

Ollscoil na hÉireann, Gaillimh
National University of Ireland, Galway

Autumn Examinations 2002

Bachelor of Commerce Degree Examination
Higher Diploma in Business Studies Examination

Strategic Management Accounting (AY 323)

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Time Allowed: Two Hours.

Answer two questions from each section, a total of four questions.

Separate answer books are not required for each section.

Section A

(Answer Two of the Three Questions)

Question 1:

- a) Explain what is meant by the term 'life cycle costing' and give two examples of costs that would be included under a life cycle costing approach but not included under traditional costing methods.

(8 Marks)

- b) Discuss the advantages of target costing suggested in management accounting literature.

(12 Marks)

(Total: 20 Marks)

Question 2:

"The Balanced Scorecard captures the critical value-creation activities performed by skilled, motivated organisational participants. While retaining, via the financial perspective, an interest in short-term performance, the Balanced Scorecard clearly reveals the value drivers for superior long-term financial and competitive performance". (Kaplan and Atkinson)

Discuss this statement, giving examples of the value drivers typically included in the Balanced Scorecard.

(20 Marks)

Question 3 begins on the next page P.T.O. ⇒

Question 3:

Caithness Ltd. manufactures a single product, which sells for €50 per unit. A single set of production facilities is used to carry out all production and repair work. Of the output produced, one unit in four fails internal quality control tests and thus requires repair. The resources consumed in production and repair of one unit are as follows:

	Production of one unit	Repair of one unit
Machine hours (MH)	4 MH	2 MH
Raw materials	€25	€10

The company produces 100,000 units of saleable product each week (5 working days). There is substantial unfulfilled market demand for the product, but the company is at present constrained by the fact that its production facilities are operating at full capacity. The company's cost accounting system shows a fixed production overhead rate of €2 per MH.

A report commissioned by the production manager has indicated that the poor first pass yield is caused by a combination of (i) variable quality in raw materials and (ii) certain preventable errors in machine calibration. In response, it has been suggested that the company should immediately begin to implement the following program of improvements:

- All raw materials to be purchased from certified suppliers only. It is estimated that this would increase the prices paid for raw materials by 5%.
- Frequent preventative maintenance of machinery, to avoid calibration errors. The costs of this maintenance would increase fixed production overheads by 4%.
- The above two changes would have the effect of reducing (to just one unit in seven) the proportion of output which requires repair.
- Because of its confidence in the ability of certified suppliers to deliver raw materials at short notice, Caithness Ltd. would decrease its raw materials stockholding to just one day's production requirements (compared with three days' production requirements, as at present). The cost (per week) of holding raw materials stocks amounts to 2% of the value of such stocks.

Required:

- (a) Calculate the increase or decrease in Caithness Ltd.'s weekly profit, if the program of improvements is implemented. (13 Marks)
- (b) Explain why just-in-time (JIT) production systems are often described as "pull" production systems (in contrast to traditional "push" production systems), and explain the principal features of JIT production. (7 Marks)

(Total: 20 Marks)

Section B begins on the next page P.T.O. ⇒

Section B

(Answer Two of the Three Questions)

Question 4:

Grey Sky Airlines operates flights between airports code-named AKK and ZZY, using a 140-seater aircraft. The cost of fuel is €300 per one-way flight, and leasing costs are €200 per day. Passengers pay a return fare of €40 and, on average, 75% of available seats are occupied. The airline sells its tickets through travel agents, who charge Grey Sky a commission of 4% of ticket price.

As regards staffing arrangements, Grey Sky complies with industry norms. These norms specify that, in addition to a pilot and a co-pilot, each plane should carry one flight attendant for every 20 seats (whether the seats are occupied or not). Wage rate norms per day are €300 (pilot), €150 (co-pilot) and €80 (flight attendant). In addition, overnight allowances of €180 are paid to any staff member who ends his/her working day at ZZY airport (this is because all of the staff live near AKK airport). Because of limits on working hours, all of these Grey Sky staff work on just 9 single flights each day.

The marketing director asserts that Grey Sky makes every effort to maximise passenger comfort and convenience, and offers the following evidence for this assertion:

- Passengers are provided with a free in-flight meal. Grey Sky orders these meals from a catering subcontractor, which charges €2.40 per meal. (A full 140 meals are ordered for each flight, because the level of seat occupancy is not known at the time the order is placed). Passengers are also offered the chance to purchase duty-free goods in-flight. Duty-free sales average €4 per passenger per one-way flight, and Grey Sky earns a contribution margin of 40%. The airline pays the subcontractor €150 per flight for loading duty-free supplies onto aircraft.
- Both airports (AKK and ZZY) offer airlines a choice of takeoff/landing positions. For the convenience of passengers, Grey Sky uses positions close to the terminal buildings, so that passengers can embark and disembark by airbridge. For these 'close positions', Grey Sky incurs airport charges of €190 (plus €0.20 per passenger) each time a plane takes off or lands.
- Although not legally obliged to do so, Grey Sky pays €20 compensation to each passenger whose luggage is temporarily lost. On average, Grey Sky temporarily loses the luggage of 2% of passengers on each one-way flight.

The process of checking-in passengers is carried out by airport ground staff. Check-in takes 4 minutes per passenger, and the airports charge Grey Sky €30 per hour for this service.

