



# ACCA

## Performance Management (PM)

Pocket Notes



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## Contents

<b>Chapter 1:</b> A revision of Management Accounting (MA) topics .....	1
<b>Chapter 2:</b> Information, technologies and systems for organisation performance .....	5
<b>Chapter 3:</b> Information Systems and data analytics .....	9
<b>Chapter 4:</b> Specialist Cost and Management Accounting techniques .....	15
<b>Chapter 5:</b> Cost volume profit analysis .....	29
<b>Chapter 6:</b> Planning with limiting factors .....	37
<b>Chapter 7:</b> Pricing .....	45
<b>Chapter 8:</b> Relevant costing .....	53
<b>Chapter 9:</b> Risk and uncertainty .....	59
<b>Chapter 10:</b> Budgeting .....	67
<b>Chapter 11:</b> Quantitative analysis .....	83
<b>Chapter 12:</b> Advanced variances .....	89
<b>Chapter 13:</b> Performance measurement and control .....	101
<b>Chapter 14:</b> Divisional Performance measurement and Transfer Pricing .....	109
<b>Chapter 15:</b> Performance measurement in not-for-profit organisations .....	117
<b>Index .....</b>	I.1

## The exam

Section A of the examination comprises 15 objective test questions (OT) of 2 marks each. Section B comprises three objective test cases (OT cases), each of which includes 5 OT questions of 2 marks each. Section C comprises two 20 marks constructed response (i.e. long) questions.

There will be an even mixture of written requirements and computational requirements. The Section A and Section B questions can cover any area of the syllabus.

The two 20 mark questions in Section C will test decision-making techniques, budgeting and control and/or performance measurement and control areas of the syllabus.

## The examiner's key concerns

- Students need to be able to interpret any numbers they calculate and see the limitations of their financial analysis.
- In particular financial performance indicators may give a limited perspective and NFPs are often needed to see the full picture.
- Questions will be practical and realistic, so will not dwell on unnecessary academic complications.
- Many questions will be designed so discussion aspects can be attempted even if students have struggled with calculation aspects.

## Exam technique

### Time management

A common problem on this type of paper is that students spend too long on calculations and don't have enough time to do themselves justice on the discussion aspects. Allocate your time and stick to it!

### Question requirements and answer content

Ensure you read each question requirement at least twice before you start, and again when you have finished answering it. Have you actually addressed the requirement? If the question says for example, 'discuss the issues to be considered when switching to ZBB' – don't then simply describe ZBB; discuss the issues when switching!

### Reading time

The CBE exam duration is of 3 hours, plus 10 minutes to read pre-exam instructions. As part of on-going exam development,

from June 2019 the ACCA will no longer have to add the additional unmarked seeded questions, and so no longer need the additional 20 minutes that used to be allocated for this purpose.

The 10 minutes reading time should be spent on reading and planning to develop a structure to your answers.

Quality and accuracy are of the utmost importance to us so if you spot an error in any of our products, please send an email to [mykaplanreporting@kaplan.com](mailto:mykaplanreporting@kaplan.com) with full details, or follow the link to the feedback form in MyKaplan.

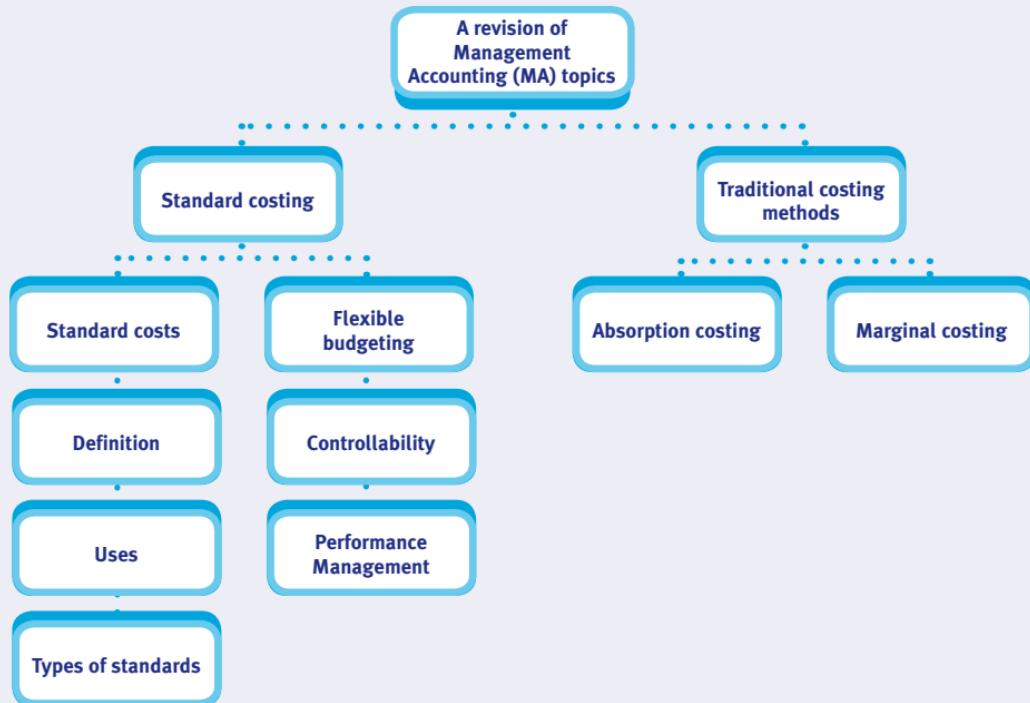
Our Quality Co-ordinator will work with our technical team to verify the error and take action to ensure it is corrected in future editions.



chapter

# 1

## **A revision of Management Accounting (MA) topics**



## Cost definitions examples

### Ideal standard

- Ideal operating conditions
- Highlights cost of inefficiencies

### Attainable standard

- Efficient operating conditions
- Includes allowance for wastage

### Current standard

- Current operating conditions
- No incentive to improve efficiency

### Basic standard

- Set for the long term
- Highlights changes in costs

### Uses of standard costing

- performance management
- inventory valuation
- setting selling prices
- budgeting
- management by exception



chapter

# 2

## Information, technologies and systems for organisation performance

### In this chapter

- Sources of management accounting information.

### Information and Data

**Data** consists of numbers, letters, symbols, raw facts, events and transactions which have been recorded but not yet processed into a form that is suitable for making decisions.

**Information** is data that has been processed in such a way that it has a meaning to the person who receives it, who will then use it to improve the quality of decision-making.

Good information should be **ACCURATE**:

- Accurate
- Complete
- Cost effective
- Understandable
- Relevant
- Accessible
- Timely
- Easy to use

**Privacy and security:**

Privacy and security risks:

<b>Potential threat</b>	<b>Potential solution</b>
Natural disasters	Fire procedures
Malfunction	Back-up procedures
Viruses	Anti-virus software
Hackers	Firewall software
Human errors	Training
Human resource risk	Ergonomic workstation design

## Sources of management accounting information

Information can be obtained from internal and external sources. Much is free, but some comes at a cost, such as:

- most information from business enquiry agents is charged for
- banks and financial journals often sell surveys and forecasts
- internet databases may charge a subscription
- government statistics, forecasts and reports may be charged for.

Internal sources	External sources
<ul style="list-style-type: none"><li>Sales ledger system</li><li>Purchase ledger system</li><li>Payroll system</li><li>Fixed asset system</li><li>Production</li><li>Sales and marketing</li></ul>	<ul style="list-style-type: none"><li>Suppliers</li><li>Newspapers and journals</li><li>Government</li><li>Customers</li><li>Employees</li><li>Banks</li><li>Business enquiry agents</li><li>Internet</li></ul>

Information may be qualitative as well as quantitative. Qualitative information, e.g. opinions, still need to be considered when making a decision.

chapter

# 3

## Information Systems and data analytics

### In this chapter

- Performance management information systems.
- Big Data.

## Performance management information systems

Information requirements at different levels.

### STRATEGIC PLANNING

Information predominantly environmental. Information imprecise and speculative. Long-term forecasts. Main output targets and plans. Ad hoc control system. Use decision making system such as an EIS.

### MANAGEMENT CONTROL

Information concerned with efficiency and effective use of resources in the whole organisation. May involve responsibility centres. Includes measures of productivity, budget performance, labour and capacity utilisation. Use decision making system such as a DSS.

### OPERATIONAL CONTROL

Short-term control information. Very detailed. May be in terms of quantity, rates and times rather than finance. Use decision making system such as a TPS.

## Decision based systems

A hierarchy of decision based management information systems (MIS) may be used:



**Expert systems** hold specialist knowledge and allow non-experts to interrogate for information, advice and relevant decisions.

### Executive information system (EIS)

An EIS gives senior executives access to internal and external information. Information is presented in a user-friendly, summarised form with an option to 'drill down' to a greater level of detail.

### Decision support system (DSS)

A DSS aids managers in making decisions. The system predicts the consequences of a number of different scenarios and the manager then uses their judgement to make the final decision.

### Transaction processing system (TPS)

A TPS (or data processing system) processes routine business transactions, often in large volumes. For example, sales and purchase information.

