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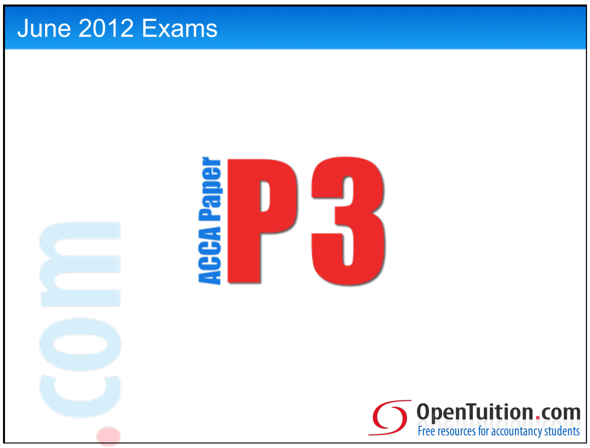
ACCA QUALIFICATION
COURSE NOTES

Paper
P3

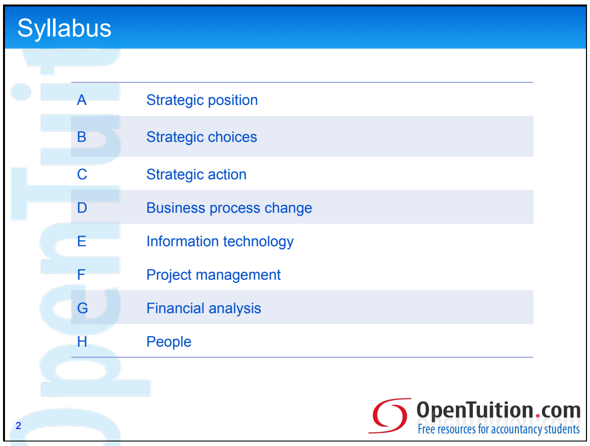
BUSINESS ANALYSIS

JUNE 2012 EXAMINATIONS



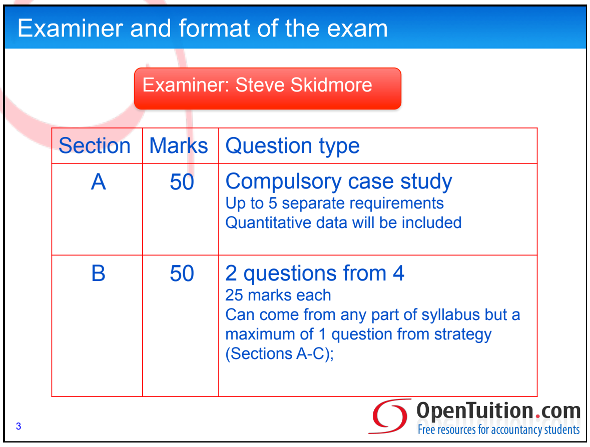
June 2012 Exams

ACCA Paper P3



Syllabus

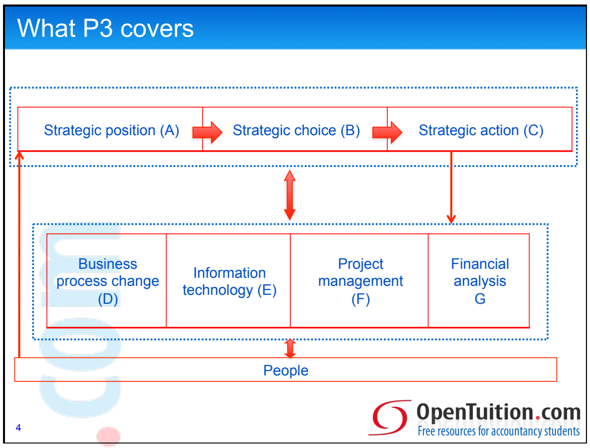
A	Strategic position
B	Strategic choices
C	Strategic action
D	Business process change
E	Information technology
F	Project management
G	Financial analysis
H	People



Examiner and format of the exam

Examiner: Steve Skidmore

Section	Marks	Question type
A	50	Compulsory case study Up to 5 separate requirements Quantitative data will be included
B	50	2 questions from 4 25 marks each Can come from any part of syllabus but a maximum of 1 question from strategy (Sections A-C);



What P3 covers

Strategic position (A) → Strategic choice (B) → Strategic action (C)

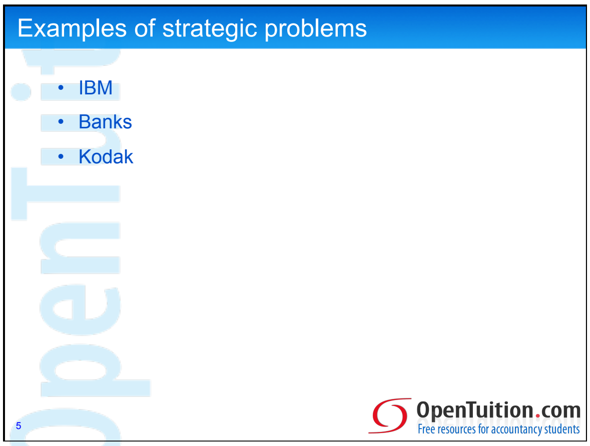
Business process change (D)

Information technology (E)

Project management (F)

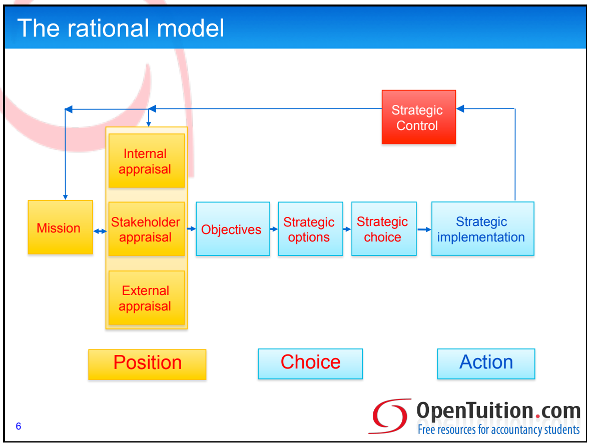
Financial analysis G

People



Examples of strategic problems

- IBM
- Banks
- Kodak



The rational model

Strategic Control

Mission

Internal appraisal

Stakeholder appraisal

External appraisal

Objectives

Strategic options

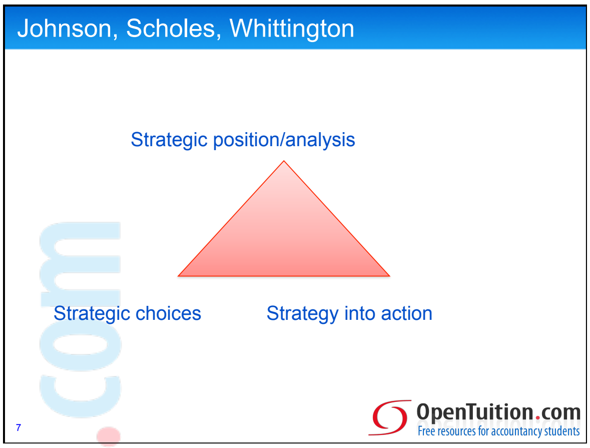
Strategic choice

Strategic implementation

Position

Choice

Action

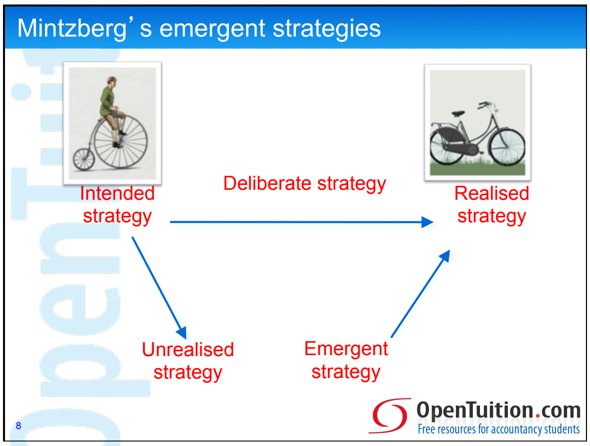


Johnson, Scholes, Whittington

Strategic position/analysis

Strategic choices

Strategy into action



Mintzberg' s emergent strategies

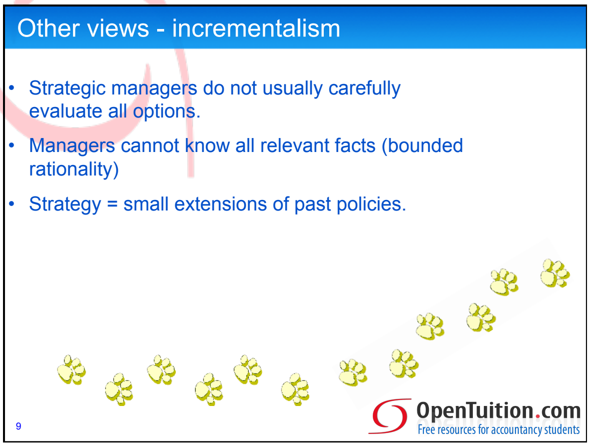
Intended strategy

Deliberate strategy

Realised strategy

Unrealised strategy

Emergent strategy

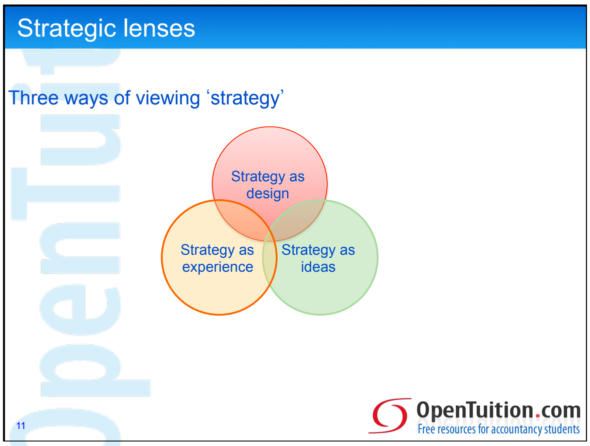


Other views - incrementalism

- Strategic managers do not usually carefully evaluate all options.
- Managers cannot know all relevant facts (bounded rationality)
- Strategy = small extensions of past policies.

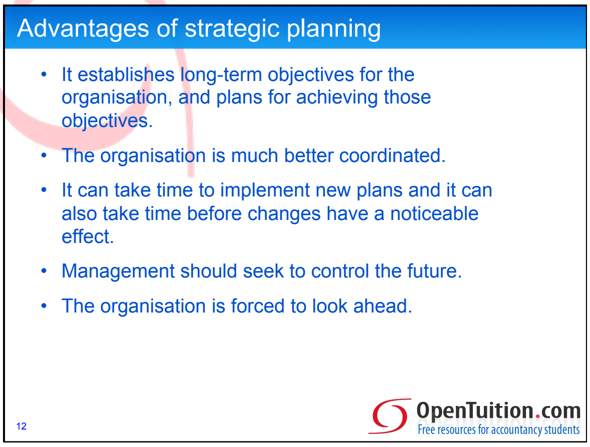
Other views – freewheeling opportunism

- Do not like planning
- Often entrepreneurs
- Grab opportunities as they arise



Strategic lenses

Three ways of viewing 'strategy'



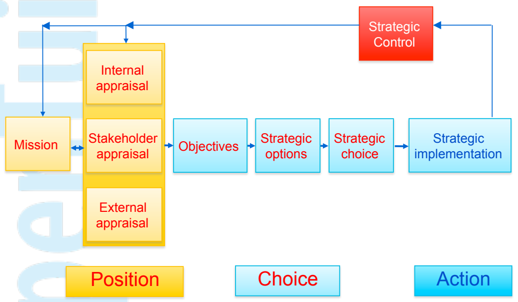
Advantages of strategic planning

- It establishes long-term objectives for the organisation, and plans for achieving those objectives.
- The organisation is much better coordinated.
- It can take time to implement new plans and it can also take time before changes have a noticeable effect.
- Management should seek to control the future.
- The organisation is forced to look ahead.

Potential disadvantages of strategic planning

- Too much time spent planning and not enough time spent on action – 'paralysis by analysis.
- Inflexibility. No plan will remain appropriate over five years. It is essential to be prepared to abandon inappropriate parts of the plan and to take up new opportunities which might present themselves.
- Planning has a cost in time and money, which can become too high if not monitored.

