

- Understand that the introduction or development of an Information System will result in change that must be managed.
- Change could occur in relation to

Re-skilling	Attitude	Organisational structure
Employment pattern and conditions	Internal procedures	

Heathcote Chapter 44

The introduction or development of an Information System will usually result in change; this must be managed.

OASIG Study 1996 (p243)

80-90% of IT systems don't meet their performance goals
 80% of systems are delivered late and over-budget
 40% fail or are abandoned
 Less than 40% fully address training and skills requirements
 Less than 25% properly integrate business and technology objectives
 10-20% meet all their success criteria

Reasons why change might occur

1. The workforce need to re-skill to reflect changes in technology

<http://news.zdnet.co.uk/story/0,,t269-s2129168,00.html>

In the early 21st Century employees need to be able to cope with constant technological change
 e.g. Co-operative Bank Deal with Trades Union (teleworking)

2. Developing attitudes towards each other

- Workgroups, teams.
- Long held approaches and attitudes held by individuals to their jobs must change.

3. Organisational Structure

- Many structures are becoming flatter (e.g. knowledge workers). Needs careful handling where departmental responsibility is changed e.g. In the new system Department X is responsible for entering customer account information as opposed to Department Y.
- Individual employees may have greater or less responsibility in the new system. Middle managers may find some of the decisions that they previously made now delegated to a lower level. Without proper planning these changes may result in dissatisfaction from losers of power and increased wage demands from gainers. Management will need to introduce the changes sensitively and ensure that everyone is aware of the new organisational structure.

4. Employment Structure, pattern and conditions

- An increasing tendency to employ people in ICT on short-term contracts
- Use of outsourcing companies.
- Greater telecommuting or part time work may be introduced. Hot desking where several employees share one desk. More flexible work hours or increased job sharing. This may make it more difficult to manage the work force unless proper control and monitoring is planned into the new system.
- The work environment may change. Management will be responsible for ensuring that health and safety requirement is met in terms of workstations and lighting. Noise level may be a problem.
- Employees may suffer from a loss of social interaction, which may adversely affect performance - possibly by reducing the opportunity for informal movement of information through the system. Management can build in opportunities for this by having social areas with coffee machines and allowing regular breaks.

5. Internal procedures

- Where systems and procedures, which interface with the new system, need to be updated or revised and hence new manuals and forms need to be produced.
- Security, support and maintenance need to be identified.
- The way in which the organisation functions may change.
- Some tasks may be combined or automated and the standard procedures used to carry out other functions will be redefined for the new system. Unless employees are involved in and aware of the changes then the result will be chaos. Changes in work practice will need management to provide training.

A common reaction to change

It seems to be a common human reaction to resist change until, of course, it can be shown to be to an individual's advantage. The workload in implementing change may prevent people from doing their 'proper job'. The reaction to change may take several forms e.g. rubbishing computer systems, comparing it unfavourably with the old methods or suggesting that the people who designed the system do not understand how the organisation really works.

Why may people react to change?

General fear of

- **Redundancy.** When IT systems are introduced "to reduce costs and improve efficiency" this can lead to people being seen as a cost rather than an asset. "Downsizing" means reducing the size of an organisation by sacking staff and, therefore, reducing costs. Employees are unlikely to be enthusiastic about a system that could take away their jobs.
- An information system should improve speed, service and quality but in order to achieve these goals the management will need to re-organise work flows; eliminate paper intensive and repetitive tasks. Some tasks will be combined to eliminate the number of steps involved in carrying out the overall function of the organisation.
- **Reduction in status and job satisfaction** - perhaps in the old system they had technical knowledge of how the system worked which they had built up over a large number of years or they held key pieces of information. Managers quite often show the biggest resistance.
- **Changes in the organisation or departmental boundaries** affecting promotion prospects, differentials etc.
- People's **aims and ambitions** are threatened

- Proposals might be seen as **criticisms of past efforts**
- **Distrust** of systems personnel and computers etc. - concerned about their ability to learn how to use the technology and the new system.

Managing Change Successfully P.245

There is no one single action that can eliminate resentment and distrust. The system designers must bear this human factor, which is crucial, in mind at all stages. Typical ways in which such problems can be minimised or eliminated are as follows:

- **Encourage people** who are affected by change to participate in the change. This will increase commitment and reduces the fear of the change itself.
- People are more likely to accept a solution if they have had proper **training** and if top management supports the solution. Institute comprehensive training and retraining schemes. The impact on working practices should be minimised.
- The **reasons** for the system are clearly stated, to provide a clear picture of the change, a 'vision' with details about the new state. Demonstrate that the elimination of some routine work will improve job satisfaction.
- **Share information** about change plans to the fullest extent possible
- Understand that people might not grasp everything immediately there is a danger that computer developers go into too much detail too soon
- Allow room for **participation** in the planning of the change suggestions which should be freely and publicly acknowledged
- Leave choices within the overall decision to change.
- Divide change into small steps i.e. Give people the chance to become accustomed to change before making a commitment
- Minimise surprises
- **Repeatedly demonstrate your own commitment** to the change. Ensure that full top management support and backing are received and clear statements are publicised regarding job security, prospects, pay etc.
- Make standards and requirements clear
- Let people know they can do it
- Look for and reward pioneers, innovators and early successes to act as models
- Help people find or feel compensated for the extra time and energy change requires
- Avoid creating losers
- Allow expressions of nostalgia and grief for the past - then create excitement about the future.
- Costs and/or time-scale should not be underestimated
- The right conversion method is essential.

