CPA IRELAND | CERTIFIED PUBLIC ACCOUNTANTS

# STRATEGIC PERFORMANCE MANAGEMENT

## PROFESSIONAL 2 EXAMINATION - AUGUST 2016

**NOTES:**
You are required to answer **ALL** Questions.

**PRESENT VALUE TABLES ARE PROVIDED**

**Time Allowed**
3.5 hours plus **20 minutes** to read the paper.

**Examination Format**
This is an open book examination. Hard copy material may be consulted during this examination subject to the limitations advised on the Institute's website.

**Reading Time**
During the reading time you may write notes on the examination paper, but you may not commence writing in your answer booklet.

**Marks**
Marks for each question are shown. The pass mark required is 50% in total over the whole paper.

**Answers**
Start your answer to each question on a new page.

You are reminded to pay particular attention to your communication skills, and care must be taken regarding the format and literacy of your solutions. The marking system will take into account the content of your answers and the extent to which answers are supported with relevant legislation, case law or examples, where appropriate.

**Answer Booklets**
List on the cover of each answer booklet, in the space provided, the number of each question attempted. Additional instructions are shown on the front cover of each answer booklet.

THE INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS IN IRELAND

# STRATEGIC PERFORMANCE MANAGEMENT

PROFESSIONAL 2 EXAMINATION - AUGUST 2016

Time Allowed: 3.5 hours, plus **20 minutes** to read the paper.
You are required to answer **ALL** Questions.

## Read the following case study and answer the questions which follow.

### Case study: 'Assorted Plc'

Stephen O'Mahony is managing director of Assorted Plc, a divisionalised company. Stephen describes the management structure in the organisation as "*fairly formal but also autonomous*". Many of its divisions were formerly independent companies which have now been absorbed into the group. Stephen indicates that divisional managers are happy to be accountable in a formal and rigorous way in their annual performance reviews, but they expect and exercise considerable autonomy on an ongoing basis.

Stephen believes that, to a reasonable extent, he has permitted and facilitated this management style. Most (although not all) of the equity shareholders are institutional investors who are (in Stephen's words) "*in it for the long haul rather than the quick buck*". As a consequence, Stephen has not felt under pressure to emphasise current year profits at the expense of longer-term performance. However, he is mindful that his investors expect to see excellent returns over a longer time horizon, and to this end Stephen has encouraged the use of relatively formal accounting and performance management techniques and practices which he believes will ultimately deliver the types of returns which his shareholders require. "*I don't trust any manager who wants to adopt an intuitive, seat-of-the pants, management style*", says Stephen. *"I'm constantly combing the Internet looking for articles on management practices and techniques, and when I read that other companies are using them effectively then my reaction is that we should try them too"*.

Recently, however, Stephen has concluded that the roll-out of formal practices and techniques has been disappointingly slow and has been more limited in scope than he would expect. He says: *"In general no division has refused me when I suggest that they try something new, but nor have they really embraced it wholeheartedly either. For example, some divisions have used activity-based costing, but I'm not convinced they are using it to its full potential as a means of actively managing costs. And even fairly ordinary things like performance-related pay and variance analysis seem to get bogged down, with managers saying "they don't understand the detail" or they "can't get it to work as well in practice as it does in the published case examples". As far as I'm concerned, I expect managers to make these things work; no solution to a significant problem works on a 'plug-and-play' basis"*.

Stephen emphasises that he has great respect for his divisional managers and that he believes that what is needed is encouragement rather than a confrontational approach. He recognises that there are some concepts – such as benchmarking, value-based management, and corporate governance – which may have great potential for Assorted Plc but Stephen, himself is unsure how to harness effectively. He has therefore asked your advice on a number of examples of performance management issues in different parts of the organisation.

**1.** The company's Exotic Profit Centre (EPC) manufactures three types of pet food. EPC has had a large and stable market share for many years, which it attributes to the high quality of its products.

Recently, however, EPC has experienced increasing competitive pressures. Although it believes that its customers' criteria in purchase decisions are *"product quality first; price second"*, nevertheless EPC acknowledges that its increasingly strong competitors pose a growing threat which must be addressed. The manager of EPC, Paul Wilson, has said: "*If our competitors offer lower prices for the same product quality, then we have to determine how we can respond effectively so as to preserve our market share and profits. As a starting point, I have commissioned an activity-based costing (ABC) exercise to provide a comprehensive insight into the costs of our products and of the activities that are carried out in order to manufacture and distribute them"*. The following information has been assembled for the purposes of the ABC exercise:

- EPC manufactures three products. These are sold under the product brand names 'Pooch', 'Friend', and 'Soulmate'. The following is a summary of a typical month's production inputs:

| | **Pooch** | **Friend** | **Soulmate** |
|---|---|---|---|
| Raw material cost, per kilogram of input | €1.80 | €2.88 | €3.60 |
| Total input (kg) | 20,000 | 16,000 | 3,500 |

- EPC carries out four main activities in relation to its three products:

  1. 'Materials control', i.e., inspection of incoming raw materials, to verify that they conform to the specifications of what was ordered.
  2. 'Process', i.e., manufacture of the various products.
  3. 'Product control', i.e., quality control inspection of the finished products.
  4. 'Dispatch', i.e., shipment of finished products to customers.