The Rational Model



Mission

Mission = the purpose of the organisation

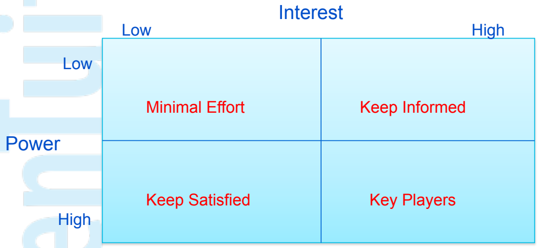
Mission statement:

- Purpose
- Position
- Values
- Culture
- Ethics

Stakeholders

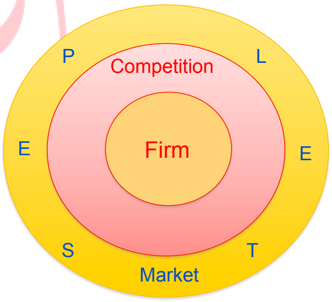
- Anyone affected by the organisation
  - Shareholders
  - Employees
  - Managers
  - Suppliers
  - Customers
  - Local people
  - Government
  - Lenders

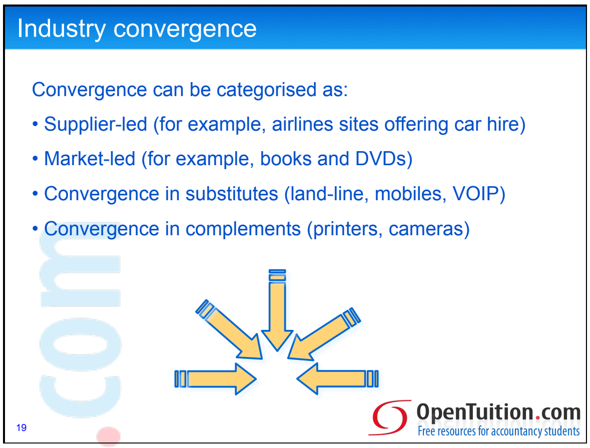
Mendelow’s Matrix



		Interest	
		Low	High
Power	Low	Minimal Effort	Keep Informed
	High	Keep Satisfied	Key Players

The Environment - PESTEL

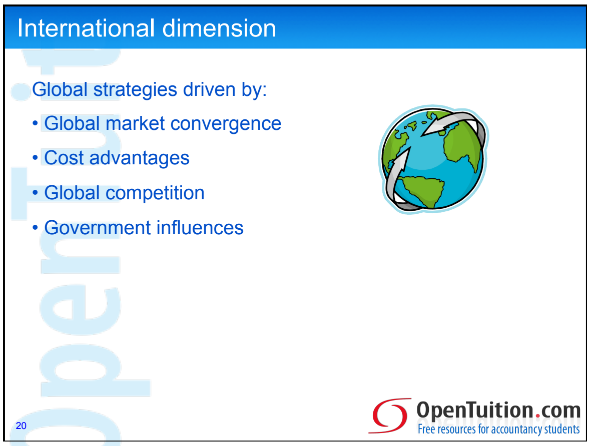




Industry convergence

Convergence can be categorised as:

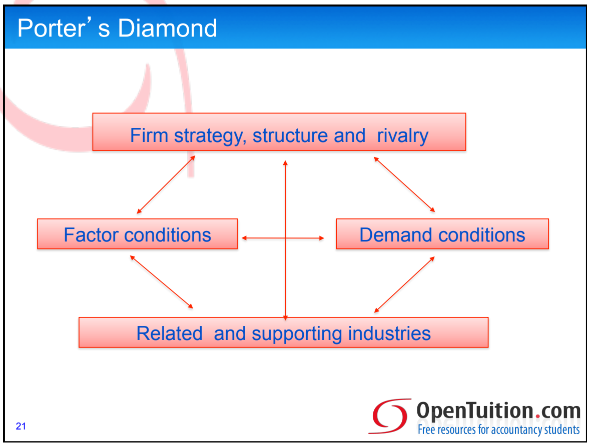
- Supplier-led (for example, airlines sites offering car hire)
- Market-led (for example, books and DVDs)
- Convergence in substitutes (land-line, mobiles, VOIP)
- Convergence in complements (printers, cameras)



International dimension

Global strategies driven by:

- Global market convergence
- Cost advantages
- Global competition
- Government influences



Porter’ s Diamond

Firm strategy, structure and rivalry

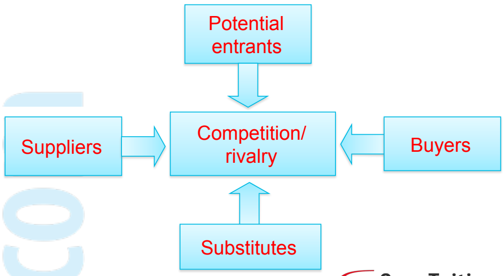
Factor conditions

Demand conditions

Related and supporting industries

Porter's 5 Forces – industry attractiveness

Applied to industry sectors: how attractive is an industry sector? How easy is it to make good profits?


Potential entrants

Suppliers

Competition/ rivalry

Buyers

Substitutes

Strategic capability

- Capability = resources + competences
- Strategic capability: threshold capabilities, and capabilities for competitive advantage.
- Threshold capabilities = minimum capabilities needed for the organisation to be able to compete
- To do really well you need capabilities for competitive advantage:
  - unique resources
  - core competencies: ways in which an organisation uses its resources better than its competitors, and in ways that others cannot imitate or obtain.

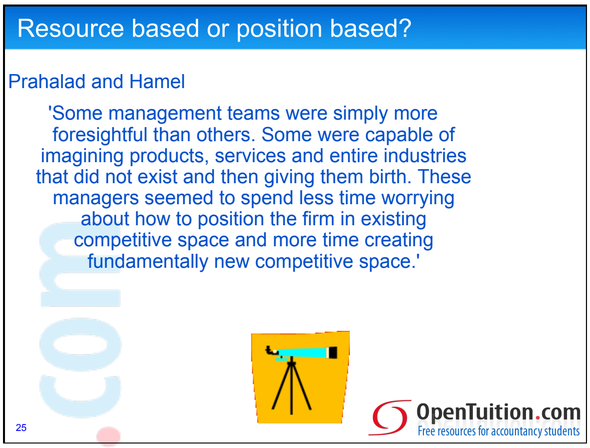
Resource based or position based?

Prahalad and Hamel

- Position-based: the strategist focuses on the environment. What's happening? React to that.
- Resource-based: the strategist should focus on resources and competences. Such a combination of resources and competences takes years to develop and can be hard to copy.

The future is not just something that 'happens' to organisations.

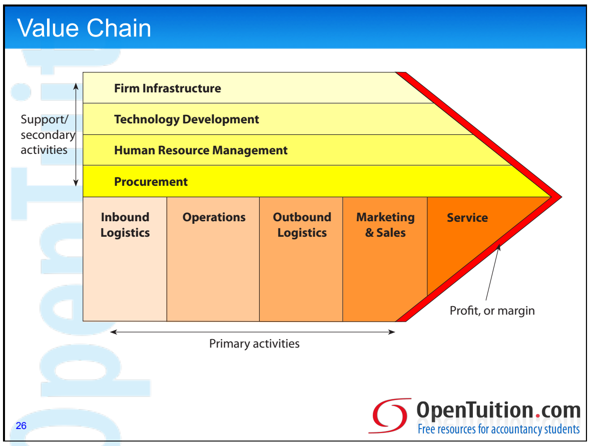
Organisations can 'create' the future.



Resource based or position based?

Prahalad and Hamel

'Some management teams were simply more foresightful than others. Some were capable of imagining products, services and entire industries that did not exist and then giving them birth. These managers seemed to spend less time worrying about how to position the firm in existing competitive space and more time creating fundamentally new competitive space.'



Value Chain

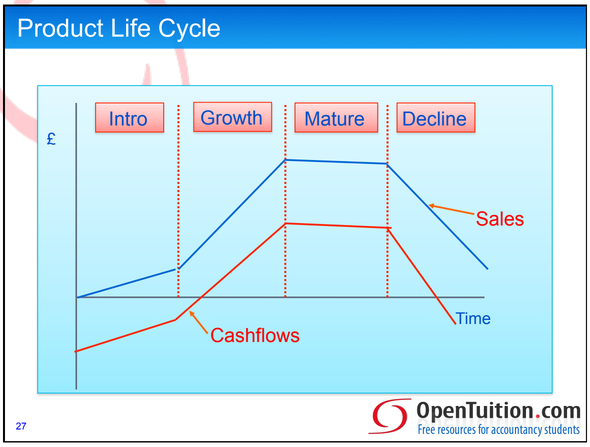
Support/ secondary activities

- Firm Infrastructure
- Technology Development
- Human Resource Management
- Procurement

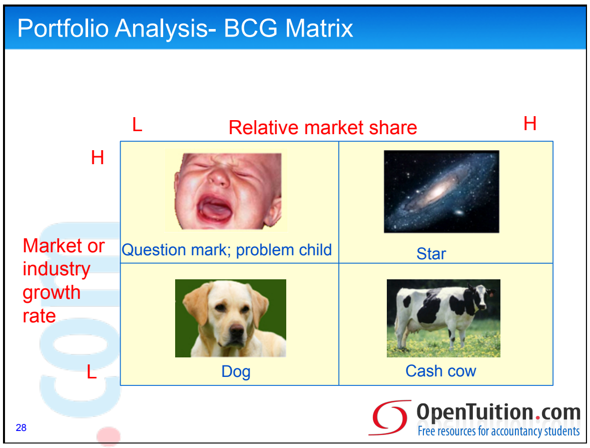
Inbound Logistics | Operations | Outbound Logistics | Marketing & Sales | Service

Primary activities

Profit, or margin



Product Life Cycle



Portfolio Analysis- BCG Matrix

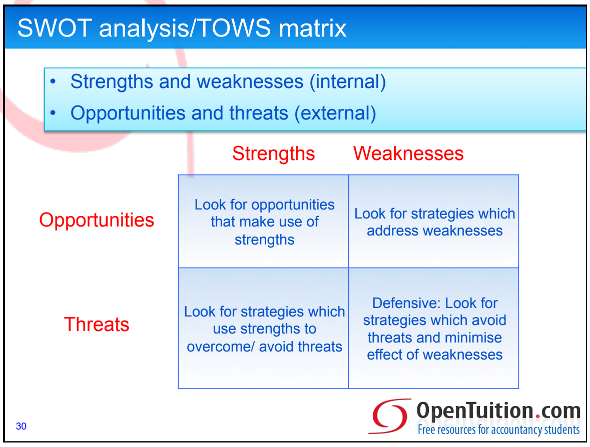
Relative market share

Market or industry growth rate

	L	H
H	Question mark; problem child	Star
L	Dog	Cash cow

Resources

- Money
- Manpower
- Management
- Manufacturing
- Markets
- Marketing
- Material



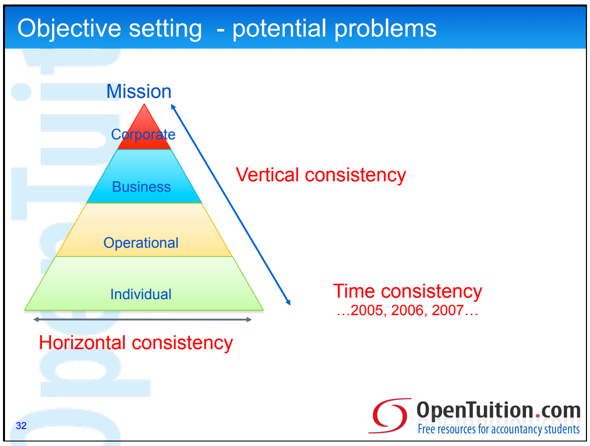
SWOT analysis/TOWS matrix

- Strengths and weaknesses (internal)
- Opportunities and threats (external)

	Strengths	Weaknesses
Opportunities	Look for opportunities that make use of strengths	Look for strategies which address weaknesses
Threats	Look for strategies which use strengths to overcome/ avoid threats	Defensive: Look for strategies which avoid threats and minimise effect of weaknesses

SMART objectives

- Stated/specific
- Measurable
- Achievable/agreed/accepted
- Relevant
- Time-limited



Objective setting - potential problems

Mission

Corporate

Business

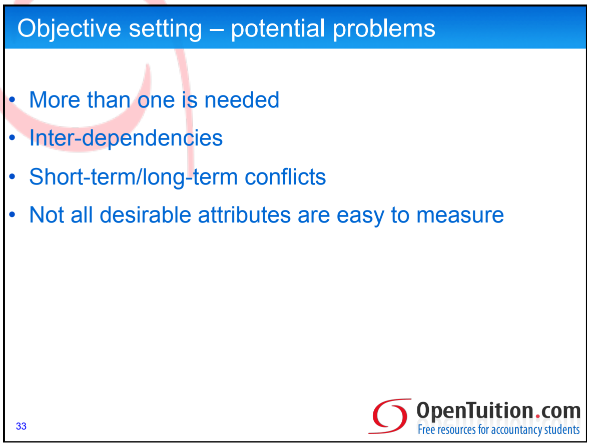
Operational

Individual

Vertical consistency

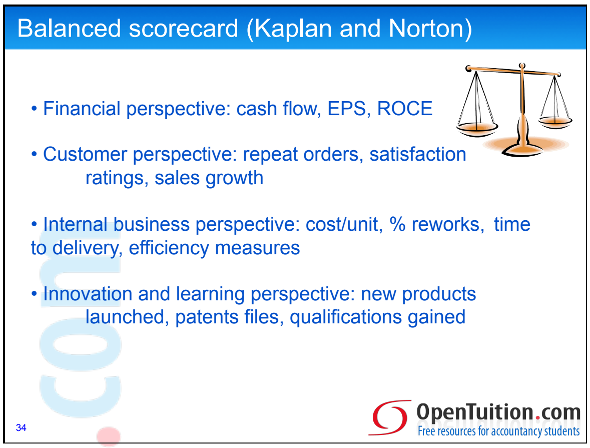
Time consistency
…2005, 2006, 2007…

Horizontal consistency



Objective setting – potential problems

- More than one is needed
- Inter-dependencies
- Short-term/long-term conflicts
- Not all desirable attributes are easy to measure



Balanced scorecard (Kaplan and Norton)

- Financial perspective: cash flow, EPS, ROCE
- Customer perspective: repeat orders, satisfaction ratings, sales growth
- Internal business perspective: cost/unit, % reworks, time to delivery, efficiency measures
- Innovation and learning perspective: new products launched, patents files, qualifications gained

Critical success factors

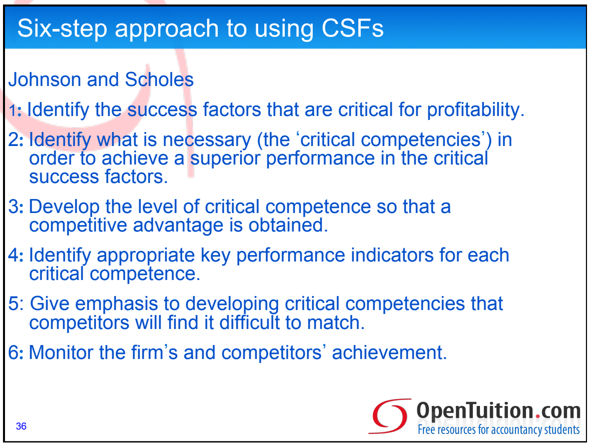
Critical success factors (CSFs)

- Johnson, Scholes & Whittington:

'Those product features that are particularly valued by a group of customers, and, therefore, where the organisation must excel to outperform the competition'

- Or:

Where an organisation must perform well if it is to succeed.



