

| YEAR | PART (of Tripos) | PAPER NUMBER & TITLE | NAME OF AUTHORS |
|------|------------------|---|--|
| 2013 | MET IIA | P5 3P8 Financial & Mgm't Acc 3P9 Industrial Economics | T Ridgman A Couzens J Moultrie K Platts |

SECTION A

Question 1.

- (a) Assets are items that you own and liabilities are items that you owe. You would probably own Cash-in-hand, premises computers and machinery and you owe the money to the bank. The loan from C Shaw is owed and therefore in the wrong column. You own goods in stock which are in the wrong column. Debtors are people who owe you money and are therefore an asset whereas creditors are people you owe money to and are therefore a liability.
- (b) £3,010,000 - £2,270,000 = £740,000. This needs to be reflected in the balance sheet. The figure will be added to the fixed assets and to a revaluation reserve account under shareholder funds. Revaluation should have no effect on the P&L and on the Cashflow. It will appear in the Statement of Recognised Gains and Losses where it will be added to the accounting profit. The use of revaluation reserves is an example of the prudence concept where expected losses are taken into account immediately but expected gains are not recognised until realised.
- (c) There are a range of ratios used for different purposes and grouped into Liquidity Ratios, Profitability Ratios, Efficiency Ratios and Leverage Ratios. The ratios for an investor focus on those that relate to the share price and the return to the shareholder:

$$\text{Dividend Yield} = \frac{\text{dividend per share}}{\text{market price per share}} \times 100$$

$$\text{Dividend Cover} = \frac{\text{Net profit after taxation and preference dividend}}{\text{paid and proposed ordinary dividends}}$$

$$\text{Earnings per share} = \frac{\text{Net profit, or loss, for the period less dividends and other appropriations in respect of non-equity shares}}{\text{weighted average of number of shares in issue during the period}}$$

$$\text{Price/Earnings Ratio} = \frac{\text{market price/share}}{\text{earnings/share}}$$

$$\text{Capital Gearing} = \frac{\text{preference shares + long term loans}}{\text{total capital}} \times 100$$

shareholders' funds + long term loans

- (d) Accounts are derived in order to allow comparison of performance between financial years.

Some assets are consumed over a number of years and this has to be smoothed over the accounts so that the reduction is reflected for every year the asset is in use rather than just in the year it is purchased or disposed of.

By recording the depreciation in the P&L the organisation is incentivised to make sure it is making enough profits to replace its assets.

Depreciation has no effect on the cash position.

This annual amount of write-down is called the Depreciation of the Asset, and the value of asset reflected in the balance sheet is called the Net Book Value which is its acquisition value less its accumulated depreciation.

The accountant has to decide on the period over which the asset is going to be written off generally 3 – 5 years for short term assets such as vehicles, computers etc and 50 years for buildings.

For colleges the major difficulty is faced in how to treat the buildings. They are very hard to value, even if the acquisition cost was known revaluation is problematic because there is no effective market for college buildings. Replacement value is also not relevant since the heritage aspect would probably not be replaced.

By adopting UK GAAP Colleges have to present building depreciation in their accounts which generally results in an operating loss. To get a better view of the financial health of the college the governing body should addback the depreciation to see if a satisfactory profit is being made. They should also look at the amount of money being spent on building maintenance and ensure themselves that it is sufficient to keep the building in a good state.

- (e) BOX Ltd's accounts:

(i)

Trading and Profit and loss account for the year to 31st March 2012

| | £000 | £000 | £000 |
|--------------------------------------|-------|-------|------|
| Sales | | | 283 |
| Less: Cost of goods sold: | | | |
| Opening Stock | | 16 | |
| Purchases | | 137 | |
| | | <hr/> | |
| | | 153 | |
| Less: Closing stock | | 14 | 139 |
| Gross Profit | | <hr/> | 144 |
| Less: Expenses: | | | |
| Advertising | | 5 | |
| Depreciation: | | | |
| Furniture & fittings (20% x £20,000) | 4 | | |
| Vehicles (30% x £40,000) | 12 | 16 | |
| | <hr/> | | |
| Directors' fees | | 6 | |
| Rent & Rates | | 15 | |
| Telephone & Stationery | | 3 | |

| | | |
|-------------------------------------|----|------------------|
| Travelling | 2 | |
| Wages and salaries | 27 | 74 |
| Net Profit | | <u>70</u> |
| Corporation tax | | 24 |
| Net profit after tax | | <u>46</u> |
| Proposed dividend | | 28 |
| Retained profit for the year | | <u><u>18</u></u> |

Balance Sheet at 31st March 2012

| | Cost | Depr. | NBV |
|-----------------------------------|-------------|--------------|------------------|
| | £000 | £000 | £000 |
| Fixed Assets | | | |
| Vehicles | 40 | 22 | 18 |
| Furniture and fittings | 20 | 13 | 7 |
| | <u>60</u> | <u>35</u> | <u>25</u> |
| Current Assets | | | |
| Stocks | | 14 | |
| Debtors | | 115 | |
| Bank | | 10 | |
| | | <u>139</u> | |
| Less Current Liabilities | | | |
| Creditors | 15 | | |
| Taxation | 24 | | |
| Proposed dividend | 28 | 67 | 72 |
| | | | <u>97</u> |
| Capital & Reserves | | | |
| Ordinary Shares of £1 each | | <u>100</u> | 70 |
| Profit and Loss Account (£9 + 18) | | | <u>27</u> |
| | | | <u><u>97</u></u> |

(ii)

According to BOX Ltd's balance sheet at the 31st March 2012 the value of the business was £97,000. This does not represent the value of the business if it was liquidated but solely the product of the statement of the balances in the book keeping system after applying the values from the profit and loss account. Changes in the way in which depreciation or stock valuation was carried out would amend this number. If the business was to be liquidated the assets may not be realisable for their book value and there would be costs associated with the winding up.

Question 2.