- For each of these activities, the nature of the long-run cost driver relationship is that the total cost is determined by the number of occasions the activity is carried out, irrespective of the size or composition of any batch. The 'product control' activity is carried out twice, i.e., once for each batch of products manufactured and once for each batch of products dispatched to customers. For the other activities, details of the batch sizes for each product are as follows:

| | **Pooch** | **Friend** | **Soulmate** |
|---|---|---|---|
| Materials control | 2,000 kg. | 800 kg. | 700 kg. |
| Process | 500 kg. | 400 kg. | 350 kg. |
| Dispatch | 500 kg. | 200 kg. | 100 kg. |

- The total costs incurred in performing each of the four activities in a typical month are as follows:

| **Materials control** | **Process** | **Product control** | **Dispatch** |
|---|---|---|---|
| €7,000 | €13,500 | €22,600 | €10,200 |

- Some of the products manufactured fail the first quality control test (i.e., at the end of the production process) and are then immediately discarded. The proportion of output 'lost' in this way is as follows:

| **Pooch** | **Friend** | **Soulmate** |
|---|---|---|
| 10% | 10% | 20% |

**REQUIREMENT:**

**(a)** Using an activity-based costing (ABC) approach, determine the cost driver rate for each of the four activities and the cost per kilogram of output for each of the three products.

(15 marks)

**(b)** Critically appraise options as to how EPC could use the results of the ABC analysis in deciding how it can most successfully respond to the competitive threat which it now faces. Calculations are not required, but you should refer to the results of your analysis in part (a) in support of your appraisal.

(9 marks)

**[Total: 24 Marks]**

**2.** Standard costing and variance analysis systems have been rolled out across various business units of Assorted Plc. In many cases, however, business unit managers have complained that they are provided with detailed variance analysis reports but are unable to assess their significance. Two example situations are described below:

- The **Promotions Unit (PU)** organises events on behalf of other business units within the company. Last month, PU was contracted to organise an arts festival. All costs associated with organising and running the festival were fixed irrespective of the mix and total number of tickets sold. There were two types of ticket ('Saver' and 'Full Price') and the initial budget for ticket sales was as follows:

| | **Saver** | **Full Price** |
|---|---:|---:|
| Selling price per ticket | €16 | €24 |
| Budgeted number of tickets sold | 450 | 750 |

  Tickets went on sale two weeks before the arts festival was due to take place, but PU soon became concerned at the disappointing demand for tickets. In an attempt to boost demand, PU did not reduce selling prices but instead made saver tickets available to more groups than originally intended (e.g., contrary to what was originally envisaged, senior citizens were allowed to purchase saver tickets). Actual ticket sales for the festival amounted to 600 saver tickets and 625 full-price tickets.

  After the festival, the manager of PU received a report showing sales mix and sales quantity variances, determined using a standard variable costing system.

- The **Meath Business Unit (MBU)** manufactures one product. The following data is extracted from MBU's budget and actual results for last month:

| | **Budget** | **Actual** |
|---|---:|---:|
| Output | 10,000 units | 8,700 units |
| Machine hours (MH) | 50,000 MH | 46,000 MH |
| Fixed overheads | €63,000 | €62,100 |

MBU operates a standard absorption costing system, and fixed overheads are absorbed on a machine-hour basis. The manager of MBU received a variance analysis which reported fixed overhead variances in as much detail as is possible from the information provided in the table above.

**REQUIREMENT:**

**(a)** Prepare two reports of the type, that would have been received by the managers of PU and MBU, as described above. (14 marks)

**(b)** Evaluate the usefulness and limitations of the report received by the manager of PU in assessing PU's performance in organising the arts festival.

(4 marks)

**(c)** Critically appraise the following statement from the manager of MBU: *"A major negative event for us last month was a machine breakdown which led to a decrease in machine capacity, which in turn forced us to reduce our output. Do any of the variances in the fixed overheads variance analysis quantify the financial effect of that event? And is there any other calculation which the accountants could do for me so as to quantify the financial effect of that event?"*

(6 marks)

**[Total: 24 Marks]**

**3.** New systems of performance management and measurement have been introduced in Assorted Plc in recent years, including (at division level) performance-related pay and balanced scorecards.