Six-step approach to using CSFs

Johnson and Scholes

1: Identify the success factors that are critical for profitability.

2: Identify what is necessary (the 'critical competencies') in order to achieve a superior performance in the critical success factors.

3: Develop the level of critical competence so that a competitive advantage is obtained.

4: Identify appropriate key performance indicators for each critical competence.

5: Give emphasis to developing critical competencies that competitors will find it difficult to match.

6: Monitor the firm's and competitors' achievement.

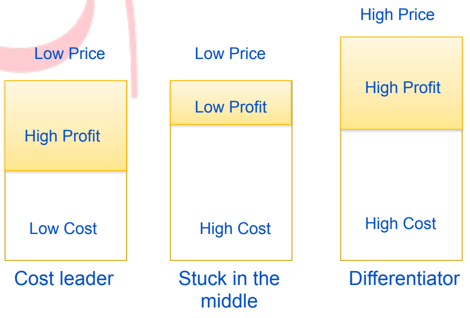
Benchmarking

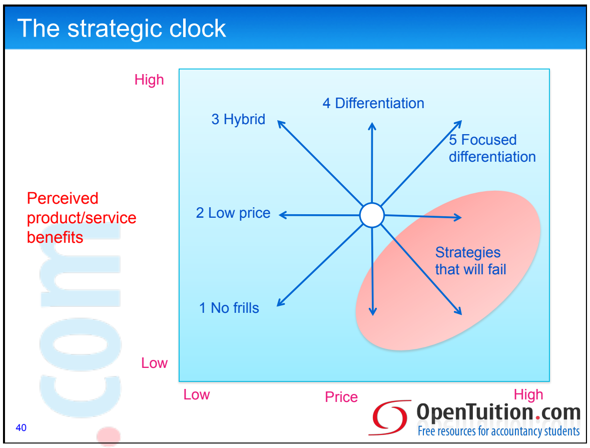
- Internal – compare to internally generated target
- External – compare to other similar organisations
- Best practice – compare to operational practices which produce best results
- Comparability – compare to different businesses

Strategic Options - steps

1. Generic strategies: cost leadership, differentiation, focus
2. Strategic direction: market growth, market development, product development, diversification
3. Methods of growth: organic, acquisition/merger

Porter' s Generic Strategies

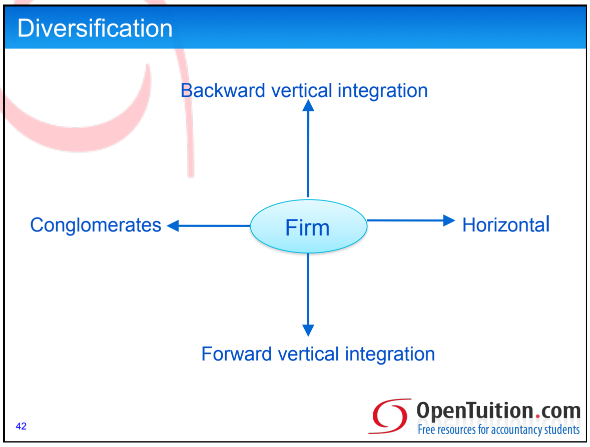




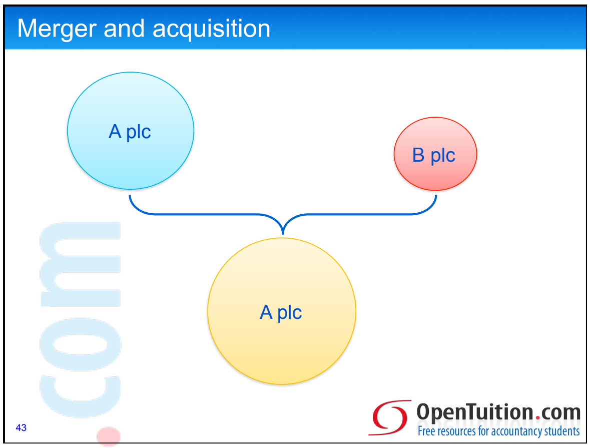
The strategic clock

Ansoff' s Matrix

		PRODUCT	
		Present	New
MARKET	Present	Withdrawal Consolidation Penetration Efficiency gains	Product development
	New	Market development	Diversification • Related • Unrelated



Diversification

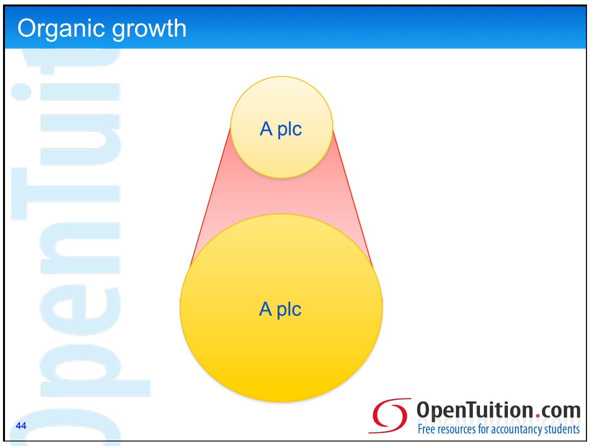


Merger and acquisition

A plc

B plc

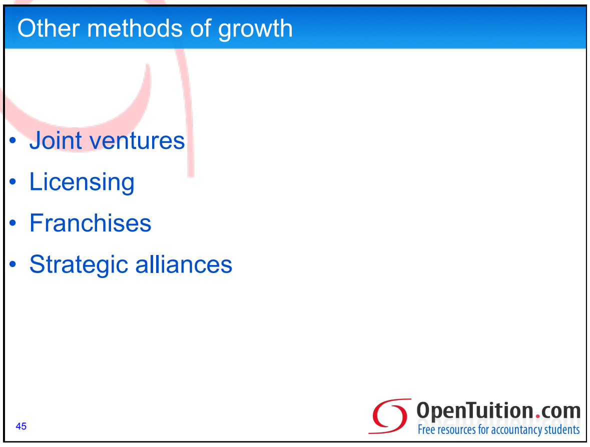
A plc



Organic growth

A plc

A plc



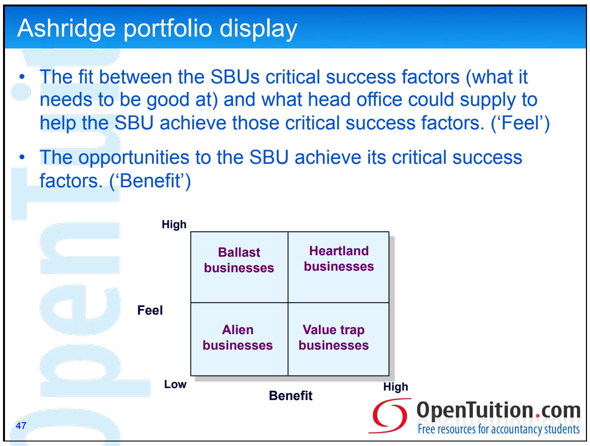
Other methods of growth

- Joint ventures
- Licensing
- Franchises
- Strategic alliances

Portfolio management

Johnson, Scholes and Whittington

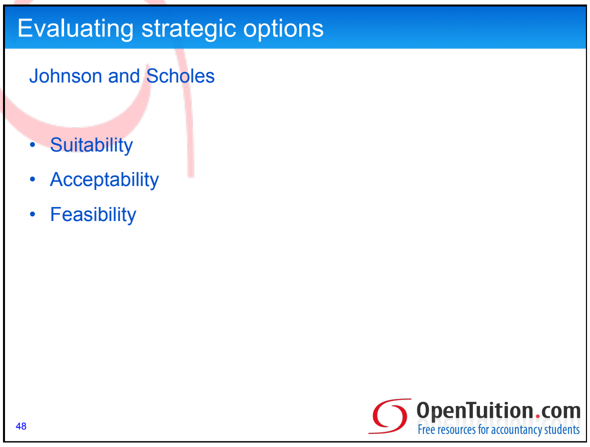
- Portfolio managers.
- Synergy managers.
- Parental developers. As a parent with a child, holding company



Ashridge portfolio display

- The fit between the SBUs critical success factors (what it needs to be good at) and what head office could supply to help the SBU achieve those critical success factors. ('Feel')
- The opportunities to the SBU achieve its critical success factors. ('Benefit')

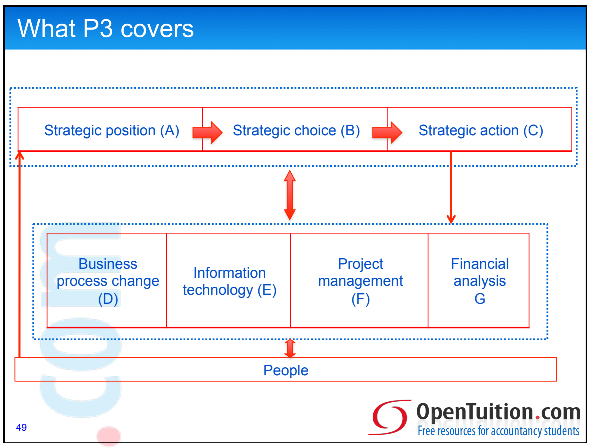
Feel	Low Benefit	High Benefit
High	Ballast businesses	Heartland businesses
Low	Alien businesses	Value trap businesses



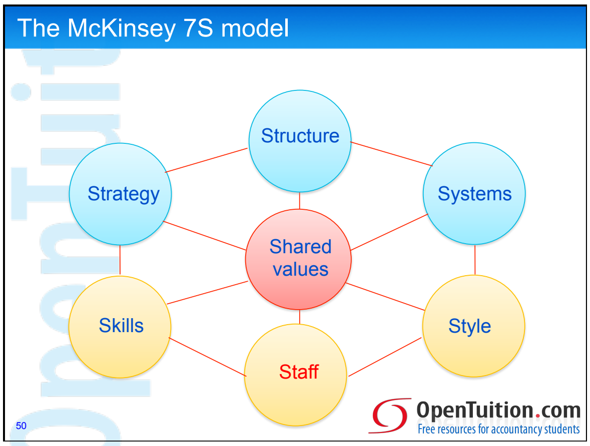
Evaluating strategic options

Johnson and Scholes

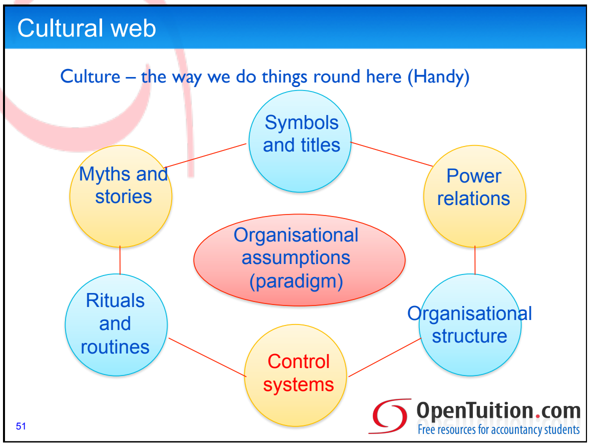
- Suitability
- Acceptability
- Feasibility



What P3 covers



The McKinsey 7S model



Cultural web

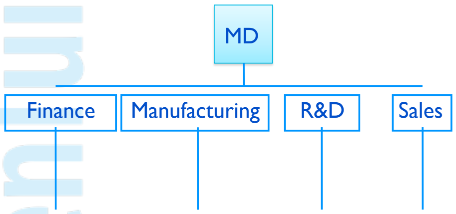
Culture – the way we do things round here (Handy)

Types of culture

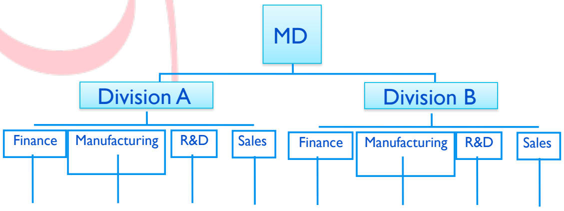
(Charles Handy)

