Fundamentals Level – Skills Module

Performance Management

Monday 3 June 2013

Time allowed
Reading and planning: 15 minutes
Writing: 3 hours

ALL FIVE questions are compulsory and MUST be attempted.

Formulae Sheet is on page 8.

Do NOT open this paper until instructed by the supervisor.

During reading and planning time only the question paper may be annotated. You must NOT write in your answer booklet until instructed by the supervisor.

This question paper must not be removed from the examination hall.

The Association of Chartered Certified Accountants

Paper F5

ACCA

ALL FIVE questions are compulsory and MUST be attempted

1 Gym Bunnies (GB) is a health club. It currently has 6,000 members, with each member paying a subscription fee of $720 per annum. The club is comprised of a gym, a swimming pool and a small exercise studio.

A competitor company is opening a new gym in GB's local area, and this is expected to cause a fall in GB's membership numbers, unless GB can improve its own facilities. Consequently, GB is considering whether or not to expand its exercise studio in a hope to improve its membership numbers. Any improvements are expected to last for three years.

Option 1
No expansion. In this case, membership numbers would be expected to fall to 5,250 per annum for the next three years. Operational costs would stay at their current level of $80 per member per annum.

Option 2
Expand the exercise studio. The capital cost of this would be $360,000.The expected effect on membership numbers for the next three years is as follows:

Probability	Effect on membership numbers
0·4	Remain at their current level of 6,000 members per annum
0·6	Increase to 6,500 members per annum

The effect on operational costs for the next three years is expected to be:

Probability	Effect on operational costs
0·5	Increase to $120 per member per annum
0·5	Increase to $180 per member per annum

Required:

(a) Using the criterion of expected value, prepare and fully label a decision tree that shows the two options available to GB. Recommend the decision that GB should make.

Note: Ignore time value of money. (12 marks)

(b) Calculate the maximum price that GB should pay for perfect information about the expansion's exact effect on MEMBERSHIP NUMBERS. (6 marks)

(c) Briefly discuss the problems of using expected values for decisions of this nature. (2 marks)

(20 marks)

2 Squarize is a large company which, for many years, operated solely as a pay-tv broadcaster. However, five years ago, it started product bundling, offering broadband and telephone services to its pay-tv customers. Customers taking up the offer were then known in the business as 'bundle customers' and they had to take up both the broadband and telephone services together with the pay-tv service. Other customers were still able to subscribe to pay-tv alone but not to broadband and telephone services without the pay-tv service.

All contracts to customers of Squarize are for a minimum three-month period. The pay-tv box is sold to the customer at the beginning of the contract; however, the broadband and telephone equipment is only rented to them.

In the first few years after product bundling was introduced, the company saw a steady increase in profits. Then, Squarize saw its revenues and operating profits fall. Consequently, staff bonuses were not paid, and staff became dissatisfied. Several reasons were identified for the deterioration of results:

1. In the economy as a whole, discretionary spending had been severely hit by rising unemployment and inflation. In a bid to save cash, many pay-tv customers were cancelling their contracts after the minimum three-month period as they were then able to still keep the pay-tv box. The box comes with a number of free channels, which the customer can still continue to receive free of charge, even after the cancellation of their contract.
2. The company's customer service call centre, which is situated in another country, had been the cause of lots of complaints from customers about poor service, and, in particular, the number of calls it sometimes took to resolve an issue.
3. Some bundle customers found that the broadband service that they had subscribed to did not work. As a result, they were immediately cancelling their contracts for all services within the 14 day cancellation period permitted under the contracts.

In a response to the above problems and in an attempt to increase revenues and profits, Squarize made the following changes to the business:

1. It made a strategic decision to withdraw the pay-tv–broadband–telephone package from the market and, instead, offer each service as a standalone product.
2. It guaranteed not to increase prices for a 12-month period for each of its three services.
3. It transferred its call centre back to its home country and increased the level of staff training given for call centre workers.
4. It investigated and resolved the problem with customers' broadband service.

It is now one year since the changes were made and the finance director wants to use a balanced scorecard to assess the extent to which the changes have been successful in improving the performance of the business.