The performance-related pay (PRP) system works on the basis of rewarding each division manager for achievement as measured by Return on Investment (ROI). Specifically, the manager of a division qualifies for a lump-sum bonus in any year when the division earns ROI of at least 21%. In the calculation of ROI, fixed assets are measured net of accumulated depreciation at the beginning of the financial year.

A new division will be established shortly. There will be an initial capital investment to acquire assets on formation, but it is expected that the new division will not acquire or dispose of any further fixed assets during a subsequent four-year period. The following are the predicted financial results of the new division in its first four years of operation:

| | Year 1 | Year 2 | Year 3 | Year 4 |
|---|---|---|---|---|
| Sales | €320,000 | €320,000 | €290,000 | €270,000 |
| Gross profit | €106,000 | €102,000 | €91,000 | €83,000 |
| Net profit | €52,000 | €60,000 | €55,000 | €53,000 |
| Net assets | €280,000 | €224,000 | €179,200 | €143,360 |

The annual results of existing comparable divisions within the company are gross profits averaging 33% of sales and net profits averaging 15% of sales.

**REQUIREMENT:**

**(a)** Critically evaluate, whether the pattern of bonus payments derived from the information provided reflects fairly the year-to-year trend in the new division's performance.

(7 marks)

**(b)** A common criticism of bonus arrangements is that they may leave scope for managers to increase the number of bonuses received by manipulating accounting methods so as to "move" reported profits from one year to another.

Assess the potential for the manager of the new division to move profits in this way. Your answer should include calculations based on the data provided and an assessment as to whether such manipulation would be harmful to the organisation.

(7 marks)

**(c)** A balanced scorecard has been introduced for each division. The precise set of metrics used differs from one division to the next because each division has been assigned a different strategic mission. All bonuses for division managers continue to be linked solely to ROI, but each manager receives a quarterly report indicating the scores achieved on the various metrics included in the division's balanced scorecard.

The following are three examples of metrics which are included in the balanced scorecard of one of the divisions, which manufactures and sells (directly to the public) replacement spare parts for machines manufactured by another division of the company after the warranties on those machines have expired:

- Percentage of customers from the previous quarter who make a repeat purchase in the present quarter
- Number of new raw material suppliers recruited
- Number of new product patents registered

Discuss the limitations of each of the above performance measures in the case of this division. (6 marks)

**(d)** Stephen O'Mahony has complained that: "No matter what metrics we use in the balanced scorecard, division managers don't seem to take seriously the need to improve performance in relation to those metrics".

Suggest appropriate ways in which the bonus scheme for divisional managers should be improved so as to address this problem effectively.

(4 marks)

**[Total: 24 Marks]**

**4.** One of the divisions of Assorted Plc was formed for the specific purpose of buying and operating a Dublin city centre hotel. This was something of a speculative venture for the company when it was acquired three years ago. The company has no other investments or prior expertise in this area, but when the opportunity to acquire the hotel arose following the insolvency of the previous owners, Stephen O'Mahony regarded it as *"too good a chance to miss since it was on sale at a price less than half of what it sold for a few years previously".*

The initial investment was funded from cash surpluses held by the group for which it had no alternative use and which would otherwise been accruing minimal deposit interest. Stephen O'Mahony acknowledges that the hotel has achieved no more than to break even in terms of operating profit since it was acquired. However, he has recently taken a personal interest in the success of this venture, and summarises the outcome of a recent conversation with the hotel division manager in the following terms. *"In this line of business, most of the operating costs are fixed. The hotel was bought with the company's own money so there's no debt to service. We have identified that the two key dimensions on which we need to succeed are room occupancy rates and customer spend per room. Admittedly there's a connection between these two metrics – for example, we could significantly increase prices but that would adversely affect occupancy rates – so we need to figure out some way to get the balance right. But other people make a success of the hotel industry, and so can we. Maybe we can use benchmarking to learn how to make a success of this investment".*

**REQUIREMENT:**

**(a)** A major shareholder has recently suggested that the decision to acquire the hotel three years ago was *"dubious from a corporate governance point of view"*. Evaluate this viewpoint.

(8 marks)

**(b)** Critically assess whether and how competitive benchmarking, internal benchmarking, and comparative benchmarking can be successfully applied in this instance so as to make a financial success of the investment in the hotel.

(8 marks)

**[Total: 16 Marks]**

**5.** Several months ago, Stephen O'Mahony was persuaded by an external firm of management consultants of the importance of implementing value based management (VBM), and he hired a team of such consultants at considerable expense. In the first instance, this team was given free rein to act as it saw fit in two of the company's divisions. One of these divisions operates a small chain of consumer electronics shops while the other owns and publishes three regional newspaper titles.

