THE PRACTICE OF CONSTRUCTION MANAGEMENT

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Third Edition

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Preface to the Third Edition

The main tenet of this book – that managing people is the key to successful construction management – remains unaltered in this edition. All the chapters have been revised to take in new thinking and practice since the first edition was published in 1985.

Influences on management over the last decade have ranged from new ideas about managing small teams to global trends in the business environment. These changes are causing managers to reappraise their organisations and their own roles. At the level of teams and individual employees, ideas about mentoring, empowerment and self-managed teams have been debated and tried out. At the organisational level, managers have had to respond to unprecedented changes, including international restructuring of production and markets, more demanding clients, and developments in tele-communications and microelectronics which would have seemed like science fiction a decade ago. It has been a period in which management bandwagons have arrived and departed with record speed.

As construction managers have striven to keep pace with new vocabularies – of relational databases, business process re-engineering, total quality management, and many more – the 1990s has seen the industry under attack for poor teamwork, inefficient work practices and lack of attention to training. Clients have become more vociferous and demanding and, along with government, have put further pressure on consultants and contractors to reform their practices. The industry's managers have had to respond to numerous initiatives, statutes and constraints, including the far-reaching Latham Report in 1994, a spate of EC Directives and a stream of proposals from pan-industry and client organisations like the Construction Industry Council and the Construction Round Table.

All managers are having to address their broader social and ethical responsibilities to society. Helped by new legislation, the arguments for sustainable development have gained momentum, causing more and more organisations to examine the environmental impact of their operations. Increased emphasis on equality in the workplace is forcing firms to review their employment policies too.

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Chapter 1

The Development of Management Thinking

Management is both a fascinating and frustrating subject. It abounds with exciting and challenging ideas, but even the most promising ideas don't always work. Throughout the twentieth century, managers have searched for a set of guidelines for running a business. The result has been a jungle of diverse and often conflicting ideas about what managers are and what they do – or ought to be doing.

People have looked at management in different ways. Some have tried to identify the things managers do, whilst others have looked at how they do them. Some have put forward management principles to apply to all organisations, whilst others are sure there are none.

Despite many attempts to describe management, no widely accepted definition has emerged. Simple definitions include 'running things properly' and 'getting things done through people'. Rosemary Stewart (1986) brings decision-making into her definition of management – 'deciding what should be done and then getting other people to do it'.

To be more precise, we need to say how and why the manager does these things; what tasks or processes are involved. The early management writers, who were mostly practising managers, said that these processes included planning, organising, directing and controlling. This led to definitions like:

> Management is the process of steering an organisation towards the achievement of its objectives, by means of technical skills for planning and controlling operations, and social skills for directing and co-ordinating the efforts of employees.

Although harder to take in, this definition highlights the complexity of management. Yet it still tells us little about *how* managers work. Like the simple definition, it tells us that a manager is someone who plans and gets things done; that the role involves achieving objectives and co-ordinating the work of others. It does not tell a site manager whether to use the same planning techniques as a factory manager, or how to get co-operation from a site team.

Such definitions also give little indication of how management is changing.

Management today is harder and less intuitive than in the past. Building and civil engineering firms used to be smaller and simpler. There were fewer specialists and fewer rules. Jobs were more flexible. Managers were closer to the work and communications were better.

Today, many construction firms have grown and their activities are more complex. The ratio of managers and specialists to workers has increased. There are more rules and procedures. Roles are more tightly defined and there are many external controls.

Managers need more skills and more information to cope with these changes. In large organisations, the days of the individual manager running things have gone. The efficient organisation of big business now demands team management.

In the recommendations of the joint review of the industry, Constructing the Team, known as the **Latham** Report, Sir Michael **Latham** (1994) drew attention to the wide-ranging scope for improving the construction industry's performance, through improved management practices and procedures, including more carefully thought out project strategies, more systematic quality assurance and productivity measures, and improved teamwork on site between contractors, trade specialists and consultants.

Early contributions to management thinking

The systematic study of management to find out what managers ought to be doing emerged at the end of the nineteenth century. The industrial system was well established. People had migrated to the towns to work in the factories and mills. They worked long hours for low pay. They worked hard – or they lost their jobs. The managers were powerful and this made their jobs easier.

Some of the managers wanted to learn more about their work. They tried to analyse their jobs and the events happening around them. They wondered if there could be principles of management that would work anywhere – a science of management. Their experiences seemed to support this, for managers everywhere appeared to be doing similar things – drawing up programmes, marshalling resources, allocating tasks and controlling costs.

They came to believe that it was possible to devise an ideal organisation using a set of design rules that would apply anywhere. The books they wrote formed the basis of the classical or *scientific* management movement. The design rules were later developed and refined by writers like Lyndall Urwick. These rules or principles included:

● The principle of specialisation. Every employee should, as far as possible, perform a single function.

- *The principle of definition.* The duties, authority and responsibility of each job, and its relationship to other jobs, should be clearly defined in writing and made known to other employees.
- *The span of control.* No one should supervise more than five, or at most six, direct subordinates whose work interlocks.

How useful are such guidelines to a manager setting up a civil engineering site, or a resourceful joiner wanting to start a small building firm? The answer is that they offer only general guidance rather than a blueprint for designing an organisation.

The principle of specialisation is heavily qualified by the phrase 'as far as possible'. How many people in construction perform only 'a single function'? What is 'a single function' anyway?

The principle of definition is sometimes impractical. How many managers in construction have a clearly defined, set task? Most have to adapt to each new project and cope with constantly changing problems as it moves from start to finish.

The principle of the span of control is very specific and has been widely quoted among managers. Many now believe it is too restrictive. Some writers have modified the principle, saying that a manager's span of control should be limited to 'a reasonable number', but this reduces the principle to a statement of the obvious.

Certain factors clearly affect the size of group a construction manager can handle. They include:

- The manager's character and abilities.
- The attitudes and capabilities of the members of the group.
- The amount of time the manager spends with the group.
- The type of work the group is doing.
- The proximity of the manager and group members.
- The extent to which the manager is supervising direct or sub-contract personnel.

A site manager can co-ordinate a site team fairly easily. Contracts managers controlling projects spread over a sixty mile radius will find it more difficult. They may spend a lot of time travelling!

People have used arguments like these to refute many of the early management ideas, although they probably worked well enough in their day. Applied to modern organisations, the management principles can be justifiably challenged because:

- Conditions have changed radically. Projects are technically and contractually more complicated; legislation affecting businesses is more

     extensive and demanding; competition is fiercer; people's attitudes towards work and towards their managers have changed. These and many other changes have altered the manager's job significantly compared to that of the tough task-master of the early 1900s.

- Evidence now suggests that there is a divergence between what managers do and what management writers say they ought to do. Henry Mintzberg (1973, 1976) found, in his studies, that managers were not very systematic. He dismissed much of the early management thinking as folklore, saying that managers are not the reflective, analytical planners they are made out to be. Instead they spend their time liaising and negotiating with people and coping with an unrelenting stream of problems and pressures.

Most managers today recognise the importance of people in organisations, but the early management thinkers concentrated mainly on the tasks of the business. They thought the main problem in the factories and mills was to design **efficient** workplaces and control resources tightly. Most of them treated labour as a resource, to be worked as hard as possible.

From the outset of the Industrial Revolution, a few managers showed concern for the well-being of employees, but experience of large-scale industry was limited. No one fully understood the effect the new workplaces would have on people, but some managers quickly sensed that they could not treat people like machines.

Management and the social sciences

During the early decades of the twentieth century, social scientists began to study people in industrial settings. At first, their interest centred mainly on how work practices and working conditions affect people. Later, some of their attention switched to how workers affect organisations. Elton **Mayo** is regarded as the founder of this *human relations* movement, which brought into prominence the idea that employees must be understood as human beings if organisations are to be run efficiently. **Mayo's** far-reaching research at the Western Electric Company near Chicago – the Hawthorne studies – generated momentum for other work, including extensive research on group behaviour at the University of Michigan.

In the UK, one of the most determined and practical studies of the relationship between organisational efficiency and employee well-being was initiated at the Glacier Metal Company in London. It involved many years of close collaboration between managers and social scientists. The Glacier team took the view that the manager not only has a technical role, but a social one of creating an organisation with which workers can identify and in which they can participate and exercise discretion (Brown and Jaques, 1965).

Other studies have looked at specific topics, such as:

- Communication
- Worker participation
- Leadership
- Stress
- Labour turnover
- Performance
- Motivation.

Such work is still going on, supported, in the UK, by bodies like the Medical Research Council and the Economic and Social Research Council. The research has yielded many interesting results. For instance, an early discovery was that work groups exercise considerable influence over their members' behaviour and, in particular, over how much work they do. It was found that workers consider pay less important than had been thought. Many of them ranked factors like steady jobs, good working conditions and opportunity for promotion, higher than pay. Other findings suggest, for example, that:

- Satisfaction and dissatisfaction depend not so much on physical conditions, but on how people feel about their standing in the firm and what rewards they believe they deserve.
- Complaints are not necessarily objective statements of fact, but symptoms of a more deep-seated dissatisfaction.
- Giving a person the chance to talk and air grievances often has a beneficial effect on morale and performance.
- Employees' demands are often influenced by experiences outside, as well as in, the workplace.

Whilst these conclusions are fairly simple and clear, many research results are complex, fragmented and difficult to apply. Some construction managers are openly sceptical about the social sciences, arguing that many studies pursue trivial and obvious relationships, whilst findings are often difficult to interpret. Psychology, for instance, is every bit as concerned with the behaviour of building workers on site as it is with the study of mental disorders. Yet the applications of psychology on site have rarely been made clear and busy site managers are left to make their own conceptual leap from theory to application (M. Fryer, **1983**).

