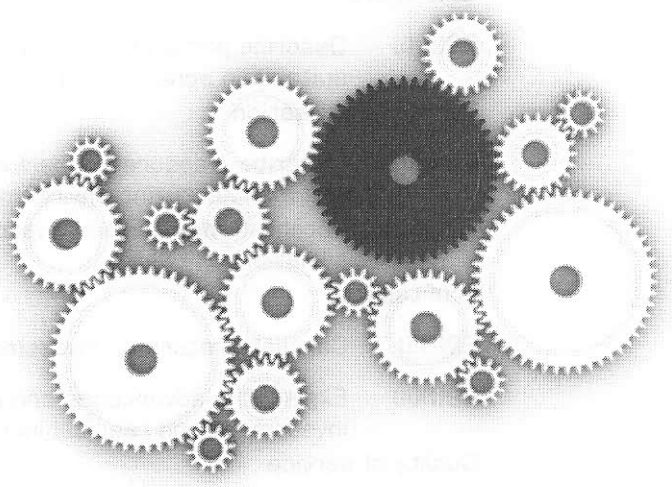
CHAPTER

24

This chapter continues with performance measurement and includes measuring performance in service industries and not-for-profit organisations.

Applications of performance measurement



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E4(c)	Discuss the measurement of performance in service industry situations	K
E4(d)	Discuss the measurement of performance in non-profit seeking and public sector organisations	K
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1 Performance measures for manufacturing businesses

In a customer-focused organisation, basic **measures for sales** can be supplemented by a host of others including customer rejects/returns: total sales.

Performance measures for **materials** and **labour** include **variances.**

Performance can be measured using the **standard hour.**

Efficiency, **activity** and **capacity ratios** provide useful information.

1.1 Performance measures for sales

Traditionally sales performance is measured in terms of price and volume variances, and a sales mix variance. Other possible measures include revenue targets and target market share. They may be analysed in detail: by country, by region, by individual products, by salesperson and so on.

In a customer-focused organisation the basic information 'Turnover is up by 14%' can be supplemented by a host of other indicators.

(a) **Customer rejects/returns: total sales**. This ratio helps to monitor customer satisfaction, providing a check on the efficiency of quality control procedures.

(b) **Deliveries late: deliveries on schedule**. This ratio can be applied both to sales made to customers and to receipts from suppliers. When applied to customers it provides an indication of the efficiency of production and production scheduling.

(c) **Flexibility measures** indicate how well able a company is to respond to customers' requirements. Measures could be devised to measure how quickly and efficiently **new products** are launched, and how well procedures meet **customer needs**.

(d) **Number of people served and speed of service**, in a shop or a bank for example. If it takes too long to reach the point of sale, future sales are liable to be lost.

(e) **Customer satisfaction questionnaires,** for input to the organisation's management information system.

1.2 Performance measures for materials

Traditional measures are **standard costs,** and price and usage **variances**. Many traditional systems also analyse **wastage**.

Measures used in **modern manufacturing environments** include the number of **rejects** in materials supplied, and the **timing and reliability of deliveries** of materials.

1.3 Performance measures for labour

Labour costs are traditionally measured in terms of **standard performance** (ideal, attainable and so on) and rate and efficiency **variances**.

Qualitative measures of labour performance concentrate on matters such as **ability to communicate, interpersonal relationships** with colleagues, **customers' impressions** and **levels of skills** attained.

Managers can expect to be judged to some extent by the performance of their staff. High profitability or tight cost control are not the only indicators of managerial performance!

1.4 Performance measures for overheads

Standards for variable overheads and efficiency variances are traditional measures. Various time based measure are also available.

(a) **Machine down time: total machine hours**. This ratio provides a measure of machine usage and efficiency.

(b) **Value added time: production cycle time.** Value added time is the direct production time during which the product is being made. The production cycle time includes non-value-added times such as set-up time, downtime, idle time and so on. The 'perfect' ratio is 100%, but in practice this optimum will not be achieved. A high ratio means non-value-added activities are being kept to a minimum.

1.5 Measures of performance using the standard hour

Sam manufactures plates, mugs and eggcups. Production during the first two quarters of 20X5 was as follows.

	Quarter 1	*Quarter 2*
Plates	1,000	800
Mugs	1,200	1,500
Eggcups	800	900

The fact that 3,000 products were produced in quarter 1 and 3,200 in quarter 2 does not tell us anything about Sam's performance over the two periods because plates, mugs and eggcups are so different. The fact that the production mix has changed is not revealed by considering the total number of units produced. The problem of how to **measure output when a number of dissimilar products are manufactured** can be overcome, however, by the **use of the standard hour**.

The standard hour (or standard minute) is the **quantity of work achievable at standard performance, expressed in terms of a standard unit of work done in a standard period of time.**

The standard time allowed to produce one unit of each of Sam's products is as follows.

	Standard time
Plate	½ hour
Mug	⅓ hour
Eggcup	¼ hour

By measuring the standard hours of output in each quarter, a more useful output measure is obtained.

		Quarter 1		*Quarter 2*	
Product	*Standard hours per unit*	*Production*	*Standard hours*	*Production*	*Standard hours*
Plate	½	1,000	500	800	400
Mug	⅓	1,200	400	1,500	500
Eggcup	¼	800	200	900	225
			1,100		1,125

The output level in the two quarters was therefore very similar.

1.6 Efficiency, activity and capacity ratios

Standard hours are useful in computing levels of **efficiency, activity and capacity**. Any management accounting reports involving budgets and variance analysis should incorporate control ratios. The three main control ratios are the efficiency, capacity and activity ratios.

(a) The **capacity ratio compares actual hours worked and budgeted hours**, and measures the **extent to which planned utilisation has been achieved.**

(b) The **activity** or **production volume ratio compares the number of standard hours equivalent to the actual work produced and budgeted hours.**

(c) **The efficiency ratio** measures the **efficiency of the labour force** by **comparing equivalent standard hours for work produced and actual hours worked.**

1.7 Example: ratios and standard hours

Given the following information about Sam for quarter 1 of 20X5, calculate a capacity ratio, an activity ratio and an efficiency ratio and explain their meaning.

Budgeted hours	1,100 standard hours
Standard hours produced	1,125 standard hours
Actual hours worked	1,200

1.8 Solution

$$\text{Capacity ratio} = \frac{\text{Actual hours worked}}{\text{Budgeted hours}} \times 100\% = \frac{1,200}{1,100} \times 100\% = 109\%$$

$$\text{Activity ratio} = \frac{\text{Standard hours produced}}{\text{Budgeted hours}} \times 100\% = \frac{1,125}{1,100} \times 100\% = 102\%$$

The overall activity or production volume for the quarter was 2% greater than forecast. This was achieved by a 9% increase in capacity.

$$\text{Efficiency ratio} = \frac{\text{Standard hours produced}}{\text{Actual hours worked}} \times 100\% = \frac{1,125}{1,200} \times 100\% = 94\%$$

The labour force worked 6% below standard levels of efficiency.

2 Performance measures for manufacturing environments

In a **jobbing** environment each job undertaken is unique. Products are made to the specific requirements of individual customers. This has a number of implications for performance measurement.

(a) Detailed planning should be undertaken and performance targets set. As so many variables are involved this is a complicated process, and the likelihood of targets not being achieved is significant.

(b) **Suppliers may be different for each job**, making it **harder to set standards** for quality, speed of delivery and so on.

(c) **Customer satisfaction** measures are particularly **important** in this environment (payment might depend contractually upon customer satisfaction). Feedback on performance should be obtained from the customer during the job.

