



**CIMA**  
**Managerial Level – Paper P2**  
**PERFORMANCE MANAGEMENT**  
**(REVISION SUMMARIES)**

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Chapter

1

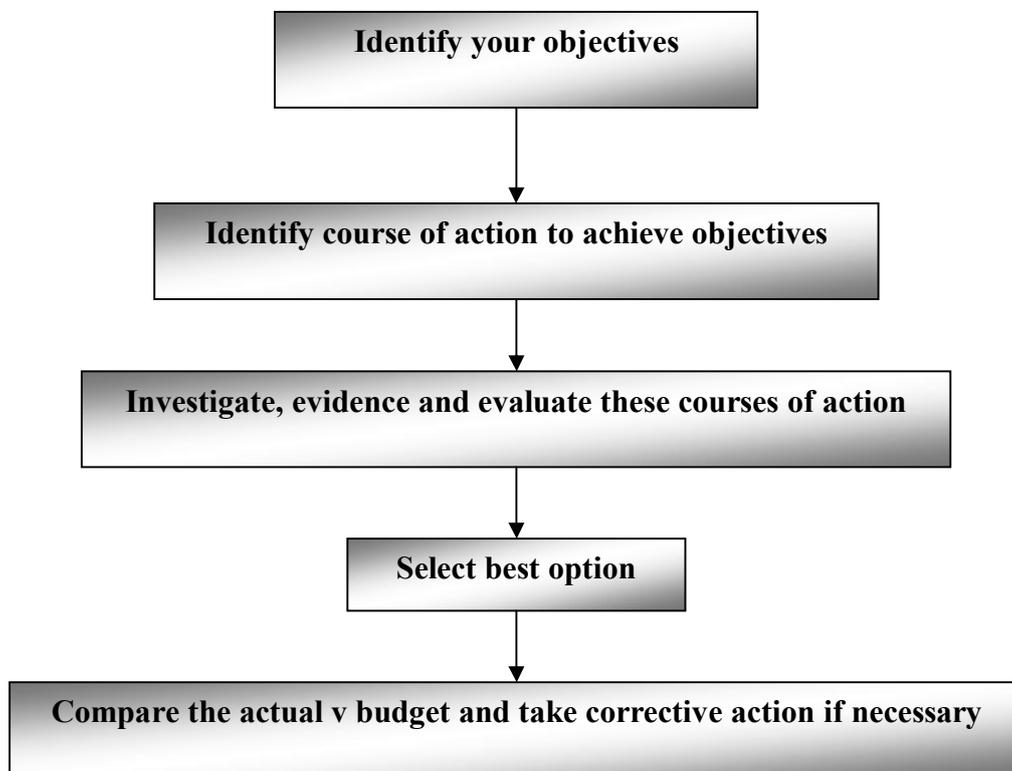
# Relevant costing

## Key summary of chapter

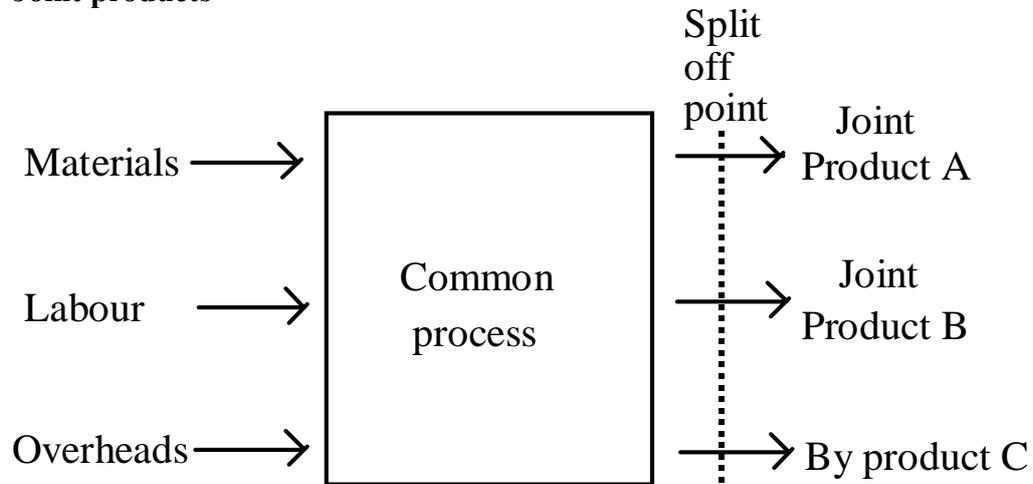
### Basic concepts

- **Relevant cost** - future incremental cash flow arising directly from a decision made.
- **Fixed cost** - cannot be economically identified with a specific saleable cost unit.
- **Sunk costs** - already been incurred and cannot be recovered in the future.
- **Committed costs** - incurred in the future irrespective of the decision taken.
- **Notional costs** - no actual cash flow has been incurred as a result of the decision.
- **Common costs** - identical for all alternatives taken and hence not relevant.
- **Opportunity costs** - next best alternative foregone by the choice of a future decision.
- **Avoidable costs** - saved or avoided as a result of not doing an activity.
- **Differential or incremental costs** - difference between alternative decisions.
- **Qualitative factors** - can not be expressed numerically.
- **Operating gearing** - measures the effect of fixed costs on operating profit.

