
Answers

Diploma in Financial Management Examination – Module A
Paper DA1, incorporating subject areas:
Interpretation of Financial Statements
Performance Management

December 2002 Answers

Section A

1 C

2 B

Workings:

Capital and Reserves at 1/10/01	12	
Share issue	1	
Dividends	(3)	
	10	
Net assets at 30/9/02		
(18 + 10 – 4 – 8)	16	
Profit	6	

Distracters **A** Change ignores share issue
 C Change ignores dividends
 D Dividends are added not subtracted

3 D

Workings:

N.B.V (based on four years' depreciation on R.B. method at 25%) =	63,281	
Proceeds	90,000	
Profit	26,719	

Distracters **A** Based on two years' depreciation
 B Based on straight line depreciation over eight years
 C Based on three years' depreciation

4 A

5 B

Workings:

	£M	
Assets at 30/9/02	6	
Less Profit for year	2	
	4	
Add: Fair value increase	1	
Net asset at F.V.	5	
Group Share (80%)	4	
Cost	9	
	5	
Goodwill	1	
Amortization (20%)	1	
Book value	4	

Distracters **A** Correct except no adjustments for fair value increase
 C Correct except for adjustment for minority share
 D Correct except no amortization

6 C

7 B

8 C

Workings:

	Cornea Ltd	Retina Ltd
Operating margin	7.87%	8.9%
Fixed asset turnover	2.78 x	1.56 x

9 A

Workings:

	Profit after Tax	
	Share Capital + Reserves	
Cornea	$\frac{43}{292}$	$\times 100 = 14.73\%$
Retina	$\frac{40}{369}$	$\times 100 = 10.84\%$

Distracters **B** Uses retained profits
 C Uses share capital only
 D Uses Operating profit and total capital employed

10 A

Workings:	Cornea Ltd	Retina Ltd
Stock Turnover	4.6 x	2.9 x
Quick Assets Ratio	0.74:1	0.29:1
Creditor Repayment	1.51 months	3.76 months

11 D £15,000/(£4.00 – £2.50)

12 C

13 B

14 A

15 D

Fixed Overhead Variances								
1	2	3						
Actual cost	Budgeted costs	Costs applied						
£	£	£						
	$2,000 \times 3 \times \text{£}6$	$2,200 \times 3 \times \text{£}6$						
£37,200	£36,000	£39,600						
<table> <tr> <td>Expenditure variance</td> <td>Volume variance</td> </tr> <tr> <td>2 – 1</td> <td>3 – 2</td> </tr> <tr> <td>£1,200 adv</td> <td>£3,600 fav</td> </tr> </table>			Expenditure variance	Volume variance	2 – 1	3 – 2	£1,200 adv	£3,600 fav
Expenditure variance	Volume variance							
2 – 1	3 – 2							
£1,200 adv	£3,600 fav							

16 B

17 C $104,000 \text{ units} = [80,000 \times 0.4] + [120,000 \times 0.6]$

18 C $\text{ROI} = \text{£}3.6\text{m}/\text{£}24\text{m}$ $\text{RI} = \text{£}0.72\text{m} = \text{£}3.6\text{m} - [\text{£}24\text{m} \times 12\%]$

19 C

20 D

Section B

1 (a)

	F.I.F.O 1		L.I.F.O 2		W. Average 3		Rep Cost 4	
Sales		3,2600		32,600		32,600		32,600
Purchases	31,000		31,000		31,000		36,000	
Cl. Stock	(8,900)	22,100	(9,000)	22,000	(9,300)	21,700	(10,800)	25,200
Gross Profit		<u>10,500</u>		<u>10,600</u>		<u>10,900</u>		<u>7,400</u>

Workings:

		£
1. Sales:	1,000 at 15 =	15,000
	1,100 at 16 =	17,600
		<u>32,600</u>

2. Purchases:	1,000 at 10 =	10,000
	1,500 at 11 =	16,500
	500 at 9 =	4,500
		<u>31,000</u>

3. Stocks:	F.I.F.O	£	L.I.F.O	£
	400 at 11 =	4,400	900 at 10 =	9,000
	500 at 9 =	4,500		
		<u>8,900</u>		<u>9,000</u>

WEIGHTED AVERAGE

$$\frac{\text{£}31,000}{3,000} = \text{£}10.33 \times 900 = \underline{\text{£}9,300}$$

REPLACEMENT COST

$$900 \text{ at } \text{£}12 = \underline{\text{£}10,800}$$

(b) The general principle of stock valuation is the lower of cost and net realisable value but, since no realisable values are given here, the valuation must be made at cost.