(d) Because each job will be different the organisation will have to be extremely **flexible**. Measures of success in adapting to new requirements will provide a key indicator. Measures of **employee skills** will be equally important.

(e) It is likely that the job will need to be completed within a certain **time** and therefore an ongoing check must be kept of performance in relation to the **deadline**.

A **contract** or **project** is simply a large job that takes a considerable length of time. The same considerations apply regarding performance measurement as in a jobbing environment. The following are also relevant.

(a) The size and consequences of **overspending** may be huge.

(b) The longer timescale means that progress must be measured even more carefully, since there is more likelihood of slippage if **deadlines** seem a long way off.

In a **batch** production environment, products are more **standardised**, although some costs and activities may be unique to a specific batch. Standardisation of products means that materials requirements and labour and machinery capabilities are also more standardised. **Performance standards** can be set for materials quality and usage, labour efficiency, suppliers and so on.

The high degree of standardisation in a **process costing** environment means that it is **ideal for setting performance standards**. However, costs, materials usage/wastage, labour inefficiencies, machine breakdowns and so on cannot be traced to a specific item. These features can only be measured on an average per unit basis. A measure like 'cost per unit' in a processing environment reflects **average performance over a period** of time. It may therefore be more difficult to improve upon existing performance standards as **inefficiencies may not be easily identifiable.**

A number of performance indicators can be used to assess operations. They are particularly relevant to the internal business and customer perspectives of the balanced scorecard.

- Quality
- Number of customer complaints and warranty claims
- Lead times
- Rework
- Delivery to time
- Non-productive hours
- System (machine) down time

These indicators can also be expressed in the form of ratios or percentages for comparative purposes. Like physical measures, they can be produced quickly and trends can be identified and acted upon rapidly. Examples of useful ratios might be as follows.

(a) **Machine down time: total machine hours**. This ratio could be used to monitor machine availability and can provide a measure of machine usage and efficiency.

(b) **Component rejects: component purchases**. This ratio could be used to control the quality of components purchased from an external supplier. This measure can be used to monitor the performance of new suppliers.

(c) **Deliveries late: deliveries on schedule**. This ratio could be applied to sales made to customers as well as to receipts from suppliers.

(d) **Customer rejects/returns: total sales**. This ratio helps to monitor customer satisfaction, providing a check on the efficiency of quality control procedures.

(e) **Value added time: production cycle time**. Value added time is the direct production time during which the product is being made and value is therefore being added.

2.1 Performance measurement for manufacturing

Performance measurement in manufacturing is increasingly using non-financial measures. Malcolm Smith identifies four over-arching measures for manufacturing environments.

- **Cost**: cost behaviour
- **Quality**: factors inhibiting performance
- **Time**: bottlenecks, inertia
- **Innovation**: new product flexibility

2.1.1 Cost

Possible non-financial or part-financial indicators are as follows.

Area	Measure
Quantity of raw material inputs	Actual v target number
Equipment productivity	Actual v standard units
Maintenance efforts	No. of production units lost through maintenance No. of production units lost through failure No. of failures prior to schedule
Overtime costs	Overtime hours/total hours
Product complexity	No. of component parts
Quantity of output	Actual v target completion
Product obsolescence	% shrinkage
Employees	% staff turnover
Employee productivity	direct labour hours per unit
Customer focus	% service calls; % claims

2.1.2 Quality

Integrating quality into a performance measurement system suggests attention to the following items.

Area	Measure
Quality of purchased components	Zero defects
Equipment failure	Downtime/total time
Maintenance effort	Breakdown maintenance/total maintenance
Waste	% defects; % scrap; % rework
Quality of output	% yield
Safety	Serious industrial injury rate
Reliability	% warranty claims
Quality commitment	% dependence on post-inspection % conformance to quality standards
Employee morale	% absenteeism
Leadership impact	% cancelled meetings
Customer awareness	% repeat orders; number of complaints

2.1.3 Time

A truly just-in-time system is an ideal to which many manufacturing firms are striving. Time-based competition is also important for new product development, deliveries etc. The management accounting focus might be on throughput, bottlenecks, customer feedback and distribution.

Area	Measure
Equipment failure	Time between failures
Maintenance effort	Time spent on repeat work
Throughput	Processing time/total time per unit
Production flexibility	Set-up time
Availability	% stockouts
Labour effectiveness	Standard hours achieved / total hours worked
Customer impact	No. of overdue deliveries Mean delivery delay

2.1.4 Innovation

Performance indicators for innovation can support the 'innovation and learning' perspective on the balanced scorecard. Some possible suggestions are outlined below.

Area	Measure
The ability to introduce new products	% product obsolescence Number of new products launched Number of patents secured Time to launch new products
Flexibility to accommodate change	Number of new processes implemented Number of new process modifications

Area	Measure
Reputation for innovation	Media recognition for leadership Expert assessment of competence Demonstrable competitive advantage

3 Performance measures for services

Performance measures covering the following **six 'dimensions'** have been suggested for service organisations.

- Competitive performance
- Financial performance
- Quality of service
- Flexibility
- Resource utilisation
- Innovation

3.1 Service businesses

A service business does not produce a physical product. Instead it provides a service, for example a haircut, or insurance.

(a) A service is **intangible**. The actual benefit being bought can not be touched.

(b) The production and consumption of a service are **simultaneous**, and therefore it cannot be inspected for quality in advance.

(c) Services are **perishable**, that is, they cannot be stored. For example a hairdresser cannot do haircuts in advance and keep them stocked away in case of heavy demand.

(d) A service is **heterogeneous**. The service received will vary each time. Services are more reliant on people. People are not robots, so how the service is delivered will not be identical each time.

QUESTION Service measures

Consider how the factors intangibility, simultaneity, perishability and heterogeneity apply to the various services that you use: public transport, your bank account, meals in restaurants, the postal service, your annual holiday and so on.

3.2 'Dimensions' of performance measurement

Performance measurement in service businesses is made more difficult because of the four factors listed above. However, performance measurement is possible, the key being to ensure what you are measuring has been clearly enough defined. A range of performance measures covering **six 'dimensions'** are used.

3.2.1 Competitive performance

Competitive performance focuses on factors such as sales growth, market share and ability to obtain new business.

3.2.2 Financial performance

Like any other business, a service business needs to plan, and its short-term plans can be drawn up in the form of a **budget**.

(a) There might be a **budgeted expenditure limit** for individual activities within the business.

(b) **Standard performance measures** (such as standard cost per unit of activity or standard quantity of 'output' per unit of resource used up (ie productivity)) can be established as targets.

QUESTION

Productivity measure

A secretary working in a bank is paid $12,000 per annum and produces 4,500 letters a year. Devise a cost per unit of activity and a standard measure of productivity.

ANSWER

$\frac{\$12,000}{4,500} = \$2.66$ per letter

$\frac{4,500}{(365-52-52)} = 17.24$ letters per working day, ignoring holidays.

Other answers are possible.

3.2.3 Quality of service

Service quality is measured principally by **qualitative measures**, although some quantitative measures are used by some businesses. An equipment hire company used a 'successful hire indicator'. This was expressed as a percentage. All hires has to be classified as successful or unsuccessful (based on equipment performance) when equipment was returned.

The following table shows the measures used to assess 4 quality factors and the means of obtaining the information by British Airports Authority (BAA), a transport facility service provider.