### The decision making process



## Joint products



## Methods of apportioning common costs between joint products

- Physical measurement
- Sales value at split-off point
- Sales value at split-off point less further processing costs
- Weighted average method

Remember common costs are never shared amongst by-products and are irrelevant for decision making when considering processing joint products further.



Chapter

# 2

# Learning curve theory

## Key summary of chapter

**Decision tree** - graphical representation of outcomes and their probabilities organised in a way to show the sequence of events that can occur given the decision taken.

**Learning curve theory** - output doubles the average time per unit drops by a fixed percentage.

$$Y = aX^b$$

**Y** = average time for that (**X**) number of units or the average cost per unit

**a** = time for the first unit or the cost for the first unit

**X** = the number of units you want to calculate an average time or cost for

**b** = the index of learning ( $\log r / \log 2$ )

**Pareto analysis** helps in determining what is important for example 20% of a data set could account for 80% of the activity.

Chapter

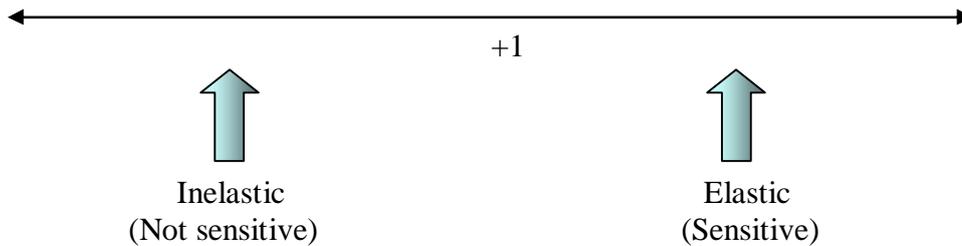
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# Pricing

## Key summary of chapter

### Price elasticity of demand

- Measures the sensitivity of customers to changes in price.



- $PED = \% \Delta \text{ Demand} / \% \Delta \text{ Price}$
- A cut in price for an **elastic** good would increase sales revenue
- A cut in price for an **inelastic** good would decrease sales revenue

### Elasticity influenced by:

- Brand loyalty of buyers
- Availability of substitutes
- Time horizon
- Type of good
- Proportion of income spent on the good
- Tastes and fashions
- Period of product life-cycle/obsolescence



### **Product life cycle**

- Introduction  Growth  Maturity  Decline

### **Pricing strategies**

- Market skimming
- Market penetration
- Other strategies

### **Non-price ways of competing**

- Optional extras, product differentiation, service and support, advertising.

### **Traditional pricing strategies**

- Full cost plus pricing (variable + fixed + % mark up)
- Marginal cost plus pricing (variable + % mark up)
- Target costing (working out what it should cost as a maximum after taking into account the market price and desired profit).

Chapter

4

# Budgeting

## Key summary of chapter

**A budget is a quantified plan of action.** Budgetary planning creates the budgets as part of the planning process of the organisation and budgetary control, takes this budget and compares this to actual results to obtain any variances. This can now be used **take control action to bring actual results to plan.**

### Types of planning

- Strategic plan
- Budgetary plan
- Operational plan

### The process involves:

- A budget manual
- A budget committee
- A budget officer
- A master budget

### Purpose of budgets

<b>P</b>	Planning
<b>R</b>	Resource utilisation or responsibility accounting
<b>I</b>	Integration or coordination
<b>M</b>	Motivation
<b>E</b>	Evaluation

**“What if” analysis** looks at varying or changing the key variables to see how the outcome would change. These changes would be due to the revision of expectations on the value of variables such as material costs or demand.

**Spreadsheets** are a useful tool to build models for management information and aid the preparation of budgets.

A **database** organises the collection of data or information stored on a computer. This approach structures data or information to facilitate the search and retrieval of information contained in the database.

A **database management system (DBMS)** manages and provides access between the different application programmes and information stored in the database.

A **cash-flow forecast** is an estimate of when and how much money will be received and paid out of a business. Cash flow reporting is normally on a month-by-month basis, typically for one financial year.

**Note:** Cash budgets do not include non-cash items such as bad debts, discounts, and depreciation or head office apportioned overhead.

### **Functional or operating budgets**

The process of producing operating budgets involves:

- Determining the principle budget factor or limiting factor and starting with this budget first.
- Then producing the production budget.
- Production budget will drive all the other budgets.

**Zero based budgeting (ZBB)** is a method of budgeting, which requires each cost element within the budget to be specifically justified as though it was being under taken for the very first time, without approval, the budget allowance would be zero.

**Incremental budgeting** is the process of using current and past budgets as a guide and adding or subtracting from these budgets to arrive at income and expenditure for a future financial period.