(a)

(i) Ordinary shareholders differ from debt holders in four important ways

- they are owners of the company, not lenders
- they receive dividends (a share of the profits), not interest
- dividends do not have to be paid, whereas interest on debt does

- except in special circumstances, the cost of their shares do not have to be repaid to them by the company.

From the viewpoint of PHOENIX owners shareholding will allow them access to funds that they do not necessary have to pay interest or dividends on and therefore is a lower risk form of funding, but they will lose some control of the company and may have to share the profits. Selling shares to active V.C's can be a good move for small start-ups because it brings new expertise into the company, however there is no guarantee (unless specifically stated) that they will not be sold on to others with different interests for the business.

(ii) The ordinary shares are listed in the capital and reserves as $1,000,000 \times 50p = £500,000$ in addition they will have to create a share premium reserve account of $0.77 - 0.50 = 0.27 \times 1,000,000 = £270,000$. They will receive £770,000 which will appear in the current assets cash account.

- (b) Firstly draw up a trading account and add the numbers from the question:

Pete Trader Trading Account Year Ending 31st July 2012

| | £ | £ |
|--------------------------------|--------|--------|
| <i>Sales</i> | | 33,800 |
| <i>Less Cost of Goods sold</i> | | |
| Opening Stock | 15,721 | |
| Purchases (4) | 31,259 | |
| <i>Cost of Goods sold (3)</i> | 46,980 | |
| <i>Less Closing stock</i> | 23,320 | |
| <i>Cost of Sales(2)</i> | | 23,660 |
| <i>Gross Profit (1)</i> | | 10,140 |

- (1)** We know that the mark-up is 50% therefore the gross margin is 30% and the gross profit is $£33,800 \times 0.3 = £10,140$
- (2)** The cost of sales = sales – gross profit = $£33,800 - £10,140 = £23,660$
- (3)** Cost of goods sold = cost of sales + closing stock = $£23,660 + £23,320 = £46,980$
- (4)** Purchases = Cost of goods sold – opening stock = $£46,980 - £15,721 = £31,259$

- (c) **Going Concern:**

The assumption is that the business will continue to operate in the foreseeable future and is not about to be closed down.

This is relevant in valuing certain assets whose disposal value is different from their cost.

Concept means that the underlying disposal value of an asset can be ignored and the acquisition cost can be spread over the years that benefit from the assets use.

Realisation Concept:

The transaction is accounted at the point of sale (legal transfer of ownership)

Although the assets of a business may increase in value, there is no certainty that the profit will be realised when the asset is sold.

Thus only when the sale is made will the profit be recognised.

This is a clear example of the prudence that is inherent in accounting.

Prudence Concept:

The preparation of accounts requires judgements to be made about future and in general the conservatism principle requires the most pessimistic view to be taken.

Given the uncertainties associated with this a prudent approach is required.

All expected losses should be taken into account immediately when known (provisions), whereas expected gains not recognised until realised.

Concept clearly useful in preventing over-optimistic valuations of profit which could lead to incorrect investment decisions.

(d) Deferred tax carried forward is $£120,000 \times 0.26 = £31,200$. The deferred tax brought forward is $£36,700$, so there will be a tax credit of $£36,700 - 31,200 = £5,500$ to the P&L. The total charge for taxation is $£83,090 - 5,500 = £77,590$.

(e)

(i)

TOOLSHOP Ltd Cash Flow Statement for the year to 31st March 2012

| | £000 | £000 |
|---|------|--------------|
| <i>Net cash inflow from operating activities</i> | | 70 |
| <i>Management of liquid resources and financing</i> | | |
| Issue of debenture loan | | 60 |
| Purchase of investments | | <u>(100)</u> |
| Increase in cash | | <u>30</u> |

Reconciliation of operating profit to net cash inflow from operating activity:

| | £000 |
|---|-------------|
| Operating profit (£40-30) | 10 |
| Depreciation charges | 20 |
| Increase in stocks | (30) |
| Decrease in debtors | 110 |
| Decrease in creditors | <u>(40)</u> |
| Net cash inflow from operating activities | <u>70</u> |

* No details of debenture interest were given in the question

Reconciliation of net cash flow to movement in debt:

| | £000 | £000 |
|-----------------------------------|-------------|-------------|
| Increase in cash in the period | 30 | |
| Cash inflow from increase in debt | <u>(60)</u> | (30) |
| Net debt at 1.4.11 | | <u>(20)</u> |
| Net debt at 31.3.12 | | <u>(50)</u> |

Analysis of changes in net debt:

| | At 1.4.11 | Cash flows | At 31.3.12 |
|-----------------------|-------------|-------------|-------------|
| | £000 | £000 | £000 |
| Cash at bank | (20) | 30 | 10 |
| Debt due after 1 year | 0 | (60) | (60) |
| Total | <u>(20)</u> | <u>(30)</u> | <u>(50)</u> |

(ii)

The cash flow statement for the year ended 31st March 2012 tells the Directors of TOOLSHOP Ltd that the company increased its cash position by £30,000 during the year. Its operating activities generated £70,000 in cash. This was supplemented by issuing £60,000 of debenture stock making the total increase in cash £130,000. However, £100,000 of cash was used to purchase some investments. More tests would need to be done but on the limited evidence available, the company's cash position at the end of the year looked healthy.

SECTION B

Question 3

- (a) Depreciation is a result of writing down fixed asset values so it is fixed in the medium and long term.

Pensions are payable as a proportion of wages and salaries, therefore the part of pensions that relate to direct labour should be considered variable and the part related to indirect labour should be considered fixed.

Tax is payable on profit, which relates to the amount of activity and it is payable to the Inland Revenue because companies' collect income tax of behalf of the government. This is a proportion of wages and salaries and should be allocate as the pensions costs to direct and indirect labour.

Training is generally seen as a fixed cost, while in a downtown many companies cut back on training it could also need to rise if the company seeks to move into new areas, additionally if a company is running below capacity the labour opportunity cost of training is lower.