## Big Data

**Big Data** refers to extremely large collections of data that may be analysed to reveal patterns, trends and associations.



**Big Data Analysis** is the process of scrutinising Big Data to identify patterns, correlations, relationships and other insights.

**Hadoop** is an open source programming framework which enables the processing of large data sets by utilising multiple servers simultaneously.

Benefits of Big Data	Risks associated with Big Data
<ul style="list-style-type: none"><li>• Drives innovation</li><li>• Improved customer service and decision making</li><li>• Storage of transactional data in a digital format</li><li>• Use to develop the next generation of products or services</li><li>• Access to external information</li><li>• Can create new revenue streams</li><li>• Source of competitive advantage</li><li>• Ensures measurable outcomes</li></ul>	<ul style="list-style-type: none"><li>• Skills to use systems may not exist</li><li>• Security of data</li><li>• Valuable time may be spent measuring relationships that have no organisational value.</li><li>• Incorrect data may result in incorrect conclusions.</li><li>• Technical difficulties integrating systems.</li><li>• Cost of establishing hardware and software.</li></ul>



**Exam focus**

(questions from the ACCA Performance Management (PM) exam kit)

<b>OBJECTIVE CASE QUESTIONS</b>	<b>CONSTRUCTED RESPONSE QUESTIONS</b>
	QB5 cars eis The MG Organisation

chapter

# 4

## **Specialist Cost and Management Accounting techniques**

### **In this chapter**

- Activity Based Costing (ABC).
- Target costing.
- Value analysis.
- Lifecycle costing.
- Throughput.
- Environmental cost accounting.

## Activity Based Costing (ABC)

This is a key costing method. Comparisons of ABC with traditional methods of overhead absorption are particularly important. Approach calculations by using the methodical step by step approach.

The written elements of ABC are also important. Be prepared to explain the reasons for the development of ABC, its advantages and disadvantages, and the implications of ABC.

### Steps

- 1 Group production overheads into activities, according to how they are driven.
- 2 Identify cost drivers for each activity.
- 3 Calculate an O.A.R. for each activity cost.
- 4 Absorb the activity costs into each product.
- 5 Calculate the production cost and the profit/(loss) if required.

### Advantages

- More realistic costs.
- Better insight into cost drivers, resulting in better cost control.
- Particularly useful where overhead costs are a significant proportion of total costs.
- ABC recognises that overhead costs are not all related to production and sales volume.
- ABC can be applied to all overhead costs, not just production overheads.
- ABC can be used just as easily in service costing as in product costing.

### Criticisms of ABC

- It is impossible to allocate all overhead costs to specific activities.
- The choice of both activities and cost drivers might be inappropriate.
- ABC can be more complex to explain to the stakeholders of the costing exercise.
- The benefits obtained from ABC might not justify the costs.
- ABC will be of limited benefit if overhead costs are primarily volume related or are a small proportion of the total cost.

### Implications

- Pricing – more realistic costs improve cost plus pricing.
- Sales strategy – more realistic margins can help focus sales strategy.
- Decision making – e.g. research and development can be directed at products with better margins.

- Performance management can be improved due to the settings of more realistic budgets and improved cost control.

## Target costing

Estimate a market driven selling price for a new product, e.g. to capture a required market share

Reduce this figure by the company's required level of profit

Produce a target cost figure for product designers to meet

Reduce costs to provide a product that meet that target cost

### Closing the target cost gap

- “Value analysis” looks at identifying which product features contribute to customer perceived value and which do not.
- Focus is on reducing cost without compromising perceived value.
- Can labour savings be made, e.g. by using lower skilled workers?
- Can productivity be improved, e.g. by improving motivation?
- What production volume is needed to achieve economies of scale?
- Could cost savings be made by reviewing the supply chain?
- Can any materials be eliminated, e.g. cut down on packing materials?
- Can a cheaper material be substituted without affecting quality?
- Can part-assembled components be bought in to save on assembly time?
- Can the incidence of the cost drivers be reduced?

### Implications

- Pricing – will be more realistic since customer demand is considered.
- Cost control – target cost motivates managers to find new ways of saving costs.
- Performance management – enhanced because the business finds ways to reduce costs.

### Value analysis

To ensure target costs can be achieved, value analysis is used. Value Analysis identifies any unnecessary cost elements within the components of goods and services.

Cost Value

Exchange Value

Use Value

Esteem Value

## Lifecycle costing

A common mistake in questions is that candidates confuse lifecycle costing with the product lifecycle.

### Lifecycle costing

- Is the profiling of cost over a product's life, including the pre-production stage.
- Tracks and accumulates the actual costs and revenues attributable to each product from inception to abandonment.
- Enables a product's true profitability to be determined at the end of its economic life.

### Background

- The commitment of a high level of costs at the earlier stages of the product lifecycle (especially pre-production) has led to the need for accounting systems that compare revenues with all costs incurred throughout the lifecycle.

- Traditional costing systems based around annual periods may give a misleading impression of costs and profitability.

### Implications

- **Pricing** decisions can be based on total lifecycle costs rather than simply the costs for the current period.
- **Decision making** – In deciding to produce or purchase a product or service, a timetable of life cycle costs helps show what costs need to be allocated to a product so that an organization can recover its costs. If all costs cannot be recovered, it would not be wise to produce the product or service.
- **Performance Management (Control)**
  - Lifecycle costing thus reinforces the importance of tight control over locked-in costs, such as R&D in the development stage.

- **Performance Management (Reporting)**
  - Life cycle costing traces R&D, design, production set-up, marketing and customer service costs to products over their entire life cycles, to aid comparison with product revenues generated in later periods.

## Throughput

Work through the methodical step by step approach for multi product decisions.

### Background

- Application of key factor analysis to production bottlenecks.
- The only totally variable cost is the purchase cost of raw materials and components that are bought from external suppliers.
- Direct labour costs are not wholly variable.

### Criticisms

- It concentrates on the short term. More difficult to apply to the longer term, when all costs are variable.
- In the longer term as activity based costing might be more appropriate for measuring and controlling performance.

## Multi-product decisions

Steps:

- 1 Determine the limiting factor (bottleneck resource).
- 2 For each product calculate the throughput per unit (revenue – raw material cost).
- 3 For each product calculate the throughput per unit of the limiting factor.
- 4 Rank in order.
- 5 Production plan – using the ranking allocate the scarce resources in the optimum way.

### The throughput accounting ratio (TPAR)

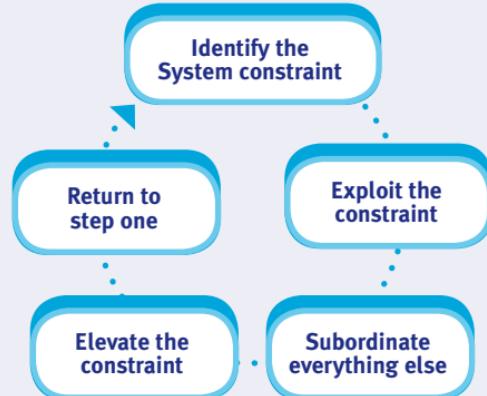
$$\text{Throughput accounting ratio} = \frac{\text{Throughput per hour of bottleneck resource}}{\text{Operating expenses per hour of bottleneck resource}}$$

### How to improve the TPAR

- Increase the sales price for each unit sold, to increase the throughput per unit.
- Reduce total operating expenses, to reduce the cost per assembly hour.
- Improve productivity, reducing the time required to make each unit of product.

Throughput accounting and the Theory of Constraints is the subject of two technical articles published by the examiner on the ACCA website.

### Theory of constraints



## Environmental cost accounting

### Environmental costs

Internal costs directly impact on the income statement of a company

Improved systems

waste disposal costs

product take back costs

regulatory costs

upfront costs

backend costs

External costs are imposed on society at large but not borne by the company that generates the cost in the first instance

carbon emissions

usage of energy and water

forest degradation

health care costs

social welfare costs

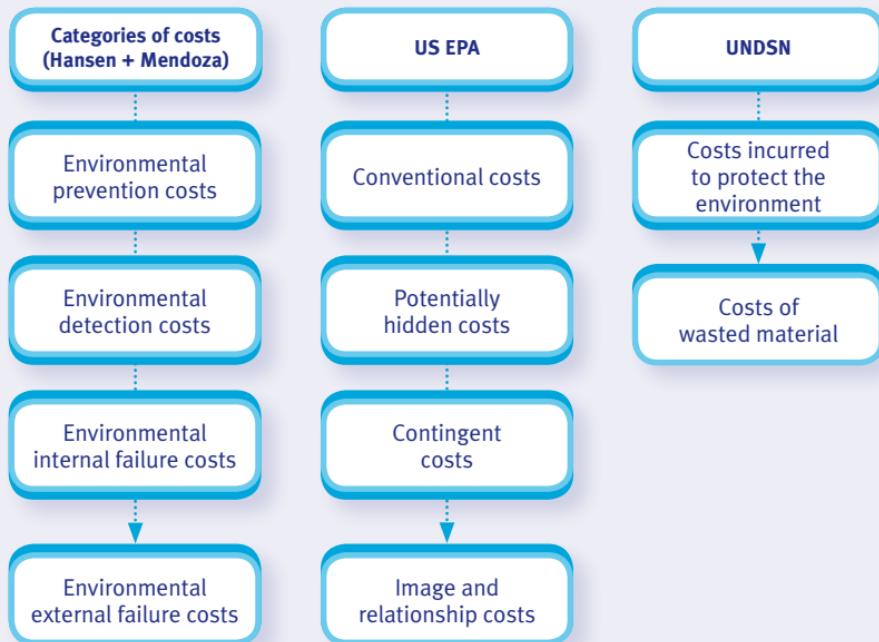
**EMA**

- The identification, collection, analysis and use of two types of information for internal decision making:
  - Physical information on the use, flows and destinies of energy, water and materials (including wastes).
  - Monetary information on environment-related costs, earnings and savings.