**Activity based budgeting (ABB)** uses cost drivers in the budgetary planning and control stages, for the budgeting of overhead and would show how different types of overhead are affected by the different resources consumed by an activity.

**Rolling or continuous budgeting** is when the budget is updated on a regular and frequent basis. The method is to add a further period immediately to the budget when an earlier period has expired.

**Periodic or fixed budgets** are those budgets, which are not updated until the period of that budget has expired.

A **flexed budget** is a budget that has been revised or adjusted using the actual level of sales or output achieved as its activity level.

**The behavioural aspects of budgeting** are concerned with how budgets or standards affect people within an organisation. Poor performance could be attributable to the method of implementing budgets e.g. ignoring the human side of participation or the introduction of a standard that is either unrealistic or unobtainable can de-motivate staff. This could cause a decline in productivity or efficiency.

**The controllability principle** is concerned with assessing performance based upon measures that can be controlled only by a manager and omitting any items which are uncontrollable.

**Responsibility accounting** is about separating revenues and/or costs into areas of personal responsibility to assess the individual performance of a manager. A head office or holding company must ensure that it evaluates a manager on what they can influence.

**Beyond budgeting** is a philosophy that traditional budgeting methods are of little use to management, ZBB and ABB are more modern methods, in order to alleviate the traditional problems of budgeting, however beyond budgeting believes that budgeting within organisations should be banned altogether.

The **balanced scorecard** suggests that we view the organisation from four perspectives, and to develop metrics, collect data and analyse it relative to each of these perspectives:

- **Customer** e.g. what must we do right for our customers and what do they value?
- **Internal** e.g. what must we excel at or improve internally to satisfy shareholders and customers?
- **Innovation and learning** e.g. how can we innovate and improve value?
- **Financial** e.g. how do we satisfy shareholders and create value for them?

### **Feedback control ‘appraisal’**

Feedback is any process where part of the output of a system is measured and returned as input to regulate the systems further output.

### **Feed-forward control ‘prevention rather than cure’**

Feed-forward control would be a system that in a pre-emptive way reacts to changes in its environment, normally to maintain some kind of desired state.



Chapter

# 5

## Break-even analysis (CVP analysis)

## Key summary of chapter

**Cost-volume-profit (CVP)** analysis looks at how profit changes when there are changes in variable costs, sales price, fixed costs and quantity.

### Formulae to learn

**Contribution per unit** = sales price per unit less variable cost per unit

**Break-even volume** = 
$$\frac{\text{Fixed overhead}}{\text{Contribution per unit}}$$

#### The contribution to sales ratio (C/S ratio)

**C/S ratio** = 
$$\frac{\text{Contribution per unit}}{\text{Sales price per unit}}$$

**C/S ratio** = 
$$\frac{\text{Total contribution}}{\text{Total sales revenue}}$$

#### Break-even revenue

= 
$$\frac{\text{Fixed overhead}}{\text{C/S ratio}}$$

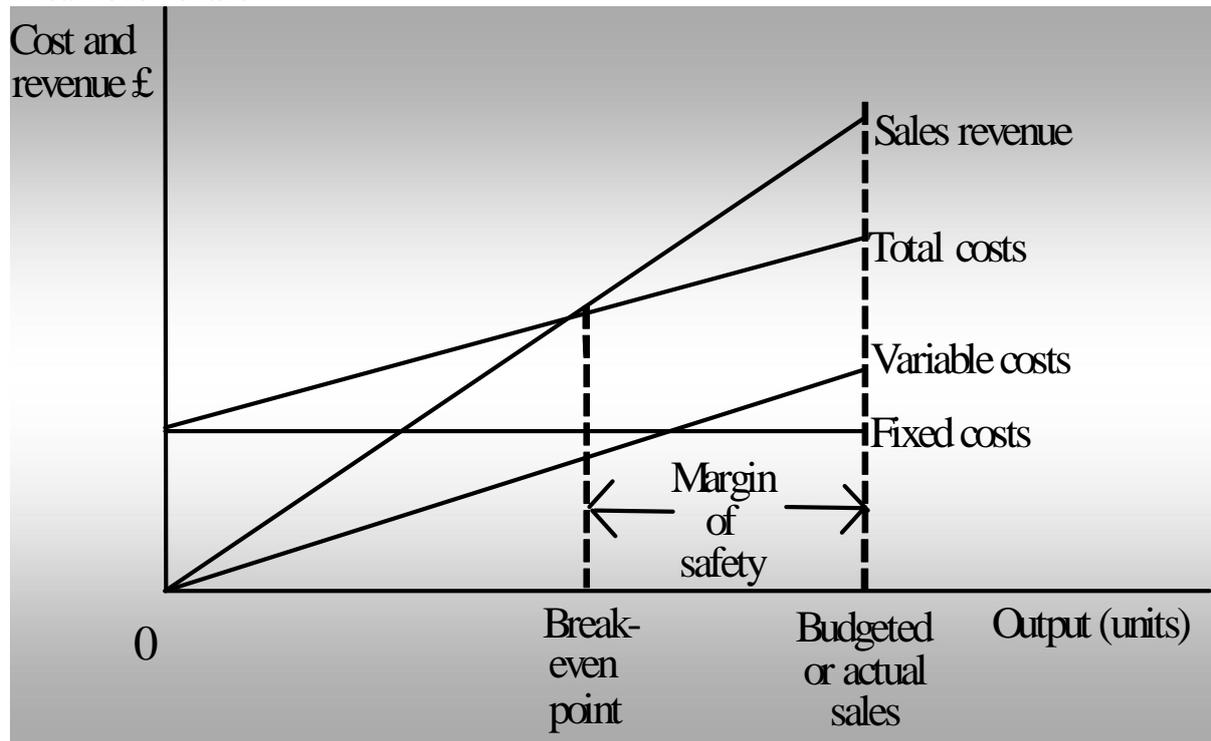
**Margin of safety (units)** = Budgeted sales volume less Break-even sales volume