The consultants carried out a valuation exercise on each of the divisions and of a number of business units within some of them (e.g., it valued the newspaper division as a whole and each title individually). They then made a presentation to Stephen explaining how each business unit had been valued. He was impressed by the rigour of this presentation and the consultants' ability to respond to his questions about it, including how they arrived at their estimates of: future cash flow, cost of capital, and the ongoing values of the business units for so long as they remained within the group.

Stephen was less impressed by their answer when he asked what practical use he could make of the results of this analysis. *"Two things"*, the consultants responded. *"First, if anyone offers to buy these business units from you, you can see straight away if you could generate more value by selling or by keeping the business units within the group. Second, your guide in business decision making in relation to a business unit should be do something if, and only if, it adds value"*.

**REQUIREMENT:**

Critically analyse the consultants' two recommendations as to how VBM should be used in relation to the two divisions, and recommend how VBM could be used more effectively in managing the two divisions.

**[Total: 12 Marks]**

**[Total: 100 Marks]**

**END OF PAPER**

**SUGGESTED SOLUTIONS**

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**SOLUTION 1**

**(a) Frequency of activities & cost driver rates:**

Materials control inspection:

| Pooch | Friend | Soulmate | Total |
|---|---|---|---|
| 20,000 /2,000 =10 | 16,000 / 800 = 20 | 3,500 / 700 = 5 | 35 inspections |

✷ Cost driver rate = €7,000 / 35 = €200 per materials control inspection.

Process:

| Pooch | Friend | Soulmate | Total |
|---|---|---|---|
| 20,000 / 500 = 40 | 16,000 / 400 = 40 | 3,500 / 350 = 10 | 90 production batches |

✷ Cost driver rate = €13,500 / 90 = €150 per production batch.

Dispatch:

| | Pooch | Friend | Soulmate | Total |
|---|---|---|---|---|
| Amount of product dispatched (kg) | 20,000 less 10% = 18,000 | 16,000 less 10% = 14,400 | 3,500 less 20% = 2,800 | |
| Number of shipments | 18,000 / 500 = 36 | 14,400 / 200 = 72 | 2,800 / 100 = 28 | 136 shipments |

✷ Cost driver rate = €10,200 / 136 = €75 per shipment.

Product control inspection:

| | Pooch | Friend | Soulmate | Total |
|---|---|---|---|---|
| Number of production batches (above) | 40 | 40 | 10 | 90 |
| Number of shipments (above) | 36 | 72 | 28 | 136 |
| Number of product inspections | 76 | 112 | 38 | 226 |

✷ Cost driver rate = €22,600 / 226 = €100 per product control inspection.

Total OH cost of each product:

| | Pooch | Friend | Soulmate |
|---|---|---|---|
| Materials control | 10 * €200 = €2,000 | 20 * €200 = €4,000 | 5 * €200 = €1,000 |
| Process | 40 * €150 = €6,000 | 40 * €150 = €6,000 | 10 * €150 = €1,500 |
| Dispatch | 36 * €75 = €2,700 | 72 * €75 = €5,400 | 28 * €75 = €2,100 |
| Product control | 76 * €100 = €7,600 | €11,200 | 38 * €100 = €3,800 |
| Total OH cost of each product | €18,300 | €26,600 | €8,400 |

Cost of each product, per kilogram of output (rounded to nearest whole cent):

| | Pooch | Friend | Soulmate |
|---|---|---|---|
| OH cost, per kilogram | €18,300 / 18,000 = €1.02 | €26,600 / 14,400 = €1.85 | €3.00 |
| RM cost per kilogram (grossed up to allow for RM cost of output rejected by quality production) | €1.80 / 0.9 = €2.00 | €2.88 / 0.9 = €3.20 | €3.60 / 0.8 = €4.50 |
| Total | €3.02 | €5.05 | €7.50 |

**(c)**

- Cost driver rates for various activities: Compare these against what subcontractors would charge for performing the same activities, to see if cost reductions can be achieved by outsourcing. Such savings could be passed on to the customers as price reductions, without either product quality or EPC's profit margins being adversely affected.

- Having identified the costs of these activities, ask whether any activities could be reduced or eliminated completely. For example, in relation to materials inspection, if the supplier would deliver in bigger batches or was more reliable (so that less materials inspection was needed) then cost savings in this area could be achieved. This is another way to generate cost savings which could be passed on to the customers as price reductions, without either product quality or EPC's profit margins being adversely affected.

- Selling prices should be compared with ABC product costs to determine the profit margins on each product. If product margins are particularly high on one product then EPC has options which may improve overall profitability including (i) reducing refocusing the company's marketing efforts to create greater emphasis on the more profitable product and less emphasis on less profitable product.