1. First-in-first-out (F.I.F.O.)

The assumption here is that the first stocks, which were purchased, were the first to be sold. In times of consistently rising prices (unlike here) FIFO would produce a higher profit and stock valuation than the other historic cost methods. It is one method used in order to apply the matching concept and is generally acceptable as an accounting practice.

2. Last-in-first-out (L.I.F.O.)

The assumption this time is that the last stocks to arrive prior to a sale are the first to be sold. If prices were consistently rising then this would produce a lower profit than the other historic cost methods. Again an attempt is being made to apply the matching concept although despite being acceptable under the Companies Act (1985), this method is not generally regarded as suitable in the UK

3. Weighted Average

This third approach to matching is an average which is calculated on a periodic basis or is recalculated each time stock is purchased. Thus it may result in a unit price which has not actually been invoiced. Nevertheless it is a generally acceptable method which will produce a profit between that of FIFO and LIFO in a period of changing prices.

4. Replacement Cost

Under the alternative accounting rules of the Companies Act 1985 stocks may be stated at their current cost. Current cost usually means replacement cost. The use of current cost for both purchases and stocks is an attempt to take account of the effect of changing price levels.

In general terms the method of allocating cost to stock should be chosen in order to provide, in the opinion of the Directors, the fairest approximation to the expenditure actually incurred. If historical costs are used the difference between the historical cost and the current cost must be stated.

- 2 (a) Reserves in general terms are profits or gains less losses of one kind or another, retained within the company and belonging to the ordinary shareholders.

Some reserves come about because after tax profits from the profit and loss account are not distributed as dividend to the shareholders. Often such retained profits are just described as such in the published accounts; they are simply a credit balance on the profit and loss. Sometimes the directors of a company signify their intention not to distribute these retained profits by making a transfer to a named reserve such as asset replacement reserve or general reserve. Nevertheless retained profits, and all other non-statutory reserves such as those indicated above, remain distributable to the shareholders as dividend. Retained profits represent the profits reinvested into the company on behalf of the shareholders.

Statutory reserves on the other hand, are created because of specific requirements of the Companies Acts. These reserves are not distributable as dividends and their general purpose is to maintain the capital of the company for the benefit of creditors. Examples of statutory reserves are share premium account, resulting from issues of shares above par value, and revaluation reserve, resulting from the revaluation of fixed assets.

- (b) Table of Reserves

	Share Premium £'000	Revaluation Reserve £'000	Profit and Loss Account £'000
At 1 January 2001	440	720	817
Share Issue	95		
Revaluation		200	
Transfer		(40) ¹	40
Bonus Issue	(500) ²		
Retained profit for year			172
At 1 January 2002	35	880	1,029

Notes:

- Transfer from statutory to non-statutory reserve since the previous revaluation surplus becomes realised on disposal.
- Any reserve(s) may be utilised for the purpose of a bonus issue. It is likely, however, that directors would choose to use the less flexible share premium account for this purpose.

Workings:

- Share Issue.
 $100,000 \times (65p - 10p) = \text{£}55,000$ Share premium
 $200,000 \times (120p - 100p) = \text{£}40,000$ Share premium
£95,000

- Revaluation
Property – £1.2m – £1.0m = £200,000 surplus

- Transfer
Profit on disposal $140,000 - 100,000 = \text{£}40,000$ (P&L)
Previous revaluation $100,000 - 60,000 = \text{£}40,000$
(now realised)

- Retained Profits
Proposed dividends: **£**
Ordinary $1m + 5m$ shares $\times 2p = 120,000$
Preference $(200,000 \times \text{£}1) \times 8\% = 16,000$
136,000

Thus:
After tax profit 308,000
Less: proposed dividend (136,000)
172,000

- Bonus Issue:
Existing shares 1 million
? 5 for 1 = 5 million
5 million shares $\times 10p$ nominal value = £500,000

3 (a) Value for money (V.F.M.)

Interested parties need to be able to make judgements about the performance of the organisation with which they are concerned. Commercial organisations can usually be evaluated by a range of profitability and other financial measures which are suitable for organisations who are subject to competitive pressures in terms of their markets and funding requirements. In organisations which operate in a monopoly situation or do not charge for the goods or services which they provide such measures are either inappropriate or impossible to calculate. Alternative measures of performance have been developed over time to evaluate such organisations and these have given rise to the general concept of Value for Money.

V.F.M is usually assessed through three groupings of performance indicators which are used to measure economy, efficiency and effectiveness. These are often referred to as the '3 E's'.

Economy is concerned with the amount of resources which an organisation has used in its operations; put bluntly the question is 'how much did it cost?' It should be noted that economy is primarily concerned only with inputs, without reference to either quantity or quality of outputs.