Good managers of change.

Know clearly what they want to achieve	Can translate desires into practical action
Can see proposed changes not only from their own viewpoint but from that of others	Don't mind being out on a limb
Show irreverence for tradition but respect for experience	Plan flexibly, matching constancy of ends against a repertoire of available means
Harness circumstances to enable change to be implemented	Clearly explain change
Involve staff in management of change and protect their security	Don't pile one change on top of another, but await assimilation
Make change personally rewarding for people, whenever possible	Share maximum information about possible outcomes
Have a history of successful change behind	Are not discouraged by setbacks

them.	
Show that change is 'related to the business'	Present change as a rational decision

Such managers have knowledge of....

- People and their motivational systems - what makes people tick
- Organisations as social systems - what makes them healthy and effective
- Managerial styles and their effects on work

and develop skills in...

Analysing large complex organisations	Collecting and processing large amounts of information and simplifying it for action
Getting consensus decisions	Managing conflict
Empathy	Political behaviour
public relations	Consulting and counselling
Training and teaching	High level listening skills
High tolerance of ambiguity, complexity, stress	Goal setting and planning

Reasons why IT Changes Fail P243 www.system-concepts.com/stds/clegg.html

Case Study - London Ambulance service p.244

- Businesses want to use the "latest technology", which means technology that hasn't stood the test of time.
- Senior managers justify the new system on cost alone
- Human or organisational factors are ignored
- Users don't participate in the design stage and, therefore, are unsupportive of the new system.
- Users may have been given unrealistic expectations of the new system
- Costs and/or time-scale underestimated
- Businesses do not properly integrate business and technology objectives. Senior managers not IT-literate.
- Over-emphasis on technology rather than people. Using latest hardware/software unproven by time.
- Lack of consultation with users. And hence unrealistic expectations.
- Costs often underestimated.
- Time to develop a new system often underestimated.
- New system often over-ambitious and over-complex.

Opportunities for New Businesses p.246

Large organisations can't change quickly. New businesses have taken advantage of this with the growth of e-commerce. For example, Amazon grew very quickly selling online books - WH Smith or Waterstones couldn't move as quickly. Recent developments, however, have shown that people have not deserted the high street to shop online and that, when shopping online, people look for familiar names.

QUESTIONS

QUESTION 1

It is not uncommon for designers involved in the introduction of information systems to encounter resentment and opposition from existing employees.

Discuss the reasons for this response and **describe** steps that can be taken by the systems designer to reduce this resistance (10)

ANSWER

- *The introduction of any new system brings change and it seems to be a common human reaction to resist change until, of course, it can be shown to be to an individual's advantage.*
- *Adverse reactions from people upon the introduction of a computer based data processing system can arise from various factors, typical of which are the following:*
- *Fear of redundancy*
- *Fear of reduction in status and job satisfaction*
- *Fear of changes in the organisation or departmental boundaries affecting promotion prospects, differentials etc.*
- *People's aims and ambitions threatened*
- *Proposals seen as criticisms of past efforts*
- *Distrust of systems personnel and computers etc.*
- *There is no one single action which can eliminate resentment and distrust. The system designers must bear this human factor, which is crucial, in mind at all stages. Typical ways in which such problems can be minimised or eliminated are as follows:*
- *set out to involve the personnel concerned from the beginning.*
- *invite personnel to contribute actively to the project by making suggestions which should be freely and publicly acknowledged.*
- *institute comprehensive training and retraining schemes.*
- *encourage co-operation.*
- *demonstrate that the elimination of some routine work will improve job satisfaction.*
- *ensure that full top management support and backing are received and clear statements publicised regarding job security, prospects, pay etc.*
- *above all, communicate fully and frankly with those affected.*

Any point gains a mark to a maximum of 10

QUESTION 2

A small firm of solicitors is considering the introduction of an Information Technology system to improve the efficiency of its operations. One of the directors of the firm had expressed some concerns over the effects on the organisation of the introduction of the system.

Describe FIVE possible concerns the director may have, and the arguments that may be used to persuade her to accept the new system.

Understand that the introduction or development of an Information System will result in change and this must be managed.

Factors could include

<i>re-skilling,</i>	<i>attitude,</i>
<i>organisational structure,</i>	<i>employment pattern and conditions ,</i>
<i>internal procedures</i>	

1997 (6 marks) An information system was introduced into an organisation and was considered a failure. The failure was due to the inability of the organisation to manage the change rather than for technical reasons.

With the aid of examples describe **three** factors which influence the management of change within an organisation. (6 marks)

Attitude of management and workforce i.e. resentment to change.