Service quality factors	Measures	Mechanisms
Access	Walking distances Ease of finding way around	Customer survey and internal operational data
Cleanliness/tidiness	Cleanliness of environment and equipment	Customer survey and management inspection
Comfort	Crowdedness of airport	Customer survey and management inspection
Friendliness	Staff attitude and helpfulness	Customer survey and management inspection

QUESTION

Measuring service quality

What do you conclude are the two main means of measuring service quality at BAA?

ANSWER

Customer surveys and management inspection

3.2.4 Flexibility

Flexibility has three aspects.

Aspect	Detail
Speed of delivery	This is vital in some service industries. Measures include factors such as waiting time in queues. In other types of service it may be more a question of timeliness. Does the auditor turn up to do the annual audit during the appointed week? Is the audit done within the time anticipated by the partner or does it drag on for weeks? These aspects are all easily measurable in terms of 'days late'. Depending upon the circumstances 'days late' may also reflect on inability to cope with fluctuations in demand.
Ability to respond to customers' specifications	This will depend on the type of service. A professional service such as legal advice must be tailored exactly to the customer's needs. Performance is partly a matter of customer perception. Customer attitude surveys may be appropriate. Performance also depends on the diversity of skills possessed by the service organisation. This can be measured in terms of the mix of staff skills and the amount of time spent on training.
Coping with demand	This is measurable in quantitative terms. For example train companies can measure the extent of overcrowding. Customer queuing time can be measured for banks and retailers. Professional services can measure levels of overtime worked.

3.2.5 Resource utilisation measures

Resource utilisation is usually measured in terms of **productivity**. The ease with which this may be measured varies according to the service being delivered. The main input resource of a firm of accountants, for example, is the **time** of staff. The main output of an accountancy firm is **chargeable hours**. Productivity will therefore be measured as the ratio of chargeable hours to total hours.

Here are some resource utilisation ratios.

Business	Input	Output
Accountancy firms	Man hours available	Chargeable hours
Commonwealth Hotels	Rooms available	Rooms occupied
Railway companies	Train miles available	Passenger miles
Barclays Bank	Number of staff	Number of accounts

3.2.6 Innovation

Companies do not have to innovate to be successful, but it helps! Others will try to steal their market, and so others' innovations must at least be matched. In a modern environment in which product quality, product differentiation and continuous improvement are the order of the day, a company that can find innovative ways of satisfying customers' needs has an important **competitive advantage**

The **innovating process can be measured** in terms of **how much it costs to develop a new service, how effective the process is** (that is, how innovative is the organisation, if at all?), and **how quickly it can develop new services.** In more concrete terms this might translate into the following.

(a) The **amount of spending on research and development**, and whether these costs are recovered from new service sales (and how quickly).

(b) The **proportion of new services to total services** provided.

(c) The **time between identification of the customer need for a new service and making it available.**

QUESTION

Competitiveness and resource utilisation

A service business has collected some figures relating to its year just ended.

	Budget	*Actual*
Customer enquiries		
New customers	6,000	9,000
Existing customers	4,000	3,000
Business won		
New customers	2,000	4,000
Existing customers	1,500	1,500
Types of services performed		
Service A	875	780
Service B	1,575	1,850
Service C	1,050	2,870
Employees		
Service A	5	4
Service B	10	10
Service C	5	8

Required

Calculate figures that illustrate competitiveness and resource utilisation.

ANSWER

Competitiveness can only be measured from these figures by looking at how successful the organisation is at converting enquiries into firm orders.

Percentage of enquiries converted into firm orders

	Budget	*Actual*
New customers (W1)	33%	44%
Existing customers (W1)	37.5%	50%

Resource utilisation can be measured by looking at average services performed per employee.

	Budget	*Actual*	*Rise*
Service A (W2)	175	195	+11.4%
Service B (W2)	157.5	185	+17.5%
Service C (W2)	175	358.75	+105.0%

Workings

1 For example 2,000/6,000 = 33%
2 For example 875/5 = 175

What comments would you make about the results of these calculations? How well is the business doing?

3.2.7 Setting a standard, budget or target

A standard, budget or target can be set for a service department in a number of ways.

(a) There might be a budgeted expenditure limit for the department.

(b) **Standard performance measures** might be established as targets for efficiency. Standard performance measures are possible where the department carries out routine activities for much of its work.

(c) Targets or standards might be set for the **quality of the service**.

(i) To provide training to employees up to a quantifiable standard
(ii) To respond to requests for help within a specified number of minutes, hours or days
(iii) To respond to materials requisitions within a specified period of time

(d) To perform a **targeted quantity of work** with a budgeted number of staff.

(e) **To meet schedules for completing certain work.**

(i) Scheduled dates for completion of each stage in a product development project in the R&D department

(ii) Scheduled dates for the DP department to complete each stage of a new computer project

(f) **To make a profit**. A service department might be designated as a profit centre. It would charge other departments for the services it provides at a 'commercial' transfer price rate, and it would be expected to earn a 'profit' on the work it does.

3.2.8 Standards for cost or efficiency

Two methods of setting a standard measure of performance in a service department are:

- Standard cost per unit of activity
- Standard quantity of 'output' per unit of resource used up

With both methods, there has to be a measurable quantity or volume of activity in the department. Both types of standard can be employed within a control system, and they are not mutually exclusive.

Examples of standard measures of performance in service departments might be as follows.

(a) In the accounts receivable section of an accounts department, for example, the volume of activity could be measured by:

(i) Number or value of invoices issued
(ii) Number or value of payments received
(iii) The number or value of bad debts

A budget for the section could then establish a standard cost per invoice issued, or a standard cost per £1 received or receivable, or a standard % of bad debts. In addition, there could be standards for the number or value of invoices issued per man/day.

(b) In a sales department, activity could be measured by the number and value of orders taken, the number of customer visits, or the number of miles travelled by sales representatives. There could be a standard cost per customer visit, a standard cost per £1 of sales, and so on. Alternatively, standards could be set for the amount of work done per unit of resource consumed, and in a sales department, such standards include:

(i) Standard number of customer visits per salesperson per day
(ii) Standard number and value of sales per customer visit
(iii) Standard number of miles travelled per £1 of sales

(c) In a transport department, activity could be measured in tonne/miles (tonnes of goods delivered and miles travelled) and standards could be established for:

(i) Cost per tonne/mile
(ii) Drivers' hours per tonne/mile
(iii) Miles per gallon consumed

3.2.9 Measuring and evaluating performance

Once a target, budget or standard has been set, we have a basis for evaluating performance, by comparing actual results against the target.

3.2.10 Selecting measures of performance

Key item(s) of performance to be measured should be identified. Examples include return, growth, productivity, market share, and cost control.

(a) Return can be measured as ROI, RI, profit and so on.

(b) Growth can be measured by sales growth, profit growth, investment spending, capacity fill and so on.

(c) Productivity measures can be applied to machinery as well as labour.

(d) Market position and status, or quality of product/service, could be measured by market research, or through customer responses and complaints.

(e) Cost control involves identifying the nature of the costs that ought to be controlled and comparing actual spending with budget.

This can be applied to the finance function.

(a) **Define the boundaries** of the finance function. Does it include data processing, for example, or inventory control or treasury management?

(b) **Define formal objectives** for the function as a whole, and then for each main section, for supervisory and managerial staff and for the operation of systems (for example payroll).

(c) Ascertain what **activities** each section does (or should do) to achieve its objectives.

(d) **Identify appropriate measures**, on the basis of the objectives and activities identified. The 'pyramid' approach should be used, with successively more detailed information for successively junior levels of staff.