Efficiency is concerned with the relationship between the resources used and the output of goods and services. It follows that the outcome of this measure can be affected by changing either the inputs and/or outputs. Thus such measures are equivalent to, say, the cost of a unit produced in a factory. Often, though, it is not so clear-cut as to what the measure should be and a range of effectiveness measures are often used as a response to this.

Effectiveness is about the achievement of intended results; are the policy objectives being achieved? Thus effectiveness measures are concerned only with outputs, regardless of inputs. Since they are concerned with objectives and goals they are often 'soft' measures rather than those which can be objectively quantified. Again a range of measures is usually appropriate.

In summary, economy is concerned with inputs, effectiveness with outputs and efficiency with the relationship between the two.

In order to use V.F.M to evaluate performance it is necessary to use all of the three types of measures and to take an overview based upon the results. Such performance indicators give an insight into performance when used comparatively, both within and between organisations.

An example of the relationship between the three types of measure may be useful to illustrate the points:

Imagine one was attempting to evaluate the performance of a hospital. A measure of economy may be 'cost per member of staff'. Changing the relative grades of staff employed can clearly change this ratio. Moving towards lower grades of staff will reduce the ratio but may not be in the interest of patients.

A measure of effectiveness may be 'length of waiting list for surgery'. No doubt waiting times could be reduced if more resources were made available.

A measure of efficiency may be 'cost per hip-replacement operation'. This measure can be affected either by reducing the cost of the hip-replacement team or by the team replacing more hips within a given cost.

(b) (i) Annual cost of service

This is a measure of economy since it is based on inputs. Whilst a low cost may be favourable in terms of public funding requirements, it may not produce a generally acceptable level of service.

(ii) Cost per call-out

A measure of efficiency since it links inputs to outputs. Managers in the service could work to improve this ratio by cost reduction measures and by affecting, where possible, the services they can provide thus maximising call-outs relative to the fixed costs.

(iii) Average response time to arrive at incident

This is a measure of effectiveness in that responding to calls for help is the output of the organisation. Response times could be improved with more resources, for example more fire stations, vehicles and personnel.

(iv) Fire deaths per thousand head of population

Again, a measure of effectiveness since reducing casualties would certainly figure in the policy objectives. Managers could influence this ratio through a variety of measures, both critical and preventative.

In general terms such measures are only useful when taken together since manipulation of, or response to, one will usually affect others. In this case more measures should probably be developed to attempt to evaluate the service.

One of the key qualitative characteristics of published accounting information is comparability, this is relevant to the considerations of the working party. As with all performance indicators it may be expected that users will make comparisons between organisations. Because of this, it would be useful if there was consensus in respect of standard methods of calculating and presenting these performance indicators across relevant organisations. If standardisation cannot be achieved then individual organisations could increase the usefulness of their performance with indicators by stating the methods of calculation which they have used. Benchmarking against the most successful organisations would also give meaningful context to the figures and help both internal and external users of such published information in making informed assessments on an entity's performance.

Section C

4 (a) Summary Statement for 6 months to 31 March 2002

	Cumulative Actual To Date	Cumulative Budget To Date	Total Variance	Price/spending Variance	Efficiency Variance
Production volume	29,600	30,000	400		
Costs	£	£	£	£	£
Materials	1,207,100	1,184,000	(23,100)	(1,100)	(22,000)
Labour	846,129	976,800	130,671	130,671	0
Variable Overheads	455,000	444,000	(11,000)	(11,000)	0
Fixed Overheads	738,000	710,400	(27,600)	(18,000)	(9,600)
Total Costs	3,246,229	3,315,200	68,971	100,571	(31,600)

Various statements that summarise the performance of the Stringle department would be acceptable.

(b) Candidates should write a report, but the main points that could be included are shown below in note form.

- Rise and fall in production. Is this seasonal or the result of other factors?
- General inefficiency in material usage. Is this caused by poor management, poor quality material, or what?
- Material prices are on a general upward path. Is there a general drift in material prices; is there a material shortage; are there other suppliers offering a better price?
- Labour price is massively out. Is this caused by a mistake in the budget or an unexpected change in the price, for example, using different grades/mix of labour?
- Labour efficiency gets seriously worse after month four. Has something unusual happened to labour during this month, perhaps a dispute?
- Month four is odd! What happened? Was production disrupted; was there a labour dispute or supplier problems or what?
- Only total variable overhead variance has meaning and reveals a worsening position after disaster in month four, giving further evidence for some unusual circumstances.
- Fixed overhead spending seems to come under control from month five, but what caused the problems in the early months? Have management acted to remedy matters?
- The fixed overhead volume variance is purely technical and represents differences between planned and actual production.
- Other relevant comments could be made.

5 (a) (i) Costs for order A and order B using volume-based allocation
 $\text{£}940,000/4,000 \text{ orders} = \text{£}235 \text{ per order}$

So customer would be charged the invoice value of goods ordered plus £235 per order.

