Calculation of contribution per category 1 mark*  
*Charging of departmental administrator 1 mark*  
*Charging of indirect consumables 1 mark*  
*Charging of departmental head admin cost 1 mark*  
*Charging of departmental central costs .5 marks per cost driver = 3*  
*Allocation of overheads to activities 2*  
*(18)*

- (c) A number of points could have been made:
- The department is making a deficit overall (£8,931).
  - There are a number of modules making surpluses whilst others are making losses.
  - For those modules making losses at present is there any way that these losses can be reduced/eliminated:
    - Getting more students to attend?
    - Reducing the tuition hours eg via directed learning?
  - The 'other activities' category is making a significant loss (£46,735). However, it should be noted that the unallocated time has been allocated against these 'other activities'.
  - Consideration should be given to ways of eliminating/reducing this including:
    - Increasing the fees charged for short courses and research.
    - Reducing the staff inputs on the short courses and research work.
  - Further work is needed on the time staff have not allocated to teaching; is this purely research/income generation work or is there some spare capacity that management could utilise?

*1 mark per point made up to a maximum of 6*

- (d) A number of points could have been made including:
- Value analysis may allow management to see where significant losses are being made. Thus even where difficulties exist regarding assumptions of the model, the significance of some deficits will allow management to see areas requiring immediate attention.
  - Controllability: There is a valid argument being made here in that departmental heads are being held responsible for areas that they do not often directly influence.
  - The audit report mentioned the need to look at service departments, yet this model does not directly do this, merely passing the costs onto another manager.
  - However, managers may see now the full costs that they are being charged for certain support activities and question them, placing these managers under scrutiny and pressuring greater efficiencies.
  - The method of allocating the overheads to modules is far too arbitrary.
  - For example, the research and commercialisation costs should be charged directly to the "Other Activity" category.
  - Some of the cost drivers are questionable in that there may not be a true causal relationship between the driver and the incurrence of the overhead.
  - For example, do library costs relate entirely to the number of books or should there not be a relationship with the number of students?
  - How accurate was the collection of data regarding teaching hours?
  - Are the weightings for staff time to lecturing appropriate? Perhaps it would be better to use a time sheet system if even on a sample basis.
  - The model does not apply activity based costing in its true form ie there is a failure to collect the costs of different individual processes and activities.
  - This model can be seen to support functional thinking as opposed to a focus on activities and processes which, it is argued, may be more fruitful in terms of management information.

- There is no attempt in this model to manage overheads. Even where cost drivers have been identified to charge overheads to modules, the overheads have then apparently been ignored.
- This model may encourage a reduction in quality, as cost savings appear to be achieved by reducing teaching hours with increased surpluses being earned by higher fees and more students. A more useful approach may be to manage the overhead costs via ABM.

*1 mark per point made up to a maximum of 8*

*(40)*

## Question 2

### (a) Post Completion Audits

- Post completion audits (PCA's) on projects involve analysing a project's actual performance in comparison with initial project proposals. There are a number of reasons for this type of analysis:
- If no audit is systematically carried out this would be known by managers proposing projects. They therefore could place their project in an unreasonably good light as they would not be held accountable for their predictions. PCA therefore can be a good control mechanism on project proposals.
- Projects never proceed exactly to plan. Systematic comparisons may stop the project drifting from its initial estimates and objectives.
- Mistakes could have been made at the forecasting, modelling stage, and valuable lessons can be learned for future modelling/forecasting situations.
- PCA can also be used in appraising staff performance eg achieving planned proposals.
- If PCA is a regular as opposed to a one off review then an analysis of outcomes may lead to a modification of the project or even complete abandonment, as a constant review of future cash flows of a project's remaining life should be made.
- The original objectives and targets are always kept in sight and achievement sought.