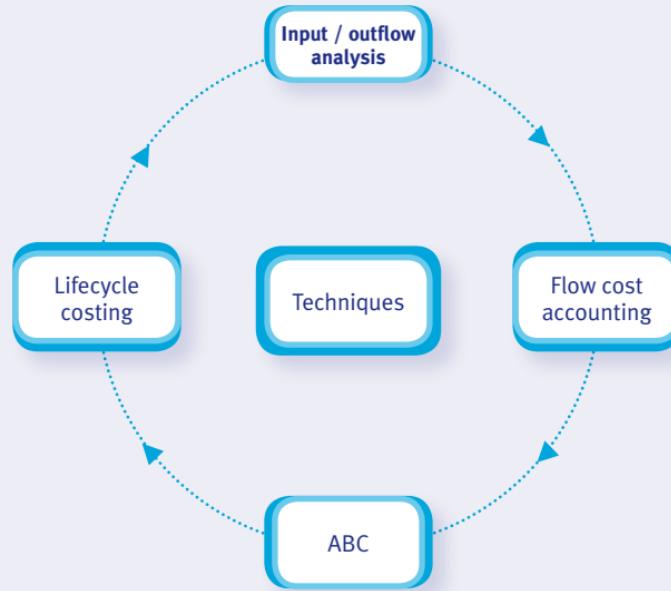
**Environmental costs**

- Waste.
- Water.
- Energy.
- Transport and travel.
- Consumables and raw materials.

## Internal reporting



## Environmental management accounting techniques





**Exam focus**

(questions from the ACCA Performance Management (PM) exam kit)

OBJECTIVE CASE QUESTIONS	CONSTRUCTED RESPONSE QUESTIONS
Duff Co (June 2014)	Gadget Co
Beckley Hill (June 2015)	Brick By Brick
Bowd	Jola Publishing
Chemical Free Clean Co (December 2015)	Abkaber
	Lifecycle costing
	Manpac
	Wargin
	Edward Co
	Yam Co
	Flo Pro
	Environmental Management Accounting

chapter

# 5

## Cost volume profit analysis

### In this chapter

- Breakeven/CVP analysis.
- Basic breakeven chart.
- Contribution breakeven chart.

## Breakeven/CVP analysis

**Contribution = Sales price – Variable costs**

$$\text{Breakeven point} = \frac{\text{Fixed costs}}{\text{Contribution per unit}}$$

$$\text{Breakeven sales revenue} = \frac{\text{Fixed costs}}{\text{Contribution to sales ratio (or profit – volume ratio)}}$$

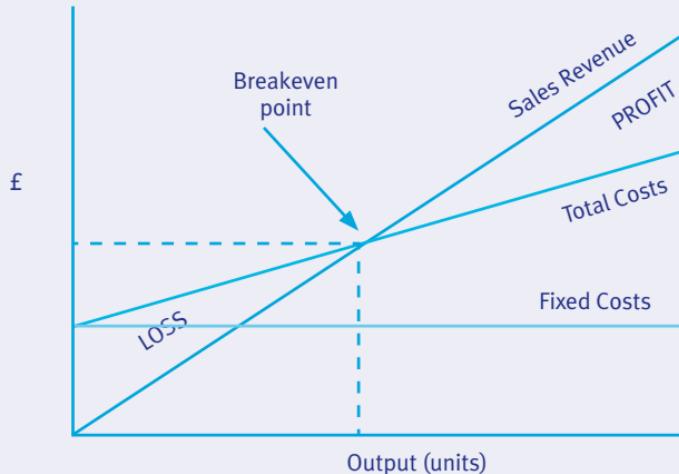
$$\text{Output required for target profit} = \frac{\text{Fixed cost} + \text{Target profit}}{\text{Unit contribution}}$$

**Margin of safety = Budgeted level of activity – Breakeven level of activity**

$$\text{Margin of safety (\%)} = \frac{\text{Budgeted level of activity} - \text{Breakeven level of activity}}{\text{Budgeted level of activity}} \times 100\%$$

## Basic breakeven chart

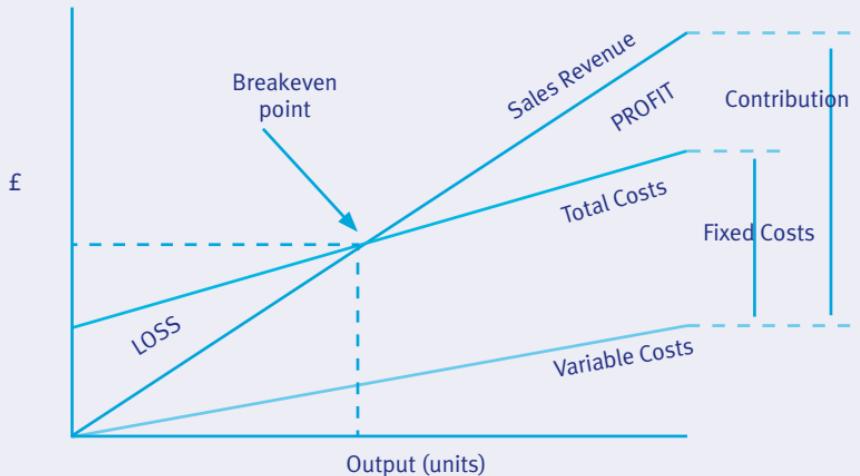
### Breakeven analysis – break-even chart



**Breakeven point:**  
the point where  
**total costs = total sales  
revenue**  
and  
Where there is **neither a  
profit or loss**

The diagram is known as the break-even chart.

## Contribution break-even chart



Advantage of this chart:  
Contribution can be read directly from the chart

The diagram is known as the **contribution break-even chart**

## Multi-product breakeven analysis

The calculation of breakeven point in a multi-product firm follows the same pattern as in a single product firm. While the numerator will be the same fixed costs, the denominator now will be the **weighted average contribution margin**.

In multi-product situations, a weighted average C/S ratio is calculated by using the formula:

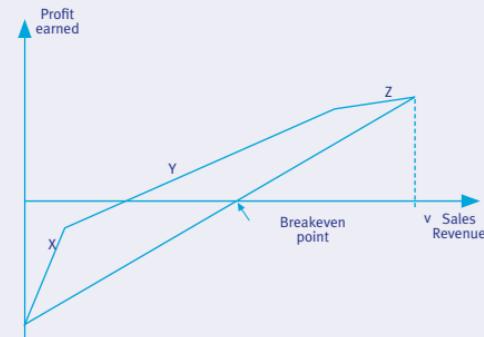
$$\text{Weighted Average C/S ratio} = \frac{\text{Total Contribution}}{\text{Total Revenue}}$$

The Weighted Average C/S ratio is useful in its own right, as it tells us what percentage each \$ of sales revenue contributes towards fixed costs; it is also invaluable in helping us to quickly calculate the breakeven point in sales revenue:

$$\text{Breakeven revenue} = \frac{\text{Fixed costs}}{\text{Weighted Average C/S ratio}}$$

## Cost volume profit analysis

- Step 1 : Calculate the C/S ratio of each product being sold, and rank the products in order of profitability.
- Step 2 : Draw the graph, showing cumulative sales on the x-axis.
- Step 3 : Draw the line that represents the profit earned by product X.
- Step 4 : Draw the line that represents the profit earned by product y, which has a lower contribution per unit than product X.
- Step 5 : Draw the line joining the first and last points: it reflects the average profitability of the three products, and each point on that line represents the profit earned for the associated output, assuming that the three products are sold in the standard product mix, i.e. the mix implied in the construction of the chart.





## Exam focus

(questions from the ACCA Performance Management (PM) exam kit)

OBJECTIVE CASE QUESTIONS	CONSTRUCTED RESPONSE QUESTIONS
Cardio Co (December 2015)	Chocolates Are Forever
Beft Co	Mango Leather Breakeven EC Ltd

## Cost volume profit analysis

chapter

# 6

## Planning with limiting factors

### In this chapter

- Limiting factor analysis.
- Linear programming.

## Limiting factor analysis

A limiting factor is a factor of production that is in **short supply** to the extent that sales demand cannot be met. Under these circumstances the approach is to maximise the **contribution per unit of limiting factor**.