Nevertheless, psychologists and sociologists have made a substantial impact on management ideas and business practices. There has been a noticeable shift in attitudes over the years (see Fig. 1.1). Managers are more aware of the construction worker's needs and aspirations and take a more humane approach.
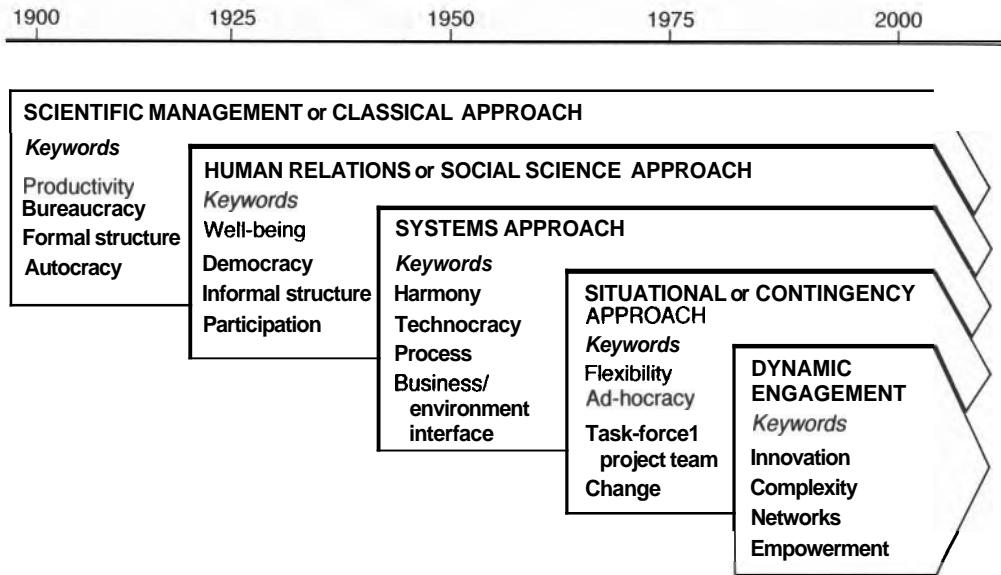
Figure 1.1 The development of management thinking.

Legislation has also compelled managers to give employees a better deal, and collective bargaining between the unions and employers has improved the terms and conditions of employment of most construction workers.

By the 1960s, so much was being written about the relationship between people and organisations that managers came under pressure to modify their leadership styles, get subordinates involved in making decisions and give them more autonomy in their jobs. The work of American writers like Argyris, Herzberg and Likert, and British writers, such as Emery, Trist and Rice at the Tavistock Institute, were brought to the notice of managers through books and business courses. For a time, it seemed that so much attention was being lavished on the worker by management writers and educators that managers might forget that their organisations still had work to do and profits to make.

Eventually there was a call for a more balanced approach to management, which would recognise the importance of both people and tasks. Indeed, the Tavistock Institute researchers were among the first to express this view. Two new trends in management thinking started to emerge and gain ground in the 1960s and 1970s, namely that:

● people and tasks must be considered as related parts of an organisational *system;* and
● managers must be more flexible and tailor their approach to the needs of the *situation.*

Systems management

Since the 1960s, people have tried to apply systems thinking to organisations, to see if it could help make them more manageable. The essence of *systems theory* is that the structure and behaviour of all systems, whether living organisms, machines or businesses, have certain characteristics in common. The manager who is aware of these characteristics is better able to predict the behaviour of the system and understand why it sometimes breaks down.

The construction project is a good example of a system that can be studied over its full lifespan. The project can be viewed as a temporary system, set up for a specific purpose, with well-defined tasks and a set timescale (Miller and Rice, 1967).

In systems thinking, the emphasis is not so much on the parts of the organisation – site set-up, head office departments, and so on – but on the relationships between them. There is a *technical* subsystem, the network of activities for erecting the structure or building, and a *social* sub-system, the people who contribute their energy and skills to the project. The human and technical problems cannot be divorced from one another. A change in a site bonus scheme will affect the quantity and quality of work. Changing a work method or introducing new equipment may influence operatives' attitudes and morale. The parts of the system are intertwined.

Moreover, the system is open and is influenced by events outside the organisation. The success of a building project depends not only on the project team, but on the activities of competitors, suppliers, government, clients and local communities. Many of the factors affecting the business are not only external, but are beyond the manager's control.

The project is an input/output system. Inputs of information, materials and mechanical and human energy, are turned into outputs of finished buildings. The inputs are not wholly within the manager's control and depend on the co-operation of many people, including designers, sub-contractors and suppliers. Outputs include profit, wages and job satisfaction. But there are unintended outputs too. They include noise and waste, toxic fumes and other damage to natural systems. People are injured and exposed to health hazards. They may become dissatisfied and alienated. Profits can turn into losses. Taking a systems approach means looking at the bad consequences of the organisation as well as the good!

Systems thinking emphasises the importance of *feedback.* In every organisation, managers and other employees rely on feedback to regulate their performance. For instance, managers have long acknowledged the importance of feedback in the principle of 'management by exception', where the manager puts most effort into tackling problems and breakdowns and keeps a minimal eye on the trouble-free operations. In systems terms, management by exception means that the manager is acting on negative feedback –

feedback which shows something is wrong – and devotes his or her energies to bringing the system back on course.

Some of the feedback the manager receives is intermittent, giving an incomplete picture, or delayed (feedback 'lag'), which may mean that by the time the feedback reaches the manager, it is too late to take corrective action.

> **A contractor made a detailed monthly comparison between unit costs and the unit rates in the bills. One month, the comparison showed that the bulk excavation was making a loss of 98p per cubic metre. By the time the information reached the site agent, some 10 000 cubic metres had been excavated, making an irretrievable loss of nearly £10 000.**

Managers need quick and reliable feedback on costs, progress and the quality of materials and workmanship. The time taken to obtain each kind of feedback varies. Feedback on progress can be very fast, providing the manager is keeping a close eye on operations, has a good system for recording work done and finds time to compare this data with a well-formulated programme. Cost feedback is probably the slowest and can also be the most inaccurate, since the information on which costings are based is often distorted. Labour returns are often inaccurate, and managers themselves are not always systematic in their record keeping.

Systems analysis gives a fresh angle on management. Managers have the delicate task of regulating a complex system, maximising the intended goals, whilst keeping unintended effects to a minimum. This requires a high standard of performance. Managers have to strike a balance between the technical and human demands on their time. They must keep the system in tune with the world outside and maintain its internal harmony.

Petit (1967) points out that the job of keeping the firm on course and coping with outside pressures is not the same as running the day-to-day operations of the business. Using a systems approach, he defines three distinct kinds of managerial work:

- *Technical.* At the technical level, managers run the production process. In construction, this takes place mainly on site, although some of the office work is directly concerned with production too. Site managers co-ordinate direct and sub-contract labour, plant and materials in order to achieve short-term project goals. They are protected from some of the outside pressures on the business, because the senior managers cope with these.
- *Institutional.* The senior managers are at the institutional or corporate level and Petit defines their task as relating the firm to the world outside. They cope with the risks and uncertainties caused by events and long-term trends over which they have little or no control. The survival or long-range success of the firm is their prime concern. Technical managers

have access to a fair amount of reliable information for solving their problems, but senior managers deal with the unforeseen and rely heavily on intuition and judgement.

● *Organisational. A* third group of managers mediates between the other two groups, co-ordinating and integrating their tasks. These organisational managers often have to search for compromises between the strategic concerns of the top managers and the immediate, operational problems of the technical managers. They have the difficult task of supporting production, making resources available when needed, whilst ensuring that the day-to-day activities contribute to the long-range goals of the enterprise.

Figure 1.2 illustrates these levels of management, although they may merge and overlap. In small firms, the same manager may perform all three roles and will need to understand the demands of each role, know when he or she is performing each and apply the appropriate skills. In larger firms, the three levels are likely to be separate. They will be carried out by different people, often relatively independently of one another.

EXTERNAL SYSTEMS
Competitors, clients, designers
Government, local authorities

pressures and constraints

GENERAL MANAGERS

CONTRACTS MANAGERS AND OTHER ORGANISATIONAL MANAGERS

SITE MANAGERS

Efficient production of goods and services

INPUTS
Information
Money
Energy
Materials, etc.

OUTPUTS
Buildings
Dividends
Wages
Pollution, etc.

Balancing long-term and short-term tasks and requirements

Setting long-range objectives. Policy making Coping with risks and uncertainties

Figure 1.2   Management of a construction firm: a systems view.

Viewing the construction *site* as a system in its own right, a rather different picture emerges. The site manager is the top manager of this smaller, 'task-force' system. This job involves welding together an effective team as well as dealing with outside influences, such as the local labour market, competitors, local authorities and suppliers. Site managers may regard the design team and even their own head office as outside forces which make demands on them that are difficult to meet.

They usually lack administrative help and have to perform both technical and institutional roles. To cope with the conflicts between these, they have to be organisational managers as well, using both quantitative methods and judgement to find compromises between the short-range goals of the project and the long-term strategies of the company (see Fig. 1.3).
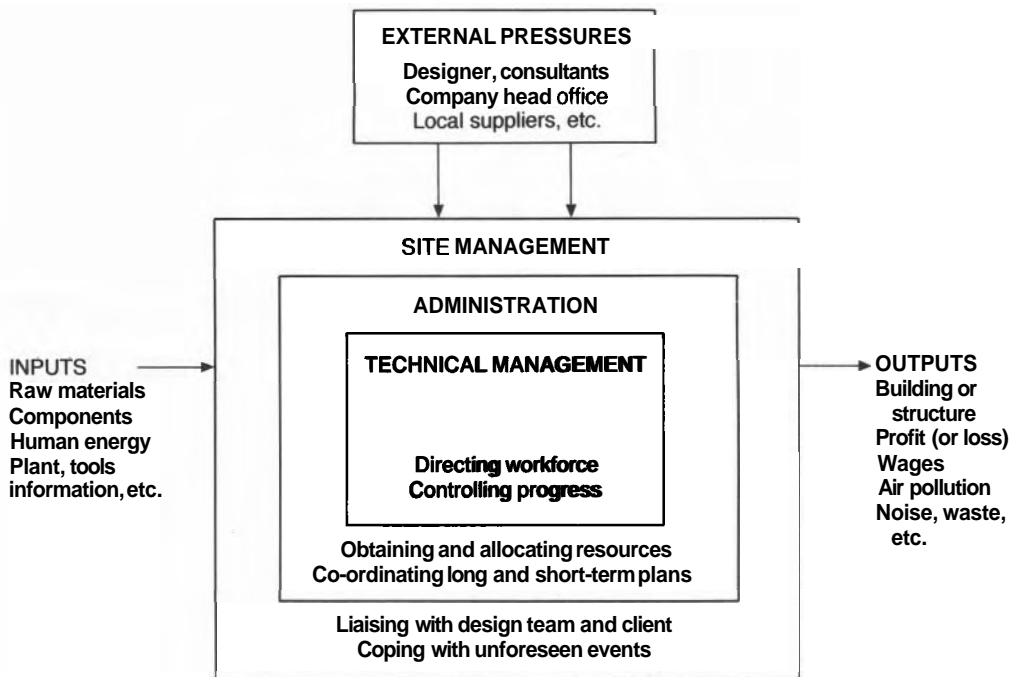
Figure 1.3 Management of a construction site: a systems view.