**Margin of safety (%)** = 
$$\frac{\text{Budgeted sales less Break-even sales volume}}{\text{Budgeted sales volume}} \times 100$$

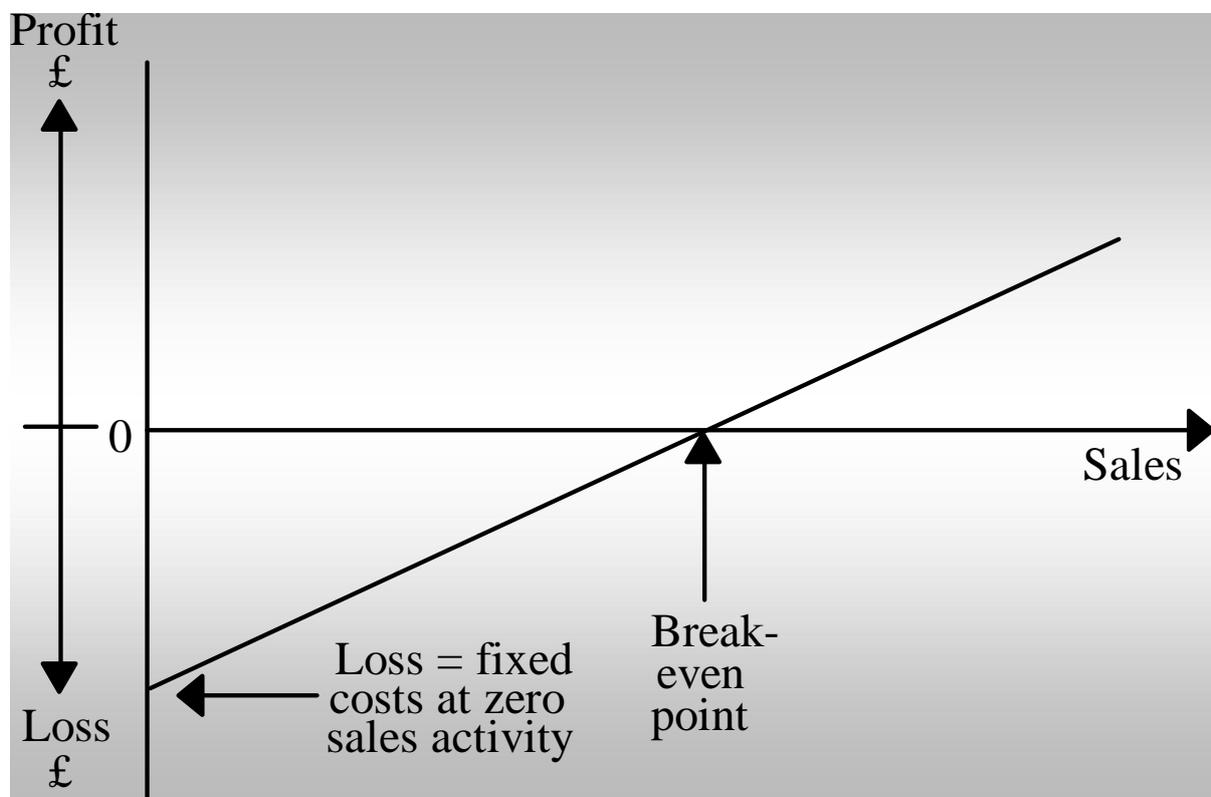
#### Number of units sold to achieve a target profit

= 
$$\frac{\text{Fixed cost} + \text{Target profit}}{\text{Contribution per unit}}$$

**Break-even chart**



**Profit volume chart**





Chapter

# 6

# Activity based costing

## Key summary of chapter

### Absorption costing

Uses one or two cost drivers (e.g. labour or machine hours) to apportion fixed overheads.

### Activity based costing (ABC)

- Uses several cost drivers to apportion fixed overheads.
- More realistic view of what drives costs.
- Group types of fixed overhead together.
- Calculate from these fixed overhead cost pools a fixed overhead 'cost per driver'
- Absorb fixed overhead by using 'many cost drivers'

### Customer profitability analysis (CPA)

- Relating specific costs to servicing customers so that their profitability can be assessed.
- Uses ABC principles where the 'customers' are the cost driver.