Fred needs to look at maximising the ratio of variable to fixed costs, list could include labour agreement which pay by the hour worked, lease arrangements for equipment, allocating consumable material costs to jobs, reducing stock levels by seeking supply agreements that can deliver small batch quantities very quickly.

- (b) Pricing Strategies include:

Price taking into account competitors reactions
Monopolistic pricing
Collusion and price leadership
Entry deterrence and limit pricing

Differential pricing and price discrimination

New product pricing:

Market penetration pricing – low price, fast growth of market

Market skimming pricing – recoup development costs, high margin

Wide range of factors affecting price (given a particular policy) measured by demand elasticity

Price Setting Approaches

Optimal Price Setting Approach

Full cost plus pricing

Variable cost plus pricing

Target Cost pricing

Minimum pricing

Since the aims of this product are philanthropic there is no need to maximise return but as a single product company the price has to be sufficient to cover the variable costs; there is no existing market so direct market comparison is not possible but it would be possible to price against other electronic gadgetry that appeals to the same market segment. A major problem with this product is that the volume cost relationship curve is not linear, there are low volume contract manufacturers who produce at relatively high costs and global volume manufacturers who produce at low cost but expect high batch orders. There is an issue of the companies attitude for risk, if sufficient funding was available a large batch could be ordered and the pricing set low versus the gadget market but this is quite high risk, if the product did not sell, or if it had a technical fault the company could easily become insolvent. The alternative approach is to have a small initial volume made and launch at a relatively high price to test market acceptability. The risk of this strategy is that if the demand turned out to be high it might not be possible to satisfy it, or if the price was too high and it was necessary to reduce it this would alienate customers who had bought it at the higher price. The second approach has a much lower risk of insolvency and therefore would be the preferred strategy.

- (c) (i) There are several ways in which the costs in this process could be allocated to sales revenue to calculate profit for the two products. The most common one is by sales value. In this example Dryfil represents 86% and Superstik 14%.

| | Dryfil £ | Superstik £ |
|--------------------------|---------------|----------------|
| Sales | 30,800 | 4,950 |
| Total costs | | |
| Dryfil 86% of £23,700 | 20,382 | |
| Superstik 14% of £23,700 | | 3,318 |
| Profit for November | <u>10,418</u> | <u>1,632</u> |

- (ii) The cost of Dryfil in stock using the sales value method would be $200 \times (20,382/\text{£}3850) = \text{£}1,059$

- (iii) To produce an additional 1,000 kg of Dryfil requires the processing of an additional 1000kg of material at £2/kg material costs and £1.06/kg labour costs = $(1000 \times £2) + (1000 \times £1.06) = £3,060$. Therefore a minimum price of £3,060 is required, however in reality there would be stock holding or disposal costs associated with the unwanted Superstik product and the company would expect to make a profit.
- (d) Before starting to set up the budget Ed needs to understand the budget setting context, this involves trying to set out a clear plan for his business and what he hopes to achieve. He also needs to understand what costs he can monitor and what costs he can control.

There are 5 common ways of setting a budget – Zero-based budgeting, Activity-based budgeting, the affordability Method, competitive parity, % of sales/profit. These can be used separately or in combination.

In Ed's situation because he is starting from a position of never having budgeted, he is going to have start with a zero base budget – This starts from a zero base and all items have to be justified. He has to identify and question all the decisions he makes that lead to expenditure. Secondly he has to allocate resources to those items. The sales profit ratio approach is not very useful to him because it will not motivate him to understand and control the costs, indeed it would mostly likely lead him to seek a price increase from his customers which would only provide a short term solution and lead to the problem being repeated sometime in the future. Competitive parity would be useful to Ed but it would need him to find a competitor would be willing to open the books to him, given the specialist nature of the business its unlikely that this would be possible. The affordability method is important to Ed because since he is in cashflow problems its likely that he is overspending and needs to understand and reduce some of his costs, however he will need to identify the action not just the target reductions.

The standard steps in preparing a budget are:

- Establish budget responsibilities.
- Communicate details of the budget and budget guidelines.
- Identify the critical constraints on attaining objectives.
- Prepare the sales budget taking limiting factor into account.
- Prepare the detailed budgets.
- Discussion of the budgets with those responsible for them
- Co-ordination of budgets and iteration.
- Final acceptance and sign off of the budget.
- Budget review – ongoing comparison of outturn with budget.

In a one person business the requirement to communicate internally is obviously pretty limited but depending on the severity of the cash flow issues it may be important to use the budget to explain his difficulties to his suppliers, waiting for their money, customers, if he needs to negotiate a price rise, and his bank if he is having difficulty in paying loans or needs more working capital. He make sure his budget is externally credible it would be worth seeking professional advice from an accountant/book-keeper.

(e) (i) Incremental cash-flows

| Year | 0 | 1 | 2 | 3 | 4 |
|-------------------|-------|-------|-------|-------|-------|
| | £000 | £000 | £000 | £000 | £000 |
| Sales | 0 | 420 | 600 | 810 | 810 |
| Sale of Machinery | (130) | | | | 30 |
| Working Capital | (80) | | | | 80 |
| Variable Costs | 0 | (160) | (200) | (240) | (240) |
| Fixed Costs | 0 | (230) | (230) | (230) | (230) |
| | (210) | 30 | 170 | 340 | 450 |

(ii) Net Present Value

| Year | 0 | 1 | 2 | 3 | 4 |
|------------------------|-------|-------|------|------|------|
| | £000 | £000 | £000 | £000 | £000 |
| Incremental Cash Flows | (210) | 30 | 170 | 340 | 450 |
| Discount Rate 15% | 1.0 | .91 | .83 | .75 | .68 |
| Present Value | (210) | 27 | 141 | 255 | 306 |
| Cumulative Cash | (210) | (183) | (42) | 213 | 519 |

NPV = £519,000

Discounted Payback is around 2 year and 2 months.