Some site managers enjoy considerable autonomy in running their sites, but others have a narrower role and are expected to leave some of the tasks to more senior managers – contracts managers or directors – and concentrate their efforts on the day-to-day running of the site.

Clearly, managers with the same job title may not always have the same responsibilities, and managers at different levels in an organisation perform quite different roles. They are responsible for different aspects of the system's performance.

Situational or contingency management

The long search for similarities between managers' jobs, to build up a picture of the ideal manager, has had only qualified success. In the late 1950s, people started to take a serious look at the differences between managers' jobs and collected evidence that management is really a family of roles in which managers do different things.

A site manager, co-ordinating the contractor's work with that of a dozen or more sub-contractors, may have a very different task from the production manager in a textile mill whose more stable workforce is doing repetitive work. There is increasing evidence that firms vary in their approach to management and that this has a lot to do with their size, the type of work they do, the people they employ and external and market forces.

This *situational* or *contingency* approach to management argues that there is no single best way to run a business and that managers must adapt their style and methods to suit the circumstances. In other words, the way a firm is organised and managed is 'contingent' upon factors like its size, tasks, technology and markets.

Joan Woodward (1958, 1965), in a pioneering study of British firms, showed that there are important variations in the management of different technologies. She identified three technology groupings:

● Unit and small batch production
● Mass production
● Process production.

In processing and mass production industries, Woodward found that there are many managers, many levels of management and more administrative rules. The top managers are rather divorced from production and industrial relations easily become strained.

Businesses like construction, producing one-off or small batch products, have shallower management structures, fewer specialists and less formality in their procedures. With fewer management levels, senior managers have more contact with employees and labour relations are usually better. The informality gives people more opportunity to negotiate their roles and define the boundaries of their jobs. In other words, they have more freedom.

Woodward's fresh approach showed that many of the so-called *principles* of management were derived from experience of mass production or process operations and may not apply to industries like construction. She showed that it is possible to compare large numbers of organisations and draw conclusions about management that are firmly based on and specific to the situation.

Burns and Stalker (1966) looked at the management of 20 British firms and

found two kinds of management structure which they called *mechanistic* and *organic*. The more rigid, mechanistic approach to management seems to work best in firms operating in relatively stable conditions, where the technology and markets are changing slowly. The more flexible, organic approach to management works well for firms operating in unstable conditions, where markets are unpredictable or technology is changing fast. Both kinds of management structure work well, providing they 'fit' the markets and technology concerned.

Studies in the United States produced similar results. For instance, Morse and Lorsch (1970) found that the manufacture of standardised containers in a stable technology and market was most efficient when organised along fairly rigid lines, with managers exercising tight control. But companies carrying out research and development work in the fast-changing, unpredictable field of communications technology were most successful when organised flexibly, with employees having considerable freedom and with few rules and managerial controls.

The construction industry does not have to cope with rapid technical change but the market for buildings is changeable and unpredictable. Designers, builders and civil engineering contractors are likely to find a flexible style of management more effective.

A similar conclusion was reached by Lansley *et al.* (1975), who measured the commercial and human performance of 25 building companies. They pointed out that for general contractors, every new project poses fresh problems, making programming difficult. Flexibility is essential and co-ordination and teamwork are vital. However, for specialist contractors, projects tend to follow a pattern, making programming easier. Managers can exercise tighter control. The situation differs again for small works contractors (where little co-ordination is needed) and for firms that sub-let most of their work. Each type of work involves its own problems and constraints.

These and other results add weight to the argument that there is no single ideal way of organising construction and no best style of management. It seems that managers must look critically at what they are trying to achieve and the prevailing conditions, and adapt their organisations accordingly. In a period of rapid change, the need for flexibility becomes vital. Peter Lansley has contrasted the relatively stable construction environment of the 1950s and 1960s, where the passwords were productivity and efficiency, with the unstable conditions of the 1970s and 1980s, where the password became *flexibility* (Lansley, 1981).

Dynamic engagement

The ideas summarised above are still influencing managers and will continue to do so, but the backdrop is changing faster than ever and managers are

having to ask themselves what will happen to their organisations in the next century. Stoner *et al.* (1995) use the term *dynamic engagement* to describe this rethinking process and capture the mood of current debate about management and organisation. They argue that managers are having to rethink their activities in the face of unprecedented external changes – changes which are causing the boundaries between cultures and nations to blur; changes in which the world is becoming a global village, as international and intercultural relations expand rapidly. The term dynamic engagement stresses the vigorous and intense involvement managers are having, in order to deal with new and changing human relationships and constant adjustment to change over time.

Dynamic engagement builds on the underpinnings of contingency management but recognises more fully the implications of the extent, type and rate of change affecting business and society. Stoner and his colleagues identify six management themes emerging from this approach:

- *New organisational environments.* These consist of complex, dynamic networks of people interacting with one another, competitors, customers, suppliers, sub-contractors, specialists and so on.
- *Ethics and social responsibility.* Shaping new corporate cultures which reflect the needs and aspirations of individual employees, groups, clients and others outside the organisation in the community and wider society.
- *Globalisation and management.* The expansion of business opportunities into markets and production activities which transcend national boundaries in a 'borderless' world, where global competition also features.
- *Inventing and reinventing organisations.* To find ways of unlocking the creative skills of managers and their teams, so that they can discover innovative organisation structures and ways of operating as conditions change.
- *Cultures and multiculturalism.* In a global economy and multicultural society, cultural differences create fresh challenges for managers, who must capitalise on the values and strengths of various cultural traditions, synthesising the benefits of each of them.
- *Quality.* Organising every aspect of organisational activity to meet the higher standards demanded by clients and to maintain competitiveness in an ever tougher business environment.

Peters (1992) identifies a matching concept, *liberation management,* which focuses on escaping from existing approaches to problems of organisation and striking out to find creative solutions. Hammer and Champy (1994) also argue for a dynamic approach, saying that managers need to make a fundamental reassessment of their organisations, questioning and

're-engineering' the very processes through which their firms function. Hannagan (1995) recommends an integrated approach to management, where emphasis is on the synthesis of best practice found in organisations and cultural traditions around the world.

The new Ps of management: post-industrial, portfolio, pragmatic, post-modern

Management in a post-industrial society

Consistent with the ideas of dynamic engagement is the work of such analysts as Warren Bennis, Tom Peters and Charles Handy who are noted for their original and perceptive insights into management and their analyses of the future of business and work. Many of these contemporary analysts recognise that the *post-industrial* era has arrived and that business practices will never be the same again. Because they are having a marked effect on managers' attitudes and behaviour, these future-oriented thinkers are often labelled *management gurus* (Kennedy, 1993). They put a lot of emphasis on change, especially with respect to organisational cultures, strategies, structures and processes and the effects these have on people's work and lives.

As organisations realise that the post-industrial society has finally arrived, a lot of attention is being directed at the role of strategic managers and the impact of de-layering the middle management levels, as firms try to become leaner and more efficient to combat growing global competition. But, importantly, there has been a sharp divide between those analysts who describe future organisational success in terms of improved strategies, structures and processes, and those who believe that success is ultimately rooted in more effective *people management.*

Portfolio management

Handy (1994) successfully bridges this divide, stressing that both organisation structures and employment patterns are changing fundamentally and permanently. We will have to get used to the fact that many younger people will not achieve the 'permanent' jobs their parents mostly had and that future careers will often consist of a series of mini-careers, successive short-term contracts and/or periods of self-employment, often involving different sets of skills – and interspersed with periods of unemployment.

Handy refers to these as *portfolio* careers. They require a different kind of management and self-management and necessitate new attitudes within organisations and society. In the portfolio world, employment has to be redefined. Voluntary work, self-employment and unemployment all have new meanings. Handy even suggests that 'agents' may become more

commonplace. As well as finding work for their clients, these agents will also act as mentors, helping their clients to organise their lives, develop their skills and build their portfolios. So, a new breed of independent construction managers may emerge, people who turn to their agents to help them find 'contracts', just as many writers, actors and sports people already do.

Pragmatic management

Since the mid-1980s, there have been new fashions in presenting management ideas and approaches to managers and aspiring managers. One of these has been a flux of books by well-known and successful managers, people like Sir John Harvey-Jones (see, for instance, Harvey-Jones, 1993). They are refreshingly practical books that express the seasoned management experience of their authors and (in the main) reflect well the innovations, culture changes and problems of the times. Collectively, these works cannot be ignored; they have been so successful. They could be said to represent a new pragmatic approach to management thinking. One drawback is that each work reflects the analysis and conclusions of only one manager, something which makes the seasoned management researcher a little uneasy.

Another development has been the explosion of 'How to' management books dealing with almost every conceivable aspect of the subject from performance appraisals to presentation skills, from time management to teamwork. These are also pragmatic in that they provide accessible and easily assimilated information for managers and some of them are very good. But the advice provided can be simplistic, often summarising major areas of the manager's work in bullet-point checklists. Management is a difficult business and is becoming more so. Managers must guard against the temptation to adopt simple 'off-the-peg' solutions to complex problems.

Post-modern management

If all these changes are taken together, management needs to take a leap into a post-industrial business environment which is bound up with what Donald Horne has called 'the public culture'. Describing this new culture as part of the post-modern condition, Hewison (1990) aptly refers to it as a managed, official culture, supported by both public and private corporations. This culture has become enmeshed with commerce to the extent that culture itself has largely been turned into a commodity, often mediated most effectively by television – but perhaps, in future, by computer-based information networks.

Quality and environmental management

Quality management and environmental management became major issues

for managers in the 1990s. Organisations in almost every sector, public as well as private, came under pressure to deliver their goods and services not only more efficiently, but to higher quality and environmental standards. To improve one of these isn't too difficult, but to produce more added value (better quality using less resources) in environmentally acceptable ways became a central challenge for managers in almost every field of activity.

These dual issues of quality and environment have become linked. There are significant parallels between the British and European standards covering these topics and the remit of a CIRIA project, started in 1996, was to examine the possibilities for integrating the management of quality and environmental impact (as well as health and safety).

The quality movement took off first, but the explosion of information about environmental damage in the late 1980s and early 1990s has forced many managers to think about building the concept of sustainable development into their business objectives and then manage responsibly. Although environmental problems are global and need to be tackled on a broad front, much of the detailed work of overcoming them needs to be done locally, often by individual companies (Roberts, 1994). Construction managers must share in this process and urgently review processes and practices. Even small construction firms must take the environment seriously, because there are so many of them and their impact is therefore substantial (Fryer, 1994a).