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Question 4 is continued on the next page P.T.O. ⇒

Question 4 (Continued)

Required:

- (a) Calculate the profit (per day) earned by Grey Sky Airlines on the route between AKK and ZZY airports at present.

(14 Marks)

- (b) A rival airline (Lo-Fly Air) has announced that it intends to begin flights on the same route, at a fare of €24 return. Grey Sky Airlines has protested to the Competition Authority, alleging that such a low fare is not economically sustainable and that Lo-Fly is trying to force Grey Sky off the route.

Lo-Fly rejects these allegations, and provides the following explanation of its ability to offer such a low fare:

- (i) A 100-seater aircraft will be used. This aircraft has fuel costs of €220 per one-way flight, and leasing costs of €150 per day. Average seat occupancy will be 90%, because of the low fare charged.
- (ii) Seats will be sold over the Internet, thus eliminating travel agents' commission and the issuing of printed tickets. The elimination of printed tickets will reduce the time required to process each passenger at check-in to just 1 minute.
- (iii) Sales of duty-free goods will be €5 per passenger per one-way flight, and Lo-Fly's contribution margin on such sales will be 30%. The loading of duty-free supplies onto aircraft will be carried out by the flight attendants. One advantage of this will be rapid aircraft turnaround times, so that there will be 5 return flights per day.

In recognition of the additional workload, Lo-Fly will employ one more flight attendant on each journey than required by the industry norms, and will pay each flight attendant a bonus of €10 per day. In all other respects, staffing arrangements will be in accordance with the industry norms.

- (iv) No in-flight meal will be provided, and Lo-Fly will not pay any compensation for lost luggage. However, due to high-quality luggage tracking systems, Lo-Fly expects that only 0.25% of passengers' luggage on its average flight will be temporarily lost.
- (v) Lo Fly will use 'remote stands' at airports, thus requiring passengers to take a shuttle bus when embarking and disembarking. Airport charges for these 'remote stands' are 60% lower than for the 'close positions' used by Grey Sky.

Calculate the profit (per day) which Lo-Fly Air can expect to earn on this route.

(8 Marks)

- (c) Discuss whether (and how) Grey Sky Airlines can compete effectively with Lo-Fly Air while still remaining profitable.

(8 Marks)

(Total: 30 Marks)

Question 5 begins on the next page P.T.O. ⇒

Question 5:

- (a) The following measures may be used to estimate shareholder value creation for companies quoted on the stock market:

- Total Shareholder Return (TSR)
- Market Value Added (MVA)

Explain how these shareholder-value metrics are measured, and discuss the practical limitations of their use in estimating value creation.

(14 Marks)

- (b) The manager of the Maam division of Cong Plc. is considering the introduction of a new and profitable product line, and you are given the following financial information about the product line and its expected operating cash flows over its four-year life:

	Year 1	Year 2	Year 3	Year 4
Sales	€688,500	€726,750	€803,250	€879,750
Variable Costs	€360,000	€380,000	€420,000	€460,000
Contribution Margin	€328,500	€346,750	€383,250	€419,750
Fixed Costs (Excluding Depreciation)	€200,000	€200,000	€200,000	€200,000
Operating Cash Flows	€128,500	€146,750	€183,250	€219,750

The project requires an investment in tangible fixed assets costing €400,000, and these fixed assets are expected to be worthless in four years time.

The project has a positive net present value (NPV) of €21,016 at the division's 20% cost of capital, so it is clearly expected to add value for shareholders.

For accounting purposes, the project's fixed assets will be depreciated on a straight-line basis to a zero residual value over the four-year life of the project.

The financial performance of the Maam division manager is measured each year using Residual Income (RI), with investment defined as the net book value of fixed assets at the beginning of each year, and using a cost of capital of 20%. Ignore taxation.

Required:

- (i) Using appropriate calculations, show that the Residual Income performance measure may be misleading or may be misinterpreted in its indications of the project's contribution to shareholder value creation, and discuss the likely motivational effects of the use of the Residual Income measure in this situation. (10 Marks)
- (ii) Would Return on Investment (ROI), with a minimum target return of 20%, be any better than Residual Income in signalling project desirability in these circumstances? Show all calculations and clearly state any assumptions you make. (6 Marks)

(Total: 30 Marks)

Question 6 begins on the next page P.T.O. ⇒

Question 6

*If you select this question, answer **any two** of its three parts.*

Part (A):

Explain what is meant by the term 'advanced manufacturing technology' (AMT), and discuss Berliner & Brimson's proposals as to how managers should evaluate proposals for AMT investments.

(15 Marks)

Part (B):

A large semi state body has recently completed the implementation of a well-known ERP system. While the project was completed on time and within budget members of the executive committee are disappointed at the benefits which have arisen from the investment in systems and technology. As part of a post implementation review of the project the CEO has asked you to prepare a briefing for the executive committee on the question of benefits realisation from ERP implementations. In particular she has asked you to address the following issues:

- (i) The reasons why benefits are typically not achieved;
- (ii) The shortcomings of ERP solutions in supporting the decision support requirements of the finance function.

(7 Marks)

(8 Marks)

(Total: 15 Marks)

Part (C):

"Strategic Enterprise management systems offer the data access and analytical capability needed to finally deliver on the promise of strategic decision support."

Discuss the above statement and in particular the potential contribution of SEM to improving decision support and strategic management processes in organisations.

(15 Marks)

(Total for **TWO** parts: 30 Marks)

End of Question Paper