(iii) The project does not meet the Company's requirements so it is necessary to look at sensitivity to see what might have to be done to make it viable

Increase Sales by 10%

| Year | 0 | 1 | 2 | 3 | 4 |
|-----------------|-------|-------|------|------|------|
| | £000 | £000 | £000 | £000 | £000 |
| Cash Flow | (210) | 56 | 210 | 397 | 507 |
| Present Value | (210) | 51 | 174 | 298 | 345 |
| Cumulative Cash | (210) | (159) | 15 | 313 | 658 |

NPV = £658,000

Discounted Payback is around 1 year 11 months

Reduce Cost by 10%

| Year | 0 | 1 | 2 | 3 | 4 |
|-----------|-------|------|------|------|------|
| | £000 | £000 | £000 | £000 | £000 |
| Cash Flow | (210) | 46 | 190 | 364 | 474 |

| | | | | | |
|-----------------|-------|-------|------|-----|-----|
| Present Value | (210) | 42 | 158 | 273 | 322 |
| Cumulative Cash | (210) | (168) | (10) | 263 | 585 |

NPV = £585,000

Discounted Payback is around 2 years 1 month

Sell the equipment and arrange a leaseback deal at cost of £100,000 pa, this will reduce the upfront investment and the depreciation charge in the fixed costs.

| | | | | | |
|-----------------|------|------|------|------|------|
| Year | 0 | 1 | 2 | 3 | 4 |
| | £000 | £000 | £000 | £000 | £000 |
| Cash Flow | (80) | 10 | 150 | 320 | 400 |
| Present Value | (80) | 9 | 125 | 240 | 272 |
| Cumulative Cash | (80) | (71) | 54 | 294 | 566 |

NPV = £566,000

Discounted Payback is around 1 year 6 months

Considering the three potential solutions reducing the cost by 10% will take a lot of management effort, probably need some amount of redesign and will result in a delay in launch. It does not meet the company target of 2 year payback. Increasing sales would make the project viable but it needs to be recognised these are estimates and this would be proceeding at risk, however if a viable action plan for sales growth could be produced it might be worth considering. The leaseback deal is low risk since it can be fully explored before the project is launched, it meets the company target but does result in a lower NPV, however, the project is still generating a healthy return.

Question 4.

(a)

| | | | | | | |
|------------------------|--------|--------|--------|-------|------|------|
| Year | 0 | 1 | 2 | 3 | 4 | 5 |
| | £000 | £000 | £000 | £000 | £000 | £000 |
| Cash Flow | (2500) | 800 | 850 | 830 | 1200 | 700 |
| Discount Factor at 15% | | 0.87 | 0.76 | 0.66 | 0.57 | .50 |
| Present Value | (2500) | 696 | 643 | 548 | 684 | 350 |
| Cumulative Cash | (2500) | (1804) | (1158) | (610) | 74 | 424 |

The Net present value of the project is £424,000

(b) **Customer Perspective:**

Customers are interested in price, quality of service, quality of product, product range and features.

Suggestions for THORNCHOCS:

Courteous staff/quality of service (measure the no of complaints and analyse them by reason)

Appearance of outlet/store, measure investment in enhancements made.

Rich chocolate/taste/perceptions of packaging – this can be measured by customer surveys, taste trials and feedback cards.

Product range and feature effectiveness – usage and demographic information can be obtained from Loyalty card and EPOS information

Internal Perspective:

This covers issues such as cost control, efficiency and/or productivity, Elimination of non-value added activities.

Suggestions for THORNCHOCS:

% stock wastage in transit & stock wastage in store (shrinkage, damage, past sell by date)

Mix and yield variances for cocoa content or other desirable ingredients measured to a standard.

Staff absenteeism (a good proxy for staff motivation) and labour turnover

Number of complaints analysed by reason.

Stock levels, inventory turns and lead-times in production and in the logistics supply chain.

Learning & Growth:

This is aimed to maintain and improve position by creating new skills and products.

Suggestions for THORNCHOCS:

£ spent of employee training

New products launched in the last year

% of revenue from products launched in last 3 years

No of store enhancements made in the past 6 months

% of staff contributing to suggestion scheme and % used by management

Financial:

To satisfy shareholders

Suggestions for THORNCHOCS:

EPS or share price growth, profit or sales maximisation

Growth – sales or number of retail outlet or employees

Sales growth, % market share of confectionery market

Absolute operating profits, % profit growth

Price earnings ration

Share price growth

Limitations of using BSC approach:

It is an historical analysis of performance and does not necessarily inform the future

There can be gaming of the measures if they are tied to performance bonuses

They may not change quickly enough as a system to reflect context changes

They can be costly information systems to collect and analyse.

There can be conflict between the perspective being measured i.e. quality and profit and some trade-offs may be necessary in practice.

Too many indicators can distort the benefits of using it, people can respond well to single or a small number of measures but get de-motivated by a large number of overlapping measures.

Management time and expense in creating, monitoring and changing performance assessment perspectives on a regular basis.

- (c) The standard cost for smoothie making is:

Standard cost of 25 pints in 0.6 hours at £40/hour = £24 for 25 pints

1900 pints should have taken $1900/25 \times 0.6 = 45.6$ hours. It actually took 42 hours which gave a an efficiency variance of $(45.6 - 42) \times £40 = £144$.

42 hours cost £1,880 by the standard it should have cost $42 \times £40 = £1,680$, therefore the expenditure variance is $£1,680 - £1,880 = (£200)$

The revised standard time would be 25 pints in 0.6×0.8 hours, there would be a planning variance. 1900 pints to the old standard would take 45.6 hours, 1900 pints to the new standard would be 36.5 hours, so there will be a variance of $(45.6 - 36.5) \times £40 = £360$.

- (d) EVA is the Net operating profit after tax – the cost of capital * capital invested.