Summary

This chapter has looked at the main strands of management thinking, how they have developed and how they apply to construction. Some of the early guidelines were based on experience of mass production and processing industries. They were useful in their time and laid the foundation for a more systematic approach to management. However, they have not offered the best guidance for managing construction. As technology and markets have changed, the relevance to all industries of the early management principles has been seriously questioned.

Managers have also recognised that they must give more attention to the social aspects of work. In the long run, an organisation cannot be successful in economic terms unless it is also a success in human terms, providing meaningful work and proper rewards.

There are similarities in managers' jobs because some of the tasks they perform are the same. But the differences between managers' jobs tell us more about the process of management. Managers' roles vary with their level in the organisation. Some managers deal mainly with technical matters whilst others spend their time on strategic issues.

Construction must be managed flexibly because some of the problems facing construction managers differ from those found in factory-based industries. The separation of sites from head office and the temporary nature of project teams, taking their members from many different organisations, demand a special 'task-force' manager, who is self-reliant, adaptable and capable of inspiring teamwork under difficult conditions.

More importantly, the need for flexible management arises from far-reaching changes in society and its economic and value systems. The **glo**balisation of business means that the construction industry will increasingly work in an environment of tough, international competition, adopting innovative organisational structures and work practices in order to achieve new standards of quality, safety and environmental protection set by knowledgeable, demanding clients from many parts of the world.

Chapter 2
Managers and Their Jobs

The tasks of management

Asked what they do, most managers will answer with words like planning, organising, directing and controlling. A handful of words like these have dominated management thinking since they were introduced in the early 1900s by Henri Fayol, the French industrialist. Yet these words are too vague to tell us much about what managers actually do and they take little account of the differences between managers' jobs. Everyone agrees that managers make plans, but so do other people. Moreover, a site manager's plans are quite different from those of a board of directors.

Many management writers add communicating to the list of tasks, but it seems more useful to regard this as a management skill. After all, managers are communicating when they give orders (directing) or arrange for materials to be delivered (organising). Moreover, communication is a two-way process and the manager should often be on the receiving end.

Some managers also rank co-ordinating as a management task. This is a useful term but Stewart (1986) argues that it is too general to be called a separate management function. It is hard to distinguish co-ordinating from organising and it seems to overlap with directing and motivating too. Co-ordination involves planning, as in deciding who should do what and when. Swedish researcher Sune Carlson was perhaps the first to seriously question the validity of co-ordination as a separate management task, arguing that it does not describe a particular set of actions, but rather all operations which lead to unity of action. In other words, co-ordination is another word for management itself.

Peter Drucker has added a further task which he feels is a vital part of management – developing people. The effectiveness of an organisation will depend on how well managers counsel and support their teams. Managers can bring out the best in people or they can frustrate and stifle them.

Planning

All managers plan. They set objectives, try to anticipate what will happen

and devise ways of achieving their targets. However, some planning is long-term, extending over a period of years, whilst other plans cover immediate targets, achievable in a week or less. Long-range planning involves more risk and uncertainty, for it is difficult to know what will happen; short-term plans are usually based on more reliable information.

Planning has grown exponentially both in construction and in other industries for the following reasons.

● There are more large, complex projects, with a lot of people and resources to co-ordinate.
● The increasing reliance on sub-contracting means that the work of many organisations has to be co-ordinated.
● There are greater external controls over business activity, additional constraints have to be met and approvals obtained.
● Markets are more turbulent and economic and social change has accelerated, making the future less predictable.

The main features of a good plan are that it is realistic, flexible, based on accurate information and readily understood. The stages in planning are:

● Set clear performance objectives, usually in terms of time, quality, safety, cost and environmental impact.
● Identify accurately the resources needed and action to be taken to achieve objectives.
● Decide on the best action to take and the most effective use of resources.
● Set up procedures for monitoring the implementation of the plan.

Operational research has developed with the growth of large, technically complicated projects. Computer-aided project planning has come into increasing use. Despite such tools, planning remains difficult. The information needed for such thorough planning is seldom available and the manager rarely has enough time to plan properly.

Some construction firms have set up planning departments in which specialists prepare plans on behalf of, or in collaboration with, management. In other companies, plans are drawn up by the managers themselves. The latter may be less skilful in planning techniques, but they are likely to be more committed to a plan they have produced themselves. Centralised planning used to have the advantage that it made possible the use of a computer as a planning tool. The development of cheap microcomputers has brought advanced planning methods firmly into the grasp of the site manager or engineer.

Plans are usually converted into programmes – visual statements backed by descriptive notations. They show what the targets are, how they are to be

achieved and, ideally, what activities are critical to completion. Plans should be expressed as simply as possible. They must be flexible to allow for unforeseen events. In construction, every new contract is a period of uncertainty for the construction manager.

Organising

Managers are organising when they put plans into action – allocating tasks to people, setting deadlines, requesting resources and co-ordinating all the tasks into a working system. Questions arise about how far to go in splitting the total operation into individual tasks. An easy task will not provide a challenge and the operative may become bored. A task which is too demanding may cause frustration. In either case, the task will fail to motivate and will not be performed efficiently.

Another problem is to decide how fluid to make the boundary of each job. In the building trades, jobs have been quite tightly defined by custom and job boundaries may be vigorously defended. Technical and supervisory jobs may be more flexible, with scope for the manager to vary the individual's job to create interest, improve motivation and skills and meet changing demands.

However successfully managers divide up the total operation into individual jobs and match them to people, they still have to co-ordinate them, so that one work group is not held up by another and materials are there when needed. Activities like these take up a lot of the manager's time and it may be difficult to analyse clearly what the manager is doing. The process of organising becomes inseparable from planning, directing and controlling.

People are the manager's major asset, but some costly resources must be managed too. Plant has to earn its keep; materials and components must be stored, handled and used efficiently to avoid waste. This is all part of organising and a good plan will indicate when plant and materials are needed, what stocks to hold and when to call up deliveries.

The task of organising is very specific to the manager's role. For the personnel manager, whose concern is people, organising will not be the same as it is for the site manager, who has to co-ordinate a diverse range of material, plant and labour inputs and integrate the work of sub-contractors with that of the company's own labour.

Directing

This task involves leading, communicating and motivating, as well as co-operating with people and, sometimes, disciplining them. So central are these to the manager's work that some definitions of management put directing people at the focus. The most carefully prepared plans are useless unless people are effectively directed in implementing them. At the same time, if

plans have not been made and resources not organised, work will be misdirected. People will pursue the wrong goals or their efforts will not be properly co-ordinated. Clearly, the manager's tasks are inseparable.

To direct people effectively, the manager must:

● have some influence or authority over them;
● develop a style of management acceptable to them;
● earn their respect and co-operation;
● empower them.

Delegation is an aspect of directing people which has been widely discussed. It involves passing authority down the management hierarchy. Techniques like Management by Objectives involve directing people by setting them targets rather than tasks. The manager tells subordinates what must be achieved but gives them some freedom to choose how to go about it. Self-managed teams are a development of this approach.

Many managers find it hard to delegate, with the result that they are overworked and their subordinates become frustrated. Delegation means giving people more control over their work. There may be limits to how far this can be taken, but there is little doubt that managers could do a lot more to involve employees in deciding work methods and allocating tasks within their groups. The building trades have always provided more scope for giving operatives discretion over their work than is possible in machine-paced factory work.

Delegation is vital to staff development for it provides subordinates with new experiences at a measured pace, suited to their abilities and ambitions. Carefully monitored delegation of tasks and responsibilities – coaching, in other words – has been recognised by construction managers as one of the most potent methods for developing managers (Fryer, 1994b).

Controlling

This task involves comparing performance with plan. The plan is the yard-stick, without which the manager cannot control anything. If the manager does not control performance, the plan is of no value. So, planning and controlling are dependent on each other and the manager must appreciate this. Apart from environmental impact, the main factors to be controlled, whether on site or in a contractor's or designer's office, are time, safety, cost and quality of work. Time is monitored by assessing progress against pro-grammes, whilst quality and safety yardsticks are provided by specifications and regulations. Priced bills of quantities and the estimator's unit rate analyses contain the information for controlling project costs.

Because the term controlling can have connotations of punishment and

censure, some managers and writers prefer to talk of reviewing, monitoring or measuring. After all, much of the manager's controlling work consists of obtaining information (feedback) and comparing it with various documents. A variance between performance and plan may lead to censure, but more often will simply result in the manager taking corrective action. One could say that controlling includes both, (a) reviewing and monitoring operations, and (b) taking decisions to correct variances. The site manager is controlling when he/she decides to bring more personnel on site after bad weather has delayed progress.

The difficulty over the definition of management words is endless. For instance, when a site manager decides to fence a storage area on site, or use the services of a security patrol at night, is the manager controlling or organising?

Developing staff

Many writers have argued that people are an organisation's most important asset, particularly in a labour-intensive industry like construction. The effective use of a company's resources, whether on a building site or in a designer's office, depends on the motives, abilities and attitudes of people. Good managers have recognised implicitly the importance of staff development for a long time. But it required legislation to make many firms take a serious look at the problems of training and development. This was spearheaded by the Industrial Training Act 1964, which led to the setting up of the Industrial Training Boards, although many have since been disbanded.

There has been a spectacular growth in formal training in construction and other industries, but many managers are sceptical of much of its value – and rightly so. Formal staff development programmes which take people out of the organisation to acquire new knowledge and skills have certain advantages over learning 'on the job', but the methods used have inherent problems. Many training activities are costly and do not produce the results expected.

Managers and training tutors have put a lot of effort into finding more realistic ways of developing staff. The emphasis has gradually shifted from teaching people facts (which they can usually find out for themselves) to helping them learn skills. Some of the more exciting training activities now focus on practical problems rather than subjects, and managers are realising that people learn best when they work at their own pace, using the study methods they prefer. Managers can play an important part in developing their subordinates by giving them increasingly difficult tasks, mentoring and counselling them, and arranging periods of job rotation in which they experience other parts of the company.

Many managers and management tutors are most interested in helping

people learn how to learn. This emphasis on the process of learning rather than its content is most appropriate in a time of rapid change, when knowledge quickly becomes obsolete but what the individual discovers about how to acquire fresh information and skills equips him or her to be an adaptable, life-long learner.