*1 mark per valid point made, up to a maximum of 6*

### (b) Memo

To: Senior management team

From: Management accountant

#### **Post audit review of internet project**

Attached to this report is a table showing a comparison of targets set for the project against the actual outcomes to date:

The following points can be made:

#### Costs incurred:

- The web consultants proved more expensive than envisaged, being 11.2% over budget.
- In terms of costs expended, the project team were able to attain the budgeted spend but only by cutting back on equipment costs (possibly inferior equipment) as well as reducing training and promotion costs.
- The reduction in costs for equipment, training and promotion may have resulted from short term thinking, as although the budget was balanced, the savings may have led to poor processing at the council end (due to poor equipment and training) and a lower take up by the public than envisaged due to reduced promotion costs.

#### Savings envisaged

- The savings envisaged did not materialise either in staff savings (no reduction in staff to date) nor reduced printing costs, due to the fact that the public are not using the online forms to the extent envisaged.

#### Operational factors

- Completion of forms over the internet has not reached the levels forecast for either form. Both are significantly below that expected.
- Customers have reduced their applications for form C101 in line with plan but the requests for C102 are still high.
- The time taken to update the forms on the web has been taken far longer than envisaged, perhaps pointing to software inefficiencies.
- Customer complaints have reduced from their existing levels, but have not yet achieved their targeted levels.
- There has been a significant reduction in the level of remedial work, with form C101 achieving the targeted rate and form C102 only marginally failing to achieve the target.

#### Conclusion

It may be too early to judge the project, as the system has only been running for 12 months. It would appear that the take-up by customers has been less than envisaged and this should be focused on in order to bring the users of the system in line with the targets. Consideration should also be given to the staff savings that have not yet emerged.



	Target	Actual	Variance	Variance as
Costs	£			% of budget
Web consultants	58,000	64,500	-6,500	-11.2%
Equipment	16,000	14,000	2,000	12.5%
Training	8,000	6,000	2,000	25.0%
Promotion	10,000	7,500	2,500	25.0%
	92,000	92,000	0	0.0%
Savings				
Reduction in FTE staff	2	0	-2	-100.0%
Staffing £ per annum	30,000	0	-30,000	-100.0%
Printing costs per annum	25,000	10,000	-15,000	-60.0%
Completion date	31/03/01	1/01/01	+3 months	

	Target	Existing C101	Actual C101	Existing C102	Actual C102	Existing Total forms	Actual Total forms
Completion of forms via internet	50%	0%	30.0%		26.7%		28.0%
			6,000/20,000		8,000/30,000		14,000/50,000
Reduction of forms sent by post	40%		40.0%		28.6%		33.3%
			10,000/25,000		10,000/35,000		20,000/60,000
Time to update forms (days)	1		N/A		7		
Customer complaints to completed forms	1%	1.5%	1.3%	1.3%	1.1%	1.4%	1.2%
		300/20,000	250/20,000	400/30,000	325/30,000	700/50,000	575/50,000
Forms requiring remedial work	5%	12.5%	5.0%	11.7%	6.7%	12.0%	6.0%
		2,500/20,000	1,000/20,000	3,500/30,000	2,000/30,000	6,000/50,000	3,000/50,000
		0	0	0	0	0	0

*Workings ½ per performance indicator shown for costs and savings up to a maximum of 4 marks*  
*Workings for the operational aspects, 1 mark per performance measure up to a maximum of 3*  
*Comments, 1 mark per valid comment made up to 6 marks*  
*Presentation 1 mark*  
*(14)*

**Question 3**

(a)

Option 1: Purchase outright			
Year		Factor	
0	-900,000	1	-900,000
1			
2			
3			
4			
5	213,574	0.7473	159,604
			-740,396
Option 2: Leasing			
Year			
0	-200,000	1	-200,000
1	-200,000	0.9434	-188,680
2	-200,000	0.89	-178,000
3	-200,000	0.8396	-167,920
4	-200,000	0.7921	-158,420
			-893,020

Lease at which council willing to accept would require a shift in NPV of 152,624 (ie 893,020 – 740,396).