(e) Select suitable **bases of comparison**. Possibilities are time, budgets, standards or targets, intra-group comparison, or intra-organisational comparison, if verifiably comparable data is available.

Dimension	Type	Example
Competitive performance	Competitor focused	Market share Prices Product features
	Customer focused	Customer retention Customer numbers
Financial performance	Profitability	Profit Working capital cycle
	Liquidity	Bad debts
Quality of service	Reliability	Punctuality Dependability of service and staff
	Responsiveness	Response times Number of phone lines Delivery speed (for goods ordered online or by phone)
	Courtesy	Politeness Respect to customers
	Competence	Staff skill Expertise Knowledge Diligence
	Availability	Product availability Product range
	Accessibility	Ease of finding site
Flexibility	Delivery speed	Customer waiting time Time from customer enquiry to job completion
	Volume	Spare capacity to deal with peak times
	Specification	Number of product lines Range of staff

Dimension	Type	Example
Resource utilisation	Human resources	Labour hours worked Skill levels of work performed by staff grade
	Premises	% of area used for value-adding services, or customer-facing services
Innovation	Cost	Development cost per new product line / service
	Speed	Time taken from: – concept to prototype launch – concept to offered to customers

4 Performance measures for non-profit-making organisations

Performance of **NPMOs** can be measured as follows.

- In terms of inputs and outputs
- By judgement
- By comparison

4.1 Non-profit-making organisations (NPMOs)

NPMOs include private sector organisations such as charities and churches and much of the public sector. Commercial organisations generally have market competition and the profit motive to guide the process of managing resources economically, efficiently and effectively. However, NPMOs **cannot** by definition **be judged by profitability** nor do they generally have to be successful against competition, so other methods of assessing performance have to be used.

A major problem with many NPMOs, particularly government bodies, is that it is **difficult to define their objectives**.

QUESTION

Objectives

One of the objectives of a local government body could be 'to provide adequate street lighting throughout the area'.

(a) How could the 'adequacy' of street lighting be measured?

(b) Assume that other objectives are:

(i) to improve road safety in the area; and
(ii) to reduce crime.

How much does 'adequate' street lighting contribute to each of these aims?

(c) What is an excessive amount of money to pay for adequately lit streets, improved road safety and reduced crime? How much is too little?

ANSWER

Mull over these questions and discuss them in class or with colleagues if possible. It is possible to suggest answers, perhaps even in quantitative terms, but the point is that there are no *easy* answers, and no right or wrong answers.

4.2 How can performance be measured?

Performance is often judged in terms of inputs and outputs. This ties in with the **'value for money'** criteria often used to assess NPMOs.

(a) **Economy** (spending money frugally)

(b) **Efficiency** (getting out as much as possible for what goes in)

(c) **Effectiveness** (getting done, by means of (a) and (b), what was supposed to be done)

Effectiveness is the relationship between an organisation's outputs and its objectives, **efficiency** is the relationship between inputs and outputs, and **economy** means controlling expenditure.

(a) **Multiple objectives**

They tend to have multiple objectives, so that even if they can all be clearly identified it is impossible to say which is the overriding objective.

(b) **Measuring outputs**

Outputs can seldom be measured in a way that is generally agreed to be meaningful. (For example, are good exam results alone an adequate measure of the quality of teaching?) Data collection can be problematic. For example, unreported crimes are not included in data used to measure the performance of a police force.

(c) **Lack of profit measure**

If an organisation is not expected to make a profit, or if it has no sales, indicators such as ROI and RI are meaningless.

(d) **Nature of service provided**

Many not-for-profit organisations provide services for which it is difficult to define a cost unit. For example, what is the cost unit for a local fire service? This problem does exist for commercial service providers but problems of performance measurement are made simple because profit can be used.

(e) **Financial constraints**

Although every organisation operates under financial constraints, these are more pronounced in not-for-profit organisations. For instance, a commercial organisation's borrowing power is effectively limited by managerial prudence and the willingness of lenders to lend, but a local authority's ability to raise finance (whether by borrowing or via local taxes) is subject to strict control by central government.

(f) **Political, social and legal considerations**

(i) Unlike commercial organisations, public sector organisations are subject to strong political influences. Local authorities, for example, have to carry out central government's policies as well as their own (possibly conflicting) policies.

(ii) The public may have higher expectations of public sector organisations than commercial organisations. A decision to close a local hospital in an effort to save costs, for example, is likely to be less acceptable to the public than the closure of a factory for the same reason.

(iii) The performance indicators of public sector organisations are subject to far more onerous legal requirements than those of private sector organisations.

(iv) Whereas profit-seeking organisations are unlikely in the long term to continue services making a negative contribution, not-for-profit organisations may be required to offer a range of services, even if some are uneconomic.

4.3 Solutions

4.3.1 Inputs

Performance can be judged in terms of inputs. This is very common in everyday life. If somebody tells you that their suit cost $750, you would generally conclude that it was an extremely well-designed and

good quality suit, even if you did not think so when you first saw it. The drawback is that you might also conclude that the person wearing the suit had been cheated or was a fool, or you may happen to be of the opinion that no piece of clothing is worth $750. So it is with the inputs and outputs of a not-for-profit organisations.

4.3.2 Judgement

A second possibility is to accept that performance measurement must to some extent be subjective. Judgements can be made by **experts** in that particular not-for-profit activity or by the **persons who fund the activity**.

4.3.3 Comparisons

We have said that most not-for-profit organisations do not face competition but this does not mean that all are unique. Bodies like local governments, health services and so on can judge their performance **against each other** and **against the historical results of their predecessors**. And since they are not competing with each other, there is less of a problem with confidentiality and so **benchmarking** is easier.

In practice, **benchmarking** usually encompasses:

- Regularly comparing aspects of performance (functions or processes) with best practitioners
- Identifying gaps in performance
- Seeking fresh approaches to bring about improvements in performance
- Following through with implementing improvements
- Following up by monitoring progress and reviewing the benefits

4.3.4 Quantitative measures

Unit cost measurements like 'cost per patient day' or 'cost of borrowing one library book' can fairly easily be established to allow organisations to assess whether they are doing better or worse than their counterparts.

Efficiency measurement of inputs and outputs is illustrated in three different situations as follows.

(a) **Where input is fixed**

$$\frac{\text{Actual output}}{\text{Maximum output obtainable for a given input}}$$

25/30 miles per gallon = 83.3% efficiency

(b) **Where output is fixed**

$$\frac{\text{Minimum input needed for a given output}}{\text{Actual input}}$$

55/60 hours to erect scaffolding = 91.7% efficiency

(c) **Where input and output are both variable**

Actual output ÷ actual input	$9,030/7,000 meals = $1.29 per meal
compared with	
standard output ÷ standard input	$9,600/7,500 meals = $1.28 per meal Efficiency = 99.2%

As a further illustration, suppose that at a cost of $40,000 and 4,000 hours (inputs) in an average year two policemen travel 8,000 miles and are instrumental in 200 arrests (outputs). A large number of possibly meaningful measures can be derived from these few figures, as the table below shows.