How managers spend their time

The early management writers tried to build a model of the ideal manager. Their focus was on what managers ought to do. A few studies, mainly since 1960, have looked at what managers actually do. Rosemary Stewart (1988), in a study of British managers, found substantial differences in the way they spend their time. Henry Mintzberg (1973, 1976) concluded that the manager's work is characterised by brevity, variety and discontinuity and that managers prefer action to reflection. Several researchers, including Mintzberg, found that managers spend a lot of time in informal, face-to-face communication with people. This can often account for 80 per cent of their working day.

Much of the information collected in the 1970s supported these ideas. Managers were not very systematic and preferred informal, 'unscientific' methods. They would rather talk than write and kept many of their plans locked up in their heads. Their decisions were often intuitive and political, their motives private and hard to define. Mintzberg challenged the traditional, formal management ideas and argued that managers perform an intricate set of overlapping roles, which he called:

- *Interpersonal.* The manager is the group's figurehead, leader and liaison officer, performing rituals and ceremonies, motivating and directing people, and developing a network of contacts and relationships with people outside the manager's group.
- *Informational.* The manager, as monitor, disseminator and spokesperson, is the nerve centre of the unit, reviewing data and events, giving and receiving information, and passing information from the group to others outside. He or she may have to deal with the public and people in influential positions.
- *Decisional.* The manager is a resource allocator, entrepreneur, negotiator and trouble-shooter, searching for opportunities, initiating change and coping with crises. The manager makes decisions and argues about priorities, allocates materials to people and people to tasks.

To perform these roles effectively, managers find ways of gaining control over their time; they use some of this saved time to decide priorities and the rest to discuss information and courses of action with their subordinates.

The roles identified by Mintzberg have largely remained valid, but his comments on managers' use of informal, unsystematic and intuitive methods have become less applicable in the late 1980s and early 1990s. Many managers would still prefer these informal methods, but the exponential growth in computer networks and programs has provided managers with much more information and software which will analyse and synthesise that information quickly and accurately. To cope with ever tougher pressures to achieve targets, managers have had to formalise their tasks, committing plans and decisions to paper (and disk), based increasingly on data assembled and organised for them by powerful portable **PCs.**

The manager's skills

During the 1960s and **1970s,** some of the interest focused on the manager's **skills.** Robert Katz (1971) identified three broad classes of management skills:

● *Human skill.* This is the manager's ability to work as a group member and build co-operative effort in the team, to communicate and persuade. Managers with good human **skills** are aware of their own attitudes and assumptions about people and are skilled in understanding and influencing people's behaviour.
● *Technical skill.* Most managers have previously occupied a craft or technical role and are proficient in some aspect of the organisation's work. They have acquired certain analytical abilities, specialised knowledge and techniques, much of their training having centred on developing such skills and knowledge.
● *Conceptual skill.* This is the ability to see the organisation as a whole, how the parts affect one another and how the firm relates to the outside world. The manager with conceptual skill appreciates that a marketing decision must take account of local conditions, the state of the industry, competition and other political, social and economic forces. Such a manager **recognises** that the decision will affect production, people, finance and other aspects of the business.

Managers use different combinations of skills for different kinds of management work. Katz argues that human skill is important at all levels of management, but especially for junior managers, who have wide-ranging and frequent contacts with people. Junior managers also rely heavily on technical skill, but this becomes less important for senior managers, who depend more on conceptual skill. Indeed, they may get by with little technical or human skill if their subordinates are competent in these.

Each of **Katz's skills** is really a family of skills, which can be further analysed if managers want a closer insight into their jobs. For example, human skill encompasses the ability to deal with peers and colleagues, bosses and subordinates. It includes **skills** for negotiating, persuading, empowering, gaining support, encouraging and counselling – and, sometimes, disapproving and giving a reprimand. Many management tasks demand the use of several skills. Resolving a technical problem may require more than technical skill, if it affects people.

These three groups of skills can be matched against Mintzberg's analysis of management roles.

Interpersonal skills

Little of what has been written about management skills is based on experience in the construction industry, but in a study by the author, construction managers ranked their human **skills** highest (Fryer, 1977, **1979a)**. Discussions with over 60 managers who took part in management courses run by the author between 1989 and 1994, indicated that this ranking had not changed.

Asked about their social skills, site managers and contracts managers stress the need for:

- keeping people informed, getting them involved in tasks and fostering co-operation and teamwork;
- communicating clearly with people and showing positive leadership;
- dealing with people as individuals, taking account of differences in personality, needs and aptitudes;
- showing an interest in people and a willingness to help them with their problems.

Such **skills** help to create good relationships with colleagues, subordinates and sub-contractors' personnel. They help the manager to develop a network of contacts for securing action and the prompt exchange of information and instructions.

On site, the manager has to deal with sub-contract personnel. They have a contractual duty to co-operate with the main contractor, but their main loyalty is to their own employers. Their priorities, attitudes and values may differ from those of the main contractor's team.

Managers must think carefully about how to influence people and must adapt their social **skills** to meet the situation. Technical and conceptual **skills** are essential, but their potential cannot be realised if the manager fails, through lack of human skills, to bring together a cohesive team.

Decision-making skills

Construction managers, like managers in other industries, attach a lot of importance to skills used in decision-making and problem solving. They have been taught, or have found that others expect them, to make quick decisions, thereby showing their competence and resolution. Failure to make a 'snap' decision is often thought to show weakness or lack of self-confidence.

Clearly, this can be dangerous. It is true that quick decisions are often called for and delay can cost money, but a bad decision is sometimes more costly than no decision at all. The manager has to recognise that solving a problem and reaching a good decision sometimes takes time. It relies on more than intuition and judgement. A mix of technical, human and conceptual skills is often needed to achieve a satisfactory outcome. A poor decision rarely brings credit to the manager or the firm in the long run.

Another common problem is that managers spend far too much time making short-term decisions and neglect the long-term issues. This is hardly surprising, since they are judged on the success of current operations. However, many commentators have called for a better balance between immediate and long-term decisions. The attention paid to long-range issues will ensure that the firm keeps pace with developments and survives in difficult times.

Information handling skills

Handling information has become more central to the manager's work as projects and organisational procedures have become more complicated. Managers need a combination of human, technical and conceptual skills for locating and interpreting information, judging its importance and accuracy, sorting facts from opinions and displaying data in various ways. The ability to pass on information clearly, concisely and in an acceptable form is vital nowadays. One problem is that a vast amount of information is available to managers – more than they can possibly absorb. Much of it is not presented concisely or in a suitable form. Managers waste a lot of time sifting through information, picking out important points. IT should have reduced this problem, but it often makes matters worse instead.

The manager's skills are so important that they are discussed in detail in later chapters. But managers' tasks and skills are not the distinguishing feature of their work. Most people make decisions, handle information, draw up plans and organise resources. What distinguishes managers from others is their organisational setting and authority for getting things done. To do their jobs properly and meet objectives, they need power over others.

The manager's power

To perform their work of getting things done through people, managers need to exert influence or power over them. This presents special difficulties for contractors and project managers because many of the people working on a project are employed by other organisations, such as professional practices and specialist contractors. These employees owe their allegiance mainly to their companies and not to the project. There are, however, many reasons why people will co-operate with a manager. They may do so because it leads to some reward or removes the threat of unemployment. They may seek the manager's respect or simply like the manager as a person. Managers must know why people co-operate with them, because this is the basis of their power. Four main power bases recognised in management are discussed below.

Resource or reward power

The manager controls some of the resources and rewards that others want and can influence the salary increases, bonus earnings and promotion prospects of his/her team. A site manager may sanction payments to sub-contractors, exerting some indirect power over their site personnel. The manager may have some influence over whether a sub-contractor is used again.

Resource power is seldom popular. People dislike the idea that their co-operation can be bought and dislike it even more when they have to co-operate with an unpopular manager. But there is no doubt that managers can secure a partnership of effort by rewarding good performance (and perhaps by penalising bad). Reward power will only work, however, if the employee wants the kind of reward the manager is offering and believes that it is conditional on meeting the manager's performance targets. There is a subtle relationship between this and other sources of influence. Sometimes rewards work only in conjunction with other forms of power.

Position power

Managers have some power because of their positions in the organisation. Sometimes this is called *legitimate* power or *role* power. Other people recognise that the manager has the right to give orders, control progress, inspect work and sometimes reject it. Position power is strongest when the manager has explicit backing from senior management. Even when this support is weak, other employees often reinforce the manager's power by expressing group norms about behaviour and attitudes to work, which put pressure on individuals to conform to standards which have become accepted

in the organisation. On the other hand, group norms may work the other way, undermining the manager's power.

Position power gives the manager access to, and control over, certain information. Managers are a focal point in the communications network and control the dispersal of information within their teams and to other departments and organisations. The pieces of the information jigsaw often have little value until they are put together. Information displays synergy – the whole is greater than the sum of the parts. Sometimes, people withhold information from managers and deliberately or unwittingly reduce their power.

Managers also have access to people outside their work groups and to other organisations, and can tap their expertise and resources. Above all, they have the acknowledged right to decide how work should be organised and what should be done when things go wrong. These are powerful influences over people's behaviour. However, sub-contract employees may be more impressed by the role power of their own managers. The main contractor cannot rely solely on position power to gain their co-operation.

Personal power

Some managers have the personality, presence or charisma to influence others without recourse to other methods. Such influence may stem from the manager's appearance, manner, poise, confidence or warmth, dominance or decisiveness. More often, it depends on a combination of such factors.

Some managers rely heavily on personal power to get co-operation, but such power can be elusive and temporary. It works sometimes and with some people. It can disappear in a crisis and can seldom be relied on to consistently replace position power. Nevertheless, it is important and managers use it wherever possible to supplement their authority.

Expertise or expert power

Special knowledge and skills give the manager power over those lacking them. Most managers have some expertise which their subordinates lack and this reinforces their position. A project manager, responsible for co-ordinating the design and construction of a complex project, will depend on such expertise.

However, many architects and construction managers lack expertise in the other disciplines of the project team and can be at a disadvantage, particularly when dealing with specialist designers and contractors. For instance, an electrical sub-contractor's site supervisor will be able to exercise expert power over the main contractor's manager by virtue of his or her specialist knowledge and skills. To retain control, the contractor's manager **minimises**

this counteractive power by strengthening other power bases and by becoming more knowledgeable about the sub-contractor's specialism.

There is a further power base – coercive power – based on threat or the fear it induces. Few managers rely on such power, although in some day-to-day situations they may use it very temporarily to achieve a quick result. Picketing sometimes involves an element of coercive power directed against management, usually when other attempts to influence them have failed. Managers will seldom regard coercion as part of their power base.