The 5-step approach:

**Step 1:** Identify the limiting factor (e.g. labour, material, machine hours)

**Step 2:** Calculate the contribution per unit of limiting factor

**Step 3:** Rank the products

**Step 4:** Calculate the optimum production plan

**Step 5:** Calculate the profit (if required)

## Linear programming

This is an important topic. The examiner will expect a good grasp of the step by step approach. Be ready to explain the meaning and carry out calculations for shadow prices and slack.

Linear programming is used to establish an optimum product mix when there are two or more resource constraints. This mix will achieve a certain (given) objective. The objective is usually to maximise contribution, but on occasion it is to maximise costs.

### 1 Define variables

e.g. "Let  $x$  = the number of tables made each month".

### 2 Define the objective.

e.g. "Maximise contribution,  $C = 3x + 5y$ ".

### 3 Set out constraints

Non-negativity " $x \geq 0, y \geq 0$ "

Others – e.g. " $5x + 2y \leq 20$ ".

- 4 Draw graph showing constraints and identify the feasible region.
  - Get end-points of constraint lines – e.g.  $5x + 2y = 20$  has end points  $(4,0)$  ,  $(0,10)$ .
  - Decide on scale and draw lines using end-points.
  - Feasible region is below a line if constraint is " $\leq$ " and above the line if " $\geq$ ".
- 5 Solve the optimal production plan – draw an example iso-contribution line by making up a suitable value of  $C$ . Move this out away from the origin to identify the optimal point – it should be the last point you get to that is still feasible.

## Planning with limiting factors

Note: if the objective is to minimise costs, then an iso-cost line will need to be moved towards the origin.

Determine the optimal solution exactly by solving simultaneously the equations of the two lines that cross at the optimal point identified on the graph.

- Scale up one or both equations until they have the same number of “y” (or “x”).
- Look at difference between the two (adjusted) equations and solve for “x” (or “y”, as appropriate).
- Substitute the value of “x” (or “y”) back into either of the two critical constraint equations and solve for “y” (or “x”).

### 6 Answer the question!

- Calculate the maximum contribution / minimum cost.
- Write a recommendation to management.

Note: step 5 can be replaced with the following:

Determine the coordinates of each of the corners of the feasible region using simultaneous equations.

For each of the corners calculate the contribution and select the corner with the highest contribution.

## Assumptions

Assumption	Reality
<ul style="list-style-type: none"><li>• A single quantifiable objective exists e.g. to maximise contribution.</li><li>• Each product always uses the same quantity of the scarce resources per unit.</li><li>• The contribution per unit is constant.</li><li>• Products are independent – e.g. sell A not B.</li><li>• The scenario is short term.</li></ul>	<ul style="list-style-type: none"><li>• Multiple objectives (e.g. risk, return).</li><li>• Learning effects.</li><li>• The selling price may have to be lowered to sell more.</li><li>• Discounts as the quantity of materials needed increases.</li><li>• Economies of scale.</li><li>• Customers may expect to buy both products together.</li><li>• The products may be manufactured jointly together.</li><li>• In the long term constraints can be changed and fixed costs should be included.</li></ul>

### Slack

- Slack is the amount by which a resource is under utilised. It will occur when the optimum point does not fall on the given resource line.

### Shadow (or dual) prices

- The shadow price of a resource is the increase in value (usually extra contribution) that would result from having one extra unit of a limiting resource.
- It therefore represents the maximum premium (i.e. over the normal cost) that the firm should be willing to pay for one extra unit of each constraint.
- Non-critical constraints will have zero shadow prices as slack exists already.

- The simplest way to calculate shadow prices for a critical constraint is as follows:

Step 1: Add one unit to the constraint concerned, while leaving the other critical constraint unchanged.

Step 2: solve the revised simultaneous equations to derive a new optimal solution.

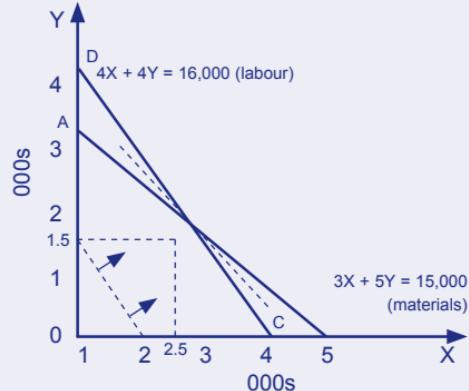
Step 3: calculate the revised optimal contribution. The increase is the shadow price for the constraint under consideration.

## Note:

- The dual price only applies as long as extra resources improve the optimal solution – effectively the constraint line concerned moves out increasing the size of the feasible region and moving the optimal point. Eventually the constraint line moves out beyond the feasible region as other constraints become critical.

Where a constraint is binding, obtaining more would increase contribution.

The dual price only applies as long as extra resources improve the optimal solution – effectively the constraint line moves out beyond the feasible region as other constraints become more critical.



As you buy more materials, then that constraint relaxes and so its line on the graph moves outwards and away from the origin. Eventually, the materials line will be totally outside the labour line on the graph and the point at which this happens is the point at which the business will cease to find buying more materials attractive (point D on the graph). Labour would then become the only constraint.



**Exam focus**

(questions from the ACCA Performance Management (PM) exam kit)

OBJECTIVE CASE QUESTIONS	CONSTRUCTED RESPONSE QUESTIONS
Belt Co	Cosmetics Co (December 2010) Cut and Stitch (June 2010) Tablet Co (June 2014)

chapter

# 7

## Pricing

### In this chapter

- Factors to consider when pricing (The 3 C's).
- Calculation aspects.
- Pricing approaches.
- Marketing-based approaches.

## Factors to consider when pricing (The 3 C's)

### Costs

- Need to cover costs to make a profit.
- May need to consider whole product portfolio (e.g. some products may be loss leaders).
- In the short term, may be happy just to cover variable costs to make some contribution.
- May need to consider whole lifecycle.

### Competitors

- We need to be competitive.
- How close a substitute are competitors' products?

### Customers

- How much are they willing to pay? (Need to do market research).

- Consider power of customers to go elsewhere; pressurise you to drop prices.

## Calculation aspects

### Price elasticity of demand (PED)

- $PED = \% \text{ change in demand} / \% \text{ change in price}$ .
- $PED > 1$  (elastic)  $\Leftrightarrow$  revenue increases if the price is cut.
- $PED < 1$  (inelastic)  $\Leftrightarrow$  revenue increases if the price is raised.

## Pricing approaches

### Demand-based approach

#### Algebraic approach

- Profit maximised when  $MR = MC$
- $MR = a - 2bQ$
- $P = a - bQ$
- 'a' is the price at which demand falls to 0
- 'b' = gradient = Change in price / Change in demand.

### Tabular approach

	\$	\$	\$	\$	\$	\$
Price per unit	22	20	19	18	17	15
Variable cost per unit	6	6	6	6	6	6
Contribution per unit	16	14	13	12	11	9
Number of units sold	50,000	60,000	70,000	80,000	90,000	90,000
Total Contribution, in \$000	800	840	910	960	990	810
Less Fixed costs, in \$000	200	200	280	280	360	360
Net Profit in \$000	600	640	630	680	630	450

### Cost plus pricing

- Establish cost per unit – options include MC, full cost, prime cost.
- Calculate price using target mark-up or margin.
- Often used as a starting point even when using other methods.

Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Widely used and accepted.</li><li>• Simple to calculate if costs are known.</li><li>• Selling price decision may be delegated to junior management.</li><li>• Justification for price increases.</li><li>• May encourage price stability – if all competitors have similar cost structures and use similar mark-up.</li></ul>	<ul style="list-style-type: none"><li>• Ignores the economic relationship between price and demand.</li><li>• No attempt to establish optimum price.</li><li>• Different absorption methods give rise to different costs and hence different selling prices.</li><li>• Does not guarantee profit – if sales volumes are low fixed costs may not be recovered.</li><li>• Must decide whether to use full cost, manufacturing cost or marginal cost.</li><li>• This structured method fails to recognise the manager's need for flexibility in pricing.</li><li>• Circular reasoning – price changes affect volume which affect unit fixed costs which affect price.</li></ul>

## Marketing-based approaches

### Price skimming

- Set a high initial price to 'skim off' customers who are willing to pay extra. Prices fall over time.

### Suitability

- Little effective competition (e.g. where the product is new and different or where barriers to entry deter competition).
- A firm with liquidity problems may use market skimming to generate high cash flows early on.
- Where high prices in the early stages of a product's life might generate high initial cash flows.
- Where products have a short life cycle.

### Penetration pricing

- Set a low initial price to gain market share. If a high volume is achieved, the low price could be sustainable.

### Suitability

- If a firm wishes to increase market share.
- If the firm wishes to discourage new entrants from entering the market.
- If the firm wishes to shorten the initial period of the product's life cycle.
- If there are significant economies of scale to be achieved from high-volume output.
- Demand is highly elastic and so would respond well to low prices.

### Linking pricing decisions for different products

- Basic idea: product A is cheap to attract customers who then also buy the higher margin product B.

- Key issue is the extent to which customer must buy the other products.

### Suitability

- Complementary products.
- Product line pricing.

### Volume discounts

- Discount for individual large order.
- Cumulative quantity discounts.