EVA is therefore $(3,897,000 + 130,000) - 0.14 \times (15,720,000 + 375,000)$
 $= £6,020,300$

- (e) (i)

| Cost Pool | O/H | Cost Driver | Driver Rate | Usage for X3 | O/H X3 |
|----------------|--------|--------------|-------------|----------------|--------|
| | £ | | £ | | £ |
| Parts | 10,000 | 500 parts | 20 | 100 parts | 2,000 |
| Maintenance | 18,000 | 600 hours | 30 | 200 hours | 6,000 |
| Stores | 10,000 | Requisitions | 500 | 6 requisitions | 3,000 |
| Administration | 2,000 | Employees | 50 | 10 employees | 500 |
| | 40,000 | | | Total | 11,500 |

The overhead cost charged using the ABC costing method for Product X3 would be £11,500 or £230 per unit. Using the four overhead methods the variable overhead rate would be the total overhead costs divided by the number of labour hours. Assuming they work 8 hours/day for 22 days that would be $£40,000 / (40 \times 8 \times 22) = £5.68/\text{hour}$. Product X3 consumes 1760 hrs and would therefore be charged £9,997 or £200 per unit.

Using the ABC method rather than traditional labour overhead shows that Product X3 would be under recovering its share of the overheads if the traditional labour method was used. This could result in it being sold at an inadequate margin or being wrongly preferred if the directors are considering allocating resources to promote different products. The other benefit of the ABC is that by disaggregating the overhead it allows the management to decide where to focus their efforts on overhead reduction, in this case the values for

maintenance and stores costs seem very high; this is not apparent from traditional labour overhead allocation.

(ii) Advantages of using ABC include the following (list From ACCA Diploma June 1999):

- Traditional labour based allocations have little or no economic rationale
- ABC attempts to estimate costs as the long-run consumption of resources in producing a good or service
- To do this activities are defined and costed. The usage of activities is estimated using cost drivers that should be the factor that causes a cost to be incurred or varied. Thus the complex of variability is more complex and realistic in ABC
- It is argued that ABC produces some product costs that have some economic meaning and are more useful in business decision making. This argument relies on the business logic of the cost drivers.
- ABC produces product costs that are more intuitive and readily understandable by non-financial managers.
- There are often other benefits that result from the process of implementing and using activity based costing; not least improved relations between accountants and operational managers.

Disadvantages include:

- There is still a substantial degree of arbitrary allocation in many activity based costs.
- Cost drivers are often difficult to define and measure so the business logic of ABC is undermined.
- There are circumstances where activity based costs are very little different to labour based traditional costs.
- The benefits of activity based costing may be outweighed by the costs
- ABC may produce misleading costs as it is a long run concept and may not be suitable for short term decisions.
- Some firms have integrated financial accounting and management systems that they are not prepared to convert to an activity based system, mainly for cost reasons; neither are they prepared for a separate activity based system that would result in more than one set of costs for the same item.

There are many circumstances where the proponents of ABCM argue it would be beneficial to a firm, including the following:

- Where there is a need to reduce overhead costs. ABCM may indicate activities that are not producing any value to the firm. Such activities may be able to be removed and thus costs will be reduced.
- Where there is not a clear understanding of how costs are incurred and what activities are consuming resources, an ABCM exercise can demonstrate how much activities are costing. Management may use this to alter where resources are spent, i.e. what activities are undertaken.
- Where there is a poor financial awareness within a company an activity based cost management exercise may improve this as many individuals from different functions are usually involved.

- ABCM can add benefits to other management initiatives such as business process engineering and total quality.

SECTION C

Question 5.

(a) Show the definition of HHI as being the sum of the squares of the market shares (NB us % *100, i.e. 40% is taken as 40, the square is 1600)

The OFT regards

- Less than 1,000 unconcentrated
- Between 1,000 and 2,000 moderately concentrated
- Above 2,000 highly concentrated

US guidelines are

- Less than 1,500 unconcentrated
- Between 1,500 and 2,500 moderately concentrated
- Above 2,500 highly concentrated

| | Sales | Share | Share ² | | Sales | Share | Share ² |
|----------|-------|-------|--------------------|------------|--------|-------|--------------------|
| VW/Audi | 2,078 | 13.5 | 181 | Hyundai | 311 | 2.014 | 4 |
| Renault | 1,752 | 11.3 | 129 | Suzuki | 252 | 1.632 | 3 |
| Ford | 1,434 | 9.3 | 86 | Mazda | 240 | 1.554 | 2 |
| Peugeot | 1,291 | 8.4 | 70 | Skoda | 240 | 1.554 | 2 |
| Citroen | 1,067 | 6.9 | 48 | Volvo | 237 | 1.535 | 2 |
| Opel | 1,043 | 6.8 | 46 | Honda | 206 | 1.334 | 2 |
| Fiat | 953 | 6.2 | 38 | Kia | 173 | 1.120 | 1 |
| Mercedes | 819 | 5.3 | 28 | Mitsubishi | 155 | 1.004 | 1 |
| Toyota | 725 | 4.7 | 22 | Alfa Romeo | 148 | 0.958 | 1 |
| BMW | 682 | 4.4 | 20 | Daewoo | 135 | 0.874 | 1 |
| Nissan | 452 | 2.9 | 9 | Other | 676 | 4.377 | 19 |
| SEAT | 375 | 2.4 | 6 | | 15,444 | HHI | <u>720</u> |

In this market HHI is less than 1,000 so by either measure unconcentrated

(b) Two criteria need to be considered for the merger of Peugeot and Citroen: Post merger HHI and the change in HHI resulting from the merger.