Skill levels and re-skilling.

Structure of organisation and key roles i.e. re-structure or job loss.

Conditions of service.

Internal procedures for operations.

External image.

Culture of organisation i.e. style of management open/closed.

The need for training if explained and related to change of organisation.

size of organisation (1)

training (1) + (1) if explained and related to change of organisation

In general the second mark requires an IS focus e.g. conditions of service (1) plus new system may require backup/maintenance to be done whilst users are not on system (1)

NOT

parallel running/direct changeover ... question is management of change within organisation

NOT changeover methods.

1998.4 (8 marks)

A multi-site college is considering the introduction of an IT based system to log visitors. The current system is based on a manual log at reception. The new system will capture visual images of visitors together with details of their visit. The introduction of this system will cause considerable change for staff and visitors.

In the context of this example describe **four** factors that the management should consider when introducing this change.

management of change: any 4 @ 2 from:

re-skilling of staff using appropriate training schemes (1) difference between software and system training (1)

how to manage 'attitude change' (1) by early involvement in planning (1)

how this may affect the job role of the staff (1) e.g. change in emphasis or role (1) or alternative roles to improve quality (1)

what changes are required in any internal procedures (1) e.g. actual data logged or reports produced (1)

ACCEPT any point related directly to visitor log systems

e.g visitor objects to photo being taken (1)

time taken to log-in a visitor (1)

integration with existing log-in system e.g. library or resource centre (1)

COST increased budget allocation compared to manual system e.g. Kalamazoo (1)

changeover method (1) Further description (1)

change code of conduct/procedures (1)

No hardware answers.

Do not accept staff redundancy etc.

COST benefit analysis, consider effectiveness (1)

1999.7 12 marks

A software house has a user support department that provides a range of services to customers including telephone advice and the supply of data fixes for corrupt files. The department uses a computer-based logging system to store details of incoming telephone calls from users (a call management system). The system is capable of producing a variety of reports via a report generator.

(a) The software house receives complaints from its users that this department is providing a poor service. Describe **three** reports that the software house could produce to examine the validity of this claim. (6)

(b) The department currently uses traditional mail to receive disks containing corrupt files and to return them with the data fixed. However, the department now wishes to use electronic communications based on ISDN. Describe **two** potential advantages and **one** potential disadvantage to the customer of this proposed change. (6)

2000.6 (6 marks)

A parcel warehouse distribution centre has introduced a new information system. Six months after its introduction the system is considered a failure. The management of the centre consider that the failure was due to their inability to manage the change, rather than for technical reasons.

With the aid of examples, describe **three** factors which could influence the management of change within an organisation.

2002. 2 A company which distributes car parts has recently expanded and wants to commission a new corporate information system. It needs the system to be successful to ensure the future growth of the business.

State five factors that could cause the failure of such an information system. (**5 marks**)
1 per factor to maximum 5

- *inadequate analysis / testing / life cycle stage*
 - *lack of management / end-user involvement in design / testing / development*
 - *emphasis on computer system*
 - *concentration on low level data processing*
 - *lack of management knowledge of ICT and its capabilities*
 - *inappropriate or excessive management demands*
 - *lack of team work*
 - *lack of standards*
 - *problems with change over*
- NOT*
- *size of project*
 - *resentment / resistance to change*
 - *organisation structure*
 - *training*
 - *costs*

June 2002.9 (20 marks)

New information and communication technologies are frequently introduced into companies as a result of outdated existing systems, market pressure, new legislation and other factors. Companies have to adapt quickly, or face going out of business.

Discuss the factors that need to be considered to manage such changes successfully within an organisation. Particular attention should be given to:

- organisation structure and information needs;
- management and staffing issues;
- internal procedures, external procedures and the customer interface.

Illustrate your answer with specific examples.

The quality of written communication will be assessed in your answer. (20 marks)

Maximum 6 marks in each category; generally 1 for point, plus 1 for expansion or example, but can give up to 4 single points (but no example mark without point made). Maximum 16 content marks each marked with a letter as given below.

Organisation structure and information needs [O]

- *Changing shape of organisational structure (need to mention hierarchical/flat or jobs created/lost) (be careful not to credit pure business studies answers - changing shape is due to new systems)*
- *Levels of information pertinent to different people/Operational, Tactical and Strategic*
- *Definition of an MIS, plus reasons*
- *Information strategy in organisation*
- *Information flow*

Management /Staffing issues [S]

- *Team working/Project organisation*
- *Code of practice/code of conduct*
- *Staff attitude/resistance to change*
- *Importance of good communication*
- *Staff training planning/re-skilling*
- *Employment patterns/conditions*

Internal and External procedures and interfaces [P]

- *Changeover methods*
- *Security procedures*
- *H&S policy/procedures*
- *Other internal policy/procedures/guidelines*
- *Coping mechanisms for legislative changes*
- *Management/interface with external sources and sinks*

June 2003.1

The introduction of an information system is likely to result in changes to an organisation. State **three** factors that will need to be managed to ensure a smooth period of change. (3 marks)