	$40,000	*4,000 hours*	*8,000 miles*	*200 arrests*
Cost $40,000		$40,000/4,000 = $10 per hour	$40,000/8,000 = $5 per mile	$40,000/200 = $200 per arrest
Time 4,000 hours	4,000/$40,000 = 6 minutes patrolling per $1 spent		4,000/8,000 = ½ hour to patrol 1 mile	4,000/200 = 20 hours per arrest
Miles 8,000	8,000/$40,000 = 0.2 of a mile per $1	8,000/4,000 = 2 miles patrolled per hour		8,000/200 = 40 miles per arrest
Arrests 200	200/$40,000 = 1 arrest per $200	200/4,000 = 1 arrest every 20 hours	200/8,000 = 1 arrest every 40 miles	

These measures **do not necessarily identify cause and effect** (do teachers or equipment produce better exam results?) **or personal responsibility and accountability**. Actual performance needs to be compared as follows.

(a) With standards, if there are any
(b) With similar external activities
(c) With similar internal activities
(d) With targets
(e) With indices
(f) Over time, as trends

Not-for-profit organisations are forced to use a wide range of indicators and can be considered early users of a balanced scorecard approach (covered in Section 8 of this chapter.) 4.3.4.1 Performance measurement in the public sector

In public sector organisations, an increasing volume of information on performance and 'value for money' is produced for internal and external use. The ways in which performance can be measured depends very much upon which organisation is involved.

(a) The first question which would need to be asked is 'what are the **aims** and **objectives** of the organisation?' For example, the objective of Companies House is to maintain and make available records of company reports.

(b) The next question to ask is 'How can we tell if the organisation is **meeting** the objectives?' Quantified information - ie information in the form of numbers - will be useful, and this will consist mainly of output and performance measures and indicators. For these, targets can be set. Any individual organisational unit should have no more than a handful of key targets.

Individual targets are likely to fall under the headings:

(a) **Financial performance targets**
(b) **Volume of output targets**
(c) **Quality of service targets**
(d) **Efficiency targets**

4.4 Performance measurement in central government

Over recent years, much of the work of central government has been reorganised into semi-autonomous **executive agencies**, which we mentioned earlier in the chapter.

The following are examples of targets related to **financial performance** in executive agencies.

(a) **Full cost recovery** (National School of Government, Central Office of Information and others), plus unit cost targets

(b) **Commercial revenue** to offset costs (Met Office)

(c) **Non-Exchequer income** as a **percentage** of **total income** (National Engineering Laboratory)

Targets related to **output** can be difficult to set. In many cases the output of executive agencies is not tangible. For example, Historic Royal Palaces not only deals with visitors, whose numbers can be counted, but is also responsible for maintaining the fabric of royal palaces - an output which is more

difficult to measure. In such cases, performance will be best measured by appraising the **progress** of the **project** as a whole.

Example of **quality** targets set for executive agencies include the following.

(a) **Timeliness**

(i) Time to handle applications
(ii) Car driving tests to be reduced to 6 weeks nationally (Driving Standards Agency)

(b) **Quality of product**

(i) Number of print orders delivered without fault (HMSO)
(ii) 95% business complaints handled within 5 days
(iii) 85% overall customer satisfaction rating

Efficiency improvements may come through reducing the cost of inputs without reducing the quality of outputs. Alternatively, areas of activity affecting total costs may be reduced. Targets related to **efficiency** include the following.

(a) **Percentage reduction** in **price paid** for purchases of stationery and paper
(b) Reduction in the ratio of **cost of support services** to **total cost**
(c) 8.7% **efficiency increase** in the use of **accommodation**

4.5 Performance measurement in local government

The performance measures chosen by local authorities usually consist of **comparative statistics** and **unit costs**. Reporting on comparative statistics was recommended by the Department of the Environment in its code of practice *Local authority Annual Reports* (1982).

The following list illustrates the types of comparative statistics suggested in the code of practice.

PERFORMANCE MEASURES IN LOCAL GOVERNMENT	
For the authority's total expenditure and for each function	Net cost per 1,000 population Manpower per 1,000 population
Primary education, secondary education	Pupil/teacher ratio Cost per pupil
School meals	Revenue/cost ratio Pupils receiving free meals as a proportion of school roll
Home helps	Contract hours per 1,000 population over 65
Police	Population per police officer Serious offences per 1,000 population
Fire	Proportion of area at high risk
Public transport	Passenger journeys per week per 1,000 population
Highways	Maintenance cost per kilometre

5 Management performance measures

Possible management performance measures include the following.

- Subjective measures
- Judgement of outsiders
- Upward appraisal
- Accounting measures

We have not so far **distinguished between measures of performance of individual managers** and **measures of performance of what it is they manage**

The distinction is very important. A manager may improve performance of a poorly performing division, but the division could still rank as one of the poorest performing divisions within the organisation. If the manager is assessed purely on the division's results then he will not appear to be a good performer.

The problem is deciding which performance measures should be used to measure management performance and which should be used to measure the performance of the business.

It is difficult to devise performance measures that relate specifically to a manager to judge his or her performance **as a manager**. It is possible to calculate statistics to assess the manager as an **employee** (days absent, professional qualifications obtained, personality and so on), but this does not measure managerial performance.

It is necessary to consider a manager in relation to his or her **area of responsibility**. If we want to know how good a manager is at marketing, the marketing performance of his or her division is the **starting point**. Then we must consider to what extent the manager is able to **influence** the performance, and the performance **trend.**

It is unreasonable to assess managers' performance in relation to matters that are beyond their control. Management performance measures should therefore **only include those items that are directly controllable by the manager in question.**

5.1 Possible management performance measures

Measures	Detail
Subjective measures	An example is ranking performance on a scale of 1 to 5. This approach is imprecise but does measure managerial performance rather than divisional performance. The process must be perceived by managers to be fair. The judgement should be made by somebody impartial, but close enough to the work of each manager to appreciate the efforts he has made and the difficulties he faces.
Judgement of outsiders	An organisation might, for example, set up a bonus scheme for directors under which they would receive a bonus if the share price outperforms the FT-SE 100 index for more than three years. This is fair in that the share price reflects many aspects of performance, but it is questionable whether they can all be influenced by the directors concerned.
Upward appraisal	This involves staff giving their opinions on the performance of their managers. To be effective this requires healthy working relationships.
Accounting measures	These can be used, but must be tailored according to what or whom is being judged.

6 Responsibility centre performance measures

6.1 Typical performance measures

In order to ensure that junior managers in an organisation make decisions that are in the best interests of the organisation as a whole, senior managers generally introduce the following systems of performance measures.

Responsibility centre	Manager responsible for?	Financial performance measures
Cost centre	Costs	Variances
Revenue centre	Revenues only	Revenues
Profit centre	Costs and revenues	Controllable profit
Investment centre	Costs, revenues and assets	Return on Investment and Residual Income

We looked at variances in Part D of this Interactive Text, and we are now going to turn our attention to the following performance measures.

(a) Controllable profit
(b) Return on Investment (ROI)
(c) Residual Income (RI)

6.2 Traditional performance measures – cost centres

As we have already seen, variance analysis is often used as a way of measuring the performance of cost centres. Despite giving detailed explanations of why the variances have occurred, variance analysis as a performance indicator does have a number of disadvantages.

(a) It is concerned with controlling costs and inefficiencies in the short term only and may lead to conflict with an organisation's longer-term objectives.

(b) The variances are only as good as the standards on which they are based.

(c) It is not always obvious which managers are responsible for which variances. For example, are direct materials price variances the responsibility of the production manager or the purchasing manager, or both?

6.3 Traditional performance measures – profit centres

Profit centres often use controllable profit statements as a way of measuring the performance of both individual managers and their divisions. A proforma controllable profit statement is shown below.