Managers should review the kinds of power they use and watch how others react to them. People respond in different ways. They may accept power, ignore it or rebel against it. Some comply with the manager because they think it is worthwhile to do so. Rewards and company rules often lead to such compliance. Others adopt or accept the manager's suggestions because they admire or identify with him or her. Some subordinates may model their behaviour on a manager they admire. Charismatic managers can get co-operation in this way, but people may become too dependent on them. Some people develop such commitment to the task that they carry out their duties with little supervision. Managers have only to keep a watching brief. These subordinates have adopted the goals and have internalised the values and attitudes of the manager as their own.

Most managers achieve their objectives using a combination of rewards, contractual procedures, rules, sanctions, expertise and personal qualities. The methods chosen will depend on the task, the people and the support the manager gets from the organisation.

Empowerment

The early 1990s saw a switch of emphasis from the importance of the manager's power to the need for employees to exercise power. Established notions of employee participation and involvement gave way to the concept of empowerment. Empowerment of employees is based on the premise that the people who actually do a job are in the best position to learn how to do it better. Empowerment aims to eliminate close management control and unnecessary rules, procedures and other restrictions. It gives employees more control over their work (individually and as groups) and the authority to make many of the decisions without asking the manager's approval.

It also means that managers must, to some degree, give up being *in* authority and spend more time being *an* authority – giving employees support and guidance so that they can exercise their empowered status effectively (Stewart, 1994). Seen in this way, empowerment does not lessen the manager's power, but changes the way it is applied. Moreover, **empow-**

erment is not just about giving authority to employees, but about providing them with the knowledge and resources to achieve work objectives (Stoner *et al.,* 1995).

Total quality management systems have embraced the concept of empowerment because it offers some significant benefits. Used effectively, it makes far better use of employees' skills, experience and commitment, leading to higher productivity and job satisfaction. It can improve the quality of service, customer care and speed of reaction to customer demands by putting much of the decision-making in the hands of those who are closest to the client – the staff providing the service. It demonstrates an organisation's real commitment to, and confidence in, its staff, as its most important asset. It can lead to reduced staff turnover, lower absenteeism and fewer disputes. It frees up some of the manager's time, so that he or she can concentrate on more strategic issues.

Self-managed teams

As traditional hierarchies are broken down and organisations adopt flatter, leaner structures, the need for empowered teams increases. Sometimes called self-managed teams or autonomous work groups, the empowered team has great potential for releasing creative action, improving performance and building employee commitment.

But these teams need to be skilfully developed – they don't just happen. Training is needed so that the rationale and benefits of empowerment and team working are understood. Individual employees need to learn how to exercise power within their team: how to do this by communicating effectively and influencing others using appropriate behaviour; how to improve their skills for analysing situations and solving problems creatively; how to be assertive but not aggressive or domineering; how to negotiate compromise and reach consensus. Managers also need training. They must learn how to adapt their behaviour to interact with their new, dynamic teams: how to relinquish power; how to exercise authority when it is needed; how to act as a mentor to the group and its members; how to ensure in a non-controlling way that the team's achievements remain in harmony with the organisation's wider goals.

Empowering individuals and setting up self-managed teams is not always easy. For example, there can be problems associated with staff calibre – a manager who is unable to adapt to the new role, an employee who can't cope with problem-solving – and attitude problems – an employee who feels it is the manager's job to make decisions. Such problems can often, but not always, be overcome by training. Clearly, there are big advantages in training a team together. Attitude changes which are difficult to bring about in an individual are often easier to achieve within an established group. In the

main, case studies of organisations which have tried empowerment of individuals and teams have shown impressive results.

Professionalism and construction management

Until perhaps the 1980s, few people would have described construction management as a profession. But the discipline has steadily gained in status and recognition in the eyes of clients and other built environment professions. Of course, the definition of profession has also broadened and includes many more occupations than it originally did. Murdoch and Hughes (1996) refer to the four defining characteristics of a profession as:

- A *distinct body of knowledge. A* special competence or identifiable corpus of expertise.
- *Barriers to entry.* Professional bodies which regulate entry through qualifying mechanisms.
- The goal of *service to the public.* The true professional places the public good before other objectives. This concern is exemplified by the profession's code of conduct.
- *Mutual recognition.* The profession is recognised by other professions and it recognises them.

There is no doubt that construction managers have behaved in an increasingly professional way. They have had to, in order to keep on top of the growing complexity of projects, increasing sophistication of clients and major changes in the business environment. But, if one applies the above criteria strictly, construction management falls some way short of being a profession in the traditional sense.

There is no shortage of a corpus of knowledge, but the barriers to entry are somewhat ill-defined. This stems from the fact that there isn't a single professional body regulating entry or a single qualifying route. Engineers, architects or quantity surveyors could (and indeed do) perform the role of the construction manager if they have the necessary experience and skills. Engineers are frequently promoted to construction management. QSs who have worked extensively for contractors can progress to project or contract management roles. Organisations like the Chartered Institute of Building and the Association of Project Managers are about the closest thing to a professional institute for construction managers, but they have wider categories of membership. This also creates some difficulty in meeting the criterion of mutual recognition among professions. In addition, there is no system of registration for construction management as there is for architecture.

A further difficulty is that most construction managers could not say, in all honesty, that public service is uppermost in their minds. Most of them would probably rate the interests of their employer or the client as their first priority. Of course, one can speculate that the established profession's members do not always put the public interest first. But at least they have codes of conduct and the threat of censure.

There are, of course, problems inherent in professionalism itself. The institutions it creates can easily become bureaucratic and resistant to change. Professions try to guarantee reliable service but cannot always succeed – all organisations contain a mix of people of varying competence. Professionalism can create rigid role demarcations which are not always in the best interests of specific projects, where flexibility is essential and interdisciplinary teamwork is needed (Murdoch and Hughes, 1996).

Summary

Managers' jobs are demanding, complex and varied. There are certain common features in the role of manager, but individual jobs differ markedly. Most managers, regardless of their field of operation, have to manage people, information and decision-making processes. They perform these roles using varying combinations of human, technical and conceptual skills to plan, direct, organise and control people and resources. The amount of time they spend on each role and its associated skills depends on their function and level, and on the abilities and motivation of team members. Staff development and mentoring is becoming an important part of most managers' jobs.

Research in the 1960s and 1970s showed that managers were not always the systematic, analytical thinkers that early management theories thought them to be. However, the development of the information technologies has meant that managers now have better information with which to manage and powerful techniques for analysing information, planning and decision-making. Even though many managers prefer informal, intuitive methods, they have been forced to adopt more structured techniques in their work because commercial pressures are demanding ever greater efficiency and this has necessitated a more rational and systematic approach to management, and greater professionalism.

Most managers in the construction industry rely heavily on social skills. Good leadership and effective communication are needed in a wide range of situations. These skills are vital in site management, where the work of many organisations has to be co-ordinated.

Some of the power exercised by managers is based on their personal characteristics and behaviour. However, personal power cannot always be relied on to get results and the manager must utilise several power bases to maintain effective control, especially where sub-contractors are involved.

The 1990s has seen a growing interest in empowerment, a process which shifts some of the power from managers to employees, individually and as self-managed teams. Employees, being closer to the **workface** and having superior knowledge of the work and its environment, are often in a better position to make decisions; **empowerment** gives them the opportunity to use and develop their talents more fully.

Chapter 3
Organisation

Many small businesses work well without formal structure or rigid rules. The enthusiasm of the owners or managers keeps these firms on course. But as organisations grow, the work of more and more people has to be co-ordinated. Special attention has to be given to how tasks and relationships are organised and communications maintained.

Organisations as we know them today have only emerged in the last century or so, with the growth of industry and commerce. Many of them have become *bureaucratic* – that is to say, hierarchical, impersonal and controlled by a system of rules.

An organisation can be seen as a set of roles or positions rather than a collection of people. Employees can be replaced by others with similar knowledge, skills and attitudes. The posts or roles are arranged in a hierarchy and those higher up have authority over those lower down. Difficult problems are referred up the hierarchy to a level at which they can be solved, whilst decisions are passed down to the level at which they are implemented. Activities are broken down into manageable, specialised tasks. The number of sub-ordinates each manager has is limited, so that effective control is maintained.

This approach gives rise to the classic 'family tree' organisation structure. Specialist advisers are needed and this leads to the *line* and *staff* distinction present in many companies. Line people are the generalists, responsible for production. Staff are specialists, who give them technical and administrative support.

There has been much criticism of bureaucratic organisations and managers have tried to improve them. A fundamental objection is that they become rigid and inefficient and do not take enough account of human behaviour. The result is breakdown and failure – people do not always comply with orders or accept company goals. They may challenge the power bases in the firm.

The idea that an organisation should be continually restructured and its rules altered as circumstances change was not widely accepted until after World War II. Change and uncertainty are now forcing organisations to be more flexible. Managers in many industries have experimented with temporary task forces or 'project teams', which can adapt quickly to new

challenges and conditions. More production tasks will be organised this way in the future. Prominent writers like Warren Bennis and Eric Trist have described the changes likely to affect businesses as they move into the post-industrial era. People will be grouped according to expertise, rather than by rank or status.

Alvin Toffler (1970, 1984) stressed the need for firms to be responsive to change, arguing that redesigning organisations should be a continuous task, bureaucracy giving way to 'ad-hocracy'. Like Toffler, Bennis (1970) saw a rapid growth of the 'project team' method of working, with manufacturing industries moving towards the kind of organisation already well established in construction. Managers in the construction industry have wide experience of setting up temporary project organisations of considerable size and complexity, lasting for months or even years. Project organisations are created for a specific purpose, have clearly defined goals, change their composition over their lifespan and are disbanded when the work is done. Unfortunately, however, construction is not seen as a good model for other industries to copy because, despite its built-in flexibility, it suffers low pro-ductivity growth, poor working conditions and a bad safety record (Winch, 1994).

Organisational activities

One way of analysing an organisation is to consider it as a system and identify its sub-systems. In broad terms, the organisation can be split into a decision sub-system and an action sub-system, but a more detailed analysis suggests four major activities:

● *Deciding on objectives and policies.* An organisation must have a sense of direction and purpose. A high level sub-system works out priorities, sets standards, lays down codes of ethics and gives overall guidance.
● *Keeping operations going.* There is a sub-system for the routine productive tasks of the business necessary to achieve its purpose. This includes most of the production function, office administration and accounting system. Selling comes under this heading, but not the whole of marketing.
● *Coping with crises and breakdowns.* Things will go wrong. A 'trouble-shooting' sub-system deals with problems. Failures can occur anywhere in the organisation. A routine production task may break down because materials are delivered late. A marketing decision may fail because trading conditions change unexpectedly.
● *Developing the organisation.* Some activities are aimed at changing the organisation or its methods. Research and development and parts of production, personnel and marketing contribute to the organisation's

development. For instance, the personnel function of staff development is a key aspect of organisational change.