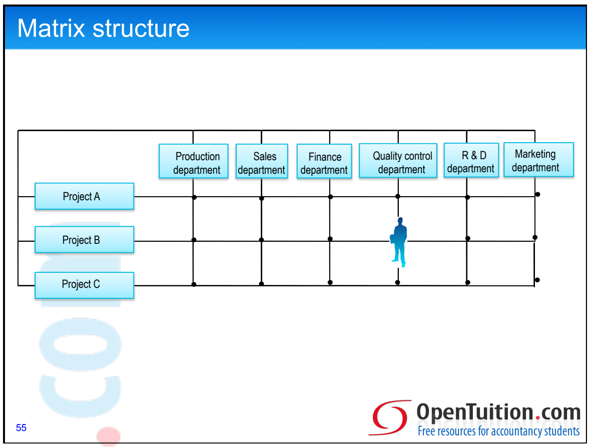
- Power
- Role
- Task
- Person

Functional structure



Divisional structure

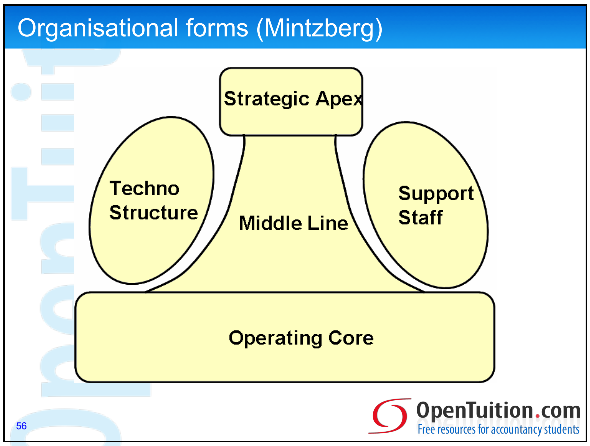




Matrix structure

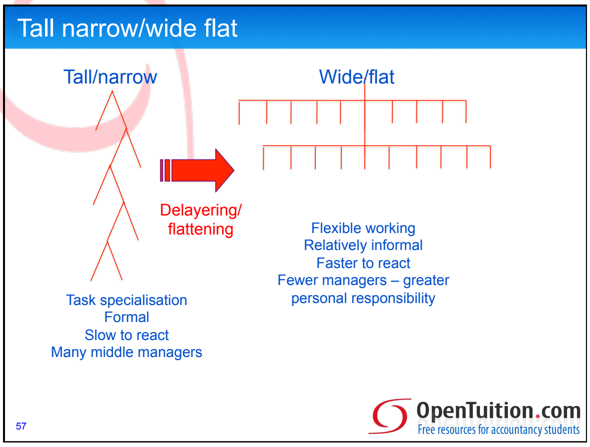
Production department
Sales department
Finance department
Quality control department
R & D department
Marketing department

Project A
Project B
Project C



Organisational forms (Mintzberg)

Strategic Apex
Techno Structure
Middle Line
Support Staff
Operating Core



Tall narrow/wide flat

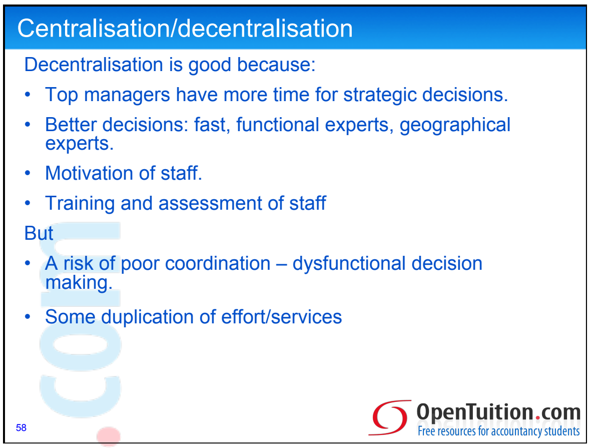
Tall/narrow

Task specialisation
Formal
Slow to react
Many middle managers

Delayering/
flattening

Wide/flat

Flexible working
Relatively informal
Faster to react
Fewer managers – greater personal responsibility



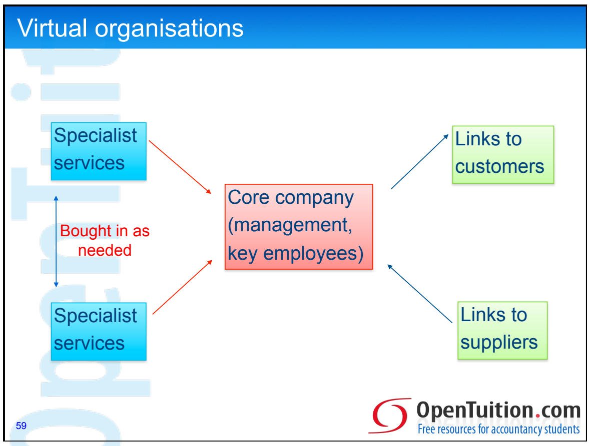
Centralisation/decentralisation

Decentralisation is good because:

- Top managers have more time for strategic decisions.
- Better decisions: fast, functional experts, geographical experts.
- Motivation of staff.
- Training and assessment of staff

But

- A risk of poor coordination – dysfunctional decision making.
- Some duplication of effort/services



Virtual organisations

Specialist services

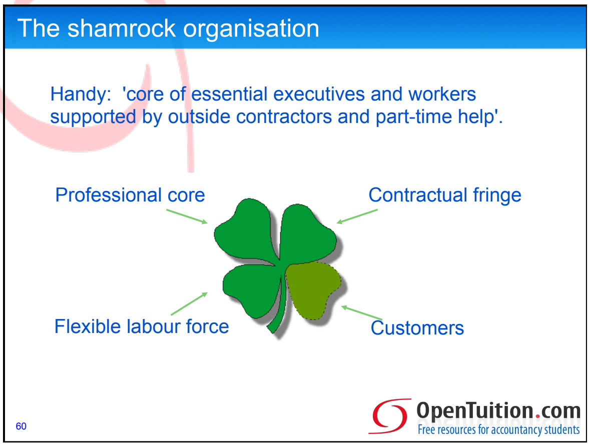
Bought in as needed

Specialist services

Core company (management, key employees)

Links to customers

Links to suppliers



The shamrock organisation

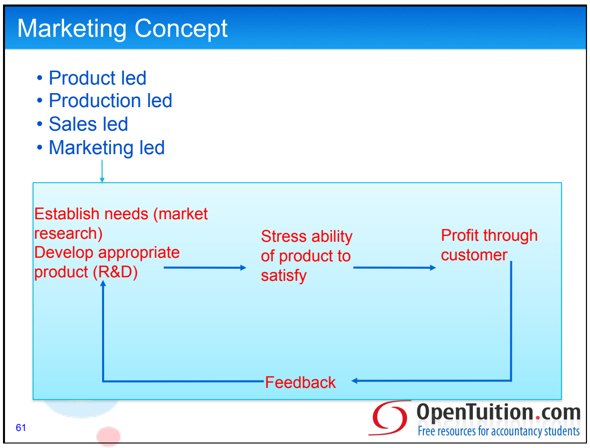
Handy: 'core of essential executives and workers supported by outside contractors and part-time help'.

Professional core

Contractual fringe

Flexible labour force

Customers



Marketing Concept

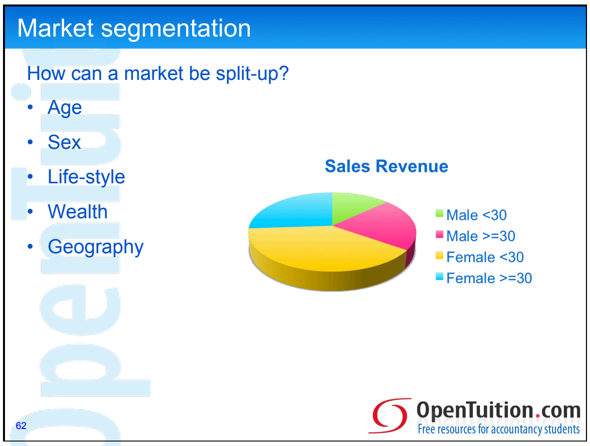
- Product led
- Production led
- Sales led
- Marketing led

Establish needs (market research)
Develop appropriate product (R&D)

Stress ability of product to satisfy

Profit through customer

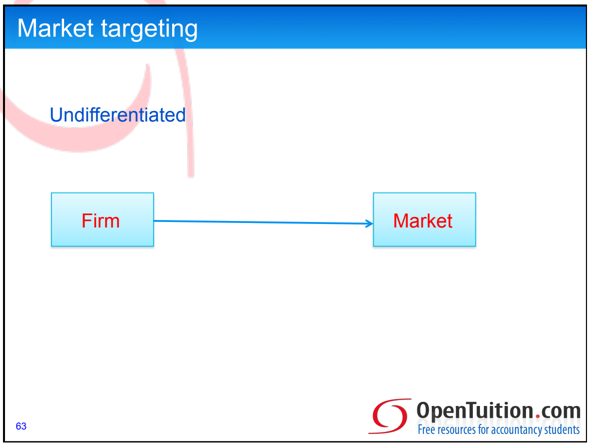
Feedback



Market segmentation

How can a market be split-up?

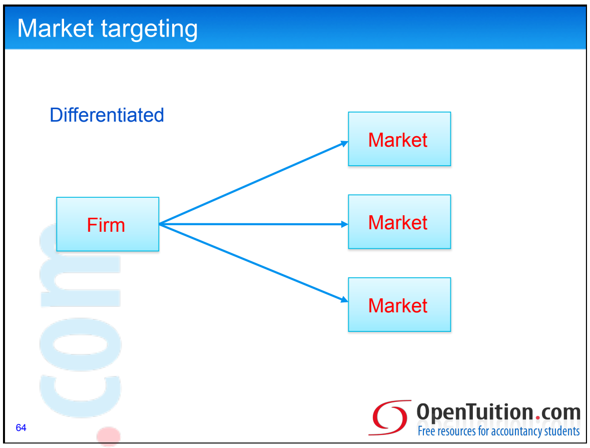
- Age
- Sex
- Life-style
- Wealth
- Geography



Market targeting

Undifferentiated

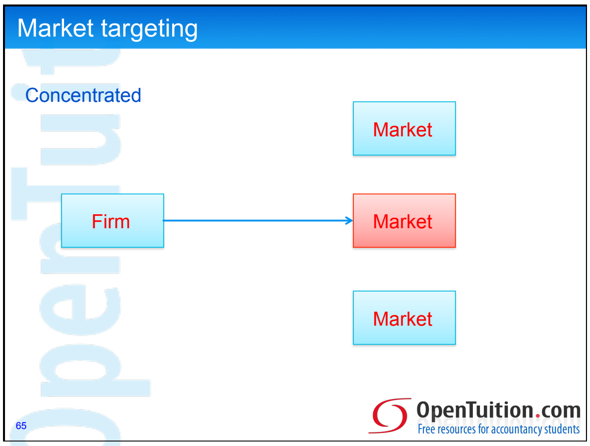
Firm → Market



Market targeting

Differentiated

Firm → Market
Firm → Market
Firm → Market



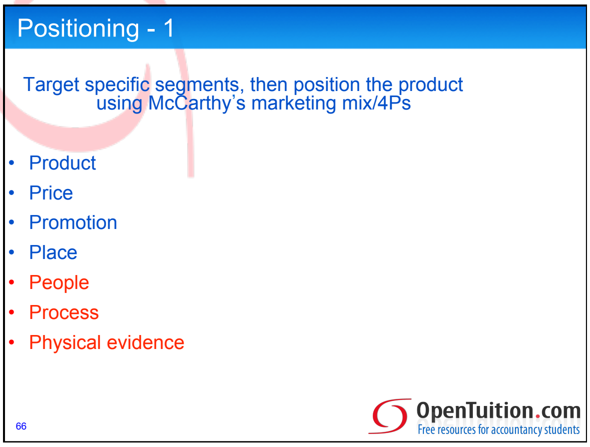
Market targeting

Concentrated

Market

Firm → Market

Market



Positioning - 1

Target specific segments, then position the product using McCarthy's marketing mix/4Ps

- Product
- Price
- Promotion
- Place
- People
- Process
- Physical evidence

Product

- Features
- Quality
- Design
- Brand
- Packaging

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Price

- Price level
- Discounts
- Terms
- Strategic pricing: skimming, penetration, related product pricing

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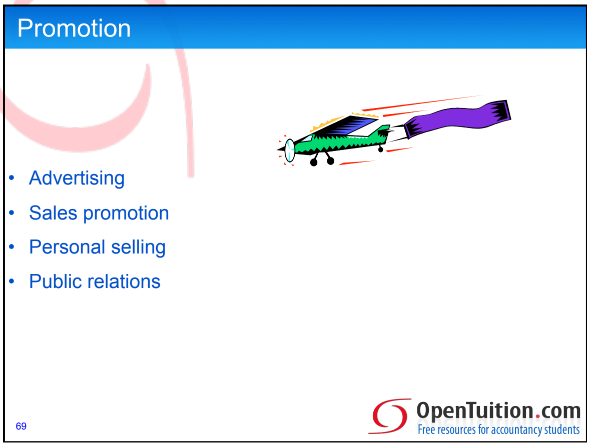

Promotion

- Advertising
- Sales promotion
- Personal selling
- Public relations

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Place

- Length of distribution chain
- Types of goods
- Suitability of outlet

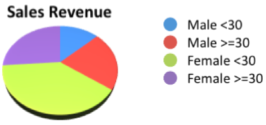
Market(ing) research

Marketing

What do customers want/need/appreciate/respond to?