Required:

(a) For each perspective of the balanced scorecard, identify two goals (objectives) together with a corresponding performance measure for each goal which could be used by the company to assess whether the changes have been successful. Justify the use of each of the performance measures that you choose. (16 marks)

(b) Discuss how the company could reduce the problem of customers terminating their pay-tv service after only three months. (4 marks)

(20 marks)

3 Cam Co manufactures webcams, devices which can provide live video and audio streams via personal computers. It has recently been suffering from liquidity problems and hopes that these will be eased by the launch of its new webcam, which has revolutionary audio sound and visual quality. The webcam is expected to have a product life cycle of two years. Market research has already been carried out to establish a target selling price and projected lifetime sales volumes for the product. Cost estimates have also been prepared, based on the current proposed product specification. Cam Co uses life cycle costing to work out the target costs for its products, believing it to be more accurate to use an average cost across the whole lifetime of a product, rather than potentially different costs for different years. You are provided with the following relevant information for the webcam:

Projected lifetime sales volume	50,000 units
Target selling price per unit	$200
Target profit margin (35% selling price)	$70
Target cost per unit	$130
Estimated lifetime cost per unit (see note below for detailed breakdown)	$160

Note: Estimated lifetime cost per unit:

	$	$
Manufacturing costs		
Direct material (bought in parts)	40	
Direct labour	26	
Machine costs	21	
Quality control costs	10	
Rework costs	3	
		100
Non-manufacturing costs		
Product development costs	25	
Marketing costs	35	
		60
Estimated lifetime cost per unit		160

The average market price for a webcam is currently $150.

The company needs to close the cost gap of $30 between the target cost and the estimated lifetime cost. The following information has been identified as relevant:

1. Direct material cost: all of the parts currently proposed for the webcam are bespoke parts. However, most of these can actually be replaced with standard parts costing 55% less. However, three of the bespoke parts, which currently account for 20% of the estimated direct material cost, cannot be replaced, although an alternative supplier charging 10% less has been sourced for these parts.
2. Direct labour cost: the webcam uses 45 minutes of direct labour, which costs $34·67 per hour. The use of more standard parts, however, will mean that whilst the first unit would still be expected to take 45 minutes, there will now be an expected rate of learning of 90% (where 'b' = –0·152). This will end after the first 100 units have been completed.
3. Rework cost: this is the average rework cost per webcam and is based on an estimate of 15% of webcams requiring rework at a cost of $20 per rework. With the use of more standard parts, the rate of reworks will fall to 10% and the cost of each rework will fall to $18.

Required:

(a) Recalculate the estimated lifetime cost per unit for the webcam after taking into account points 1 to 3 above. (12 marks)

(b) Explain the 'market skimming' (also known as 'price skimming') pricing strategy and discuss, as far as the information allows, whether this strategy may be more appropriate for Cam Co than charging one price throughout the webcam's entire life. (8 marks)

(20 marks)

4 Block Co operates an absorption costing system and sells three types of product – Commodity 1, Commodity 2 and Commodity 3. Like other competitors operating in the same market, Block Co is struggling to maintain revenues and profits in face of the economic recession which has engulfed the country over the last two years. Sales prices fluctuate in the market in which Block Co operates. Consequently, at the beginning of each quarter, a market specialist, who works on a consultancy basis for Block Co, sets a budgeted sales price for each product for the quarter, based on his expectations of the market. This then becomes the 'standard selling price' for the quarter. The sales department itself is run by the company's sales manager, who negotiates the actual sales prices with customers. The following budgeted figures are available for the quarter ended 31 May 2013.

Product	Budgeted production and sales units	Standard selling price per unit	Standard variable production costs per unit
Commodity 1	30,000	$30	$18
Commodity 2	28,000	$35	$28·40
Commodity 3	26,000	$41·60	$26·40

Block Co uses absorption costing. Fixed production overheads are absorbed on the basis of direct machine hours and the budgeted cost of these for the quarter ended 31 May 2013 was $174,400. Commodity 1, 2 and 3 use 0·2 hours, 0·6 hours and 0·8 hours of machine time respectively.

The following data shows the actual sales prices and volumes achieved for each product by Block Co for the quarter ended 31 May 2013 and the average market prices per unit.