In construction, deciding policy and developing the organisation are mainly the province of the parent companies. The project task-force will be largely concerned with keeping things going – getting the job built on time and within budget – and coping with operational problems.

Objectives

Whatever form an organisation takes, the ultimate measure of its success is whether it meets the needs of the people who have an interest or stake in it. Yet most industrial organisations have fairly limited objectives and have not always catered well for the needs of employees or local communities. Only exceptionally have such organisations attempted to take over some of the functions usually performed by society. In Japan, this approach is more common.

The objectives or goals of those contributing to a construction firm or project are not always clear. Yet managers need to know these goals to measure how well the organisation is doing.

Traditionally, managers have stressed *economic* goals like profitability, high productivity and expansion. Typical economic objectives are:

- To provide a fair return to shareholders.
- To satisfy clients' requirements.
- To **utilise** resources efficiently.
- To improve the company's position in its markets.
- To develop products which can be sold profitably.

Profit has been the main measure of business success, although it has come under attack from time to time. Changing attitudes have forced profit into a less central role in management thinking, where it is viewed in the context of other objectives.

The modern view is that an organisation is a coalition of people. The organisation, being mindless, cannot have goals – only the people in it can. Therefore, all objectives are really *social.* The so-called 'organisational objectives' are the goals laid down by the more powerful or influential people in the business. Increasingly, these goals have been challenged by groups within and outside the organisation. Unions, governments and other bodies have scrutinised organisations and put pressure on senior managers to modify their actions and expectations. Managers have had to make changes to meet statutory demands and to ensure the continued co-operation of the workforce.

Typical social objectives are:

- To provide employees with fair compensation for their efforts.
- To encourage and support individual growth and development.
- To provide secure employment and a friendly, co-operative atmosphere.
- To benefit rather than harm the community, avoiding activities which endanger public health.

During the 1960s and 1970s, the trend was towards achieving a more realistic balance between economic and social objectives, but shrinking markets and high unemployment in the 1980s and 1990s have made it difficult to pursue social goals effectively.

Environmental objectives

During the late 1980s and early 1990s, environmental objectives were increasingly advocated by management commentators and adopted by organisations. Evidence started to accumulate of extensive ecological damage caused by industrial activity and the full environmental impact of businesses was recognised. Of course, all consumers contribute to environmental damage, but the scale on which businesses have changed the environment, in some cases irreversibly, has become a cause for deep concern.

The construction industry must embrace environmental objectives and adopt policies which support sustainable development, if it is to retain its credibility in a business community which is adapting to environmental demands, albeit slowly in some sectors. Indeed, environmental objectives may give companies a competitive edge in future and even ensure their survival. In the early 1990s, clients and the investment community became increasingly likely to ask contractors at the tendering stage if they had an environmental policy and were showing greater keenness to support environmentally sound projects (Fryer and Roberts, 1993; Fryer, 1994a).

Underlying objectives

However, many so-called objectives are not objectives at all. They are the means by which underlying goals are achieved. For example, profitability can be viewed not as a goal, but as a way of ensuring that organisations survive, wages are paid, shareholders are rewarded and, perhaps, managers' self-images are satisfied! Similarly, the social objective of secure employment is not a goal in itself, but a means of giving employees satisfaction and self-respect from having a place in society and the ability to supply their needs.

If any goal can truly be said to be organisational, survival is perhaps the only one. The survival of an organisation affects owners, employees, their

families, shareholders and the community. In many organisations, profit is a prerequisite for survival and, for this reason, is important.

The purpose of setting up project organisations is to build buildings and structures. Construction can be thought of as a strategy for achieving a variety of goals for the people involved. Ideally, these goals will be achieved by completing projects on time, at the right cost and quality, but in practice some of the objectives conflict.

Managers use time, quality and cost to measure project performance. These criteria are more quantifiable than social objectives and therefore easier to use. They include cost targets, dates for starting and finishing each operation and specifications of materials and work.

However, it does seem important that the economic goals of the companies contributing to a project should help achieve social and environmental objectives. Organisations should ultimately serve people, both the stakeholders in the business and the members of society at large. People should not be the slaves of organisations, nor should their environment be seriously degraded.

Characteristics of organisations

Organisation structure

Most organisations are not designed, they grow. They eventually reach a size where it becomes necessary to write down who does what, otherwise the managers lose sight of the whole picture and jobs are forgotten, or done twice. The purpose of organisation structure is to ensure that work is allocated rationally, that there are effective links between roles, that employees are properly managed and that activities are monitored.

Structure is the skeleton of the business: it creates enough standardisation of roles and procedures to allow work to be performed economically and to keep the organisation in tune with the procedures of the firms with which it does business. It facilitates control by creating a communications network of instructions and feedback.

When designing or improving an organisation, senior managers must ensure that:

- tasks and responsibilities are allocated to groups and individuals, including discretion over work methods and resources;
- individuals are grouped into sections or larger units and the units integrated into the total organisation;
- formal relationships are set up, spans of control considered and the number of managerial levels decided;

- jobs are clearly defined, but are not too rigid or specialised;
- authority is delegated and procedures are set up for monitoring its use;
- communication systems are created, improving information flow and co-ordination;
- procedures are developed for performance appraisal and reward.

Structural weaknesses in organisations lead to many business problems, including too much paperwork, people overloaded with work, poor or late decisions, inability to cope with change, low morale, industrial conflict, increased costs and lack of competitiveness.

Specialisation

Most organisations have introduced specialisation in the belief that it leads to better use of people and resources, but it has drawbacks too. It leads to fragmentation and the need to control and integrate tasks more tightly.

In construction, the fragmentation is very marked. Parent firms contribute only a specialised input to projects, and jobs within that limited input are themselves specialised. Specialisation leads to isolation and can cause co-ordination problems. For instance, the R&D laboratory of a heating and ventilation contractor may be annexed in a country house, whilst top managers occupy a high-rise office in the capital. Production takes place anywhere the firm is willing to work, perhaps over an area of hundreds of square miles.

In professional and technical jobs, specialisation can create challenge; in clerical and manual jobs it can lead to boredom. Writers like Friedmann and Argyris have argued that highly routine jobs, requiring little learning, are not a humane use of people because their full potential cannot be tapped. Some managers have recognised the need to adapt work to meet employees' needs and their companies have successfully introduced schemes to enlarge and enrich jobs, making them more satisfying. Many firms, however, have not come to grips with the problem.

Drucker (1968) offered three simple guidelines for improving routine jobs:

- A job should be a distinct step in the work flow, so that the worker can see the result.

  The design of a job should allow workers to vary their pace.
- A job should provide an element of challenge, skill or judgement.

It may be impossible to achieve this in every job, but it can often be done for small work groups, where roles can be swapped, provided that rigid job demarcations are dropped.

There are arguments for and against closely-defined jobs. Drawing up a

precise job description forces management to think clearly about the purpose and content of the job and both management and employee know where they stand. On the other hand, job descriptions can be inflexible and unrealistic when conditions are changing fast.

Indeed, the future success of organisations will depend less on traditional jobs and more on the creative use of information, ideas and intelligence – things that don't fit neatly into old specialisations. Work will have to be more flexibly defined and organisations will have to be even more adaptable. There are many reasons for this and Handy (1991) explains them well. New roles that we never heard of before will (and already have) come into existence and many of them will need to be organised and managed in new ways. The occupation identified in Box 3.1 is speculative but feasible!

WANTED: Senior Futures Surveyor

Accountable to the Company's Futures Manager, the appointee will be responsible for:

- Environment scanning and analysis.
- Futures data collection and synthesis.
- Developing the Company's Futures methodology.
- Developing scenarios and trend predictions.
- Presenting these to the Futures Manager and Strategic
  Re-engineering Group.

Applicants should be chartered futures surveyors with at least 5 years post-qualification experience, at least half of which should have been with multinational contractors or consultants.

Box 3.1 A future role?

Information technology is just one of the factors affecting organisation structures. Computer-based decision-support and information systems can lead to different choices of structure and influence the extent of de-centralisation of decision-taking and control (Mullins, 1996). Regrouping of tasks may result from developments in information management, creating new specialisations.

Hierarchy

Most organisations are hierarchical. They are made up of a series of tiers, each having authority over the levels beneath them. The number of levels in the hierarchy may vary from two in a small building firm to a dozen or more in some large organisations. The size of the firm largely dictates the number

of tiers, although management may decide to widen spans of control to limit the number of levels.

Where spans of control can be widened successfully, there is a strong case against tall organisation structures, which increase overheads, create communication problems and weaken senior management control. The more levels in the hierarchy, the harder it is to distinguish between the duties and responsibilities of people at different levels. This can restrict the scope for subordinates to show initiative, thereby reducing their motivation and job satisfaction. A small organisation can opt for a shallow structure with few levels of management or it can keep spans of control small, making the structure taller. It will usually choose the former.

A large organisation has a more difficult choice. It is necessary to maximise the span of control to prevent the structure becoming too tall, but clearly there are limits beyond which effective supervision becomes very difficult.

Large organisations employ more specialists who relieve the line managers of some of their tasks. This makes it possible to increase spans of control to levels which would otherwise be impractical. The manager's span of control will also depend on the work and the people involved. Routine, repetitive jobs may need less supervision than complex, non-routine tasks, but this also depends on the capabilities of employees. The span of control can be widened if the manager is very able, if subordinates are competent and willing, and if they share the same workplace. An area manager may have subordinates spread over a wide radius.

Downsizing

A phrase which has become popular in the 1990s, downsizing refers to the trend among many organisations to reduce their overall size, often by decreasing the number of levels in the hierarchy, producing a flatter structure. Businesses have done this partly to create flexibility, so that they can respond more quickly to change, and also to achieve improved efficiency to satisfy new quality management systems.

Downsizing has become a competitive imperative for many organisations in the 1990s, but it creates an ethical challenge for managers, who have to cope not only with redundancies but with problems of retaining the loyalty, motivation and sense of security of the employees who stay (Stoner et *al.* 1995). Moreover, downsizing has in many cases resulted in real shortages of expertise, especially managerial talent (McClelland, 1994).