Tutorial notes

- *Purpose of question:* To require candidates to carry out an activity-based costing analysis, and to suggest options as to how that information could be used in determining effective response to competitive threats (Syllabus Topic 1).

- *Options:* There is scope for variation in the procedures used for detailed calculations part (a), and a variety of valid points could be made in answer to part (b).

- *Essential components:* Candidates need to be able to determine cost driver rates and the activity-based cost of each product. In part (b) they need to be able to the competitive threat outlined.

**SOLUTION 2**

**(a)** Report received by PU:

**Budget:**

- Ticket sales = 450 + 750 = 1,200
- Weights:
  - o Saver: 450 / 1,200 = 0.375
  - o Full price: 750 / 1,200 = 0.625
- Weighted average price per ticket = (0.375 * €16) + (0.625 * €24) = €21

**Actual:**

- Ticket sales = 600 + 625 = 1,225

**Variances:**

- Sales quantity variance
  = (AQ – BQ) * Weighted average price per ticket
  = (1,225 – 1,200) * €21
  = €525 F.

- Sales mix variance

| Ticket type | Actual Quantity in actual mix | Actual Quantity in standard mix [0.375:0.625] | Standard price per ticket | Variance |
|---|---|---|---|---|
| Saver | 600 | 459.375 | €16 | €2,250 F |
| Full price | 625 | 765.625 | €24 | €3,375 U |
| Totals | 1,225 | 1,225 | | Total SMV = €1,125 U |

Report received by MBU:

Workings:

- Standard FO rate per MH = €63,000 / 50,000 = €1.26 per MH
- Standard FO per unit of output = €63,000 / 10,000 = €6.30 per unit
- Standard MH per unit of output = 50,000 MH / 10,000 = 5 MH

Fixed Overhead Spending Variance (FOSV):

| Actual Fixed Overhead | Budget Fixed Overhead | FOSV = Actual Fixed O/H – Budget Fixed O/H |
|---|---|---|
| €62,100 | €63,000 | FOSV = €900 F |

Fixed Overhead Volume Variance (FOVV):

| Actual Quantity Produced | Budget Quantity Produced | Standard Fixed Overhead Rate per Unit of Output | FOVV = (AQ – BQ) * Standard Fixed Overhead Rate per Unit of Output |
|---|---|---|---|
| 8,700 units | 10,000 units | €6.30 | FOVV = €8,190 U |

Breakdown of FOVV into capacity and efficiency elements:

Fixed Overhead Volume CAPACITY Variance:

| Actual Machine Hours | Budget Machine Hours | Standard Fixed Overhead Rate per Machine Hour | FO Volume CAPACITY Variance = (AH – BH) * Standard Fixed Overhead Rate per Machine Hour |
|---|---|---|---|
| 46,000 MH | 50,000 hours | €1.26 | = €5,040 U |

Fixed Overhead Volume EFFICIENCY Variance:

| Standard Machine Hours | Actual Machine Hours | Standard Fixed Overhead Rate per Machine Hour | FO Volume EFFICIENCY Variance = (SH – AH) * Standard Fixed Overhead Rate per Machine Hour |
|---|---|---|---|
| 8,700 * 5 = 43,500 MH | 46,000 MH | €1.26 | = €3,150 U |

**(b)** Usefulness of the information in PU's report:

- The SQV shows what the effect on profits would have been if the total number of tickets sold increased from 1,200 to 1,225 (which it did) AND if the mix of tickets sold, i.e., 37.5% saver and 62.5% full-price, had remained unchanged (which it did not).

  The SMV shows the effect on profits of the change in sales mix from the budgeted 37.5/62.5 to the actual mix which was weighted more heavily towards saver tickets, ignoring (or dealing separately) with the issue of the change in the total quantity of tickets sold.

In summary, it is advantageous to separate the quantity and mix effects since both were significant here.

Limitations of the information in PU's report:

- Arguably, a limitation of the analysis is that there are three effects which should be shown separately to see a full picture: a "pure quantity" effect, a "pure mix" effect, and a joint mix/quantity effect.

  It might also be the case that there are differences between the two groups of ticket holders in terms of ancillary spend, e.g., perhaps the average saver ticket holder spends less on food and brochures than the average full-price ticket holder. This should also be reflected in a comprehensive analysis.

**(c)**
- The only fixed overhead variance which could be said to capture the financial effect of the machine breakdown is the unfavourable fixed overhead capacity variance of €5,040. In principle each unit produced absorbs €6.30 of fixed overhead; conversely if a budgeted unit of output is not produced then this €6.30 is expensed to the current period Income Statement and thus reduces current-period reported profit by this amount. The unfavourable fixed overhead capacity variance indicates that the reduction in input capacity (apparently caused by the machine breakdown) let to €5,040 being expensed in this way and current-period profit being expensed by this amount.