### Activity based management (ABM)

- Maximising customer satisfaction.
- Minimising resource use.
- Achieved by removing 'NON-VALUE ADDING ACTIVITIES'

### Business process re-engineering (BPR)

The fundamental redesign of existing business processes to achieve improvements in critical areas such as cost, speed, quality or service.

**Distribution channel profitability (DCP)**

DCP is about relating specific distribution costs to serving customers or groups of customers, so that their relative profitability can be assessed.

**Direct product profitability (DPP)**

DPP is a decision making tool that helps the food merchandiser by providing a better indication of the profitability of products on the supermarket shelves. DPP allocates direct product costs to individual products.



Chapter

7

# Modern manufacturing techniques

## Key summary of chapter

### Traditional manufacturing came from the following types:

1. Job e.g. specific manufacturing to clients order.
2. Batch e.g. standardised or identical units manufactured in one operation.
3. Mass e.g. continuous production of standardised or identical units.

### Lean production or the Toyota production system (TPS)

Lean production (also known as the Toyota Production System) is a manufacturing methodology originally developed by Toyota to get the right things to the right place at the right time. Lean production focuses on delivering resources when and where they are needed.

**Total productive maintenance (TPM)** is a concept to improve the productivity of organisations equipment and can contribute towards an effective lean production system. TPM aims to shorten lead times by ensuring production and machine maintenance staff work closer together. Machine operators are empowered and trained in order to speed up routine servicing, fault diagnosis and maintenance of operating machinery.

### Just in time production

The JIT philosophy requires that products should only be produced if there is an internal or external customer waiting for them. It aims ideally for zero stock e.g. raw materials delivered immediately at the time they are needed, no build up of work-in-progress during production and finished goods only produced if there is a customer waiting for them.

### Focus factories

Focus factories reorganise traditional factories which may make parts of several products or mass produce in anticipation of demand into stand alone factories which make a complete product. This reduces waiting time and completion of product time.

### **Total quality management (TQM)**

TQM is the process of embracing a quality conscious philosophy or culture within an organisation. The philosophy aims towards perfection of standards and continuous improvement.

### **The four costs of quality**

- Prevention cost
- Appraisal cost
- Internal failure cost
- External failure cost

### **Communication of quality**

- Establish senior management commitment.
- Present TQM.
- Hold TQM workshops and training sessions.
- Establish quality circles.
- Establish standards by benchmarking.
- Restructure reward systems.
- Information systems to monitor and control.
- Cultural change of attitudes and beliefs over the long-term.

**Quality Circles** are an American idea, whereby a group of 5 to 8 employees, normally working in the same area, volunteer to meet on a regular basis to identify areas for improvement or analyse work related problems in order to find solutions.

### **Advanced manufacturing technologies (AMT)**

- Flexible manufacturing systems (FMS)
- Computer aided design (CAD)
- Computer aided manufacturing (CAM)
- Optimised production technology (OPT)
- Materials requirement planning (MRP I)
- Manufacturing resource planning (MRP II)
- Computer-integrated manufacturing (CIM)
- Enterprise resource planning (ERP)

## **Kaizen**

The process of continuous improvement through small incremental steps rather than transformational changes. It also believes strongly in empowerment of employees to enable them to improve operations. **Kaizen costing** focuses on reducing variable costs of future periods below that of prior periods.

## **Value analysis**

Value analysis is a directed analysis designed to remove those costs during production which do not add value to the product because the customer does not perceive them as adding value. It looks at the main functions such as systems, products, standards, specifications and considers their purpose and how to achieve these as cost effectively as possible.

Value engineering is the activity which looks at how to achieve the same quality product for customers at the lowest costs possible.

## **Quality function deployment or functional analysis**

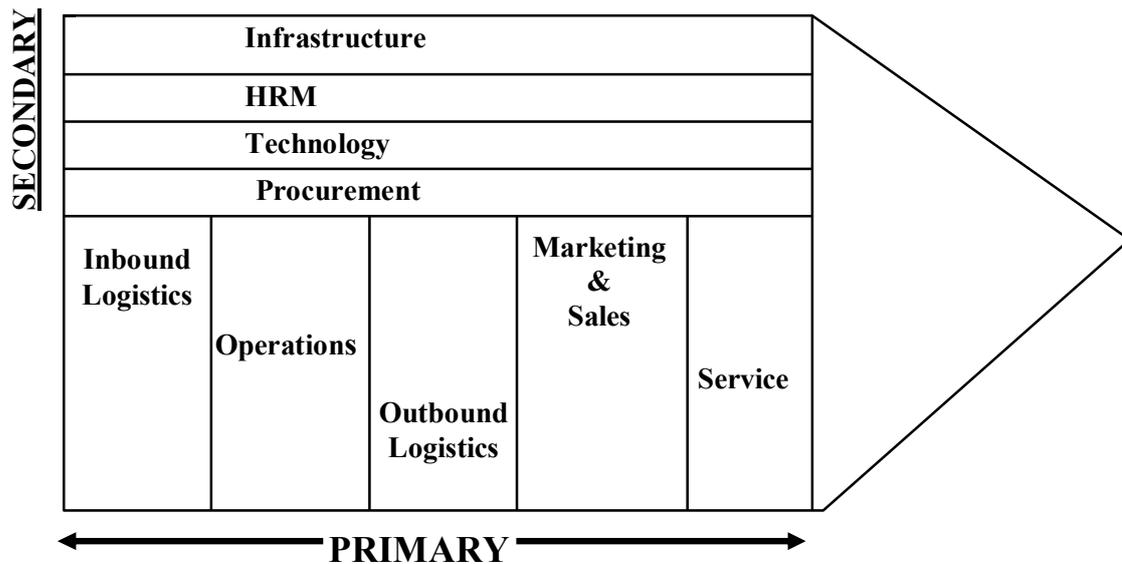
Quality function deployment or functional analysis is the analysis of a product or service to understand whether it meets to true customers needs. The process starts at the design stage with a cross functional evaluation team who try to uses customer expectations derived from market research and quality resources to create products and services that will be desired by the customer.