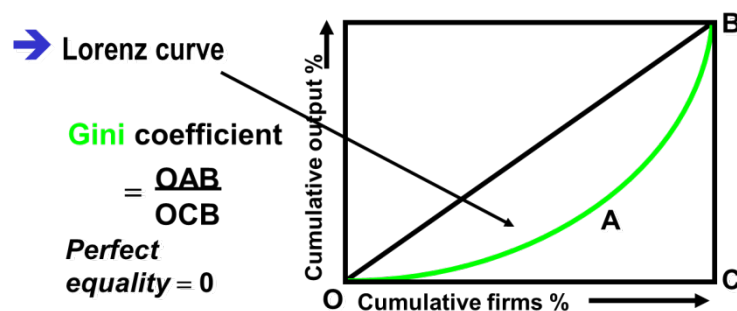
| | Sales | Share | Share ² | | Sales | Share | Share ² |
|----------|-------|-------|--------------------|------------|--------|-------|--------------------|
| VW/Audi | 2,078 | 13.5 | 181 | Hyundai | 311 | 2.0 | 4 |
| Renault | 1,752 | 11.3 | 129 | Suzuki | 252 | 1.6 | 3 |
| Ford | 1,434 | 9.3 | 86 | Mazda | 240 | 1.6 | 2 |
| PSA | 2,358 | 15.3 | 233 | Skoda | 240 | 1.6 | 2 |
| Opel | 1,043 | 6.8 | 46 | Volvo | 237 | 1.5 | 2 |
| Fiat | 953 | 6.2 | 38 | Honda | 206 | 1.3 | 2 |
| Mercedes | 819 | 5.3 | 28 | Kia | 173 | 1.1 | 1 |
| Toyota | 725 | 4.7 | 22 | Mitsubishi | 155 | 1.0 | 1 |
| BMW | 682 | 4.4 | 20 | Alfa | 148 | 1.0 | 1 |
| Nissan | 452 | 2.9 | 9 | Daewoo | 135 | 0.9 | 1 |
| SEAT | 375 | 2.4 | 6 | Other | 676 | 4.4 | 19 |
| | | | | | 15,444 | HHI | 836 |

Post-merger HHI is 836 so the change is 116

The post-merger HHI remains in the unconcentrated zone, and the change in HHI is below the 250 threshold of concern. This basic concentration measure is not likely to provide grounds for opposing the merger.

(c)

Measuring seller concentration ...



The ratio of areas under the diagonal gives the Gini coefficient. If all shares were equal the area bounded by OAB would be zero and thus GINI = 0

The Gini coefficient is based on the concept of the Lorenz curve. In contrast to the HHI (and Concentration ratios) it is concerned with the degree of inequality – and the assumption that less equal distributions (irrespective of concentration index) will exhibit more of the characteristics of monopoly power, and hence disadvantage customers.

Good answers will reflect on the fact that individual ratios/coefficients are only of use as guidance, and even at this level the USA differs from the UK in interpreting them. Regulators will want to

consider the specific definitions of markets and market shares. Markets are often not simple to define, or easy to measure accurately – the HHI needs comprehensive and accurate data.

Regulators will consider local impacts, and second order impacts (on associated markets).

Candidates might describe efficiency factors to support the merger:

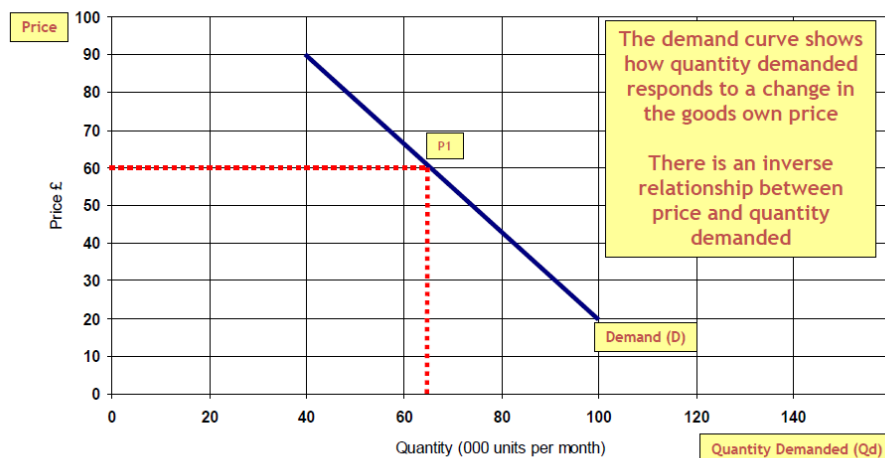
- (1) rationalisation of production, which refers to cost savings from reallocating production across firms, without increasing the joint technological capabilities;
- (2) economies of scale, i.e. savings in average costs associated with an increase in total output;
- (3) technological progress, which may stem from the diffusion of know-how or increased incentives for R&D;
- (4) purchasing economies or savings in factor prices such as intermediate goods or the cost of capital;
- (5) reduction of slack (managerial and X-efficiency).

Good answers would raise issues of the likelihood of a lessening of competition through either unilateral effects (removing rivalry between the two competing firms) coordination effects (allowing price increases) or vertical effects (allowing firms to use market power).

Question 6

(a) (i)

The Law of Demand and the Demand Curve



- Factors that affect demand for a good
 - Consumer tastes and preferences (& advertising etc)
 - Income available to the consumer (& taxes)
 - Prices of other goods and services
 - Substitute goods
 - Complementary goods
 - Interest rates and credit availability
 - Consumer population

- (ii) For normal goods, more will be demanded as price falls
 - This is because at lower prices, consumers can afford to purchase more with their income

- Secondly, a fall in price makes one good relatively cheaper than a substitute encouraging consumers to switch their demand in favour of the lower priced product
- Thirdly, a fall in price means that the consumer derives more benefit (satisfaction or utility) per pound spent on the product than they did before
- The demand curve is normally drawn in textbooks as a straight line suggesting a linear relationship between price and demand, but in reality, the demand curve will be non-linear
- Exception is where price is taken to be a signal of either quality, or status – demand can then rise with price.

(iii) Causes of an outward shift in demand

- A rise in the real incomes of consumers
- An increase in the price of a substitute good (i.e. a competing product)
- A fall in the price of a complementary good
- A change in consumers' preferences towards the good
- A fall in interest rates (e.g. if the product is often bought using loan finance)
- A rise in consumer confidence (important for "big ticket" items of spending)
- Social changes which affect total demand for a product

(iv) Price Elasticity of Demand

The responsiveness of quantity demanded of a good to changes in its own price is measured by the Price Elasticity of Demand (μ_p) – usually stated as positive

$$\mu_p = -(dq_i / q_i) / (dp_i / p_i) = -(dq_i/dp_i) \times (p_i/q_i)$$

If less than one, the good is said to be price inelastic and if greater than one, it is price elastic.