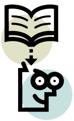
Information is needed, not guess-work, on all of the marketing mix

- Desk research
- Field research
- Test markets



Desk research

- Internal – accounting department
- Internal - data warehousing and data mining
- Government – national and local
- Market research consultancies

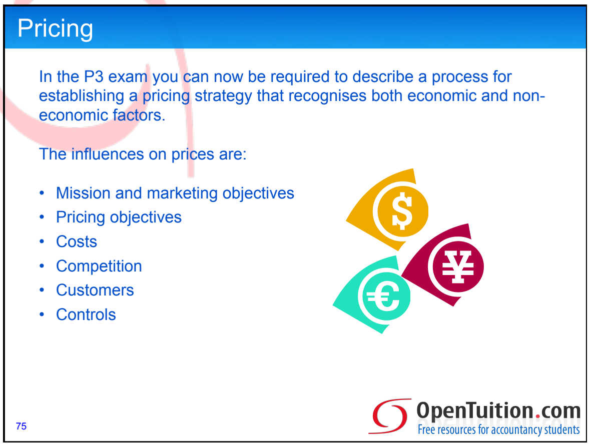


Field research

- Questionnaires – individual/panel
- Product testing
- Observation

Test markets

- Small
- Representative
- Stable
- Suitable facilities



Pricing

In the P3 exam you can now be required to describe a process for establishing a pricing strategy that recognises both economic and non-economic factors.

The influences on prices are:

- Mission and marketing objectives
- Pricing objectives
- Costs
- Competition
- Customers
- Controls

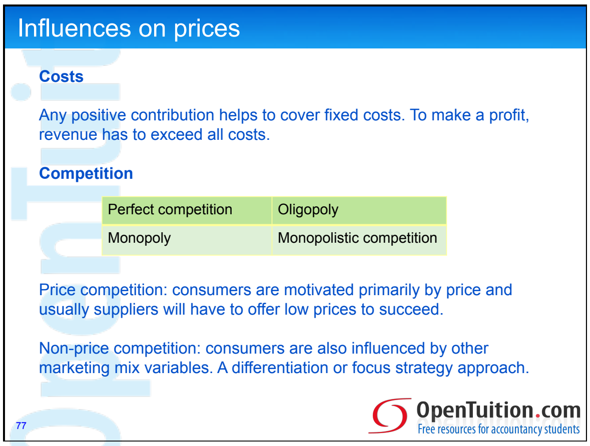
Influences on prices

Mission and marketing objectives

Pricing cannot be separated from mission, because mission sets out the purpose and market position of the organisation.

Pricing objectives

In the shorter term there can be a variety of pricing objectives, such as generating as much cash as possible, or putting competitors under pressure.



Influences on prices

Costs

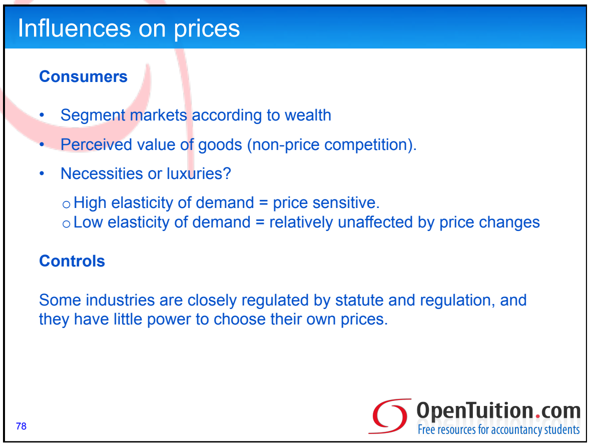
Any positive contribution helps to cover fixed costs. To make a profit, revenue has to exceed all costs.

Competition

Perfect competition	Oligopoly
Monopoly	Monopolistic competition

Price competition: consumers are motivated primarily by price and usually suppliers will have to offer low prices to succeed.

Non-price competition: consumers are also influenced by other marketing mix variables. A differentiation or focus strategy approach.



Influences on prices

Consumers

- Segment markets according to wealth
- Perceived value of goods (non-price competition).
- Necessities or luxuries?
  - High elasticity of demand = price sensitive.
  - Low elasticity of demand = relatively unaffected by price changes

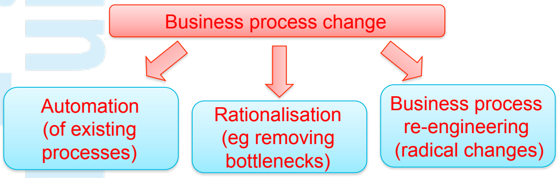
Controls

Some industries are closely regulated by statute and regulation, and they have little power to choose their own prices.

Setting prices

- **Setting prices to maximise profits**
  Marginal cost = Marginal revenue
- **Setting prices to break-even**
- **Cost based pricing**
- **Competition-based pricing**
- **Marketing-orientated pricing**
- **Strategic approaches**

Process change



Business process change

Automation (of existing processes)

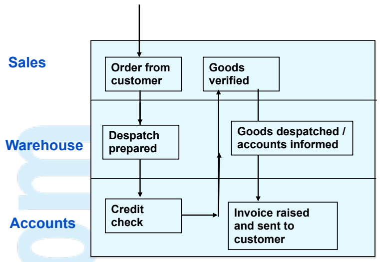
Rationalisation (eg removing bottlenecks)

Business process re-engineering (radical changes)

Business process redesign patterns

- Re-engineering – zero-based
- Simplification – eliminate duplication and redundant steps
- Value-added analysis – remove non-value adding activities
- Gaps and disconnects – check flows between departments

Swim-lane diagrams



Further diagnosis of change

Scope of change

Nature of change

	Realignment	Transformation
Incremental	Adaptation	Evolution
Big bang	Reconstruction	Revolution

Harman's Process-strategy matrix

Strategic importance

Complexity

	Low	High
High	Outsource	BPR and improvement
Low	Automate/outsource	Automate

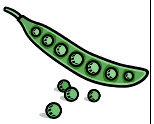
Commoditisation of business processes and outsourcing - 1

Although a trend towards outsourcing there is:

- Perceived lack of comparability between internal processes and the competence of outside suppliers.
- A lack of standardisation so that it is difficult to assess external suppliers.
- Costs perceived as high and benefits difficult to measure.

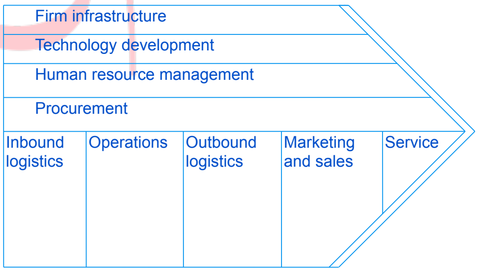
Commoditisation of business processes and outsourcing - 2

Standardisation/commoditisation will improve this eg software development using standard approaches:



- Easier to assess benefits and costs
- Easier to compare suppliers
- As outsourced processes become like commodities, there will be a drop in price

Value Chain



Firm infrastructure

Technology development

Human resource management

Procurement

Inbound logistics

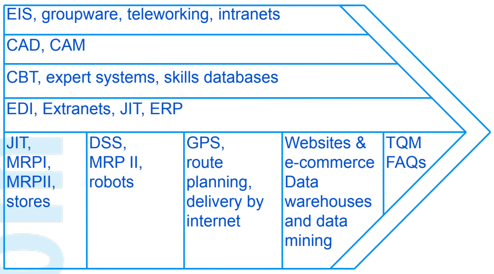
Operations

Outbound logistics

Marketing and sales

Service

Processes, value chain and IT



EIS, groupware, teleworking, intranets

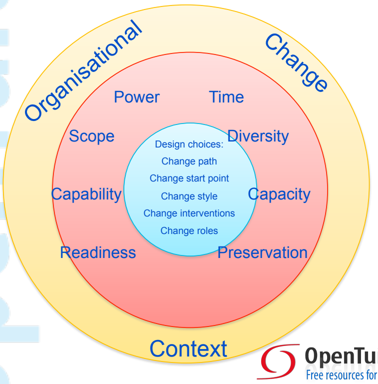
CAD, CAM

CBT, expert systems, skills databases

EDI, Extranets, JIT, ERP

JIT, MRPI, MRPII, stores	DSS, MRP II, robots	GPS, route planning, delivery by internet	Websites & e-commerce Data warehouses and data mining	TQM FAQs

Balogun and Hope Hailey - 1



Balogun and Hope Hailey – Contextual Features

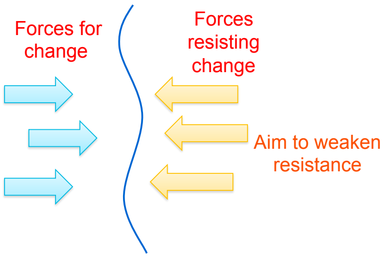
- Time – long time or urgent?
- Scope – how much of organisation affected?
- Preservation – which aspects are to be retained?
- Diversity – recognition of separate sub-cultures
- Capability – do abilities exist to cope with the change?
- Capacity – are resources (time, money) available?
- Readiness – are staff aware of the need for change and committed to that change?
- Power – how much power and authority do the change agents have?

Balogun and Hope Hailey – Design choices

- Change path: timescales, extent of change, outcomes.
- Change start point: where the change is initiated (eg top-down, bottom-up).
- Change style: which management style should be adopted?
- Change interventions: education, communication, cultural interventions
- Change roles: eg consultants, teams

Change management

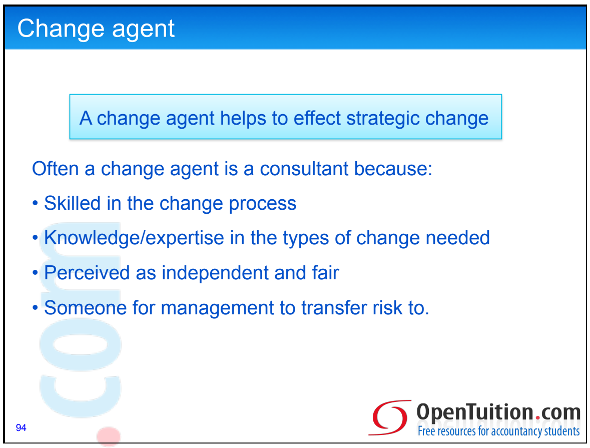
Lewin's force field analysis



Change management

Lewin's three step process

1 Unfreeze
2 Effect the changes
3 Refreeze



Change agent

A change agent helps to effect strategic change

Often a change agent is a consultant because:

- Skilled in the change process
- Knowledge/expertise in the types of change needed
- Perceived as independent and fair
- Someone for management to transfer risk to.

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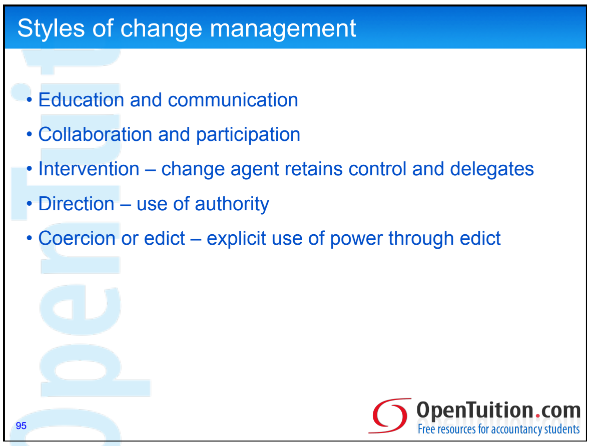

Styles of change management

- Education and communication
- Collaboration and participation
- Intervention – change agent retains control and delegates
- Direction – use of authority
- Coercion or edict – explicit use of power through edict

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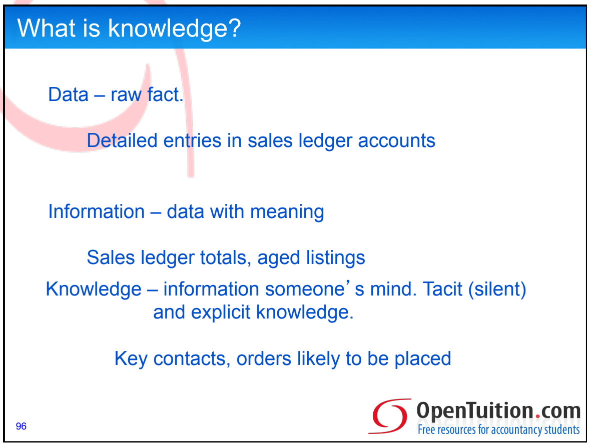

What is knowledge?

Data – raw fact.

Detailed entries in sales ledger accounts

Information – data with meaning

Sales ledger totals, aged listings

Knowledge – information someone's mind. Tacit (silent) and explicit knowledge.

Key contacts, orders likely to be placed

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Knowledge management

- Uncover/discover
- Record
- Distribute
- Lever
- Update

The Internet

- Global network connecting millions of computers
- URLs = uniform resource locator = location of web site
- Marketing, FAQs, sales, information, feedback, e-mail, links, adverts
- Monitor visitors (cookies)
- Firewall needed

E-business evolution (Earl)

- External communication – a web presence
- Internal communications – an intranet
- E-commerce. Buying and selling on-line
- E-business. Plus key capabilities to match
- E-enterprise. Management processes and business processes are redesigned. Transactions can be monitored and analysed real-time.
- Transformation. New business and management models required for the new economy are embedded.

6 I' s of e-business

- Intelligence
- Individualisation
- Interactivity
- Integration
- Independence
- Industry

E-business patterns

- E-shopping
- E-auctions
- Reintermediation
- Disintermediation
- Countermediation
- Advertising others' goods and services
- Advertising own goods and services
- E-procurement
- Customer relationship management

Relationship marketing Ladder (Payne)

Transactions marketing: Focuses on the product and develops marketing mixes for it according to the needs customers satisfy when they buy it.