- However, this is not really the principal financial effect of the lost production. The manager is more likely to want to know the true out-of-pocket loss. Thus could be determined by reference to the opportunity cost of the lost production, plus any costs in repairing the machine. The accountant would need to determine the contribution per unit of the product and multiply it by the number of units lost production (apparently 50,000 – 46,000 = 4,000 MH / 5 MH = 800 units).

Tutorial notes

- *Purpose of question:* To assess candidates' ability to carry out two detailed variance analyses and their ability to critically evaluate the usefulness and limitations of those reports' information content (Syllabus Topic 2).

- *Options:* The sequence and layout of calculations in part (a) may vary. There is an acceptable variety of points which could be made in answer to parts (b) and (c).

- *Essential components:* Candidates need to be able to prepare the two detailed variance analysis reports, in the level of detail indicated in the question. In part (b) they need to be able to evaluate both the usefulness and limitations of the analysis. In part (c) they need to identify the (very limited) contribution of the fixed overhead variances in an assessment of the financial effects of the machine breakdown and they need to be able to identify alternative means of assessing those financial effects.

**SOLUTION 3**

**(a)**

| Year 1 | Year 2 | Year 3 | Year 4 |
|---|---|---|---|
| ROI = 52 / 280 = 18.6% | ROI = 60 / 224 = 26.8% | ROI = 55 / 179.2 = 30.7% | ROI = 53 / 143.36 = 37.0% |
| No bonus | Bonus | Bonus | Bonus |

Fair reflection of trend in performance ✳ No:

- Gross margin declines steadily (from just above the corporate average 33%) from Year 1 onwards (see below).

- Sales are at their highest in Years 1 and 2, but decline thereafter.

- Although ROI (see above) and net margin (see below) both appear to improve over the years, in fact this improvement is illusory. The investment base shrinks as the assets are depreciated over time, and a comparison of the change in net assets figures shows that the annual depreciation charge decreases over time (e.g., perhaps because of diminishing balance depreciation).

| | Year 1 | Year 2 | Year 3 | Year 4 |
|---|---|---|---|---|
| Gross margin | 106 / 320 = 33.1% | 102 / 320 = 31.9% | 91 / 290 = 31.4% | 83 / 270 = 30.7% |
| Net margin | 52 / 320 = 16.25% | 60 / 320 = 18.75% | 55 / 290 = 19.0% | 53 / 270 = 19.6% |

**(b)**

- To get a bonus in Year 1, a division manager needs to move (21% * €280K = €58,800) - €52,000 = €6,800 from Year 2.

- The division manager would still qualify for a Year 2 bonus because ROI = (€60,000 - €6,800 = €53,200) / €224K = 23.75% (comfortably more than the target 21%)

- Whether such a manipulation would be harmful to the organization would depend on how it was achieved.

- For example, the dates on a few invoices might be recorded as 31st December Year 1 rather than 1st January Year 2, even though the latter might be more strictly correct. It's very unlikely that there would be any real harm done in this case.

- On the other hand, a customer might offered the chance to buy goods either on exceptionally generous credit terms on 31st December Year 1 or else on normal credit terms 1st January Year 2. There would be a real cost to the company in this case because of the opportunity cost of the cash flow tied up in debtors for a much longer period.

**(c)**

- Repeat purchases: The incidence of repeat purchases would be a very difficult metric to interpret. When there are repeat purchases, it may mean that the customer bought a spare part from this division and was satisfied with it. However, a repeat purchase of a replacement part might equally mean a high rate of customer dissatisfaction with the original machine (since the customer has had to replace a part not once but twice) and / or an inability to source compatible parts from any other supplier (indicating that the repeat purchaser is a captive customer rather than a satisfied one).

- Number of suppliers: It is not obviously better to have a large number of raw materials suppliers; often the contrary is the case. Increasing the number of suppliers may make the supply chain less secure. What is needed is a network of trusted local suppliers whose service quality is clearly proven and can be relied on into the future. This cannot be achieved by dividing up the company's purchases among an ever-bigger pool of suppliers, as there are incremental costs in managing each new supplier and the division becomes a less important buyer for each of its suppliers.

- Number of new product patents registered: This division is not likely to have many "independent" new products, since it takes its lead in which products to produce and sell from the composition of the other (machinery) division's products. Furthermore, the number of new product patents is the wrong focus: it might encourage managers to waste effort in designing and patenting new products which are not commercially viable.

**(d)** Either of two solutions would be effective:

- Set formal targets for a number of metrics (having first identified appropriate metrics which the division managers should be encouraged to focus on). Then, link managers bonuses to their performances on all metrics, not just on ROI as at present. If only one metric "counts" for reward purposes then it is not surprising that division managers don't take the other metrics seriously.