The elasticity of demand depends on: the number of substitutes; whether a necessity; the time period over which it is measured. Therefore cars as a whole are less price elastic than any one make of car.

(b) Assumptions Behind a Perfectly Competitive Market

- Large (theoretically infinite) number of consumers and suppliers each with an insignificant share of market
- Each firm is too small to affect price via a change in market supply – each individual firm is assumed to be a price taker
- Identical output produced by each firm – homogeneous products that are perfect substitutes for each other (Consumers perceive the products to be identical)
- Consumers have perfect information about the prices all sellers in the market charge
- All firms (industry participants and new entrants) have equal access to resources (technology, other factor inputs)
- No barriers to entry & exit of firms
- No discontinuities or indivisibilities in cost and production schedules
- General setting is a single plant, single product, owner-managed firm.

(c) Good answers will reflect on the desire of all businesses to move from the assumptions of perfectly competitive markets – and seek opportunities to supply at a higher price. Techniques for managing differentiation and information are key, but other valid approaches should be rewarded.

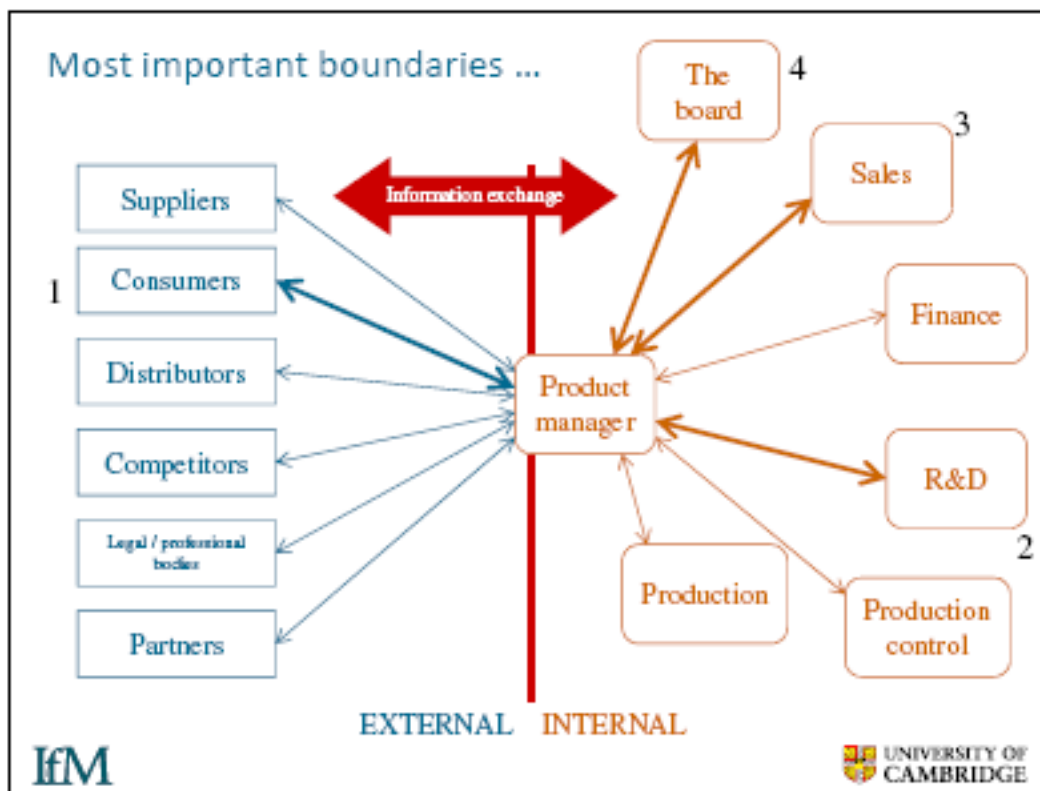
SECTION D

Question 7

a) Describe the possible role of a product manager and how this role might vary in different types of firm. 30%

Expect to see a general description of the role of the product manager, and their position in the organisation.

Origin of product management role – 1930s and then P&G in the 1950s. More common role in FMCG – increasingly part of organisation in technology firms.



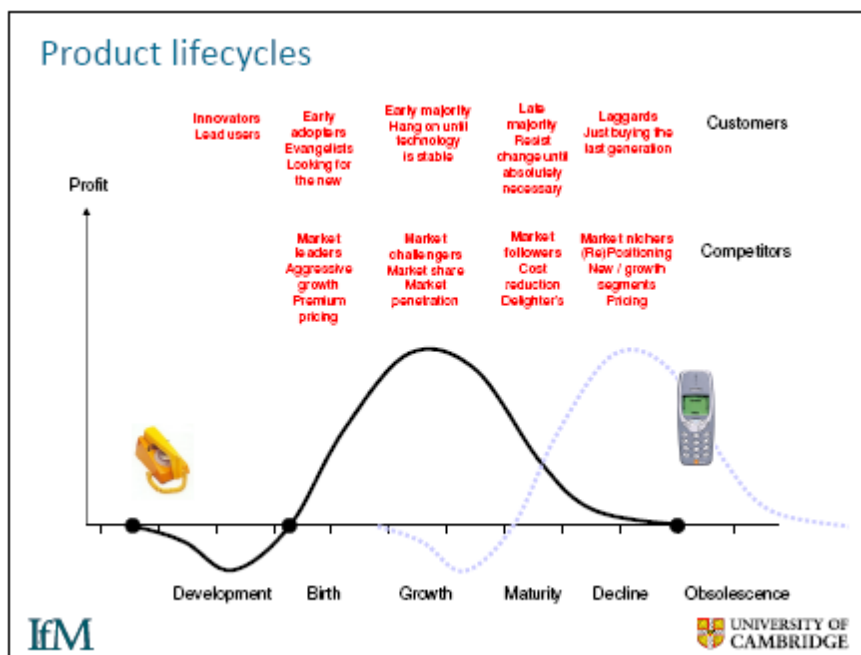
I would expect students to comment on product management as a role being about BOUNDARY SPANNING (within the organisation and externally. It is a role about obtaining and sharing information across these boundaries. Students might comment on the types of information that are shared by the PM. The PM fundamentally has responsibility for product profitability. But, this is often a difficult role as the PM has little control over resources and thus authority despite having lots of profit line responsibility. Thus, the skills are around facilitation, information brokering, negotiation etc.