### Suitability

- To increase customer loyalty.
- To attract new customers.
- To reduce sales processing costs.
- To Lower customer's purchasing costs.
- Clearance of surplus stock.
- Increased use of off peak capacity.

### Price discrimination

- Have different prices in different markets for the same product.

### Suitability

- The seller has some degree of monopoly power.
- Customers can be segregated into different markets.
- Barriers exist (or can be created) to prevent transfer between markets.
- Different elasticity in each market (set higher prices in the more inelastic segment).

### Relevant cost pricing

- Price = net incremental cash flow.

### Suitability

- One-off projects.



## Exam focus

(questions from the ACCA Performance Management (PM) exam kit)

OBJECTIVE CASE QUESTIONS	CONSTRUCTED RESPONSE QUESTIONS
ALG Co (June 2015)	Stay Clean (December 2009) MKL

## Pricing

chapter

# 8

## Relevant costing

### In this chapter

- Relevant costing principles.
- Make v buy decisions.
- Shut down decisions.
- Joint products – the further processing decision.

## Relevant costing principles

A common mistake in the exam is that candidates include irrelevant costs, e.g. sunk costs in their decision. Ensure that you understand the meaning of a 'relevant cash flow'.

In addition to the calculations, be prepared to explain the qualitative factors involved in the decision making process.

- Include future incremental cash flows arising as a direct result of the decision.



### Include

- Incremental costs.
- Opportunity costs
  - look at the next best alternative use of an asset foregone.
- Incremental fixed overheads
  - look at whole organisation.

### Exclude

- Depreciation.
- Sunk costs.
- Unavoidable costs.
- Apportioned fixed overheads.
- Financing cash flows (e.g. interest).

## Make v buy decisions

### Decision

- Look at future incremental cash flows.
- Watch out for opportunity costs – especially whether or not spare capacity exists and alternative uses for capacity.

### Practical factors

- Can the external supplier deliver sufficient quantity and quality as and when needed?
- Control of quality and delivery.
- The external supplier may possess specialist skills.
- Social factors, e.g. outsourcing may result in redundancies.
- Legal factors, e.g. outsourcing may impact contractual obligations.
- Alternative use of resources.

- Customer perception – customers may value products being made in-house.
- Confidentiality – buying in gives other companies some information about how the product is made.

## Shut down decisions

### Decision

- Look at future incremental cash flows.
- Apportioned overheads not relevant – only include specific incremental costs.
- Closure costs – e.g. penalties, redundancies.
- Reorganisation costs.
- Alternative uses for resources – e.g. make an alternative product?

### Practical factors

- There may be additional costs, e.g. reorganisation costs which are unquantifiable at present.

- Impact on customers – e.g. expect a wide portfolio of products.
- Impact on other products – e.g. may be a loss leader.

## Joint products – the further processing decision

### Decision

- Look at future incremental cash flows: sell at split off v process further and then sell.
- Pre-separation (“joint”) costs not relevant – only include post split-off aspects.



## Exam focus

(questions from the ACCA Performance Management (PM) exam kit)

OBJECTIVE CASE QUESTIONS	CONSTRUCTED RESPONSE QUESTIONS
Hi Life Co (December 2014)	Bits and Pieces (June 2009)
SIP Co	Stay Clean (December 2009) Choice of contracts

## Relevant costing

## Risk and uncertainty

### In this chapter

- Basic concepts.
- Research techniques.
- Simulation.
- Expected values.
- Sensitivity.
- Payoff tables.
- Decision trees.

Be prepared to discuss all of the techniques available for managing risk and to carry out relevant calculations.

### Basic concepts

- All businesses face risk.
- Risk = variability in future returns.
- Some writers distinguish between “risk” and “uncertainty”:
  - “risk” is used where it is possible to assign probabilities to the different possible outcomes
  - “uncertainty” is used where this is not possible.

- There are a number of methods available to manage risk:
  - research techniques
  - simulation
  - expected values
  - sensitivity analysis
  - maximax, maximin, minimax regret.

## Research techniques

- **Desk research**
- Information is collected from secondary sources, e.g. press articles.
- It is cheap and quick.
- However, it may not be accurate, up to date or relevant.

### Field Research

- Information is collected from primary sources
- Two sub-types:
  - Motivational research which is used to understand what factors motivate consumers to buy/not buy a product.
  - Measurement research which is used to quantify these factors, e.g. questionnaires.

### Focus Groups

- Involves a small group discussion, e.g. regarding a new product.

## Simulation

- 1 Apply probabilities to key factors in scenario analysis.
- 2 Use random numbers to select a particular scenario and calculate outcome.
- 3 Repeat until build up a picture of possible outcomes (i.e. a probability distribution).
- 4 Make decision based on attitude to risk.

## Expected values

- $EV = \sum \text{outcome} \times \text{probability}$ .
- Make decision based on best EV.

### Advantages

- Calculations are relatively simple.
- Takes risk into account.
- Information is reduced to a single number resulting in easier decisions.

### Disadvantages

- The probabilities used are usually very subjective.
- The EV is the average payoff if the project is repeated many times. Not useful for one-off decisions.
- The EV gives no indication of the dispersion of possible outcomes about the expected value. The dispersion gives information about the risk.
- The EV may not correspond to any of the actual outcomes.

## Sensitivity

- Identify key variables by calculating how much an estimate can change before the decision reverses.
- Can only vary one estimate at a time.

## Payoff tables

- Prepare table of profits based on different decision choices and different possible scenarios.
- Four different ways of making a decision.

### 1 Expected values

- EV approach chooses the decision that gives the highest EV. Of these four methods, it is the only one to take the probabilities of the different outcomes into account.

### 2 Maximax

- The “optimist” chooses the decision with most attractive upside potential.

### 3 Maximin

- The “pessimist” limits the downside potential by choosing the decision with the most attractive “worse-case scenario”.

### 4 Minimax regret

- Prepare a regret table.
- For each possible cell in the table, regret = actual profit compared with possible profit if had made the best decision.
- The “sore loser” chooses the decision that minimises their maximum possible regret.

## Decision trees

A decision tree is a diagrammatic representation of a multi-decision problem, where all possible courses of action are represented, and every possible outcome of each course of action is shown.

Decision trees should be used where a problem involves a series of decisions being made and several outcomes arise during the decision-making process. Decision trees force the decision maker to consider the logical sequence of events. A complex problem is broken down into smaller, easier to handle sections.

The financial outcomes and probabilities are shown separately, and the decision tree is 'rolled back' by calculating expected values and making decisions.

### Three step method

**Step 1:** Draw the tree from left to right, showing appropriate decisions and events / outcomes.

Some common symbols can be used: a square is used to represent a decision point (i.e. where a choice between different courses of action must be taken. A circle is used to represent a chance point. The branches coming away from a circle with have probabilities attached to them. All probabilities should add up to '1'.

Label the tree and relevant cash inflows/outflows and probabilities associated with outcomes.

**Step 2:** Evaluate the tree from right to left carrying out these two actions:

- Calculate an EV at each outcome point.
- Choose the best option at each decision point.

**Step 3:** Recommend a course of action to management.



## Exam focus

(questions from the ACCA Performance Management (PM) exam kit)

OBJECTIVE CASE QUESTIONS	CONSTRUCTED RESPONSE QUESTIONS
Gam Co (June 2014)	Recyc
Dowb Co	Amelie

## Risk and uncertainty

chapter

# 10

## Budgeting

### In this chapter

- The purposes of budgets.
- Behavioural aspects of budgeting.
- Conflicting objectives.
- Participation – top down v bottom up.
- Incremental budgeting.
- Zero based budgeting.
- Rolling budgets.
- Activity based budgeting/costing.
- Feed forward control.
- Selecting a budgetary system.
- Incorporating risk and uncertainty.
- Beyond budgeting.

## The purpose of budgets

### Aims

- Forecasting
- Planning
- Control
- Communication
- Co-ordination
- Evaluation
- Motivation
- Authorisation
- Delegation.

### The Performance Hierarchy

- Strategic planning is long term, looks at the whole organisation and defines resource requirements.
- Tactical planning is medium term, looks at the department / divisional level and specifies how to use resources.

- Operational planning is very short term, very detailed and is mainly concerned with control. Most budgeting activities fall within operational planning and control.



## Behavioural aspects of budgeting

### Key issues

- Dysfunctional behaviour – want goal congruence.
- Budgetary slack.

### Management styles (Hopwood)

- Budget constrained – short-term pressure to hit budget.
- Profit conscious – emphasis on longer term company-wide performance.
- Non-accounting – emphasis on non financial aspects.

### Target setting and motivation

- An expectations budget is a budget set at current achievable levels. This is unlikely to motivate managers to improve but may give more accurate forecasts for resource planning.

- An aspirations budget is a budget set at a level which exceeds the current level achieved. This will motivate managers to improve if it is seen as attainable but may always result in an adverse variance if it is too difficult to achieve. This must be managed carefully.
- For motivation purposes, an aspirations target should be set slightly above the anticipated performance level.

## Conflicting objectives

- Company v division (see later).
- Division v division.
- Short-termism.
- Individualism.