The annuity relating to the lease cash flows (starting in year 0) would have a factor of  $1 + .9434 + .89 + .8396 + .7921 = 4.4651$

Therefore the lease annuity would have to change by  $152,624/4.4651$  per annum ie a reduction of £34,182. Thus the new annuity (the lease payment) would become £165,818 per annum and the council would become ambivalent between purchasing outright and leasing. This can be proved by the following calculation (not needed in the examination).

Proof of reduction in leasing			
Year			
0	-165,818	1	-165,818
1	-165,818	0.9434	-156,433
2	-165,818	0.89	-147,578
3	-165,818	0.8396	-139,221
4	-165,818	0.7921	-131,345
			-740,396

*1 mark for the purchasing calculation  
2 marks for the calculation for the leasing calculation  
2 marks for calculation of the revised leasing charge acceptable to the council  
(5)*

(b) Kc for the leasing company:

$$K_e = r_f + ((r_m - r_f) \times \beta)$$

$$K_e = 5\% + ((11\% - 5\%) \times 1.1) = 11.6\%$$

$$K_d = i \times (1 - t) = 7\% \times (1 - .3) = 4.9\%$$

However, to arrive at the true yield of the debt we should take into consideration the market value of the debt:  $4.9\%/1.25 = 3.92\%$

WACC

Market value

Equity 200 x £2.10	£420m	11.6% x 420/545	8.94%
Debt 100 x £1.25	£125m	3.92% x 125/545	0.9%
Total	£545m		9.84% (say 10%)

Leasing Company

Capital allowances			Taxable income	Net taxable income	Tax at 30%	
Year 0	Cost	765,000				
		(900,000 x .85)				
Year 1	Capital allowances	191,250	200,000	8,750	2,625	
		(765,000 x .25)				
	Net book value	573,750				
Year 2	Capital allowances	143,438	200,000	56,563	16,969	
		(573750 x .25)				
	Net book value	430,313				
Year 3	Capital allowances	107,578	200,000	92,422	27,727	
	Net book value	322,734				
Year 4	Capital allowances	80,684	200,000	119,316	35,795	
	Net book value	242,051				
Year 5	Disposal proceeds	213,574				
	Balancing charge	28,477	200,000	171,523	51,457	
Net present value						
	Capital	Rentals	Taxation	Net cash flow	Kc	NPV
Year 0	-765,000	200,000		-565,000	1	-565,000
Year 1		200,000		200,000	0.9091	181,820
Year 2		200,000	-2,625	197,375	0.8264	163,111
Year 3		200,000	-16,969	183,031	0.7513	137,511
Year 4		200,000	-27,727	172,273	0.683	117,663
Year 5	213,574		-35,795	177,779	0.6209	110,383
Year 6			-51,457	-51,457	0.5645	-29,047
						116,441

Lowest lease at which leasing company would be willing to accept would require a shift in NPV of £116,441. However this figure is net of tax and we are interested in looking at the gross value of the leasing payments.

Therefore the tax effect needs to be taken into consideration as follows:

Let X = the annual reduction required in the leasing payment. In order for the leasing company to achieve a zero NPV then:

$$(X \times 4.1698) - (X \times .3 \times 3.4461) = 116,441$$

NB The first part of the equation relates to the leasing revenue (with an applicable annuity factor of  $1 + .9091 + .8264 + .7513 + .683 = 4.1698$ ) whilst the second part relates to the taxation effect on the changed revenues (with an applicable annuity factor of  $.8264 + .7513 + .683 + .6209 + .5645 = 3.4461$ ).

Thus X = 37,130

The revised leasing charge in order to achieve a zero NPV = £200,000 – £37,130 = £162,869.

At this point the leasing company will only achieve their cost of capital target return. This can be proved by the following calculation (not needed in the examination).

