Fundamentals Level – Skills Module

Performance Management

Monday 10 December 2007

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

ALL FOUR questions are compulsory and MUST be attempted.

Formulae Sheet is on page 9

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

This is a blank page.
The question paper begins on page 3.

ALL FOUR questions are compulsory and MUST be attempted

1 Edward Co assembles and sells many types of radio. It is considering extending its product range to include digital radios. These radios produce a better sound quality than traditional radios and have a large number of potential additional features not possible with the previous technologies (station scanning, more choice, one touch tuning, station identification text and song identification text etc).

A radio is produced by assembly workers assembling a variety of components. Production overheads are currently absorbed into product costs on an assembly labour hour basis.

Edward Co is considering a target costing approach for its new digital radio product.

Required:

(a) Briefly describe the target costing process that Edward Co should undertake. (3 marks)

(b) Explain the benefits to Edward Co of adopting a target costing approach at such an early stage in the product development process. (4 marks)

(c) Assuming a cost gap was identified in the process, outline possible steps Edward Co could take to reduce this gap. (5 marks)

A selling price of $44 has been set in order to compete with a similar radio on the market that has comparable features to Edward Co's intended product. The board have agreed that the acceptable margin (after allowing for all production costs) should be 20%.

Cost information for the new radio is as follows:

Component 1 (Circuit board) – these are bought in and cost $4·10 each. They are bought in batches of 4,000 and additional delivery costs are $2,400 per batch.

Component 2 (Wiring) – in an ideal situation 25 cm of wiring is needed for each completed radio. However, there is some waste involved in the process as wire is occasionally cut to the wrong length or is damaged in the assembly process. Edward Co estimates that 2% of the purchased wire is lost in the assembly process. Wire costs $0·50 per metre to buy.

Other material – other materials cost $8·10 per radio.

Assembly labour – these are skilled people who are difficult to recruit and retain. Edward Co has more staff of this type than needed but is prepared to carry this extra cost in return for the security it gives the business. It takes 30 minutes to assemble a radio and the assembly workers are paid $12·60 per hour. It is estimated that 10% of hours paid to the assembly workers is for idle time.

Production Overheads – recent historic cost analysis has revealed the following production overhead data:

	Total production overhead	Total assembly labour hours
	$	
Month 1	620,000	19,000
Month 2	700,000	23,000

Fixed production overheads are absorbed on an assembly hour basis based on normal annual activity levels. In a typical year 240,000 assembly hours will be worked by Edward Co.

Required:

(d) Calculate the expected cost per unit for the radio and identify any cost gap that might exist. (13 marks)

(25 marks)

2 Ties Only is a new business, selling high quality imported men's ties via the internet. The managers, who also own the company, are young and inexperienced but they are prepared to take risks. They are confident that importing quality ties and selling via a website will be successful and that the business will grow quickly. This is despite the well recognised fact that selling clothing is a very competitive business.

They were prepared for a loss-making start and decided to pay themselves modest salaries (included in administration expenses in table 1 below) and pay no dividends for the foreseeable future.

The owners are so convinced that growth will quickly follow that they have invested enough money in website server development to ensure that the server can handle the very high levels of predicted growth. All website development costs were written off as incurred in the internal management accounts that are shown below in table 1.

Significant expenditure on marketing was incurred in the first two quarters to launch both the website and new products. It is not expected that marketing expenditure will continue to be as high in the future.

Customers can buy a variety of styles, patterns and colours of ties at different prices.

The business's trading results for the first two quarters of trade are shown below in table 1

Table 1

	Quarter 1		Quarter 2	
	$	$	$	$
Sales		420,000		680,000
less Cost of Sales		(201,600)		(340,680)
Gross Profit		218,400		339,320
less expenses				
Website development	120,000		90,000	
Administration	100,500		150,640	
Distribution	20,763		33,320	
Launch marketing	60,000		40,800	
Other variable expenses	50,000		80,000	
Total expenses		(351,263)		(394,760)
Loss for quarter		(132,863)		(55,440)

Required:

(a) Assess the financial performance of the business during its first two quarters using only the data in table 1 above. (12 marks)

(b) Briefly consider whether the losses made by the business in the first two quarters are a true reflection of the current and likely future performance of the business. (4 marks)

The owners are well aware of the importance of non-financial indicators of success and therefore have identified a small number of measures to focus on. These are measured monthly and then combined to produce a quarterly management report.

The data for the first two quarters management reports is shown below:

Table 2

	Quarter 1	Quarter 2
Website hits*	690,789	863,492
Number of ties sold	27,631	38,857
On time delivery	95%	89%
Sales returns	12%	18%
System downtime	2%	4%

* A website hit is automatically counted each time a visitor to the website opens the home page of Ties Only.

The industry average conversion rate for website hits to number of ties sold is 3·2%. The industry average sales return rate for internet-based clothing sales is 13%.

Required:

(c) Comment on each of the non-financial data in table 2 above taking into account, where appropriate, the industry averages provided, providing your assessment of the performance of the business.

(9 marks)

(25 marks)

3 Spike Co manufactures and sells good quality leather bound diaries. Each year it budgets for its profits, including detailed budgets for sales, materials and labour. If appropriate, the departmental managers are allowed to revise their budgets for planning errors.

In recent months, the managing director has become concerned about the frequency of budget revisions. At a recent board meeting he said 'There seems little point budgeting any more. Every time we have a problem the budgets are revised to leave me looking at a favourable operational variance report and at the same time a lot less profit than promised.'