Be prepared to discuss the appropriateness of the different types of budgeting and to evaluate the pros and cons of each budgeting technique.

## Participation – top-down v bottom up

### Advantages of participative budgets

- Increased motivation.
- Should contain better information, especially in a fast-moving or diverse business.
- Increases managers' understanding and commitment.
- Better communication.
- Senior managers can concentrate on strategy.

### Disadvantages of participative budgets

- Senior managers may resent loss of control.
- Bad decisions from inexperienced managers.
- Budgets may not be in line with corporate objectives (dysfunctional behaviour).
- Budget preparation is slower and disputes can arise.
- Figures may be subject to bias if junior managers either try to impress or set easily achievable targets (budgetary slack).

## Incremental budgeting

- Start with the previous period's budget or actual results and add (or subtract) an incremental amount to cover inflation and other known changes.
- Suitable for stable businesses where costs are not expected to change significantly. There should be good cost control and limited discretionary costs.

### Advantages

- Quickest and easiest method.
- Assuming that the historic figures are acceptable, only the increment needs to be justified.

### Disadvantages

- Builds in previous problems and inefficiencies.
- Uneconomic activities may be continued.
- Managers may spend unnecessarily to ensure they get the same (or a larger) budget next year.

## Zero based budgeting

- Preparing a budget from a zero base, as though there is no expectation of current activities to continue from one period to the next, and justifying every piece of expenditure.
  - 1 Identify all possible services (and levels of service) and then cost each service or level of service; these are known individually as **decision packages**.
  - 2 Rank the decision packages in order of importance.
  - 3 Identify the level of funding that will be allocated to the department.
  - 4 Use up the funds in order of the ranking until exhausted.
- Used for allocating resources when spend is discretionary (e.g. service industry) or in public sector organisations.

### Advantages

- Eliminates past errors that may be perpetuated in an incremental analysis.
- A considered allocation of resources.
- Leads to increased staff involvement.
- Responds to changes in the business environment.
- Knowledge and understanding of the cost behaviour patterns of the organisation will be enhanced.

### Disadvantages

- Emphasises short term benefits to the detriment of long term goals.
- Budgeting can be too rigid and opportunities may not be embraced.
- Management skills required may not be present.
- Managers may feel demotivated due to the time consuming process.
- Ranking activities difficult.

## Rolling budgets

### Exam focus

- A budget kept continuously up to date by adding another accounting period (eg month or quarter) when the earliest accounting period has expired.
- Aim: to keep tight control and always have an accurate budget for the next 12 months.
- Suitable if accurate forecasts cannot be made, or for any area of business that needs tight control.

## Activity based budgeting/ costing

- Use ABC for budgeting purposes:
  - Step 1 Identify cost pools and cost drivers.
  - Step 2 Calculate a budgeted cost driver rate based on budgeted cost and budgeted activity.
  - Step 3 Produce a budget for each department or product by multiplying the budgeted cost driver rate by the expected usage.

**Advantages**

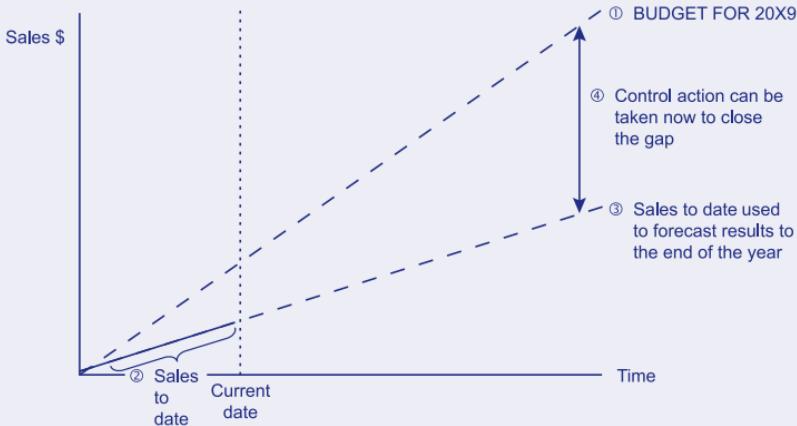
- Greater focus on understanding overheads.
- Greater control of overheads.
- Can be useful in a TQM environment, relating costs to quality.

**Disadvantages**

- Extra time and effort to establish an ABB system.
- Problems linking ABB activities to established responsibility centres.
- In the short term many overheads are not controllable and do not vary directly with changes in the volume of activity for the cost driver.

## Feed forward control

- Feed-forward control is defined as the 'forecasting of differences between actual and planned outcomes and the implementation of actions before the event, to avoid such differences.'
- In simpler terms, feedforward control is where a problem is identified and corrective action taken, before the problem occurs
- An example would be using a cash-flow budget to forecast a funding problem and as a result arranging a higher overdraft well in advance of the problem.



**Advantages**

- It encourages managers to be proactive and deal with problems before they occur.
- Re-forecasting on a monthly or continuous basis can save time when it comes to completing a quarterly or annual budget.

**Disadvantages**

- It may be time consuming as control reports must be produced regularly.
- It may require a sophisticated forecasting system, which might be expensive.

## Selecting a budgetary system

### Determinants

- Type of organisation.
- Type of industry.
- Type of product and product range.
- Culture of the organisation.

### Factors to consider when changing a budgetary system

- Are suitably trained staff available to implement the change successfully?
- Will changing the system take up management time which should be focusing on production or sales?
- All staff involved in the budgetary process will need to be trained.
- Cost v benefits for the new system:
  - Costs include new system costs, training, downtime of existing staff, consultancy fees and development of

new statistical models and sources of information suitable for the new budgetary system.

- Benefits may be difficult to quantify.
- As a result organisations may (often!) persevere with a sub-optimal system.

## Incorporating risk and uncertainty

- Rolling budgets.
- Simulation.
- Sensitivity analysis.

## Beyond budgeting

	Traditional Budgeting Management Model	Beyond Budgeting Management Model
Targets & rewards	Incremental targets Fixed incentives	Stretch goals Relative targets & rewards
Planning & controls	Fixed annual plans Variance controls	Continuous planning KPI's & rolling forecasts
Resource & coordination	Pre-allocated resources Central co-ordination	Resources on demand Dynamic coordination
Organisational culture	Central control Focus on managing numbers	Local control of goals/plans Focus on value creation



### Exam focus

(questions from the ACCA Performance Management (PM) exam kit)

OBJECTIVE CASE QUESTIONS	CONSTRUCTED RESPONSE QUESTIONS
	Effective budgeting NN Zero-based budgeting

chapter

# 11

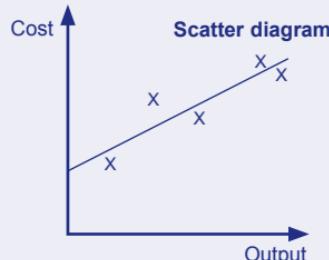
## Quantitative analysis

### In this chapter

- High-low.
- Learning curves.

## High-low

- Used to determine a linear relationship between two variables – usually to split costs into fixed and variable elements.



- Step 1: Select the highest and lowest activity levels, and their costs.
- Step 2: Find the variable cost/unit.

$$\text{Variable cost/unit} = \frac{\text{Cost at high level activity} - \text{Cost at low level activity}}{\text{High level of activity} - \text{Low level of activity}}$$

- Step 3: Find the fixed cost, using either the high or low activity level.  
Fixed cost = Total cost at activity level – Total variable cost.
- Step 4: Use the variable and fixed cost to forecast the total cost for a specified level of activity.

## Learning curves

### Exam focus

This is an important topic. The technique is similar for all questions and therefore practice is the key to scoring a good mark. Be prepared to discuss the implications of the learning curve effect and the conditions required for the learning effect to apply.

### Mechanics

- As cumulative output doubles, the cumulative average time per unit falls to a fixed % (the learning rate) of the previous average.

$$y = ax^b$$

where  $y$  = average time (or average cost) per unit or per batch  
 $a$  = time (or cost) for first unit or per batch

$$b = \frac{\log r}{\log 2} \quad (r = \text{rate of learning})$$

$x$  = cumulative output in units or in batches

- Key issue is to see units as part of the history of production (e.g. units have serial numbers).  
E.g. time to make 20th item = total time to make first 20 units – time to make first 19 units.

**Conditions for the learning effect to apply:**

- The activity is labour intensive and relatively complex so that learning can occur.
- A repetitive process for each unit.
- The product is new.
- The product is complex.
- Early stages of production.
- No prolonged breaks in production.

**Cessation of the learning effect (steady state):**

- Machine efficiency restricts further improvements.
- 'Go slow' agreements.



## Exam focus

(questions from the ACCA Performance Management (PM) exam kit)

OBJECTIVE CASE QUESTIONS	CONSTRUCTED RESPONSE QUESTIONS
BokCo (June 2015)	Big cheese chairs (December 09)
Zost Co	Henry Company (December 09) Sciento

## Quantitative analysis

chapter  
**12**

## Advanced variances

### In this chapter

- Sales variances.
- Materials mix and yield variances.
- Other targets for controlling production processes.
- Planning and operational variances.
- Modern manufacturing environments.