Relationship marketing: Seeks to attract, maintain and enhance customer relationships by focusing on the whole satisfaction experienced by the customer when dealing with the firm.

Partner
↑
Advocate
↑
Enthusiast
↑
Client
(repeat purchaser)
↑
Customer
(first time purchaser)
↑
Prospect

Customer Relationship Management software

- Emphasis on ‘relationship’
- E-marketing
- E-commerce
- Sales automation
- Intelligence/information: both directions
- Communication
- Knowledge management

Barriers to e-business

- Set-up costs
- Type of business
- Running costs
- Time to set up system
- No in-house skills
- Suppliers/customers not interested
- Security worries

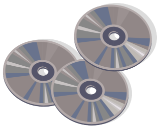
Acquiring software

Package or bespoke? Package:

- Cheaper
- Available now
- Reliability
- Support
- Updates

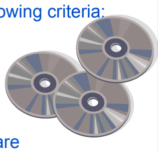
But

- Might not perform exactly as required.



Choosing software

Software should be assessed according to the following criteria:



- Functionality: what does it do?
- Response times: normal and peak loads
- Reliability: what 'down-time' might we expect?
- Compatibility: with existing hardware and software
- Scalability: as the organisation grows, can the same software be used or added to?
- Usability: how easy is for staff and customers to use?
- How easy to update for different requirements?
- Cost.

Choosing software

The software house should be assessed on the following criteria:

- Financial stability
- Size – will it be able to cope with large clients? Will it give attention to small ones
- Expertise
- Reputation
- Sometimes location of offices is important for support
- Other clients – perhaps if it deals with competitors there could be a conflict of interest.

Project management

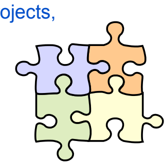
- Project: start/end, non-routine
- Novel, unique challenges
- Team members from different backgrounds so different:
  - Priorities
  - Terminology
  - Outlooks
- No benefit until finished

Therefore: risk + scope need to be watched carefully

Projects and strategic plans

Strategic plan: large, long-term, complex

therefore break it down into small steps: projects, each with:



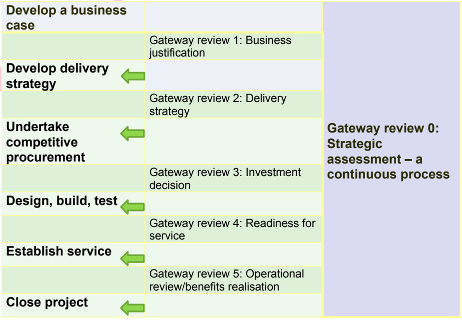
- Start date
- Duration
- Finish date
- A relationship to other projects: after some, before others etc
- A cost
- A person responsible
- Well-defined outcomes

Stages of a project

The stages of a project can be described in a number of ways. For example:

- Initiation/initial screening
- Risk assessment
- Business case
- Project plan
- Executing
- Monitoring and controlling/project milestones
- Closing: delivery/review

Project gateways



Develop a business case		**Gateway review 0: Strategic assessment – a continuous process**
	Gateway review 1: Business justification	
Develop delivery strategy ⇦		
	Gateway review 2: Delivery strategy	
Undertake competitive procurement ⇦		
	Gateway review 3: Investment decision	
Design, build, test ⇦		
	Gateway review 4: Readiness for service	
Establish service ⇦		
	Gateway review 5: Operational review/benefits realisation	
Close project ⇦		

The business case

A business case to be prepared for any project.

Cost / benefit analysis

- Net present value/payback/ROCE
- Sensitivity analysis and risk analysis
- Forecasting techniques
- Expected values
- Decision trees

Usually costs are easy to budget. Benefits are often intangible and are much more difficult to quantify with any precision.

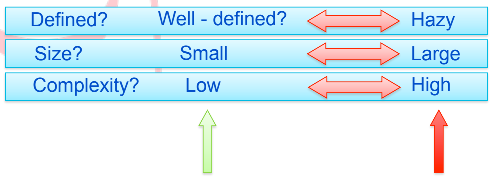
Project initiation document

The Project Initiation Document (PID) addresses:

What? Why? Who? How? When?

- Defines the project, its scope and its deliverables.
- Justifies the project: cost/benefit analysis; risk analysis.
- Secures funding for the project, if necessary.
- Defines the roles and responsibilities of project participants: sponsor, manager team.
- Gives people the information they need to be productive and effective right from the start: assignments, schedule, human resources, project control, quality control.

Project risk



Defined?	Well - defined?	↔	Hazy
Size?	Small	↔	Large
Complexity?	Low	↔	High

The project manager

The person in charge of the running of the project – tracking resources, controlling, leading, inspiring, negotiating, reviewing, resolving disputes.

- Leadership abilities, including the ability to motivate
- Technical ability in running projects and in the subject matter
- Negotiation ability to negotiate with project sponsors (those who are paying), project team members and suppliers.
- Reporting on progress and difficulties
- The ability to stay calm in a crisis
- Excellent communication
- Ability to delegate to team members.

The project team

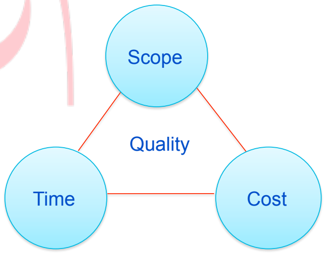
Definition: “A group of people with a full set of complementary skills required to complete a task, job, or project.”

Teams usually work best if they:

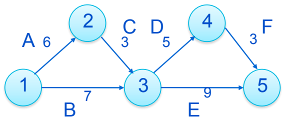
- Are fairly small
- Are united in what they want out of the project
- Have the right mix of complementary skills
- Have the right mix of personalities

Team members will be drawn from different backgrounds and are likely to have different priorities. The project manager must get the diverse team members to work well together.

Project management: the variables

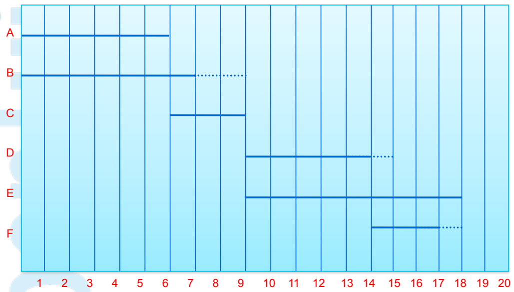


Critical path analysis



ACDF	17	
ACE	18	⇐ Critical path length
BDF	15	
BE	16	

Gantt Charts



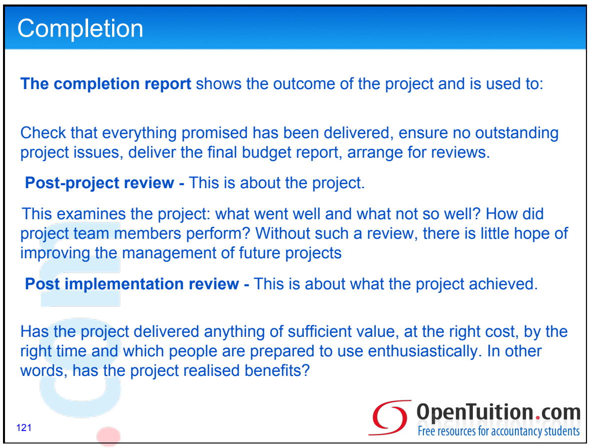
Benefits realisation

Projects justification: benefits > costs

Benefits not automatic even in a technically successful project.

Therefore, the project manager should carry out tasks such as:

- Demonstrations and presentations
- Training
- Preparing user guide/procedures manuals
- Managing and championing change
- Providing guidance
- Change management.



Completion

The completion report shows the outcome of the project and is used to:

Check that everything promised has been delivered, ensure no outstanding project issues, deliver the final budget report, arrange for reviews.

Post-project review - This is about the project.

This examines the project: what went well and what not so well? How did project team members perform? Without such a review, there is little hope of improving the management of future projects

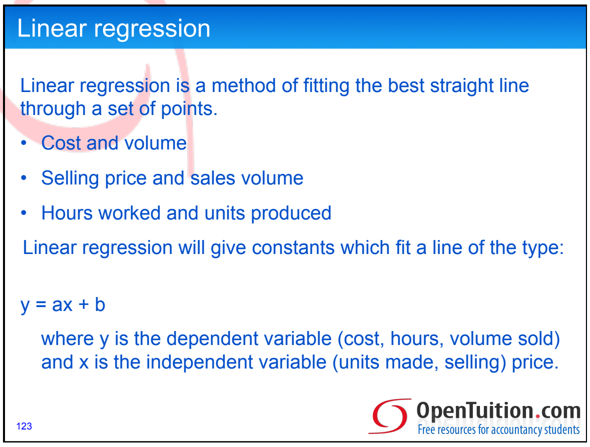
Post implementation review - This is about what the project achieved.

Has the project delivered anything of sufficient value, at the right cost, by the right time and which people are prepared to use enthusiastically. In other words, has the project realised benefits?

Forecasting techniques

Forecasting is an important part of strategic planning to estimate future costs, volumes sales revenues and so on.

- Linear regression and coefficients of determination
- Time series analysis, using moving averages and exponential smoothing
- Decision trees



Linear regression

Linear regression is a method of fitting the best straight line through a set of points.

- Cost and volume
- Selling price and sales volume
- Hours worked and units produced

Linear regression will give constants which fit a line of the type:

y = ax + b

where y is the dependent variable (cost, hours, volume sold) and x is the independent variable (units made, selling) price.

Linear regression - caution

- To test the relationship you must calculate the coefficient of correlation (r), or the coefficient of determination (r^2). If r^2 is low, then one variable is not well-associated with the other,
- The more points (readings) the better: simply more evidence for the association.
- Extrapolation (predicting outside the range) is dangerous as we have no direct evidence of what happens in other regions.
- Other known influences (such as inflation) should be removed before the analysis.
- Even good correlation does no prove cause and effect: both variables might have moved together under the influence of another variable.

Time series analysis - components

A time series is one that moves with time e.g. sales each day.

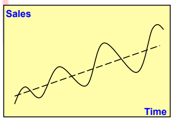
There are four components of a time series:

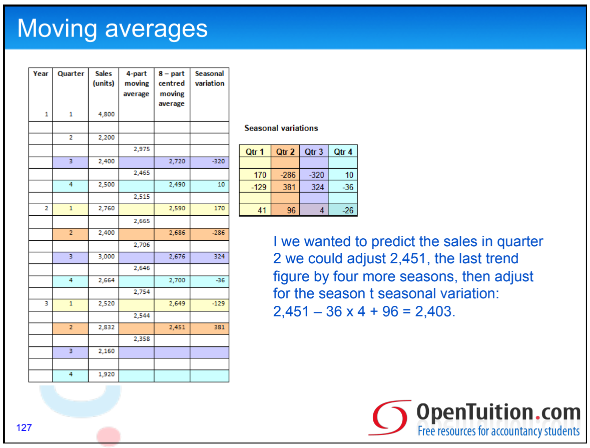
- The trend – an underlying increase/decrease
- Seasonal variations – regular variations with a cycle length of less than a year.
- Cyclical variations – regular variations with a cycle length of more than a year
- Random variations – irregular and unpredictable.

Time series analysis tries to analyse the first two of these.

Time series analysis - diagram

The figure below shows a rising trend with regular seasonal variations.





Moving averages

Year	Quarter	Sales (units)	4-part moving average	8 – part centred moving average	Seasonal variation
1	1	4,800			
	2	2,200			
			2,975		
	3	2,400		2,720	-320
			2,465		
	4	2,500		2,490	10
			2,515		
2	1	2,760		2,590	170
			2,665		
	2	2,400		2,686	-286
			2,706		
	3	3,000		2,676	324
			2,646		
	4	2,664		2,700	-36
			2,754		
3	1	2,520		2,649	-129
			2,544		
	2	2,832		2,451	381
			2,358		
	3	2,160			
	4	1,920			

Seasonal variations

Qtr 1	Qtr 2	Qtr 3	Qtr 4
170	-286	-320	10
-129	381	324	-36
41	96	4	-26

I we wanted to predict the sales in quarter 2 we could adjust 2,451, the last trend figure by four more seasons, then adjust for the season t seasonal variation: 2,451 – 36 x 4 + 96 = 2,403.