Required:

(a) Describe the circumstances when a budget revision should be allowed and when it should be refused. (5 marks)

Two specific situations have recently arisen, for which budget revisions were sought:

Materials

A local material supplier was forced into liquidation. Spike Co's buyer managed to find another supplier, 150 miles away at short notice. This second supplier charged more for the material and a supplementary delivery charge on top. The buyer agreed to both the price and the delivery charge without negotiation. 'I had no choice', the buyer said, 'the production manager was pushing me very hard to find any solution possible!' Two months later, another, more competitive, local supplier was found.

A budget revision is being sought for the two months where higher prices had to be paid.

Labour

During the early part of the year, problems had been experienced with the quality of work being produced by the support staff in the labour force. The departmental manager had complained in his board report that his team were 'unreliable, inflexible and just not up to the job'.

It was therefore decided, after discussion of the board report, that something had to be done. The company changed its policy so as to recruit only top graduates from good quality universities. This has had the effect of pushing up the costs involved but increasing productivity in relation to that element of the labour force.

The support staff departmental manager has requested a budget revision to cover the extra costs involved following the change of policy.

Required:

(b) Discuss each request for a budget revision, putting what you see as both sides of the argument and reach a conclusion as to whether a budget revision should be allowed. (8 marks)

The market for leather bound diaries has been shrinking as the electronic versions become more widely available and easier to use. Spike Co has produced the following data relating to leather bound diary sales for the year to date:

Budget	
Sales volume	180,000 units
Sales price	$17·00 per unit
Standard contribution	$7·00 per unit

The total market for diaries in this period was estimated in the budget to be 1·8m units. In fact, the actual total market shrank to 1·6m units for the period under review.

Actual results for the same period	
Sales volume	176,000 units
Sales price	$16·40 per unit

Required:

(c) Calculate the total sales price and total sales volume variance. (4 marks)

(d) Analyse the total sales volume variance into components for market size and market share. (4 marks)

(e) Comment on the sales performance of the business. (4 marks)

(25 marks)

4 Sniff Co manufactures and sells its standard perfume by blending a secret formula of aromatic oils with diluted alcohol. The oils are produced by another company following a lengthy process and are very expensive. The standard perfume is highly branded and successfully sold at a price of $39·98 per 100 millilitres (ml).

Sniff Co is considering processing some of the perfume further by adding a hormone to appeal to members of the opposite sex. The hormone to be added will be different for the male and female perfumes. Adding hormones to perfumes is not universally accepted as a good idea as some people have health concerns. On the other hand, market research carried out suggests that a premium could be charged for perfume that can 'promise' the attraction of a suitor. The market research has cost $3,000.

Data has been prepared for the costs and revenues expected for the following month (a test month) assuming that a part of the company's output will be further processed by adding the hormones.

The output selected for further processing is 1,000 litres, about a tenth of the company's normal monthly output. Of this, 99% is made up of diluted alcohol which costs $20 per litre. The rest is a blend of aromatic oils costing $18,000 per litre. The labour required to produce 1,000 litres of the basic perfume before any further processing is 2,000 hours at a cost of $15 per hour.

Of the output selected for further processing, 200 litres (20%) will be for male customers and 2 litres of hormone costing $7,750 per litre will then be added. The remaining 800 litres (80%) will be for female customers and 8 litres of hormone will be added, costing $12,000 per litre. In both cases the adding of the hormone adds to the overall volume of the product as there is no resulting processing loss.

Sniff Co has sufficient existing machinery to carry out the test processing.

The new processes will be supervised by one of the more experienced supervisors currently employed by Sniff Co. His current annual salary is $35,000 and it is expected that he will spend 10% of his time working on the hormone adding process during the test month. This will be split evenly between the male and female versions of the product.

Extra labour will be required to further process the perfume, with an extra 500 hours for the male version and 700 extra hours for the female version of the hormone-added product. Labour is currently fully employed, making the standard product. New labour with the required skills will not be available at short notice.

Sniff Co allocates fixed overhead at the rate of $25 per labour hour to all products for the purposes of reporting profits.

The sales prices that could be achieved as a one-off monthly promotion are:
- Male version: $75·00 per 100 ml
- Female version: $59·50 per 100 ml

Required:

(a) Outline the financial and other factors that Sniff Co should consider when making a further processing decision.

Note: no calculations are required. (4 marks)

(b) Evaluate whether Sniff Co should experiment with the hormone adding process using the data provided. Provide a separate assessment and conclusion for the male and the female versions of the product.
(15 marks)

(c) Calculate the selling price per 100 ml for the female version of the product that would ensure further processing would break even in the test month. (2 marks)

(d) Sniff Co is considering outsourcing the production of the standard perfume. Outline the main factors it should consider before making such a decision. (4 marks)

(25 marks)

Formulae Sheet

Learning curve

$Y = ax^b$

Where y = average cost per batch
a = cost of first batch
x = total number of batches produced
b = learning factor (log LR/log 2)
LR = the learning rate as a decimal

Regression analysis

$y=a+bx$

$$b=\frac{n\sum xy-\sum x\sum y}{n\sum x^2-(\sum x)^2}$$

$$a=\frac{\sum y}{n}-\frac{b\sum x}{n}$$

$$r=\frac{n\sum xy-\sum x\sum y}{\sqrt{n\sum x^2-(\sum x)^2)(n\sum y^2-(\sum y)^2)}}$$

Demand curve

$P = a - bQ$

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

a = price when Q = 0

End of Question Paper