## Sales variances

### Total sales variance

Sales price variance

- Did each unit sell for more or less than the budgeted selling price?

Sales volume variance

- Did the organisation sell more or less units than was budgeted?

Actual Quantity Sold x Actual Price

Actual Quantity Sold x Standard Price

Actual Quantity Sold x Standard Margin

Budget Quantity x Standard Margin

(AQ AP)

(AQ SP)

(AQ SM)

(BQ SM)

Price Variance

Volume Variance

**Note:** 'Margin' = contribution per unit (marginal costing) or profit per unit (absorption costing).

## Materials mix and yield variances

Mix and Yield variances are examined very frequently. It may help to use a tabular approach when calculating these variances.

Be prepared to explain the meaning of each variance and the possible causes of the variances calculated.

### Basic idea

- Only use where materials can be substituted for each other.
- Still do separate price variances for each material.
- Mix and yield are **instead** of separate usage variances.

Material usage variance

Material mix variance

Material yield variance

## Calculations

Actual total Q input	in actual mix	@standard prices	X	Mix Variance
Actual total Q input	in standard mix	@standard prices	X	
Standard total Q input (for actual output)	in standard mix	@standard prices	X	Yield Variance

Material	Standard Mix	Actual Mix	Difference	@ standard price	Variance
A	X	X	X	\$X	\$X
B	X	X	X	\$X	\$X
	X	X			\$X

### Possible reasons

**Mix** – A favourable variance would suggest that a higher proportion of a cheaper material was used. This could be due to:

- A decision to cut costs.
- Greater availability of cheaper materials.
- Unavailability of other (more expensive) materials.
- Costs of other materials having risen so it was decided to use less of them.

**Yield** – An adverse variance would suggest that less output has been achieved for a given input, i.e. that the total input in volume is more than expected for the output achieved. This could be due to:

- labour inefficiencies
- higher waste
- inferior materials
- using a cheaper mix with a lower yield.

### Other targets for controlling production processes

- Quality measures, e.g. % waste, % yield.
- Average cost of inputs.
- Average cost of output.
- Average prices achieved for finished products.
- Average margins.
- % on-time deliveries.
- Customer satisfaction ratings.
- Detailed timesheets.
- % idle time.

## Planning and operational variances



### Exam focus

It is important to be able to calculate the variances but it is equally as important to be able to interpret each variance and discuss the reasons why a standard should be revised.

Original budget  
(ex-ante)

Revised budget  
(ex-post)

Actual results

Planning variances  
(uncontrollable?)

Operating variances  
Controllable?)

Advantages	Disadvantages
<ul style="list-style-type: none"><li>Variances are more relevant.</li><li>The operational variances give a 'fair' reflection of the actual results achieved in the actual conditions.</li><li>Managers are more likely to accept and be motivated by the variances.</li><li>It emphasises the importance of planning.</li><li>The analysis helps in the standard setting learning process.</li></ul>	<ul style="list-style-type: none"><li>The establishment of ex-post budgets is very difficult.</li><li>Managers whose performance is reported to be poor using such a budget are unlikely to accept them.</li><li>Extra administration.</li><li>The analysis tends to exaggerate the interrelationship of variances.</li><li>Poor performance is often excused as being the fault of a badly set budget.</li><li>Frequent demands for revisions may result in bias.</li></ul>

### Good reasons to revise standards

- A change in one of the main materials used to make a product.
- An unexpected increase in the price of materials due to a rapid increase in world market prices (e.g. the price of oil or other commodities).
- A change in working methods that alters the expected direct labour time for a product or service.
- An unexpected change in the rate of pay to the workforce.

### Market size and market shares variances

- Split the sales volume variance into two elements.

Original budget sales                    x standard margin

Revised budget sales                    x standard margin  
(to achieve target share of actual market)

Actual sales quantity x                standard margin



Market size variance (planning)



Market share variance (operational)

### Planning and operating cost variances

- When applying planning and operating principles to cost variances, care must be taken over volumes and flexing the budgets.
- The examiner's approved approach for use in the exam is to flex both the original and revised budgets to actual production levels.
- For operational variances, the revised standards and flexed budget supersede the original standards.

Original budget  
(flexed)

Revised budget  
(flexed)

Actual results

Planning variances  
Operating variances

### Modern manufacturing environments

#### Total Quality Management (TQM)

TQM is the continuous improvement in quality, productivity and effectiveness through a management approach focusing on both process and the product.

Fundamental features include:

- recognition that quality is determined by customer requirements
- prevention of errors before they occur
- importance of total quality in the design of systems and products
- real participation of all employees
- commitment of senior management to the cause
- recognition of the need for continual improvement.

### Just-in-time (JiT)

JiT is a pull-based system of planning and control.

- Pulling work through the system in response to customer demand.
- Goods are only produced when they are needed.
- This eliminates large inventories of materials and finished goods.

Key characteristics for successfully operating such a system are:

- High quality – possibly through deploying TQM systems.
- Speed: rapid throughput to meet customers' needs.
- Reliability: computer-aided manufacturing technology will assist.
- Flexibility: small batch sizes and automated techniques are used.
- Low costs: through all of the above.

### Relevance of variance analysis

- Standard product costs apply to manufacturing environments in which identical products are made. They are not suitable where products are customised to customer specifications.
- Standard costs become outdated quickly in a modern business environment.
- It is doubtful whether standard costing is of much value in automated manufacturing environments.
- Standard costing and adherence to a preset standard is inconsistent with the concept of continuous improvement.
- Ideal standards are often used therefore, adverse variances have a different meaning than if a current standard was used.
- Variance analysis is often carried out on an aggregate basis (total material usage variance, total labour efficiency variance and so on) but in a complex and

constantly changing business environment more detailed information is required for effective management control.

- Variance analysis control reports tend to be made available to managers at the end of a reporting period. In the modern business environment managers need more 'real time' information about events as they occur.



**Exam focus**



(questions from the ACCA Performance Management (PM) exam kit)

<b>OBJECTIVE CASE QUESTIONS</b>	<b>CONSTRUCTED RESPONSE QUESTIONS</b>
BokCo (June 2015)	Perseus Co – Revision of basic variances
OBC (December 2015)	Safe Soap Co (December 14)

chapter  
**13**

## Performance measurement and control

### In this chapter

- Overview.
- Ratio analysis.
- Non-financial performance indicators.

## Overview

### Exam focus

A key topic. Tested in detail in all exams to date.

An effective system of performance measurement is critical if investments / divisions / managers are to be controlled.

Typical measures include the following:

- profit, revenue, margins
- share price if listed
- ratio analysis
- ROI, RI for divisions
- variances
- non-financial measures (very important!).

## Ratio analysis

### Preliminaries

- Ratios may not be representative of the position throughout a period.  
E.g. seasonal trade.
- Need a basis for comparison.
  - Budgets, for control purposes.
  - Last year's figures to identify trends.
  - Competitors' results and/or industry averages to assess performance.
- Ratios can be manipulated by management. E.g. "window dressing".
- Ratios indicate areas for further investigation rather than giving answers.

### Profitability ratios

- ROCE = 
$$\frac{\text{Net Profit}}{\text{Capital Employed}} \times 100\%$$
- Gross margin = 
$$\frac{\text{Gross profit}}{\text{Sales}} \times 100\%$$
- Net margin = 
$$\frac{\text{Net profit}}{\text{Sales}} \times 100\%$$
- Asset turnover = 
$$\frac{\text{Sales}}{\text{Capital Employed}}$$

ROCE = net margin x asset turnover

### Liquidity / working capital ratios

- Current Ratio = 
$$\frac{\text{Current Assets}}{\text{Current Liabilities}}$$
- Quick Ratio (acid test) = 
$$\frac{\text{Current Assets minus inventory}}{\text{Current liabilities}}$$

- Receivables days = 
$$\frac{\text{Receivables}}{\text{Credit sales}} \times 365$$
- Payables days = 
$$\frac{\text{Payables}}{\text{Credit purchases}} \times 365$$
- Inventory days = 
$$\frac{\text{Inventory}}{\text{Cost of sales}} \times 365$$

### Measuring risk

- Financial Gearing = 
$$\frac{\text{Debt}}{\text{Equity}}$$
  
or 
$$= \frac{\text{Debt}}{\text{Debt} + \text{Equity}}$$
- Dividend Cover = 
$$\frac{\text{Net Profit}}{\text{Total Dividend}}$$
- Interest Cover = 
$$\frac{\text{Operating Profit}}{\text{Interest}}$$

## Non-financial performance indicators



### Exam focus

The examiner has stated that candidates must understand that a balance is needed between financial and non-financial performance indicators. A seemingly reasonable financial result can hide much deeper problems which, if left unchecked, can result in financial disaster.

- Financial performance appraisal often reveals the ultimate effects of operational factors and decisions but non-financial indicators are needed to monitor causes.
- The achievement of these goals is monitored using a number of measures, many of which are non-financial.
- A firm's success usually involves focussing on a small number of goals where they must win.

## Stakeholders

- Different stakeholders will have different objectives. Companies may deal with this by having a range of performance measures.