Capital allowances			Taxable income	Net taxable income	Tax at 30%	
Year 0	Cost	765,000				
		(900,000 x .85)				
Year 1	Capital allowances	191,250	162,869	-28,381	-8,514	
		(765,000 x .25)				
	Net book value	573,750				
Year 2	Capital allowances	143,438	162,869	19,432	5,829	
		(573,750 x .25)				
	Net book value	430,313				
Year 3	Capital allowances	107,578	162,869	55,291	16,587	
	Net book value	322,734				
Year 4	Capital allowances	80,684	162,869	82,185	24,656	
	Net book value	242,051				
Year 5	Disposal proceeds	213,574				
	Balancing charge	28,477	162,869	134,392	40,318	
Net present value						
	Capital	Rentals	Taxation	Net cash flow	Kc	NPV
Year 0	-765,000	162,869		-602,131	1	-602,131
Year 1		162,869		162,869	0.9091	148,064
Year 2		162,869	8,514	171,383	0.8264	141,631
Year 3		162,869	-5,829	157,040	0.7513	117,984
Year 4		162,869	-16,587	146,282	0.683	99,910
Year 5	213,574		-24,656	188,919	0.6209	117,300
Year 6			-40,318	-40,318	0.5645	-22,759
						-1

*CAPM calculation 1 ½ marks*  
*WACC 1 ½ marks*  
*Calculation of capital allowances 2*  
*Calculation of tax 1*  
*Calculation of NPV 2*  
*Sensitivity of leasing company 2 marks*

(c) The following points are pertinent:

- Based on these figures, if the leasing company offered a lease payment of £165,818 then the council would be ambivalent in their decision making and the leasing company would still earn a positive NPV (as their breakeven point is a lease charge of £162,869).
- However, the size of the reduction below £165,818 at which the council would decide on leasing is unknown and other factors may be taken into consideration including.
- Maintenance contract associated with the lease.
- Reliability of the leasing company.
- The willingness of the leasing company to make a loss on this contract to win the council's loyalty for future contracts.
- The council might be interested in seeking future reductions from the company for future contracts, due to the volume of trade being placed with the leasing company.

*1 mark per point made up to a maximum of 5*

*(20)*

**Question 4**

(a) Learning factor =  $\frac{\log \text{ learning effect}}{\log 2} = \frac{\log .9}{\log 2} = \frac{-.1054}{.6931} = -.152$

Budgeted costs for 75,000 tonnes  
(in batches this equals = 75,000 x 1,000 kg/ (100 containers per batch x 5kg per container) = 150,000 batches)

Materials                      150,000 x £2    300,000

Labour

$Y = ax^b$

Where = average cost for batches

a = cost of initial batch

x = total number of batches

b = learning factor (-.152 for a 90% learning rate)

$Y = £20 \times (150,000 \text{ to the power } -.152) = £3.2678$

Therefore total cost of labour = 150,000 x £3.2678 =                      490,170

Variable costs 490,170 x .3    147,051

**Fixed costs**    1,300,000

Total forecast costs    2,237,221

*Calculation of Y 3 marks*

*Labour cost 1 mark*

*Variable overhead 1*

*Materials and fixed overheads ½ each*

*(6)*

(b) The answer could have included:

- The reliance on the learning curve on:
  - Labour intensive activities.
  - Activities of a repetitive nature with a significant number of the activities occurring within a short period of time (such that the learning effect would not be lost).
- The above may not be applicable in all but a few areas of the public sector. The method was predominantly used within labour intensive manufacturing entities.
- The experience curve recognises that there is a learning curve relating to activities not repeated in the short term but in the longer and medium term.
- Thus the repetition of a large scale investment decision may be able to learn from the experience of earlier decisions (perhaps a similar decision of some years before).
- The difficulty with the experience curve is in determining its learning effect.

*1 mark per point made up to a maximum of 4*

(c) The expected monetary value is £34,500 as shown by the table below.