(ii) Activity-based costs
 Invoice costs are $\text{£}320,000/16,000 = \text{£}20 \text{ per invoice line}$
 Other costs are $\text{£}280,000/4,000 \text{ orders} = \text{£}70 \text{ per order}$

	Order A		Order B	
		£		£
Invoice costs	2 x £20	40	8 x £20	160
Packing costs	small =	9	large =	15
Delivery	per table	8		75
Other costs	per order	70		70
Total costs per order		<u>127</u>		<u>320</u>

(b) The current pricing system may prove to be dysfunctional. For example it will encourage large orders from a long distance, that is those that are most expensive to action and where the average cost charged is lower than the true cost. It may be better to publish a set of delivery prices that is more closely related to the actual costs incurred.

However, there are some circumstances where it would be unwise to implement such a pricing policy, for example:

- if major competitors have a single delivery charge;
- if some competitors have implemented a no delivery charge policy, or no charge over a certain value.

(c) An activity-based costing system gives a better indication of the resources consumed – in this case to process and deliver an order. This is a long run average cost and is in no sense a variable cost. Thus small changes in the volumes or types of order will not have an immediate effect on actual costs. However, if there is a significant change in volumes, then these costs will usually change also. It is important to note that costs will only go down if staff are actually removed from the activity, either through leaving the firm or by moving to another activity where there is a need for additional staff.

Some commentators argue that activity-based costing is dangerous as it discourages managers from using contribution as a basis for pricing short-term incremental orders. However, others argue this is a strength as pricing based on full activity-based cost ensures that all orders make a profit. This may not be optimal in the short run but they argue it protects long-run profitability.

It is also important to note that many companies face a situation where there are clear market prices. Where this occurs it may not be possible to change prices as a result of an ABC exercise. The ABC costs then act as a guide to profitability and may indicate where it is necessary to cut costs, or perhaps change processes.

6 **Report to the Directors of Cadco Limited**
Date **December 2002**
From **A. Candidate**
Re **Non-financial performance measures and balanced scorecard**

(a) The importance of non-financial performance measures (NFPM)

One aspect of long-term success is setting appropriate and challenging objectives for the business as a whole and each component part. For some aspects of Cadco's work it would be very difficult to measure an appropriate objective in financial terms. It is thus vital that some non-financial performance measures are used. It is vitally important that measures are an accurate fit with objectives. If a financial measure that does not fully reflect the nature of the objective is used to assess performance, then there will be a clear incentive for behaviour that leads to the target measure, but not necessarily the actual objective. For example, if the objective were to improve quality, and the measure used for this was to spend x% of costs on quality assurance, this measure could easily be met without actually improving quality. More spending does not necessarily mean better quality.

There are other reasons for using non-financial measures, including:

- Many staff work with physical measures not financial measures.
- There is evidence that NFPMs are often easier to understand and relate to.
- Many financial measures have to be translated from physical measures – so more economical to use the physical measure.
- Using non-financial measures may reduce the involvement of accounting staff.

(b) The main features of the balanced scorecard

The increasing interest in NFPMs was one of the key factors in the development of the balanced scorecard. Kaplan and Norton proposed that an organisation is reviewed in terms of four perspectives:

- Customer perspective – how do customers see us?
- Internal Business perspective – what we must excel at
- Innovation and Learning perspective – can we continue to improve and create value?
- Financial perspective – how we look to our shareholders

All these need to be linked to the company's vision and strategy.

For each of the perspective's goals, measures need to be defined – typically four or five measures for each. The goals and measures are designed to focus attention on important features and lead to improved performance throughout the company.

The internal logic of the balanced scorecard is that goal-setting begins with customers. Then the company determines what it must excel at to meet customer expectations. The innovation and learning perspective contains goals relating to how the company maintains progress and develops its products, services and processes. Finally the results of the other perspectives will be seen in the financial perspective.

Senior managers will need to agree the vision strategy and ensure that this is shared by all employees. This process should lead to attention being given to important aspects of the company that will lead to future profits.

Particular benefits and problems that might apply to Cadco include:

- Short-term benefits could be gained at the expense of long-term profitability
- Many of the key success-drivers are not best measured in financial terms
- Need measures to capture retention of clients and attracting new clients
- Any change in evaluation has potential for manipulation – it is important that all those involved are committed to its objectives
- Costs must not outweigh benefits

(c) Examples of key performance measures

- Customer perspective – % of repeat orders – measure trend and possibly benchmark against competitors
- Internal business perspective – % of work completed on time and within budget
- Innovation and learning perspective – % of designers using latest version of design software
- Financial perspective – EVA® against budget EVA®.

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December 2002 Marking Scheme

Section B

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Section C

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