I would expect to see students distinguish between:

- **Business Unit Manager:** product managers with profit responsibility and corresponding authority – essentially acting as business unit managers. This is common in large companies with distinct product ranges.
- **Brand Manager:** product managers who take on a position of brand manager, responsible for brand development, promotions, etc. This is common in FMCG organisations.
- **Coordinator/Product Champion:** often product managers in small technology firms – with either a sales alignment or a product development alignment. Here the product manager is more information gatherer and provider to enable decision making at a senior level. The PM might have strategic responsibility for the future direction and strategy of a product line.
- **Technical support:** providing sales support and acting as an expert to support customer enquiries.
- **Sales support:** Little authority but providing support to sales staff through promotions and marketing programmes

b) Describe the product lifecycle concept, its potential application and its limitations. 30%

I would expect students to reproduce a typical lifecycle model:



Students should comment on the decisions that are available at different stages of the lifecycle. (when to do something new, what it should be, how to maximise profitability of existing offerings, how to create the ideal 'range' or products). They could go through each stage and comment on the appropriate strategies and actions:

- **Birth:** about stimulating demand, raising awareness. Products might compete on performance. Aim for high margins. Might make initial losses as the market develops.
- **Growth:** promotion to grow and sustain demand. Managing production and sales ramp up are key. Dealing with new competitors and imitators. Managing a fall in either profits or margins – cost reduction.

- **Maturity:** products potentially cash cows. Need to promote and potentially differentiate. Many competitors. Price and cost reduction. Incremental improvements.
- **Decline:** reminders, special promotions. Increasing market segmentation and specialisation. Niche positioning. Low margins, but also possibly low support costs. To extend: target new markets, modify the product!

BUT, it is difficult to be certain about the stage of the lifecycle that a product is in, and whether this is as a result of internal company actions or a factor of the external competitive environment. The life cycle works as a piece of post-hoc analysis. It is rarely possible to really know where you actually are in a lifecycle and what its future trajectory will be as this is influenced by many factors, and especially competitive activity.

c) You have just been appointed as product manager in a high-technology business. The product range that you have inherited includes 3 classes of products; "entry level", "mid-range" and "premium". Some basic sales and competitive data is provided in figures X and Y. Using appropriate strategy concepts, make some recommendations for the firm's future product development strategy. 40%

I would expect to see students apply concepts from the module – PLC, SWOT, Porters Value Chain, BCG matrix, portfolio management, market segmentation and positioning, etc.

They should comment on the lifecycle of these products and comment on the general overall decay and specific fall in sales of the higher priced performance products.

They should recognise that all products look like they are near the end of their lifecycles, and therefore product development and niche promotions might be necessary.

They might speculate on the reasons for the rise in sales of the mid-range products (and corresponding fall in sales of entry level products).

They should notice that the performance products carry a larger premium and that Competitor 3 is dominant in this sector. Precision Co is not dominant in any sector, but does well in mid-range. Students should propose potential actions that they could take to develop the business, addressing products, promotions, place (distribution), and pricing.

Students might recommend killing an unprofitable product, but should be aware that removing a 'cash cow' would reduce turnover overall. This is rarely acceptable for shareholders or employees. They should propose which segments they would aim to develop further and recommend how they might do this.

They should also indicate the research that they need to undertake to fully understand the dynamics of this market place – further market analysis, further customer research, further technology research.

They should note that it is difficult therefore to extrapolate any reliable trends from this data. Students should recognise that they can influence the lifecycle and that it is not necessarily independent from the actions that the company takes.

Thus, used over simplistically, the PLC data can be dangerous. Used cautiously, the data might point towards potential actions.

Question 8

(a) The candidate should show knowledge of the work of Porter's analysis of industry competition in his *Competitive Strategy* (1980). The five main competitive forces are:

- Within industry competition – number of competitors, quality differences, switching costs, customer loyalty, competitive advantage through innovation, costs of leaving market, flexibility through customisation, volume and variety
- Substitute products – substitute performance and cost of change, buyer propensity to substitute, product differentiation, number of substitute products in the market place, ease of substitution.
- Barriers to entry – Time and cost of entry, specialist knowledge, economies of scale, cost advantage, IP, brand equity, sunk costs, capital requirements, access to distribution, industry profitability, absolute cost
- Buyer power – Number of customers, size of each order, Differences between competitors, price sensitivity, degree of dependency on existing channels of distribution, buyer information availability, ability to substitute and cost of changing
- Supplier power – Numbers of suppliers, size of suppliers, uniqueness of service, your ability to substitute, strength of distribution channel, costs of changing.

(b) The candidate should consider the way in which these five forces can be measured in practice. For example, one aspect – within industry competition can be measured using concentration ratios. Alternatively, the presence of substitute products can be measured using cross elasticity of demand, in particular examining price movements between substitute products.

(c) Typical changes to the five forces through the lifecycle:

- Development – Low rivalry, high differentiation and innovation is key.
- Growth – Low rivalry, high growth and weak buyers, low barriers to entry, growth ability is key.
- Shake out – Increasing rivalry, slower growth, some exits, managerial and financial strength is key.
- Maturity – Stronger buyers, low growth, standard products, higher entry barriers, market share and cost is key.
- Decline – Extreme rivalry, many exits, price competition, cost and commitment is key.