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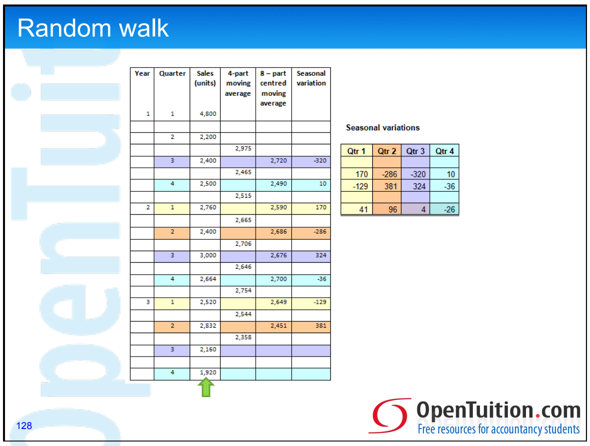

Random walk

Year	Quarter	Sales (units)	4-part moving average	8 – part centred moving average	Seasonal variation
1	1	4,800			
	2	2,200			
			2,975		
	3	2,400		2,720	-320
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3	1	2,520		2,649	-129
			2,544		
	2	2,832		2,451	381
			2,358		
	3	2,160			
	4	1,920			

Seasonal variations

Qtr 1	Qtr 2	Qtr 3	Qtr 4
170	-286	-320	10
-129	381	324	-36
41	96	4	-26

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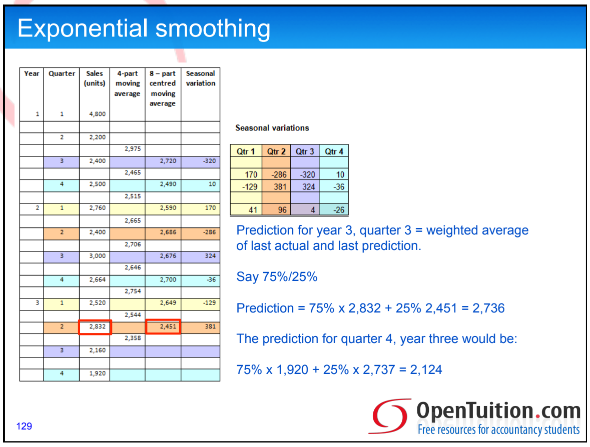

Exponential smoothing

Year	Quarter	Sales (units)	4-part moving average	8 – part centred moving average	Seasonal variation
1	1	4,800			
	2	2,200			
			2,975		
	3	2,400		2,720	-320
			2,465		
	4	2,500		2,490	10
			2,515		
2	1	2,760		2,590	170
			2,665		
	2	2,400		2,686	-286
			2,706		
	3	3,000		2,676	324
			2,646		
	4	2,664		2,700	-36
			2,754		
3	1	2,520		2,649	-129
			2,544		
	2	2,832		2,451	381
			2,358		
	3	2,160			
	4	1,920			

Seasonal variations

Qtr 1	Qtr 2	Qtr 3	Qtr 4
170	-286	-320	10
-129	381	324	-36
41	96	4	-26

Prediction for year 3, quarter 3 = weighted average of last actual and last prediction.

Say 75%/25%

Prediction = 75% x 2,832 + 25% 2,451 = 2,736

The prediction for quarter 4, year three would be:

75% x 1,920 + 25% x 2,737 = 2,124

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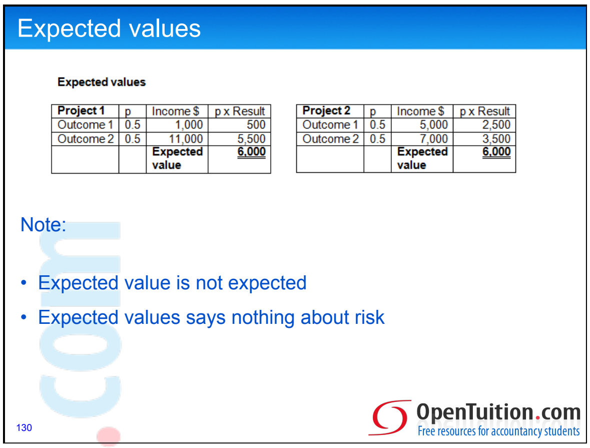


Expected values

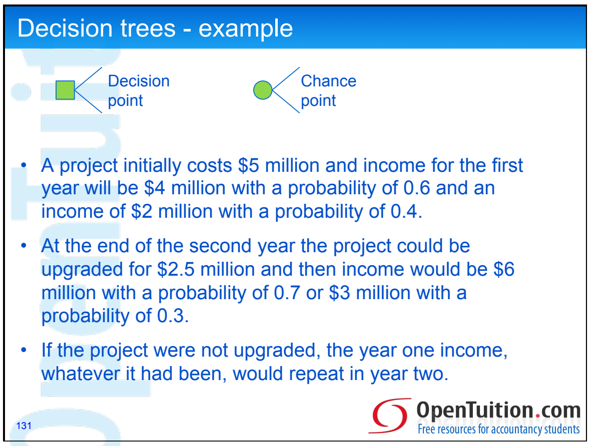
Expected values

Project 1	p	Income $	p x Result
Outcome 1	0.5	1,000	500
Outcome 2	0.5	11,000	5,500
		Expected value	**6,000**

Project 2	p	Income $	p x Result
Outcome 1	0.5	5,000	2,500
Outcome 2	0.5	7,000	3,500
		Expected value	**6,000**

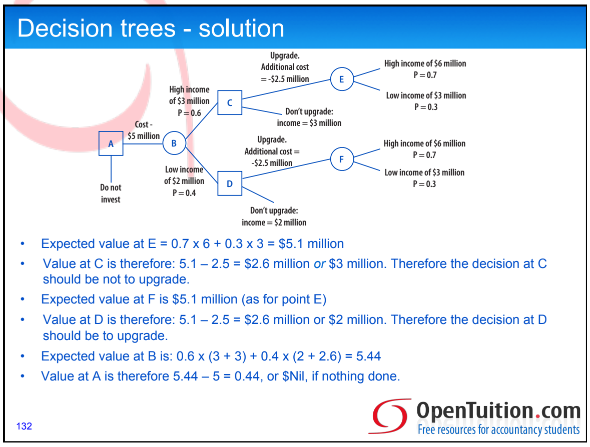
Note:

- Expected value is not expected
- Expected values says nothing about risk



Decision trees - example

- A project initially costs $5 million and income for the first year will be $4 million with a probability of 0.6 and an income of $2 million with a probability of 0.4.
- At the end of the second year the project could be upgraded for $2.5 million and then income would be $6 million with a probability of 0.7 or $3 million with a probability of 0.3.
- If the project were not upgraded, the year one income, whatever it had been, would repeat in year two.



Decision trees - solution

- Expected value at E = 0.7 x 6 + 0.3 x 3 = $5.1 million
- Value at C is therefore: 5.1 – 2.5 = $2.6 million *or* $3 million. Therefore the decision at C should be not to upgrade.
- Expected value at F is $5.1 million (as for point E)
- Value at D is therefore: 5.1 – 2.5 = $2.6 million or $2 million. Therefore the decision at D should be to upgrade.
- Expected value at B is: 0.6 x (3 + 3) + 0.4 x (2 + 2.6) = 5.44
- Value at A is therefore 5.44 – 5 = 0.44, or $Nil, if nothing done.

Scenario planning

Scenario planning: take into account all the things that could happen and from those to build a number of believable, alternative futures. This greatly helps to reduce the number of 'universes' we have to consider and allows the organisation to concentrate on the few most likely ones.

	Interest rate = 3%	Interest rate = 7%
Government 1	Implausible	Scenario 1
Government 2	Scenario 2	Implausible

Here, the organisation would concentrate on what its response should be to each of the plausible scenarios.

Finance - managing for value

Managing for value: maximising the long-term cash-generating capability of an organisation but taking into account risk, stability of earnings and ethics.

Choices:

- What type of capital to raise (equity or loans)?
- How to invest that capital?
- How to control the company's operations?

Types of capital

The main sources of finance are equity and borrowings.

- Equity is obtained from the first owners, retention of earnings, issues to the public (IPO, rights issues)
- Borrowings can be:
  - Term loans and debentures
  - Overdrafts (repayable on demand
  - Leasing is also a form of loan finance.
  - Convertibles
  - Preference shares

Mix of capital

Loans and debentures are cheaper than equity:

- Less risky for investors
- Borrowers enjoy tax relief.

Therefore, some borrowing is good.

But too much borrowing increases everyone’s risk, so the average cost of capital increases at high hearing levels.

So, gearing must be kept at reasonable levels.

Investing the capital

Places to invest: current assets and non-current assets

Some investment in current assets is needed for liquidity, but leaving cash in current assets is not profit-generating.

For profits, capital must be invested in non-current assets

The company has to decide on:

- The right balance
- Appropriate types of finance for each type of investment.

Match capital to asset

Usually, raise capital that matches the life of the asset it is funding.

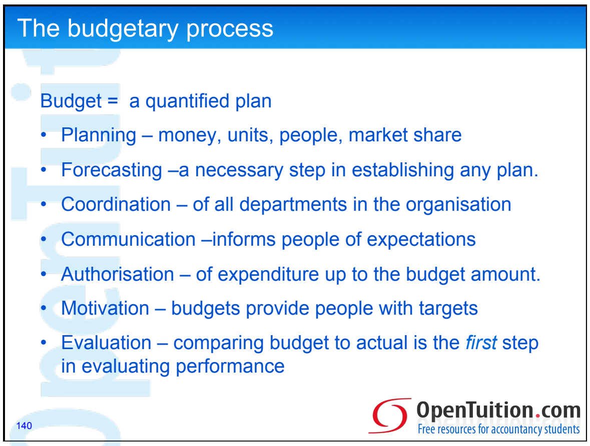
Type of asset	Typical finance
Offices, factories, machinery	Equity, debentures
Equipment	Equity, debentures, term loans, leases
Inventory, receivables, seasonal liquidity problems	Equity, debentures, overdrafts, factors,

Too much short-term borrowing is a high risk existence, so long-term capital is also used to invest in ‘permanent’ current assets.

Over-trading

A danger for successful, rapidly expanding businesses.

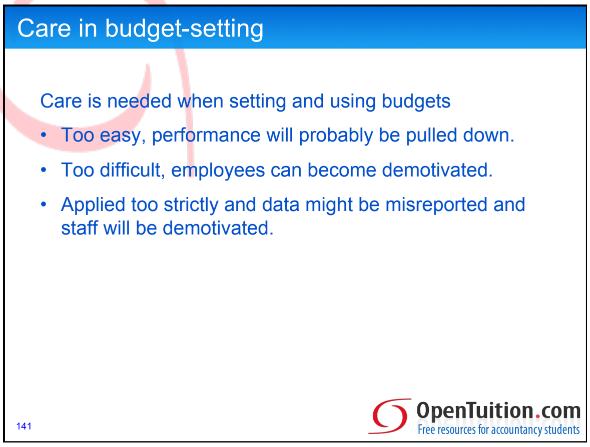
- As the business expands more capital is needed to fund current assets.
- Unless permanent capital is raised, liquidity problems can arise.



The budgetary process

Budget = a quantified plan

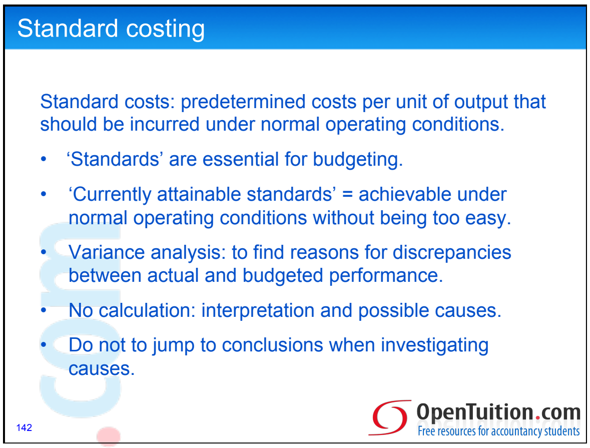
- Planning – money, units, people, market share
- Forecasting –a necessary step in establishing any plan.
- Coordination – of all departments in the organisation
- Communication –informs people of expectations
- Authorisation – of expenditure up to the budget amount.
- Motivation – budgets provide people with targets
- Evaluation – comparing budget to actual is the *first* step in evaluating performance



Care in budget-setting

Care is needed when setting and using budgets

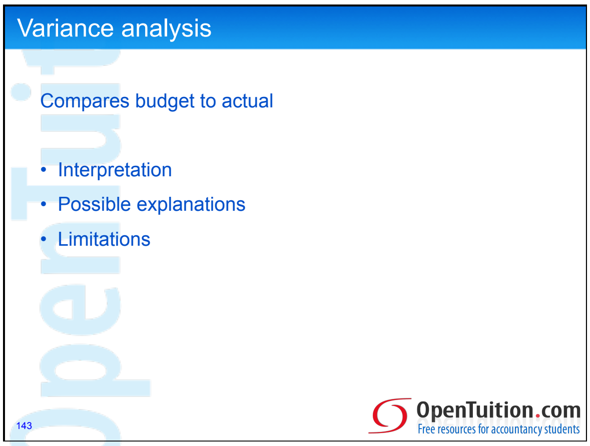
- Too easy, performance will probably be pulled down.
- Too difficult, employees can become demotivated.
- Applied too strictly and data might be misreported and staff will be demotivated.



Standard costing

Standard costs: predetermined costs per unit of output that should be incurred under normal operating conditions.

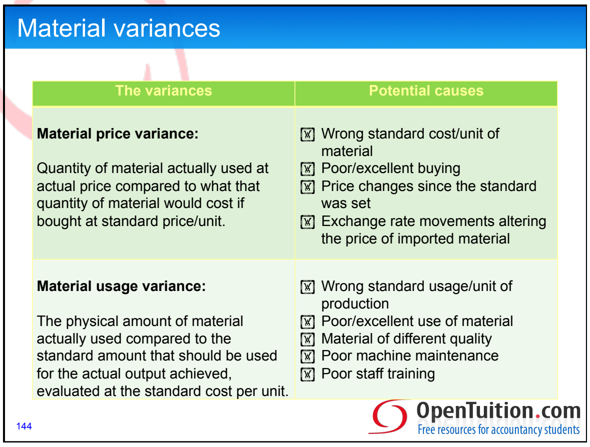
- 'Standards' are essential for budgeting.
- 'Currently attainable standards' = achievable under normal operating conditions without being too easy.
- Variance analysis: to find reasons for discrepancies between actual and budgeted performance.
- No calculation: interpretation and possible causes.
- Do not jump to conclusions when investigating causes.