## **Throughput accounting**

- Throughput = the rate of production.
- Maximise throughput whilst minimising conversion costs.
- Throughput contribution = Sales ó material cost.
- Return per factory hour = 
$$\frac{\text{Sales less material cost}}{\text{Usage (in hours) of the bottleneck resource}}$$
- TA ratio = 
$$\frac{\text{Contribution (sales less material) per hour}}{\text{Conversion cost per hour (or cost per factory hour)}}$$

## Porter's Value Chain Analysis

Porter grouped the various activities of an organisation into what he called the value chain; he divided the organizations activities into nine types, classified as either **primary or secondary activities**. These activities incur costs, but in combination with other activities provide customer satisfaction and therefore add value.



- **Inbound Logistics** - Receiving, storing & handling
- **Operations** - Transforming raw materials
- **Outbound Logistics** - Storing, distribution & delivery
- **Marketing & Sales** - Satisfying customer needs
- **Service** - All activities after point of sale

## Value chain and competitive advantage

Porter argued that there were two strategies that company could take to maintain competitive advantage:

**Cost leadership strategy** ó low cost achieved through economies of scale and cost reduction methods e.g. Daewoo cars and Lidl supermarkets.

**Product differentiation** ó creating a product which is perceived to be superior and more desirable than other products through advertising, marketing, customer service, brand loyalty, functionality and design.

## **Supply chain management**

Effective supply chain management is crucial to gaining competitive advantage e.g. higher quality, lower cost, and quicker delivery. Removing inefficient processes from the supply chain would result in greater profitability.

There are four main issues that are of concern with supply chain management. These are location, production, inventory and transportation.

## **Outsourcing**

This is when businesses decide to buy in specialist expertise from other companies to perform some of the functions in the manufacturing of some of their products.

## **Outsourcing to Eastern Europe and the Far East**

Increasingly in recent times the trend has been for Western European and American companies to outsource some of its operations to other countries in the Eastern European block and the Far East because of increasing costs in production and labour force in the West.

Literacy is also very good in countries like Rumania where graduates must be fluent in at least two other languages. However the current downside to some of these countries is the economic and political uncertainty like in Russia and Bosnia which should stabilise over time.

India also has one of the best specialised computer institutions in the world and because of this India enjoys a very large segment of the IT software development market.

## **Gain sharing arrangements**

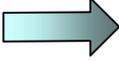
This is an arrangement where the customer and supplier share the risks and rewards of a contract in agreed proportions. A target cost is agreed but if the actual cost is less then the saving is enjoyed by both customer and supplier in a pre-arranged proportions, but if the supplier exceeds the target cost then the overrun cost is absorbed by the customer and supplier again in pre-arranged proportions. There may well be limits built into these over and under run on costs as well as time limits on when gains can be realised.

Chapter

# 8

# Limiting factors

## Key summary of chapter

- Single limiting factor  use 'contribution per limiting factor' analysis.
- Multiple limiting factors  use linear programming.

### Shadow pricing

- Only relevant if a limiting factor exists.
- It is the extra contribution gained by obtaining one more unit of the limiting factor.
- Maximum price = shadow price + cost per unit of limiting factor.

### Linear programming

It can be applied in several different situations:

- Mix of materials in products
- Capacity allocation
- Distribution problems
- Production forecasting
- Investment mix
- Logistical problems

### Approach to answering linear programming questions

- Define variables.
- Construct the objective function (maximise contribution).
- Set up the constraints (don't forget to include the non-negativity constraints).
- Solve through graphical method or simultaneous equations.

Chapter

# 9

# Transfer Pricing

## Key summary of chapter

### The divisional structure

A division is a distinct business set up within a larger company to ensure a certain product or market is handled and promoted as though it were a separate business.