6.4 Example: controllable profit statement

	Car sales	*Petrol*	*Total*
	$	$	$
Sales	315,000	25,000	340,000
Variable costs			
Plates, tax, MOT	(105,000)		(105,000)
Car valeting cost	(50,000)		(50,000)
Fuel	–	(15,000)	(15,000)
Contribution	160,000	10,000	170,000
Traceable fixed costs			
Fixed cleaning costs for showroom	(6,000)		(6,000)
Wages	(40,000)	(5,000)	(45,000)
Traceable profit	114,000	5,000	119,000
Common costs			
Building maintenance			(12,000)
Management salaries			(35,000)
Budgeted profit			72,000

The main problem with controllable profit statements is in deciding which costs are **controllable** and which costs are **traceable**. The performance of the manager of the division is indicated by the **controllable profit** (and it is on this that he is judged) and the success of the division as a whole is judged on the **traceable profit**.

Consider, for example, depreciation on divisional machinery. Would this be included as a controllable fixed cost or a traceable fixed cost? Because profit centre managers are only responsible for the **costs and revenues** under their control, this means that they do not have control over the investment in non-current assets. The depreciation on divisional machinery would therefore be a **traceable fixed cost** judging the performance of the division, and not of the individual manager.

6.5 Traditional performance measures – investment centres

Managers of investment centres have responsibility for costs, revenues and capital investment. Divisional performance is commonly measured using the following.

(a) **Return on Investment** (ROI)
(b) **Residual Income** (RI)

Return on Investment (ROI) is calculated as follows.

$$\text{ROI} = \frac{\text{Controllable (traceable) profit}}{\text{Controllable (traceable) investment}} \times 100\%$$

Residual Income (RI) is calculated as follows.

RI = Controllable (traceable) profit – imputed interest charge on controllable (traceable) investment

6.6 Example: calculation of ROI and RI

Division M is a division of MR plc. The following data relate to Division M.

Net assets	$20m
Annual profit	$5m
Cost of capital	15% per annum

MR plc is considering two proposals.

Proposal 1

Invest a further $2m in non-current assets to earn an annual profit of $0.40m.

Proposal 2

Dispose of non-current assets at their net book value of $5.5m. This would lead to profits falling by $1m per annum. Proceeds from the disposal of these non-current assets would not be credited to Division M (but to the Holding Company of MR plc instead).

Required

(a) Calculate the current Return on Investment and Residual Income for Division M.

(b) Consider each of the two proposals and show how the Return on Investment and Residual Income would change if these proposals were adopted.

6.7 Solution

(a) **Current Return on Investment**

Return on Investment $= \dfrac{\text{Traceable profit}}{\text{Traceable investment}} \times 100\%$

$= \dfrac{\$5m}{\$20m} \times 100\%$

$= 25\%$

Residual Income
= Traceable profit – imputed interest charge on traceable investment
= $5m – (15% × $20m)
= $5m – $3m
= $2m

The Return on Investment (25%) exceeds the cost of capital (15%) and the residual income is positive (+$2m) and therefore Division M is performing well.

(b) Let us now look at the situations that would arise if proposals 1 and 2 were to be adopted.

Proposal 1

New traceable profit = $5m + $0.4m
= $5.4m

∴ New traceable investment = $20m + $2m
= $22m

∴ **New Return on Investment** $= \dfrac{£5.4m}{£22m} \times 100\%$
= 24.5%

∴ **New Residual Income** = $5.4m – (15% × $22m)
= $5.4m – $3.3m
= $2.1m

Proposal 2

New traceable profit = $5m – $1m
= $4m

New traceable investment = $20m – $5.5m
= $14.5m

∴ **New Return on Investment** $= \dfrac{\$4m}{\$14.5m} \times 100\%$
= 27.6%

∴ **New Residual Income** = $4m – (15% × $14.5m)
= $4m – $2.18m
= $1.82m

6.4 Example: controllable profit statement

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	$	$	$
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Variable costs			
Plates, tax, MOT	(105,000)		(105,000)
Car valeting cost	(50,000)		(50,000)
Fuel	–	(15,000)	(15,000)
Contribution	160,000	10,000	170,000
Traceable fixed costs			
Fixed cleaning costs for showroom	(6,000)		(6,000)
Wages	(40,000)	(5,000)	(45,000)
Traceable profit	114,000	5,000	119,000
Common costs			
Building maintenance			(12,000)
Management salaries			(35,000)
Budgeted profit			72,000

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6.7 Solution

(a) **Current Return on Investment**

Return on Investment $= \dfrac{\text{Traceable profit}}{\text{Traceable investment}} \times 100\%$

$= \dfrac{\$5m}{\$20m} \times 100\%$

$= 25\%$

Residual Income = Traceable profit – imputed interest charge on traceable investment
= $5m – (15% × $20m)
= $5m – $3m
= $2m

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= 27.6%

∴ **New Residual Income** = $4m – (15% × $14.5m)
= $4m – $2.18m
= $1.82m

Summary

	Current	*Proposal 1*	*Proposal 2*
Return on Investment (%)	25	24.5	27.6
Residual Income ($m)	2	2.1	1.82

Based on ROI alone, proposal 2 would appear the best showing a **relative** increase in return when proposal 1 shows a decrease.

However the RI suggests the opposite is true and proposal 1 is best. This is because RI focuses purely on the **absolute** result.

When considering proposal 2, divisional managers should also consider the asset rate of return.

$$\text{Asset rate of return} = \frac{\text{Change in profit}}{\text{Change in investment}}$$

$$= \frac{\$1\text{m}}{\$5.5\text{m}} \times 100\%$$

$$= 18.2\%$$

Since MR plc's current rate of return is 25%, any asset which has a rate of return less than this should be disposed of. It is important to remember, therefore, that whichever proposal is accepted, it should lead to goal congruence.

6.8 Advantages of Return on Investment and Residual Income

Return on Investment is a relative measure, whereas **Residual Income** is an absolute measure. Consequently, Residual Income, as an absolute measure of performance is used to select proposals based on the absolute increase in profits, rather than the relative increases.

This can be demonstrated in the example above where the ROI increases to 29% with proposal 2, but the reality is that Residual Income only increases by an absolute value of $0.2m. Residual Income therefore allows you to select a proposal that will maximise your wealth (in absolute terms).

Residual Income can also be related to the net present value (NPV) of a project, and supports the NPV approach. Therefore, organisations that maximise Residual Income will not necessarily, but are likely to maximise NPV in the long run (and hence shareholder wealth).

6.9 Disadvantages of Return on Investment and Residual Income

These performance measures have a number of common disadvantages.

(a) It can be difficult to identify controllable (traceable) profits.

(b) When organisations value assets at net book value, ROI and RI generally **increase** as assets get older. Consequently, management may hold on to out-of-date plant and machinery.

(c) Both ROI and RI involve a cost of capital figure which must be estimated. The cost of capital is difficult to calculate and is not known with certainty.

(d) Both ROI and RI measure divisional performance based on a single value. Most organisations these days are of such a complex nature that a single figure is unlikely to be adequate for an investment decision.

(e) As a general rule, most investment projects with positive NPVs have correspondingly low ROI and RI figures in early years. This can lead to the project being rejected in the first few years of a new investment, because the payoffs are long term.

7 Non-financial objectives

Non-financial objectives include the welfare of employees and society in general and the fulfilment of responsibilities towards customers and suppliers.

A company may have important **non-financial objectives**, which will limit the achievement of financial objectives. Examples of non-financial objectives are as follows.

(a) **The welfare of employees**

A company might try to provide **good wages and salaries**, comfortable and safe working conditions, good training and career development, and good pensions. If redundancies are necessary, many companies will provide generous redundancy payments, or spend money trying to find alternative employment for redundant staff.