Product	Actual production and sales units	Actual selling price per unit	Average market price per unit
Commodity 1	29,800	$31	$32·20
Commodity 2	30,400	$34	$33·15
Commodity 3	25,600	$40·40	$39·10

The following variances have already been correctly calculated for Commodities 1 and 2:

Sales price operational variances
Commodity 1: $35,760 Adverse
Commodity 2: $25,840 Favourable

Sales price planning variances
Commodity 1: $65,560 Favourable
Commodity 2: $56,240 Adverse

Required:

(a) Calculate, for Commodity 3 only, the sales price operational variance and the sales price planning variance. (4 marks)

(b) Using the data provided for Commodities 1, 2 and 3, calculate the total sales mix variance and the total sales quantity variance. (11 marks)

(c) Briefly discuss the performance of the business and, in particular, that of the sales manager for the quarter ended 31 May 2013. (5 marks)

(20 marks)

5 Newtown School's head teacher has prepared the budget for the year ending 31 May 2014. The government pays the school $1,050 for each child registered at the beginning of the school year, which is June 1, and $900 for any child joining the school part-way through the year. The school does not have to refund the money to the government if a child leaves the school part-way through the year. The number of pupils registered at the school on 1 June 2013 is 690, which is 10% lower than the previous year. Based on past experience, the probabilities for the number of pupils starting the school part-way through the year are as follows:

Probability	No. of pupils joining late
0·2	50
0·3	20
0·5	26

The head teacher admits to being 'poor with numbers' and does not understand probabilities so, when calculating budgeted revenue, he just calculates a simple average for the number of pupils expected to join late. His budgeted revenue for the year ending 31 May 2014 is therefore as follows:

	Pupils	Rate per pupil	Total income
Pupils registered at beginning of school year	690	$1,050	$724,500
Average expected number of new joiners	32	$900	$28,800
			$753,300

The head teacher uses incremental budgeting to budget for his expenditure, taking actual expenditure for the previous year as a starting point and simply adjusting it for inflation, as shown below.

	Note	Actual cost for y/e 31 May 2013 $	Inflationary adjustment	Budgeted cost for y/e 31 May 2014 $
Repairs and maintenance	1	44,000	+3%	45,320
Salaries	2	620,000	+2%	632,400
Capital expenditure	3	65,000	+6%	68,900
Total budgeted expenditure				746,620
Budget surplus				6,680

Notes

1. $30,000 of the costs for the year ended 31 May 2013 related to standard maintenance checks and repairs that have to be carried out by the school every year in order to comply with government health and safety standards. These are expected to increase by 3% in the coming year. In the year ended 31 May 2013, $14,000 was also spent on redecorating some of the classrooms. No redecorating is planned for the coming year.
2. One teacher earning a salary of $26,000 left the school on 31 May 2013 and there are no plans to replace her. However, a 2% pay rise will be given to all staff with effect from 1 December 2013.
3. The full $65,000 actual costs for the year ended 31 May 2013 related to improvements made to the school gym. This year, the canteen is going to be substantially improved, although the extent of the improvements and level of service to be offered to pupils is still under discussion. There is a 0·7 probability that the cost will be $145,000 and a 0·3 probability that it will be $80,000. These costs must be paid in full before the end of the year ending 31 May 2014.

The school's board of governors, who review the budget, are concerned that the budget surplus has been calculated incorrectly. They believe that it should have been calculated using expected income, based on the probabilities provided, and using expected expenditure, based on the information provided in notes 1 to 3. They believe that incremental budgeting is not proving a reliable tool for budget setting in the school since, for the last three years, there have been shortfalls of cash despite a budget surplus being predicted. Since the school has no other source of funding available to it, these shortfalls have had serious consequences, such as the closure of the school kitchen for a considerable period in the last school year, meaning that no hot meals were available to pupils. This is thought to have been the cause of the 10% fall in the number of pupils registered at the school on 1 June 2013.

Required:

(a) Considering the views of the board of governors, recalculate the budget surplus/deficit for the year ending 31 May 2014. (6 marks)

(b) Discuss the advantages and disadvantages of using incremental budgeting. (4 marks)

(c) Briefly outline the three main steps involved in preparing a zero-based budget. (6 marks)

(d) Discuss the extent to which zero-based budgeting could be used by Newtown School to improve the budgeting process. (4 marks)

(20 marks)

Formulae Sheet

Learning curve

$Y = ax^b$

Where Y = cumulative average time per unit to produce x units
a = the time taken for the first unit of output
x = the cumulative number of units produced
b = the index of learning (log LR/log2)
LR = the learning rate as a decimal

Demand curve

$P = a - bQ$

$b = \frac{\text{change in price}}{\text{change in quantity}}$

a = price when Q = 0

$MR = a - 2bQ$

End of Question Paper