- Leave a single metric in place (probably ROI) with a specific target level (e.g., 21% as at present) but make the link between achievement of the ROI target and payment of the bonus "discretionary" rather than "automatic". Thus a manager would be aware of the importance of performing well in terms of the other metric since s/he would be aware that in practice these other metrics would influence the probability of receiving (or not receiving) a bonus even though they are not part of the formal target system.

Tutorial notes

- *Purpose of question:* To require candidates to assess various performance measurement and management models involving return on investment, financial and nonfinancial performance measurement, balanced scorecards, and incentive schemes (Syllabus Topics 3 and 4).

- *Options:* There is scope for variation in the critical evaluation elements of all parts of the question.

- *Essential components:* Candidates need to be able to determine when bonuses will be paid in part (a) and the scope for profit "moving" in part (b). Each section also includes essential components in terms of recommendations and/or rigorous critical evaluation including assessment of underlying performance in part (a), the extent to which interperiod profit "moving" may be damaging to the organisatioin in part (b), the limitations of three specific balanced scorecard measures in part (c), and means of strengthening the motivational impact of the balanced scorecard in part (d).

**SOLUTION 4**

**(a)** Yes, I agree that the investment was dubious from a corporate governance point of view.

- No financial analysis appears to have been done prior to the acquisition. It seems to have been purchased on some kind of personal whim – it is not at all clear why it was perceived as an opportunity "too good to miss". The price paid for the hotel when it changed hands some years previously was a sunk cost for whoever paid and should not have influenced this company's subsequent decision to acquire it.

- Alternative uses for shareholders' funds do not appear to have been considered, apart from low-interest-bearing deposits. In particular, the option of returning funds to the shareholders does not seem to have been considered. There is no justification for a company retaining shareholders' funds if it cannot invest them more profitably on shareholders' behalf than they could do themselves.

- An investment seems to have been made in an industry in which the company has no prior expertise and (even more importantly) no attempt seems to have been made to acquire that expertise once the investment was made. Even having made the investment, the company did not make the effort to recruit the expertise necessary in order to make a financial success of the venture in which shareholders' funds had been invested.

- Once the investment was made, Stephen O'Mahony was apparently happy for it to earn a zero operating profit in the following three years before he began to think (even in the broadest terms) about how to make a positive financial return. A zero operating profit is a negative real return, since operating profit is arrived at before deducting cost of equity capital.

**(b)**

- Competitive benchmarking depends on the willingness of competitors (other hotel businesses) to cooperate. It is not clear why other hotel businesses would want to cooperate in such an exercise. Diverse PLC has no expertise to offer in return specifically in relation to the hotel sector; any learning would be simply a one-way street. In principle Diverse PLC might pay a competitor for benchmarking access but the competitor is unlikely to find this an attractive proposition. If successful the benchmarking would have created a new competitor. A competitor is likely to be far more interested in buying out the hotel rather than helping its existing owners to learn from scratch how to make a success of it.

- Internal benchmarking (in the conventional sense) is not a possibility since the company has no other business units in the hotel sector. But see comparative benchmarking below.

- Comparative benchmarking involves improving business processes by learning from other firms which are "best of breed" in particular shared processes but (crucially) there is no real competition between the benchmarking partners. Thus, Assorted PLC could try to learn from an airline about the processes they engage in order to boost occupancy rates (e.g., pricing procedures) and revenue management (e.g., tailoring of menus to time of day, changing customer profiles, etc.) In order to find a benchmarking partner, Assorted PLC might first identify business processes in other divisions which potential benchmarking partners would wish to scrutinize. Indeed, the hotel division itself might find a useful benchmarking partner among the other divisions of Assorted PLC.

Tutorial notes

- *Purpose of question:* To assess candidates' ability to make and justify an assessment of the corporate governance issues surrounding a capital investment decision, and to critically evaluate the potential for using benchmarking in order to make a success of that investment after it has been made (Syllabus Topic 5).

- *Options:* Valid alternative points to those made in the suggested solution are acceptable.

- *Essential components:* Candidates need to make and justify a comprehensive assessment of the corporate governance failures arising in the acquisition of the hotel. Also, they need to make a critical evaluation of the three types of benchmarking in the specific context which is asked.

## SOLUTION 5

**Critical evaluation of the two recommendations:**

- Decisions as to whether a business unit should "retained" or "sold" are likely to be relatively infrequent. While a valuation would be required in such a situation, a much more frequent (indeed, ongoing) type of decision is how to increase the amount of value derived from a continuing business unit.