## The balanced scorecard (Kaplan and Norton)



### Benefits of the balanced scorecard

- It makes use of external as well as internal information.
- It focuses on factors, including non financial ones, which will enable a company to succeed.

### Problems with the balanced scorecard

- Selection of measures.
- Obtaining information.
- Information overload.
- Conflict between measures.

### The building block model (Fitzgerald et al)

<b>Dimensions</b>	
<ul style="list-style-type: none"><li>• Financial performance.</li><li>• Competitive performance.</li><li>• Quality.</li><li>• Flexibility.</li><li>• Resource utilisation.</li><li>• Innovation</li></ul>	
Standards	Rewards
<ul style="list-style-type: none"><li>• Ownership</li><li>• Achievability</li><li>• Equity</li></ul>	<ul style="list-style-type: none"><li>• Clarity</li><li>• Motivation</li><li>• Controllability</li></ul>

#### Dimensions

- Sources of goals.

#### Standards

- Measures.

- To ensure success it is vital that employees view standards as achievable, fair and take ownership of them.

#### Rewards

- To ensure that employees are motivated to meet standards, targets need to be clear and linked to controllable factors.



### Exam focus

(questions from the ACCA Performance Management (PM) exam kit)

OBJECTIVE CASE QUESTIONS	CONSTRUCTED RESPONSE QUESTIONS
Grate Co	CIM (December 2015) Y and Z Jamair (December 2014)



chapter  
**14**

## Divisional Performance measurement and Transfer Pricing

### In this chapter

- Transfer pricing.
- Divisional performance measurement.

## Transfer pricing

### Objectives

- Goal congruence – divisional decisions are the correct decisions for the group.
- Performance measurement.
- Autonomy.
- Minimising global tax liability.
- To record the movement of goods and services.

### Exam questions

Will often be given a TP and asked to comment. Look at the following.

- Implications for divisional performance – e.g. is a target ROI achieved?
- Resulting manager behaviour – does it give dysfunctional decision making – e.g. will a manager reject a new product that is acceptable to the company as a whole?

### Rules

- In a perfectly competitive market,  $TP = \text{market price}$ .
- If spare capacity exists,  $TP = \text{marginal cost}$ .
- With production constraints,  $TP = \text{marginal cost} + \text{opportunity cost of not using those resources elsewhere}$ .

### Practical transfer pricing systems

#### Market price

- Will be seen as fair by managers.
- Does an external market exist for the component?
- Prices may be linked to volume, so which to use?
- May be more than one market price – which to use?
- Are costs of selling externally the same as for internal transfers?

**Production cost + mark-up**

- Marginal or full cost?
- Full cost can cause problems as TP viewed as a variable cost by the receiving division.
- Standard cost aids responsibility accounting.

**Negotiation**

- Look at bargaining power of different parties.

**Divisional performance measurement****Key considerations**

- Manager or division?
- Type of division.

## Divisional Performance measurement and Transfer Pricing

Type of division	Description	Typical measures
Cost centre	<ul style="list-style-type: none"><li>Division incurs costs but has no revenue stream.</li></ul>	<ul style="list-style-type: none"><li>Total cost and cost per unit.</li><li>Cost variances.</li><li>NFPIs related to quality, productivity and efficiency.</li></ul>
Profit Centre	<ul style="list-style-type: none"><li>Division has costs and revenue.</li><li>Manager <b>does not</b> have the authority to alter the level of investment in the division.</li></ul>	All of the above PLUS <ul style="list-style-type: none"><li>Total sales and market share.</li><li>Profit.</li><li>Sales variances.</li><li>Working capital ratios (depending on the division concerned).</li><li>NFPIs e.g. related to productivity, quality and customer satisfaction.</li></ul>
Investment centre	<ul style="list-style-type: none"><li>Division has costs and revenue.</li><li>Manager <b>does</b> have the authority to invest in new assets or dispose of existing ones.</li></ul>	All of the above PLUS <ul style="list-style-type: none"><li>ROI.</li><li>RI.</li></ul>

## Return on Investment (ROI)

### Exam focus

An understanding of the drawbacks of ROI is essential for the exam.

$$\text{ROI} = \frac{\text{Pre tax controllable profit}}{\text{Controllable capital employed}}$$

#### Advantages of ROI

- Relative measure (%), therefore aids comparisons between divisions of different sizes.
- Used externally (ROCE) and therefore understood by users.
- Encourages good use of existing capital resources.
- It can be broken down into secondary ratios for more detailed analysis.

#### Disadvantages of ROI

- May lead to dysfunctional decision making e.g. a division with a current ROI of 30% would not wish to accept a project offering an ROI of 25% as this would dilute its current figure.
- ROI increases as assets get older if NBVs are used, thus giving managers an incentive to hang on to possibly inefficient obsolete machines.
- It may encourage the manipulation of profit and capital employed.
- Different accounting policies can confuse comparisons.

### Residual Income (RI)

RI = Pre tax controllable profits – imputed charge for controllable invested capital

#### Advantages of RI

- Reduces the problem of rejecting projects with ROIs greater than the group target but less than the division's current ROI.
- Cost of financing a division is brought home to divisional managers.

#### Disadvantages of RI

- Does not facilitate comparisons between divisions of different sizes.
- Profit and capital employed may be subject to manipulation.



## Exam focus

(questions from the ACCA Performance Management (PM) exam kit)

OBJECTIVE CASE QUESTIONS	CONSTRUCTED RESPONSE QUESTIONS
Transfer Pricing	Hammer (June 10) Rotech (June 2014)

## Divisional Performance measurement and Transfer Pricing

chapter  
**15**

## Performance measurement in not-for-profit organisations

### In this chapter

- Objectives.
- Performance measurement.

## Objectives

Planning for not-for-profit organisations is usually more complex.

- Multiple objectives are more common and it may be difficult to prioritise (e.g. in a hospital, treating more patients v better quality care).
- It may be difficult to measure objectives as they are often non-financial (e.g. a charity may have the aim of reducing suffering caused by a natural disaster).
- Conflicts between stakeholders may be harder to resolve as the balance of power is more even. With companies the shareholders should 'win'.
- There are greater difficulties in measuring performance. Companies have profit as their bottom line measure.
- There are often different ways of trying to achieve the same objective – trying to choose between them can be difficult.

- Objectives may be politically driven and hence may change (e.g. government targets in education).

## Performance measurement

### Value for money (VFM)

- Effectiveness – Match the service provision to the need: how well are the organisation's objectives being met?
- Efficiency – Maximize the output of services for a given level of resource input.
- Economy – Source the resource input at the lowest cost.



## Exam focus

(questions from the ACCA Performance Management (PM) exam kit)

OBJECTIVE CASE QUESTIONS	CONSTRUCTED RESPONSE QUESTIONS
	Woodside charity (June 07)



Index

l.1

## A

- Activity based budgeting/costing 76
- Activity Based Costing (ABC) 16
- Aspirations budget 69

## B

- Balanced scorecard(KAPLAN and Norton) 105
- Behavioural aspects of budgeting 69
- Building block model (Fitzgerald et al) 106

## C

- Complementary products 50
- Conflicting objectives 70
- Cost plus pricing 46
- Critical success factors 104

## D

- Divisional performance measurement 111

## E

- Environmental cost accounting 24
- Expectations budget 69
- Expected values 62, 63

## F

- Factors to consider when changing a budgetary system 80
- Factors to consider when pricing 46
- Feed forward control 78

## H

- High-low 84

## I

- Incorporating risk and uncertainty 80
- Incremental budgeting 72

**J**

Joint products – the further processing decision 56  
Just-in-time (JiT) 98

**L**

Learning curves 85  
Lifecycle costing 20  
Limiting factor analysis 38  
Linear programming 39  
Liquidity / working capital ratios 103

**M**

Make v buy 55  
Management accounting systems 10  
Management styles (Hopwood) 69  
Market size and market shares variances 96  
Materials mix and yield variances 91  
Maximax 63  
Maximin 63  
Measuring risk 103  
Minimax regret 63

Modern manufacturing environments 97  
Multi-product decisions 22

**N**

Non-financial performance indicators 104

**P**

Participation 71  
Payoff tables 63  
Penetration pricing 49  
Performance hierarchy 68  
Performance measurement in not-for-profit organisations 117  
Planning and operational variances 94  
Planning with limited factors 37  
Price discrimination 50  
Price elasticity of demand (PED) 46  
Price skimming 49  
Pricing 45  
Product line pricing 50  
Profitability ratios 103  
Purpose of budgets 68

## R

- Ratio analysis 102
- Relevant costing principles 54
- Relevant cost pricing 50
- Residual Income (RI) 114
- Return on Investment (ROI) 113
- Risk and uncertainty 59

## S

- Sensitivity 63
- Shadow (or dual) prices 42
- Shut down decisions 55
- Simulation 61
- Slack 42

## T

- Target costing 18
- Target setting and motivation 69
- Targets for controlling production processes 93
- Throughput 22
- Throughput accounting ratio (TPAR) 23
- Total Quality Management (TQM) 97
- Transfer pricing 110

## V

- Value for money (VFM) 118
- Volume discounts 50

## Z

- Zero based budgeting 73