#### Advantages

- ✓ Quicker decision making
- ✓ Focus on product and market performance
- ✓ Ring fencing of financial results
- ✓ More empowerment
- ✓ Good training ground for managers.
- ✓ Frees up senior management time

#### Disadvantages

- ✗ High cost of head office
- ✗ Duplication of functions (or departments)
- ✗ Reluctance to delegate by senior management
- ✗ Lack of goal congruence

#### Types (forms) of division

- Cost centre
- Revenue centre
- Profit centre
- Investment centre

### The functions of a performance measurement system

- Publicise and communicate direction
- Control the organisation.
- Plan and allocate resources

#### Neely's 4Cs in performance measurement (1998)

1. Check position
2. Communicate position
3. Confirm priorities
4. Compel progress

### **Recommended process to develop a performance measurement system**

1. Senior management -a clear vision of changeø
2. Benchmark with other organisations
3. Participation by staff throughout the process
4. Targets/criteria should be set after consultation
5. Reward systems should be modified
6. Introduction of new appraisal procedures.
7. Training for managers and staff
8. Review and monitor the new system

### **Evaluating the performance of divisions**

#### **The controllability principle**

The controllability principle is concerned with assessing performance based upon measures that can be controlled only by a manager and omitting any items which are uncontrollable.

## **Profit based methods for evaluating the performance of divisions**

### **Operating profit (net profit) margin**

$$= \frac{\text{Profit before interest and tax (PBIT)}}{\text{Turnover}} \times 100\%$$

### **Gross profit (sales) margin**

$$= \frac{\text{Turnover less cost of sales (gross profit)}}{\text{Turnover}} \times 100\%$$

Generally the gross profit or sales margin can also be referred to as the contribution to sales (C/S) ratio e.g. gross profit (sales less variable cost) ÷ sales.

### **Mark up**

$$= \frac{\text{Turnover less cost of sales (gross profit)}}{\text{Cost of sales}} \times 100\%$$

### **Return on capital employed (ROCE)**

$$= \frac{\text{Profit before interest and tax (PBIT)}}{\text{Capital employed}} \times 100\%$$

ROCE is also referred to as return on investment (ROI) and return on net assets (RONA). ROCE measures profitability and shows how well the business is utilising its capital to generate profits.

### Residual income (RI)

Residual income is the profit earned by a division less a notional interest charge for the investment of finance within it.

	£
Profit before interest and tax (PBIT)	X
Capital employed x head office % interest charge	(X)
Residual income	<u>X</u>

Residual income uses the same profit before interest and tax and capital employed value as the ROCE measure. Residual income is an absolute measure that deducts from profit before interest and tax, an imputed notional interest charge using a cost of capital or return required.

### Economic value added (EVA)

EVA is an estimate of economic profit, measured as Net Operating Profit after Taxes (or NOPAT) less the money cost of capital. MVA and EVA are strongly correlated.

$$\begin{aligned}
 \text{EVA} = & \\
 & \text{Net cash operating profit after tax} \\
 & \text{(adjusted for accounting distortions e.g. add back depreciation)} \\
 & \text{less} \\
 & \text{Economic depreciation (based on market value or replacement cost of assets)} \\
 & \text{less} \\
 & \text{Amortised R\&D, advertising, marketing, goodwill, brand or new product} \\
 & \text{development cost} \\
 & \text{less} \\
 & \text{('adjusted' capital employed x cost of capital)}
 \end{aligned}$$

### Contrasting ROI, RI and EVA

ROI	RI	EVA
All measures support goal congruence for profit maximisation		
Accounting based measures		Cash based measure
Historical accounting for non-current assets		Use of replacement cost
Long-term expenditure written off in the same financial period		Capitalises long-term expenditure and amortises
Relative measure	Absolute measures	
No finance charge	Finance charge recognised	

## Multidimensional performance measurement

### The balanced scorecard developed by Kaplan and Norton

The four perspectives of the balanced scorecard

- **Customer perspective** e.g. what must we do right for our customers?
- **Internal perspective** e.g. what must we excel at internally?
- **Innovation and learning perspective** e.g. how can we innovate?
- **Financial perspective** e.g. how do we satisfy shareholders?

#### Advantages

- ✓ Long-term view of performance
- ✓ Non-financial as well as financial measures considered
- ✓ Performance measures can be tailor made
- ✓ Monitor and control operations
- ✓ Communicate and publicise goals to all stakeholders
- ✓ Link to remuneration of management and staff

#### Disadvantages

- ✗ Historical performance no guide to the future
- ✗ Manipulation performance measures
- ✗ Costly bespoke information systems support BSC
- ✗ Conflict or trade off between BSC perspectives
- ✗ Too many performance measures can distort the benefits

### A process to implement balanced scorecard (BSC)

1. A clear vision BSC communicated
2. Demonstration that senior management are committed to the idea
3. Education given to all managers and staff
4. Consultative meetings and presentations
5. Participation encouraged by all staff and management
6. Plan and determine how change needs to occur
7. Implement change
8. Reward and staff appraisal systems modified
9. Review and feedback obtained

### The value for money (VFM) framework (the 3Es)

- Economy (Cheap)
- Efficiency (Quick)
- Effectiveness (Good)

## Financial (ratio) analysis

The objective of financial statements is to provide information to all users of accounts to help them for decision-making. Note that most users will only have access to published financial statements.