- "Do something if and only if it adds value" is not a practical guide to action. Management cannot act on value directly. What is necessary is to identify the drivers of value and to act on the drivers so as to create value.

**Recommendations as to how to use VBM in managing the two divisions:**

- In general, what is necessary is to identify the drivers of value, and then to focus the attention of management and staff on improving performance in relation to those drivers.

- In the first instance, the most generic level of drivers is likely to be the same irrespective of the industry (and hence would be largely the same for both divisions in this example). Shareholder value is likely to be achievable through return on invested capital (ROIC). ROIC is not only measurable, but can also be broken down into a number of specific elements which in turn are separately measurable and (with further drill-down) actionable.

- For example ROIC is determined by profit margin (broken down further into revenue and expenses) and by the level of capital invested (both working capital andnoncurrent assets).

- After the generic level set out above, the next level consists of drivers which specific to the business unit. The drivers at this level ("Level 2") are typically actionable by managers of divisions or business units, are often non-financial in character, and are likely to differ depending on the nature of the industry (and thus will be likely to differ between the two divisions in this case. Examples in this case would be:

| **Generic driver ("Level 1")** | **Examples of "Level 2" (business-unit specific) drivers** |
|---|---|
| Revenue | Newspapers division:<br>- Age profile of readership<br>- Catchment area<br><br>Consumer electronics shops division:<br>- Product franchises<br>- Sales staff productivity<br>- Footfall |

- Just as it is the responsibility of division and business unit managers to manage these Level 2 drivers, it is also the case that there are "Level 3" drivers of a more specifically operational character. Ultimately these derive from the "Level 2" drivers but these Level 3 drivers provide areas where more operational levels of management and staff can be incentivized to demonstrate achievement and in that way create value. Examples of these Level 3 drivers arising out of the areas highlighted in the table above would be:

| **Newspapers division** | **Consumer electronics shops division** |
|---|---|
| • Average # of readers aged <30, per issue; | • Number of new products added to product range; |
| • Number of new retail outlets stocking one or more of the division's titles. | • Average spend per customer visit. |

- The idea is to instill a "value creation mindset" in managers at all levels. Each manager has a target which is specifically appropriate to his/her area of responsibility but is ultimately driven by the need to create value for shareholders. Shareholder value is not something to be measured on a once-off basis (as the consultants seem to think) but rather is to be the ongoing basis motivating and guiding managers' actions.

Tutorial notes

- *Purpose of question:* To determine whether candidates' have at least a basic understanding of how VBM can be used in a ways likely to have a practical and positive impact on the amount of wealth generated for shareholders in an organisation (Syllabus Topic 4).

- *Options:* Alternative recommendations as to how VBM could be used are acceptable, provided they are valid and significant.

- *Essential components:* Candidates need to be able to identify the very significant limitations in the consultants' approach. In addition, they need to be able to make specific recommendations for a more effective approach to VBM in these two divisions.

## MARKING SCHEME

### Question 1:

| | | |
|---|---|---|
| **(a)** | 4 cost drivers @ 2 marks each | 8 |
| | Unit cost of each product | 7 |
| **(b)** | Options: Approx three substantive points @ 3 marks each | 9 |
| | | **[Total: 24 Marks]** |

### Question 2:

| | | |
|---|---|---|
| **(a)** | Report received by PU (sales variances) | 6 |
| | Report received by MBU (fixed overhead variances) | 8 |
| **(b)** | Usefulness of information in PU's report | 2 |
| | Limitations of information in PU's report | 2 |
| **(c)** | Information content of fixed overhead variances in this regard | 3 |
| | Explanation of alternative calculation required | 3 |
| | | **[Total: 24 Marks]** |

### Question 3:

| | | |
|---|---|---|
| **(a)** | ROI calculations and whether bonus will be received | 2 |
| | Evaluation as to whether bonus payments reflect underlying performance | 5 |
| **(b)** | Calculations to show profit "moving" | 3 |
| | Assessment of whether profit "moving" is harmful to the organisation | 4 |
| **(c)** | Evaluation of 3 metrics @ 2 marks each | 6 |
| **(d)** | Means of improving the effectiveness of the bonus scheme | 4 |
| | | **[Total: 24 Marks]** |

### Question 4:

| | | |
|---|---|---|
| **(a)** | Approx 4 good points @ 2 marks each | 8 |
| **(b)** | Competitive benchmarking | 3 |
| | Internal benchmarking | 2 |
| | Comparative benchmarking. | 3 |
| | | **[Total: 16 Marks]** |

### Question 5:

| | |
|---|---|
| Critical evaluation of the consultants' recommendations: 2 recommendations @ 2 marks each = | 4 |
| Specific recommendations for more effective VBM | 8 |
| | **[Total: 12 Marks]** |