Variance analysis

Compares budget to actual

- Interpretation
- Possible explanations
- Limitations



Material variances

The variances	Potential causes
Material price variance: Quantity of material actually used at actual price compared to what that quantity of material would cost if bought at standard price/unit.	☒ Wrong standard cost/unit of material ☒ Poor/excellent buying ☒ Price changes since the standard was set ☒ Exchange rate movements altering the price of imported material
Material usage variance: The physical amount of material actually used compared to the standard amount that should be used for the actual output achieved, evaluated at the standard cost per unit.	☒ Wrong standard usage/unit of production ☒ Poor/excellent use of material ☒ Material of different quality ☒ Poor machine maintenance ☒ Poor staff training

Labour variances

The variances	Potential causes
Labour rate variance: The actual coast of labour paid for compared to what that amount labour should have cost if bought at standard hourly rate.	☒ Wrong standard rate/hour ☒ Wage inflation ☒ A different mix of labour eg better, more expensive people
Labour efficiency variance: Number of hours actually *worked* compared to the standard number of hours that should be worked for the actual output achieved, evaluated at the standard rate per hour.	☒ Wrong standard hours per unit ☒ A different mix of labour ☒ Better or worse training than expected ☒ Good/poor supervision
Labour idle time variance: Hours actually worked compared to hours paid for, evaluated at the standard rate per hour	☒ Poor supervision ☒ Machine breakdown ☒ Lack of material ☒ Poor job scheduling

Variable overhead variances

The variances	Potential causes
Variable overhead rate variance: Amount of variable overhead actually paid, compared to what those hours of variable overhead should have cost if bought at standard hourly rate.	☒ Wrong standard rate/hour ☒ Unexpected inflation relating to machine running.
Variable overhead efficiency variance: Number of hours actually *worked* compared to the standard number of hours for the actual output achieved, evaluated at the standard rate per hour.	☒ Wrong standard hours per unit ☒ Machines of a different efficiency than expected. ☒ Good/poor supervision ☒ Good/poor machine maintenance .

Fixed overhead variances

The variances	Potential causes
Fixed overhead expenditure variance: Total amount of budgeted fixed overheads compared to total actual fixed overheads	☒ Wrong budget ☒ Unexpected level of expenditure
Fixed overhead volume variance: Actual output in units compared to budgeted output (units), evaluated at the fixed overhead absorption rate per unit	☒ Wrong budget ☒ Different output to what was expected.

Sales variances

The variances	Potential causes
Sales price variance: Actual volume sold times difference between actual and budgeted selling price	☒ Wrong budget ☒ Different selling price to what was expected.
Sales volume variance: Actual volume sold compared to budget volume, evaluated at budgeted contribution per unit or at budgeted profit per unit.	☒ Wrong budget ☒ Different selling price to what was expected (affects demand) ☒ Change in marketing ☒ Economic changes

Operating statement

	Favourable variances	Adverse variances	$000
Budgeted profit			**x**
Sales price variance		x	
Sales volume variance	x	_	
	x	x	x
			x
Material price variance		x	
Material usage variance	x		
Labour rate variance	x		
Labour efficiency variance	x		
Labour idle time variance		x	
Variable overhead rate variance		x	
Variable overhead efficiency variance	x		
	x	x	
Fixed overhead expenditure variance		x	
Fixed overhead volume variance	x	_	
	x	x	x
Actual profit			**x**

Use of marginal and relevant costing

Marginal and relevant costing techniques are used to:

- Find the best use of restricted resources
- Make/buy decisions
- make continuation/closure decisions
- Price special contracts

Identifying marginal and relevant revenues and costs

Marginal revenue: the additional revenue from selling one more unit or from taking on a contract.

Relevant costs: marginal costs (extra costs caused by the decision); opportunity costs (revenue forgone)

The following costs are never relevant:

- **Re-apportioned current fixed overheads**
- **Depreciation**
- **Book costs**
- **Sunk (past) costs**

If the decision changes the pattern of cash flows, then those cash flows are relevant

Use of scarce resources

Index: Contribution/unit of scarce resource needed

For example: Material available = 1200 kgs

Product A: contribution/unit = $24; uses 10 kg/unit; maximum demand = 80 units

Product B: contribution/unit = $15; uses 5 kg/unit; maximum demand = 200 units

Product A = $24/10 = $2.4; Product B = $15/5 = $3.0. So make B in preference to A

200 units (maximum demand) of B will consume 1000kg and generate $3,000

200 kgs of material left, which is enough to allow 40 units. These will generate $600

Therefore, total maximum contribution = $3,600.

Make or buy decisions

Limited resources: some products can be bought in rather than manufactured. Which to make and which to buy?

Concentrate on making units which are more expensive to buy in terms of savings per unit of scarce resource.

Material available = 1200 kgs
Product A: manufacturing cost/unit = $20; buy-in cost /unit = $25; uses 10 kg/unit; maximum demand = 80 units

Product B: manufacturing cost/unit = $25; buy-in cost = $35; uses 5 kg/unit; maximum demand = 200 units

Saving per unit of making compared to buying:
A = $25 - £20 = $5; B = $35 - $25 = $10

Saving per unit of scarce resource:
A = $5/10 = $0.5; B = $10/5 = £2

Therefore make B in preference.

Closing/continuing operations

Compare costs saved (marginal costs plus any fixed costs avoided) to revenue lost.

- Worth closing if the costs saved > the revenue lost.
- Worth continuing if the revenue lost > the costs saved

Special contracts

The minimum acceptable contract price = the relevant costs of the contract

1000 kgs of Material X needed, and 700 kgs are in inventory: cost = $10/kg, selling price = $9/kg (the company has no other use for the material). More could be bought for $11/kg. What is the relevant cost of the material?

Solution:

Note that the historical cost of $10 is irrelevant: it's a sunk cost.

If the contract were not taken up, 700 kgs of material would be sold for $9, so $9 x 700 = $6,300 is an opportunity cost.

The remaining 300 kgs will have to be bought for $11/kg = $3,300

Total relevant cost is therefore = $3,300 + $6,300 = $9,600

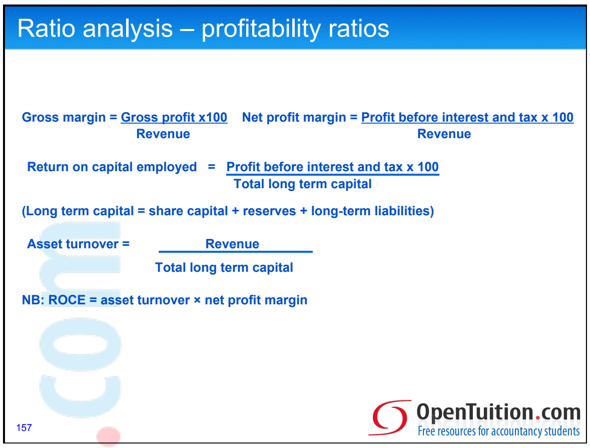
Ratio analysis – groups of ratios

There are several groups of financial ratios:

- Profitability
- Efficiency
- Liquidity
- Gearing
- Investment ratios

Be able to discuss the relevance of the ratios and their limitations: most only useful if compared to the ratios for previous years or for similar companies.

Many of the ratios use figures from the Statement of Financial Position. These represent the position at only one point in time, which could be misleading.



Ratio analysis – profitability ratios

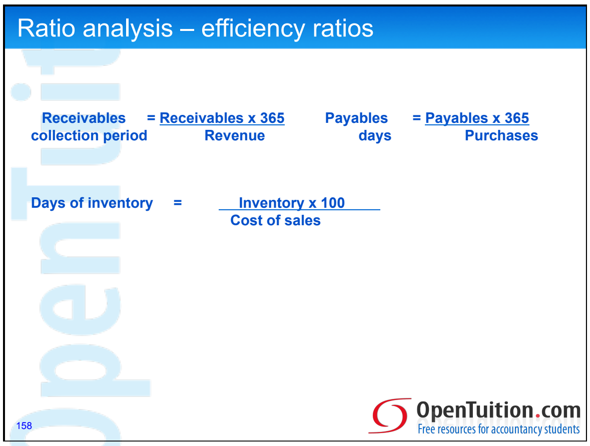
$$\text{Gross margin} = \frac{\text{Gross profit x100}}{\text{Revenue}} \qquad \text{Net profit margin} = \frac{\text{Profit before interest and tax x 100}}{\text{Revenue}}$$

$$\text{Return on capital employed} = \frac{\text{Profit before interest and tax x 100}}{\text{Total long term capital}}$$

(Long term capital = share capital + reserves + long-term liabilities)

$$\text{Asset turnover} = \frac{\text{Revenue}}{\text{Total long term capital}}$$

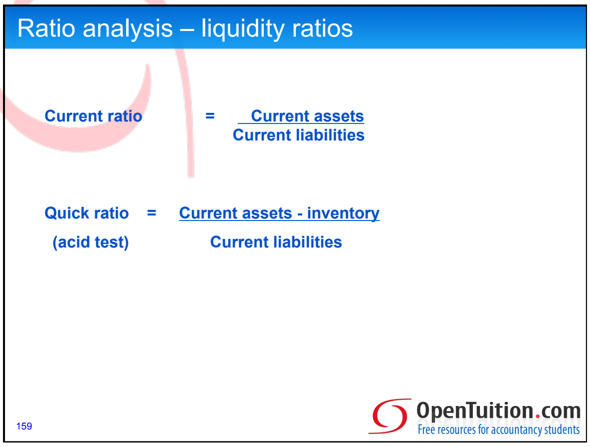
NB: ROCE = asset turnover × net profit margin



Ratio analysis – efficiency ratios

$$\text{Receivables collection period} = \frac{\text{Receivables x 365}}{\text{Revenue}} \qquad \text{Payables days} = \frac{\text{Payables x 365}}{\text{Purchases}}$$

$$\text{Days of inventory} = \frac{\text{Inventory x 100}}{\text{Cost of sales}}$$



Ratio analysis – liquidity ratios

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\text{Quick ratio (acid test)} = \frac{\text{Current assets - inventory}}{\text{Current liabilities}}$$

Ratio analysis – Gearing

Gearing ratio = Long tern liabilities x 100 / Shareholders funds

Interest cover = Profit before interest and tax / Interest

Ratio analysis – Investor ratios

P/E ratio = Price per share / Earnings per share

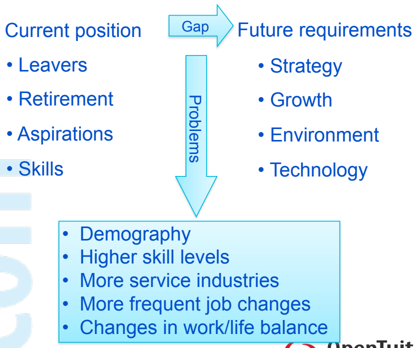
Earnings per share = Earnings after tax and after preference shares / Number of equity shares in issue

The growing importance of HRM

Human resource management has grown in importance because:

- Demography/population – fewer younger people.
- Greater technical content of many jobs.
- Movement to service industries away from manufacturing.
- Greater job mobility so a greater recruitment burden.
- Change in work/life balance

Human Resource Planning

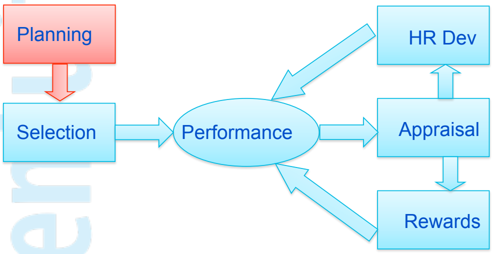


Current position
- Leavers
- Retirement
- Aspirations
- Skills

Future requirements
- Strategy
- Growth
- Environment
- Technology

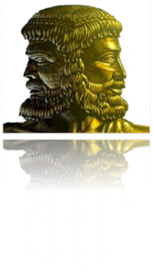
- Demography
- Higher skill levels
- More service industries
- More frequent job changes
- Changes in work/life balance

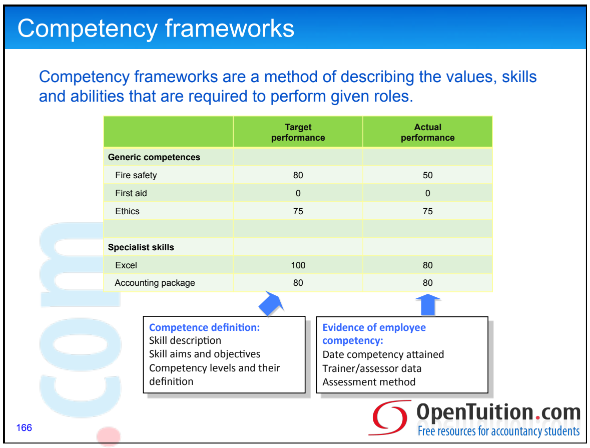
The HR cycle



The HR cycle - appraisal

- Performance review
- Potential review
- Reward review





Competency frameworks

Competency frameworks are a method of describing the values, skills and abilities that are required to perform given roles.

	Target performance	Actual performance
Generic competences		
Fire safety	80	50
First aid	0	0
Ethics	75	75
Specialist skills		
Excel	100	80
Accounting package	80	80

Competence definition:
Skill description
Skill aims and objectives
Competency levels and their definition

Evidence of employee competency:
Date competency attained
Trainer/assessor data
Assessment method