Learning	Probability	Volume	Probability	Joint	Over/(under) spend	EMV
@ 92%	25%	120,000	0%	0%	195,943	0
	25%	135,000	20%	5%	82,528	4,126
	25%	150,000	50%	13%	-29,780	-3,722
	25%	165,000	20%	5%	-841,110	-42,056
	25%	180,000	10%	3%	-951,540	-23,788
@90%	40%	120,000	0%	0%	432,626	0
	40%	135,000	20%	8%	347,235	27,779
	40%	150,000	50%	20%	262,779	52,556
	40%	165,000	20%	8%	-520,883	-41,671
	40%	180,000	10%	4%	-603,769	-24,151
@ 88%	35%	120,000	0%	0%	598,969	0
	35%	135,000	20%	7%	532,563	37,279
	35%	150,000	50%	18%	466,886	81,705
	35%	165,000	20%	7%	-298,125	-20,869
	35%	180,000	10%	4%	-362,538	-12,689
				100%		34,500

The probability of spending less than budget is:  $5\% + 8\% + 20\% + 7\% + 18\% = 58\%$

If volume is 10% or 20% above the expected volume levels an overspend on budget occurs.

This is mainly due to the fixed step cost at 160,000 batches.

If output is below the expected level then an underspend in budget will be experienced.

The learning curve effect is significant. This can be illustrated looking at the change in underspend at the 10% below volume levels. The change in costs per the table are £264,707 between a learning factor of 92% and 90%. Part of these costs will be variable costs ie the variable overheads are 30%. Thus the labour element will be  $£264,707/1.3 = £203,620$ .

It affects not only the labour cost but also the variable overheads.

One major problem with this model is that it is assumed that labour costs are variable where in reality they may be predominantly fixed in the short term.

*EMV calculation 4 marks*  
*Underspend calculation 2 marks*  
*Other comments 1 mark each (1 mark each up to 4 marks)*  
*(10)*



## Question 5

### Value Chain Analysis

- Value chain analysis is a means of breaking down a firm's strategically relevant activities in order to understand the behaviour of costs.
- Competitive advantage or more optimal cost effectiveness can be found by carrying out these activities in a more cost-effective way.
- The enterprise can consider such matters as outsourcing individual activities or carrying out a task themselves which was previously outsourced.
- For each of the activities in the value chain, costs are allocated being driven by one or more cost drivers.
- The steps involved in value chain analysis can be summarised as:
  - Identification of value chains.
  - Assigning costs and assets invested to each chain.
  - Recognise the cost drivers of each activity and their interaction.
  - Identify competitor value chains, determining the relative cost of competitors and why cost differences may exist.
  - Develop a strategy to achieve lower cost positions by such strategies as controlling costs and cost driver incidences, outsourcing of activities or reconfiguring the value chains currently provided by the entity.
- A further development of this could be an attempt to break down the organisation's existing activities/processes and to place a value (incomes and costs) upon each. This would involve focusing on the different chains and considering the added value of each (incomes less costs of bought in goods and services).
- An assessment can be made regarding the point in the value-added chain that an organisation wishes to compete. When this has been decided we can then build stronger relationships with those prior to us in the value chain (suppliers) and to those at the next stage (customers).
- An entity may consider backward integration (ie providing the previous stage in the value chain where they don't provide it at present) or forward integration where added value may be found by so doing.

### External Benchmarking

- Benchmarking can be defined as a systematic and continuous measurement process, continually comparing and measuring an organisation's business processes against external business leaders.
- The overall aim of the technique is to gain information that will help the organisation take action to improve its performance.
- Benchmarking looks at all aspects of an organisation, not limiting itself to purely costs factors, and also looking at procedures and processes.
- Strategic benchmarking focuses on comparisons relating to an organisation's strategy and may include consideration of similar organisations' strategic direction eg investment levels.
- Operational benchmarking focuses on the large variety of operational elements.

- The outcomes from the process may be:
  - The identification of opportunities not previously identified.
  - Finding the solution to an existing problem.
  - Identifying best practice within areas of significance to the organisation which an entity can attempt to emulate.
  - Learning from others' successes and mistakes.
  - Improving in areas where the organisation has been criticised eg references made by external auditors.
- The comparator firms should be successful in their particular field, with their success relating to competencies in the areas of which an interest has been identified for benchmarking.
- It should be noted that many functions of an organisation are common to other commercial entities eg personnel, legal services, internal audit, estates, property maintenance. It may therefore be easy to benchmark these areas against any number of firms in differing industries.
- Methods of collecting data include mailshots, telephone calls, using published details and comparing these with in-house records, visiting comparator's premises etc.
- Current performance gaps can be determined and means sought of closing this gap.
- The environment of the public sector differs from the private especially relating to competition. The public sector bodies are not in competition with each other for customers and therefore are more likely to be willing to share statistics and other information regarding business processes.