(b) **The welfare of management**

Managers will often take decisions to improve their **own circumstances**, even though their decisions will incur expenditure and so reduce profits. High salaries, company cars and other perks are all examples of managers promoting their own interests.

(c) **The provision of a service**

The major objectives of some companies will include fulfilment of a responsibility to **provide a service** to the public. Examples are the privatised British Telecom and British Gas. Providing a service is of course a key responsibility of government departments and local authorities.

(d) **The fulfilment of responsibilities towards customers**

Responsibilities towards **customers** include providing in good time a product or service of a **quality** that customers expect, and dealing **honestly and fairly** with customers. **Reliable supply arrangements,** also **after-sales service arrangements,** are important.

(e) **The fulfilment of responsibilities towards suppliers**

Responsibilities towards **suppliers** are expressed mainly in terms of **trading relationships**. A company's size could give it considerable power as a buyer. The company should not use its power unscrupulously. Suppliers might rely on getting prompt payment, in accordance with the agreed terms of trade.

(f) **The welfare of society as a whole**

The management of some companies is aware of the role that their company has to play in exercising **corporate social responsibility**. This includes **compliance with applicable laws and regulations** but is wider than that. Companies may be aware of their responsibility to minimise pollution and other harmful 'externalities' (such as excessive traffic) which their activities generate. In delivering 'green' environmental policies, a company may improve its corporate image as well as reducing harmful externality effects. Companies also may consider their **'positive' responsibilities**, for example to make a contribution to the community by local sponsorship.

Other non-financial objectives are growth, diversification and leadership in research and development.

7.1 Financial and non-financial objectives

Non-financial objectives do not negate financial objectives, but they do suggest that the simple theory of company finance, that the objective of a firm is to maximise the wealth of ordinary shareholders, is too simplistic. Financial objectives may have to be compromised in order to satisfy non-financial objectives.

8 The balanced scorecard

The **balanced scorecard** measures performance in four different perspectives: customer satisfaction, financial success, process efficiency and growth.

So far in our discussion we have focussed on performance measurement and control from a financial point of view. Another approach, originally developed by Kaplan and Norton, is the use of what is called a 'balanced scorecard' consisting of a **variety of indicators both financial and non-financial.** This approach has developed over the years and is used by a wide range of companies. Consequently, different terminology may be used by different companies.

The **balanced scorecard approach** is 'An approach to the provision of information to management to assist strategic policy formulation and achievement. It emphasises the need to provide the user with a set of information which addresses all relevant areas of performance in an objective and unbiased fashion. The information provided may include both financial and non-financial elements, and cover areas such as profitability, customer satisfaction, internal efficiency and innovation.'

(CIMA *Official Terminology*)

The balanced scorecard focuses on **four different perspectives**, as follows.

Perspective	Question	Explanation
Customer satisfaction	What do existing and new customers value from us?	Gives rise to targets that matter to customers: cost, quality, delivery, inspection, handling and so on.
Process efficiency	What processes must we excel at to achieve our financial and customer objectives?	Aims to improve internal processes, decision making and resource utilisation.
Growth	Can we continue to improve and create future value?	Considers the business's capacity to maintain its competitive position through the acquisition of new skills and the development of new products.
Financial success	How do we create value for our shareholders?	Covers traditional measures such as growth, profitability and shareholder value but set through talking to the shareholder or shareholders direct.

The scorecard is 'balanced' in the sense that managers are required to think in terms of all four perspectives, to prevent improvements being made in one area at the expense of another.

The types of measure (**key performance indicators**) which may be monitored under each of the four perspectives include the following in the example on the next page. The list is not exhaustive but it will give you an idea of the possible scope of a balanced scorecard approach. The measures selected, particularly within the process efficiency perspective, will vary considerably with the type of organisation and its objectives.

Two examples of how a balanced scorecard might appear are given below. One refers to a restaurant which is a profit-making business. The other refers to a charity. Use these examples to think about how a balanced scorecard may appear in your own workplace.

Balanced Scorecard for a restaurant

Financial Success	
GOALS	**MEASURES (KPI)**
To grow and open new restaurants	New restaurants opened
Profitable	Net profit margins

Customer Satisfaction	
GOALS	**MEASURES (KPI)**
Great service	Excellent results on customer survey
Repeat business	Customers booking to come again
Innovative food	New menus on a regular basis

Process Efficiency	
GOALS	**MEASURES (KPI)**
Timely food delivery	Time from order to delivery
Efficient staff	Processing of food order, few mistakes
Low food wastage	Amount of food discarded

Growth	
GOALS	**MEASURES (KPI)**
Trained staff	Employees with relevant training and qualifications
New menu choices	Number of new dishes introduced

Balanced Scorecard for a charity

Financial Success	
GOALS	**MEASURES (KPI)**
Income from charitable donations	Donations received
Improved margins	Lower costs and/or increased income from all sources

Customer Satisfaction	
GOALS	**MEASURES (KPI)**
Continued donor support	Pledges given and direct debits set up
Donor involvement in initiatives	Fundraising and charity dinners

Process Efficiency	
GOALS	**MEASURES (KPI)**
Reduce overheads	Lower overheads measured by monitoring and accounts
Claim back tax on gift aid	Improved reclaim times for gift aided donation

Growth	
GOALS	**MEASURES (KPI)**
More projects supported	Number of projects given support
More fundraisers	Number of fundraisers recruited
More money pledged	Amount of donations promised

EXAM FOCUS POINT

Key performance indicators should be:

- specific as to profitability
- measurable and distinct
- relevant measuring achievement of a **critical success factor**

Each organisation has to decide which performance measure to use under each heading.

The following **important features** of this approach have been identified.

(a) It looks at both **internal and external matters** concerning the organisation.
(b) It is **related to the key elements of a company's strategy.**
(c) **Financial and non-financial measures** are linked together.

The balanced scorecard approach may be particularly useful for performance measurement in organisations which are unable to use simple profit as a performance measure. For example the **public sector** has long been forced to use a **wide range of performance indicators**, which can be formalised with a balanced scorecard approach.

QUESTION

Balanced scorecard

For each of the following performance indicators, identify one balanced scorecard perspective being measured.

(a) Labour cost per unit manufactured
(b) Asset turnover
(c) Training expenditure as a percentage of sales turnover
(d) Return on capital employed
(e) Percentage of on-time deliveries
(f) Percentage of turnover generated by new products
(g) Percentage of quality control rejects

ANSWER

(a) Process efficiency (the improvement of internal processes)
(b) Process efficiency (the intensity of asset usage)
(c) Growth or possibly process efficiency
(d) Financial success
(e) Customer satisfaction, or possibly process efficiency
(f) Growth
(g) Process efficiency, or possibly customer satisfaction

8.1 Advantages and disadvantages

As with all techniques, problems can arise when it is applied.

Advantages	Explanation
All four perspectives considered by managers	Managers need to look at both **internal** and **external** matters affecting the organisation. They also need to link together **financial** and **non-financial** measures. Therefore they can see how factors in one area affect all other areas.
Consistency between objectives, control systems and staff	It can be difficult to incorporate objectives into control systems such as budgets. So targets set by a budget, say, may conflict with objectives. Moreover, staff may put their own interpretation on objectives against the actual intention of the original objective. The balanced scorecard should improve communication between different levels of the organisation. The balanced scorecard strives to keep all of these factors in balance.