### The use of ratios

- To compare results over a period of time
- To measure performance against other organisations
- To compare results with a target
- To compare against industry averages

### Limitations of ratio analysis

A ratio on its own is meaningless; accounting ratios must always be interpreted in relation to other information.

## Ratios can be grouped into 3 main areas

1 Performance (profitability) – how well has the business done	
<b>Return on capital employed (ROCE)</b>	$\frac{\text{Profit before interest \& tax (PBIT)}}{\text{Capital employed (CE)}} \times 100\%$
<b>Operating profit margin</b>	$\frac{\text{PBIT}}{\text{Turnover}} \times 100\%$
<b>Asset turnover</b>	$\frac{\text{Turnover}}{\text{Total assets}} \text{ (number of times)}$
<b>Return on equity (ROE)</b>	$\frac{\text{Profit after tax, interest \& pref share divis}}{\text{Shareholder funds (equity)}} \times 100\%$

**2 Position (liquidity)– short term standing of the business**

<b>Current ratio</b>	$\frac{\text{Current assets}}{\text{Current liabilities}} \text{ (number of times)}$
<b>Quick ratio</b>	$\frac{\text{Current assets } \ominus \text{ inventory}}{\text{Current liabilities}} \text{ (number of times)}$
<b>Gearing - equity</b>	$\frac{\text{Debt capital}}{\text{Equity (shareholders funds)}} \times 100\%$
<b>Gearing – total</b>	$\frac{\text{Debt capital}}{\text{Debt + equity (total capital)}} \times 100\%$
<b>Interest cover</b>	$\frac{\text{Profit before interest \& tax (PBIT)}}{\text{Interest paid}} \text{ (no of times)}$
<b>Trade payable days</b>	$\frac{\text{Trade payables}}{\text{Cost of sales (or purchases)}} \times 365 \text{ days}$
<b>Inventory days</b>	$\frac{\text{Inventory}}{\text{Cost of sales}} \times 365 \text{ days}$
<b>Trade receivable days</b>	$\frac{\text{Trade receivable}}{\text{Sales}} \times 365 \text{ days}$
<b>Working capital cycle</b>	$\begin{aligned} &\text{Trade receivable days} \\ &+ \text{inventory days} \\ &\ominus \text{trade payable days} \\ &= \text{working capital cycle (days)} \end{aligned}$

**3 Potential (investor) – what investors are looking at**

<b>Earnings per share (EPS)</b>	$\frac{\text{Profit after tax}}{\text{Number of shares}}$
<b>P/E ratio</b>	$\frac{\text{Share price}}{\text{Earnings per share}}$
<b>Dividend yield</b>	$\frac{\text{Dividend per share}}{\text{Share price}} \times 100\%$
<b>Dividend cover</b>	$\frac{\text{Earnings per share}}{\text{Dividend per share}}$

## Transfer pricing

A transfer price is a price charged for goods or services provided internally between divisions or departments in the same group or company.

### The common aims of transfer pricing systems

- Motivate managers
- Fair performance evaluation
- Promote autonomy
- Goal congruence
- To ensure optimal allocation of resources

Change transfer price	Selling Division	Buying Division	The Group
Increase transfer price	Profit increases	Profit Decreases	No change
Decrease transfer price	Profit decreases	Profit Increases	No change

### International aspects to transfer pricing

- Exchange rates
- Import tariffs or quotas
- Taxation
- Worldwide prices and quality
- Other international legislation

## Methods of transfer pricing

### Cost based approaches

The pricing of products or services are based on their full or variable (marginal) production cost per unit.

### Two-part tariff (two part charging) system

With a two-part tariff system the buyer is charged:

- A transfer price equal to the seller's variable (marginal) cost
- A fixed charge per period by the seller irrespective of the amount of units sold

### Market based approaches

When the external market price is used as a transfer price, a seller will always be encouraged to sell because they would be indifferent between their charging policy for internal or external customers.

### Dual pricing (or two prices)

Dual transfer pricing means setting one transfer price for the internal seller and another transfer price for the internal buyer.

- **Internal seller** The transfer price received set at the external market price.
- **Internal buyer** The transfer price paid set at the seller's variable (marginal) cost.

## Opportunity cost pricing

Opportunity cost pricing is considered the most mathematically correct way of viewing transfer pricing. The reason is that it looks at transfer pricing issues from a group not divisional perspective and therefore promotes goal congruence.

### Minimum price for a seller

Full capacity



Market Price

Spare capacity



Marginal Cost

### Maximum price for a buyer

Maximum Price

The lower of?



The external market price for the internal product or service.

The net realisable value of the buyers final product.

So long as a maximum and minimum price range can be established it indicates that internal trade should take place, any transfer price set between the ranges will motivate both the internal seller and buyer to do so.