### **Target Costing**

This technique is concerned with shaping the production around the targeted cost for a product/service.

Can be used for both new and existing products/services.

The aim is to meet customer requirements including quality at the minimum possible cost.

The targets set for a product's costs may be expected to change over the product's life and this should be built into the targets.

The technique should stimulate innovation and creativity especially in the early stages of a product/service's life.

A further use of the technique may be to set ongoing targets in order to continuously improve in service provision processes and costs.

If targets set are unrealistic they will demotivate the staff. If the targets are not challenging enough an opportunity may have been missed.

Simplistically the stages of the process are as follows for the profit making sector:

- Prepare a product/service specification.
- A target selling price is estimated.
- The target profit level should be calculated (possibly based on the return on capital target or cost of capital).
- The target cost can then be calculated by deducting the profit element from the target price.

The above model can be adapted for the not-for-profit sector by ignoring the profit element and the sales value and using a benchmark cost indicator eg based on best practice organisation's cost indices.

The management can then attempt to re-engineer their processes in order to achieve the target cost.

The accounting team will cost any changes to the process specifications.

ABC can also be used within target costing, as many costs may be of an overhead nature. The overhead costs are allocated and apportioned to various activities and then applied to products/services via cost drivers ie the factor that drives (influences) the overhead cost to be incurred.

### **Life cycle costing**

- This technique aims to provide information to management to aid in their understanding of these different phases and the project as a whole.
- The technique is not only restricted to deciding whether the project should be undertaken but also in the planning and control of the project for each phase.
- This method attempts to recognise all costs related with a project, from the project's conception to its completion. The aim is to minimise (on an NPV basis) the life costs of a project.
- This will discourage making purchases with a low initial cost price and high support costs.
- The emphasis on cost, using this procedure, will be viewed at the point of committing the organisation to the cost rather than only at the point of cash expenditure (which is the traditional focal point).

Application to the public sector of life cycle costing:

- The consideration of all of the costs of a project.
- Directing management's attention to the point of committal of costs.
- Recognising the limitations of traditional costing methods with their focus on the production phase (at which point costs will already be committed).
- Recognition that the costs of the entire project can be reduced by focusing energy on the design stage.
- Aims to use different control techniques at different stages of the product's life.

### **Balanced scorecard**

Provision of information on all relevant areas of performance in objective and unbiased way.

Key features :

- Focus on a range of areas.
  - Financial and non financial factors.
  - Look at medium and long term policies and aspirations as well as short term targets.
  - Consider external and internal factors.
  - Focus on key factors (KPIs).
  - Guards against focusing on one indicator to detriment of other important areas.
- 
- Kaplan and Norton suggested 4 categories in a balanced scorecard:
    - Financial performance.
      - ROI.
      - Deficit/surplus.
      - Non governmental Revenue growth/mix.
      - Cost reduction/productivity.
      - Liquidity.
    - Core customer measures
      - Customer acquisition.
      - Customer retention.
      - Customer satisfaction.
      - On time delivery.
    - Internal business measures (based on key factors relating to different entities)  
eg:
      - Tender success rate.
      - Rework.
    - Core learning and growth measures:
      - Employee satisfaction.
      - Employee retention.
      - Employee productivity.
      - Revenue per employee.
      - Time to develop products/services.

*Problems with balanced scorecard approach*

- Increased volume of information.
- Coordination and control of performance measure setting and analysis of results.
- Linking and weighting of financial and non financial elements.

*Mark allocation*

*For each section:*

*1 mark for each point made re outlining how techniques function up to a maximum of 3*

*1 mark per point made re relevance to public sector up to a maximum of 2*

(20)