Disadvantages	Explanation
Conflicting measures	Some measures in the scorecard such as research funding and cost reduction may naturally conflict. It is often difficult to determine the balance which will achieve the best results.
Selecting measures	Not only do appropriate measures have to be devised but the number of measures used must be agreed. Care must be taken that the impact of the results is not lost in a sea of information.
Expertise	Measurement is only useful if it initiates appropriate action. Non-financial managers may have difficulty with the usual profit measures. With more measures to consider this problem will be compounded.
Interpretation	Even a financially-trained manager may have difficulty in putting the figures into an overall perspective.

9 Benchmarking

Benchmarking is an attempt to identify best practices and by comparison of operations to achieve improved performance.

Benchmarking is another type of comparison exercise through which an organisation attempts to improve performance.

The idea is to seek the best available performance against which the organisation can monitor its own performance.

KEY TERM

CIMA's *Official Terminology* defines **benchmarking** as 'The establishment, through data gathering, of targets and comparators, through whose use relative levels of performance (and particularly areas of underperformance) can be identified. By the adoption of identified best practices it is hoped that performance will improve.'

CIMA lists four types of benchmarking.

Type	Description
Internal benchmarking	A method of comparing one operating unit or function with another within the same industry
Functional benchmarking	Internal functions are compared with those of the best external practitioners of those functions, regardless of the industry they are in (also known as **operational** or **generic** benchmarking)
Competitive benchmarking	Information is gathered about direct competitors, through techniques such as reverse engineering*
Strategic benchmarking	A type of competitive benchmarking aimed at strategic action and organisational change

* **Reverse engineering**: buying a competitor's product and dismantling it, in order to understand its content and configuration

From this list you can see that a benchmarking exercise **does not necessarily have to involve the comparison of operations with those of a competitor**. Indeed, it might be difficult to persuade a direct competitor to part with any information which is useful for comparison purposes. Functional benchmarking, for example, does not always involve direct competitors. For instance a railway company may be identified as the 'best' in terms of on-board catering, and an airline company that operates on different routes could seek opportunities to improve by sharing information and comparing their own catering operations with those of the railway company.

A 1994 survey of *The Times* Top 1,000 companies (half of which were in manufacturing) revealed that the business functions most subjected to benchmarking in the companies using the technique were **customer services, manufacturing, human resources and information services.**

9.1 Obtaining information

Financial information about competitors is **easier** to acquire than non-financial information. Information about **products** can be obtained from **reverse engineering**, **product literature**, **media comment** and **trade associations**. Information about **processes** (how an organisation deals with customers or suppliers) is more **difficult** to find.

Such information can be obtained from **group companies** or possibly **non-competing organisations in the same industry**.

9.2 Why use benchmarking?

9.2.1 For setting standards

Benchmarking allows **attainable standards** to be established following the examination of both **external and internal information**. If these standards are **regularly reviewed** in the light of information gained through benchmarking exercises, they can become part of a programme of **continuous improvement** by becoming increasingly demanding.

9.2.2 Other reasons

Anna Green, in her article *The Borrowers* in the October 1996 edition of Pass magazine, explains the **benefits** of benchmarking.

(a) Its flexibility means that it can be used in both the public and private sector and by people at different levels of responsibility.

(b) Cross comparisons (as opposed to comparisons with similar organisations) are more likely to expose radically different ways of doing things.

(c) It is an effective method of implementing change, people being involved in identifying and seeking out different ways of doing things in their own areas.

(d) It identifies the processes to improve.

(e) It helps with cost reduction.

(f) It improves the effectiveness of operations.

(g) It delivers services to a defined standard.

(h) It provides a focus on planning.

'Most importantly benchmarking establishes a desire to achieve continuous improvement and helps develop a culture in which it is easier to admit mistakes and make changes.'

CASE STUDY

Two examples can be given of the successful application of benchmarking. One is *British Steel*, which started using benchmarking in 1988, comparing its overall performance against other major steel companies and obtaining detailed data from measurement against other steel plants. At present British Steel benchmarks costs, customer service, quality, reliability and responsiveness.

The second example is *British Airways* which has 'used benchmarking since 1987 to help transform itself from a stodgy, state-controlled enterprise to a leading world airline'. BA staff analyse their own business processes and identify the weakest elements, and then visit direct competitors with checklists and questions. Problems are often found to be shared and competitors are willing to pool information in pursuit of solutions.

Benchmarking works, it is claimed, for the following reasons.

(a) The comparisons are carried out by the managers who have to live with any changes implemented as a result of the exercise.

(b) Benchmarking focuses on improvement in key areas and sets targets which are challenging but 'achievable'. What is *really* achievable can be discovered by examining what others have achieved: managers are thus able to accept that they are not being asked to perform miracles.

Benchmarking has other advantages: it can provide **early warning of competitive disadvantage** and should lead to a greater incidence of **teamworking** and **cross-functional learning.**

QUESTION

Benchmarking

We've looked at the advantages of benchmarking. Can you think of any disadvantages?

ANSWER

- Difficulties in deciding which activities to benchmark
- Identifying the 'best in class' for each activity
- Persuading other organisations to share information
- Successful practices in one organisation may not transfer successfully to another
- The danger of drawing incorrect conclusions from inappropriate comparisons

CHAPTER ROUNDUP

- In a customer-focused organisation, basic **measures for sales** can be supplemented by a host of others including customer rejects/returns: total sales.
- Performance measures for **materials** and **labour** include **variances.**
- Performance can be measured using the **standard hour.**
- **Efficiency**, **activity** and **capacity ratios** provide useful information.
- Performance measures covering the following **six 'dimensions'** have been suggested for service organisations.
  - Competitive performance
  - Financial performance
  - Quality of service
  - Flexibility
  - Resource utilisation
  - Innovation
- Performance of **NPMOs** can be measured as follows.
  - In terms of inputs and outputs
  - By judgement
  - By comparison
- Possible **management performance measures** include the following.
  - Subjective measures
  - Judgement of outsiders
  - Upward appraisal
  - Accounting measures
- **Non-financial objectives** include the welfare of employees and society in general and the fulfilment of responsibilities towards customers and suppliers.
- The **balanced scorecard** measures performance in four different perspectives: customer satisfaction, financial success, process efficiency and growth.
- Benchmarking is an attempt to identify best practices and by comparison of operations to achieve improved performance

QUICK QUIZ

1 What does the performance measure 'deliveries late: deliveries on schedule' indicate?

2 Suggest a measure for assessing machine usage and efficiency.

3 How is the efficiency ratio calculated?

4 What are the three aspects of flexibility?

5 What does 'economy' mean in terms of measuring the performance of an NPMO?

6 In the context of a balanced scorecard approach to performance measurement, to which of the four perspectives does each measure relate?

	Performance measure	*Perspective*
(a)	Time taken to develop new products	.....
(b)	Percentage of on-time deliveries	.....
(c)	Average set-up time	.....
(d)	Return on capital employed	.....

7 To which perspective of the balanced scorecard could the measure 'training day per employee' be most appropriately applied?

A Customer
B Internal
C Growth
D Financial

ANSWERS TO QUICK QUIZ

1 The efficiency of production and production scheduling.

2 Machine down time: total machine hours

3 (Standard hours produced ÷ actual hours worked) × 100%

4 Speed of delivery, ability to respond to customers' specifications and coping with demand.

5 Spending money frugally

6 (a) Growth
(b) Customer
(c) Internal
(d) Financial

7 C

Now try ...

Attempt the questions below from the **Exam Question Bank**

Number

Q105 – Q109