Centralisation v. decentralisation

An important structural feature affecting an organisation's efficiency is the degree to which it is centralised or decentralised. This can be measured by:

- The extent to which managers delegate authority and decisions from the top to the lower levels in the business.
- The extent to which the administrative functions of the firm are carried out at head office, rather than being spread through the organisation. For instance, some contractors have a central buying department for all material purchases. Others allow managers in different areas or divisions to organise their own purchasing.

Decentralisation can be based on area or product. If a contractor is working over a wide area, regional decentralisation may be vital to cope with local conditions. If a company builds hospitals and factories and also undertakes speculative housing work, product decentralisation may improve organisational efficiency. In speculative housing, policies and procedures for accounting, estimating, buying and so on, will differ from those suited to contract work.

However, no organisation is likely to be totally centralised or decentralised. Most firms strike a balance between the two. What this balance should be depends on several factors:

- *The size of the organisation.* This is important because the larger it gets, the harder it becomes to control everything from the top, without depriving junior managers of authority and autonomy. Since the 1950s, when the problems of large-scale organisation were becoming clearer, managers have become keen on decentralisation because it permits more realistic control and greater flexibility.
- *The type of work the firm undertakes.* This is important for two reasons – diversity and pace of change. If its operations are diverse, it is difficult for the top managers to keep track of everything. If conditions are changing fast, it is better to leave more of the judgements and decisions to people on the spot. Indeed, some technical decisions have to be delegated because the junior staff are more technically up-to-date.
- *Staff capabilities and motivation. A* decentralised organisation is often more satisfying for people to work in, but staff must be competent and willing to make the necessary decisions. This means that the organisation must have good calibre employees in key positions in its decentralised units.

Centralisation and decentralisation each have their strengths and weaknesses, so a compromise between them is usually best. The advantages of decentralisation are the drawbacks of centralisation, and vice versa, so it is only necessary to consider one of them. Table 3.1 summarises the points for and against decentralisation.

Company policy towards decentralisation has to be reviewed from time to

Table 3.1 Advantages and disadvantages of decentralisation.

Advantages	Disadvantages
Makes junior posts more challenging	Makes overall control more difficult
Decisions are taken by those who have to live with the results	Difficult to keep track of decisions taken
Encourages people to show initiative and creates greater commitment among employees	Difficult to keep an overall perspective and safeguard the interests of the whole organisation
Easier to judge the performance of a manager who is responsible for a decentralised unit	Creates higher administrative costs owing to duplication of specialists

time, as circumstances change. Some people have argued, for example, that computers will lead to greater centralisation by providing senior managers with more and better information. The development of microcomputers has, however, quickly changed the picture, giving junior managers improved information too, thus reducing the number of decisions that have to be referred to senior management.

Rigidity v. flexibility

Some of the differences between firms were highlighted in Chapter 1. For instance, Burns and Stalker (1966) contrasted the rigid, mechanistic organisation with the more flexible, organic one. As with centralisation, it is unlikely that any firm will adopt an extreme policy. Most will opt for a structure somewhere between the extremes. Size is again important. The larger the firm, the more formal and inflexible it is likely to be, although the degree of rigidity can vary a lot from department to department. For instance, the production part of a firm is often more formal than the sections dealing with marketing or research. In a construction firm, the buying department is likely to be more rigid than the estimating department, whose workload is usually varied and unpredictable. There are several indicators of rigidity in a company, as described below.

Rules and procedures

Rigidity often shows up in the number of rules and procedures used and the extent of written, rather than spoken, communication. All firms have rules governing who is allowed to authorise cheques, sign contracts, buy materials, and so on. The rules are not always written down and this can give a false

impression of informality in a formal set-up. Up to a point, procedures and rules are necessary to ensure that tasks are allocated and performed systematically. They underpin the authority of managers and help reduce the number of decisions to be taken. But they can become an end in themselves instead of a way of improving efficiency. Rules and procedures should be kept under review to ensure that they still apply.

Some formality is imposed on the organisation from outside. For example, a contractor's disciplinary procedures are partly dictated by legislation and codes of practice. Similarly, the statutes impose many site safety rules on the contractor.

Organisation charts

Many firms draw up some form of organisation chart, a kind of map of the firm. The chart gives an overall picture of how roles are allocated and helps senior managers to identify organisational problems and develop procedures and succession plans. It gives new employees a better idea of the 'shape' of the organisation.

But organisation charts have their limitations. They give only a crude picture, unless there are detailed explanatory notes to accompany them. Even then, they tend to oversimplify relationships because there is a limit to the amount of information they can show. They tend to emphasise vertical relationships in the organisation, rather than horizontal. They stress the formal links, rather than the informal. They give little indication of status differences between managers on the same tier in the hierarchy. Most important of all, they are static and can quickly become out of date. When this happens, organisation charts are not simply useless but misleading.

Job descriptions and organisation manuals

These documents set out the functions or duties of individuals and departments and the relationships between them. They can be quite detailed. They are intended to make the organisation more efficient, but they can create rigidity, making it hard for people to respond sensitively to unexpected changes.

Paperwork and committees

Paperwork and meetings are a feature of most organisations. The extent to which firms use forms, reports, memoranda and committees, and the diligence with which files and minutes are kept, give a measure of the firm's formality. Many committees meet regularly, even when there is little to

discuss. Forms are often filled in, even though the information is little used. Reports are written and considered at length but, all too often, no action is taken. Such waste of time and resources must be eliminated.

Some records, such as accident report forms and records of disciplinary meetings, are kept to comply with legal requirements and codes of practice.

Types of organisation

Line and staff organisations

Most construction firms have an organisation structure of the line and staff type which has dominated management thinking for many decades. The 'line' managers are responsible for production. They pass instructions and information down the hierarchy and monitor what happens. 'Staff are the functional specialists – engineers, accountants, estimators and so on – who provide a back-up service to the line managers. Some of the specialists run departments and therefore have both line and staff responsibilities. Their authority is, however, limited to their own specialism. Senior planners, for instance, have line relationships with their bosses and subordinates, and staff relationships with the operations managers for whom they provide planning services.

In its basic form, the line and staff structure is split into *functions* as shown in Fig. 3.1, but there are many variations. For example, in the 1960s, many European organisations reorganised into *product* or *area* divisions to cope with expansion or diversification. When a firm widens its scope, it may split into product divisions, each specialising in a type of work or market, such as housing, refurbishment or road construction. A company which expands geographically is more likely to become area-based. Here it makes sense to decentralise some of the administrative functions and perform them locally.

In both cases, divisions are usually fairly autonomous and are responsible for their own profitability. The parent company retains a headquarters, mainly for strategic planning, policy-making and overall financial control. The divisions have their own estimators, project planners, buyers, etc.

In both area- and product-based organisations, the problem of how best to group activities remains. Each division may be split into functional special-isms, so that it appears to be a microcosm of its parent firm. However, the division can respond more quickly and flexibly to the demands of its product or area, than can its parent. Complications arise when a company both expands and diversifies. It may need some of the features of product and area organisation and must operate a blend of functional, area and product organisation.

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                          Managing Director
                                 or
                          Chief Executive
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— line relationships   – – – – examples of staff relationships
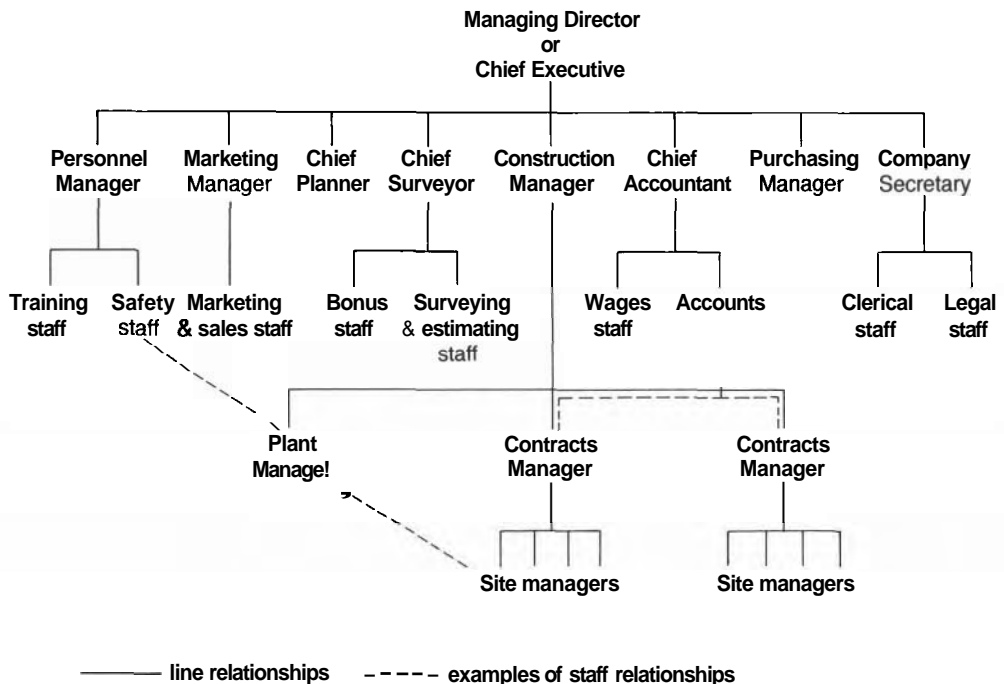
Figure 3.1 Line and staff organisation structure: construction firm.

Matrix organisations

Unlike the parent firms, project organisations do not evolve over a period of years, but have to become operational in weeks. Special attention must be given to the design of large or complex project organisations for power stations and other heavy engineering works. These temporary, task-force organisations may be better served by the matrix organisation structure, which first attracted widespread attention in the 1970s. The traditional management hierarchy – the chain of command – is partially replaced in the matrix structure by a network of lateral and vertical role relationships better suited to the need for teamwork and integration (Fig. **3.2).**

In the matrix organisation, managers and supervisors responsible for the various trades and specialisms report vertically to their 'line' bosses in the parent firms and laterally to the project manager. This separates the roles of managing people and managing tasks. Project staff have both a functional boss, who runs their careers and tries to balance the demands of the project and the parent organisation, and a project boss, who 'bids' for their services. Clearly, this can create problems of loyalty and commitment. Ideally, individuals remain loyal to their company, but are committed to the project. **A** number of construction firms and professional practices have tried the matrix approach because they were dissatisfied with traditional methods.

project-based line relationships
company-based line relationships
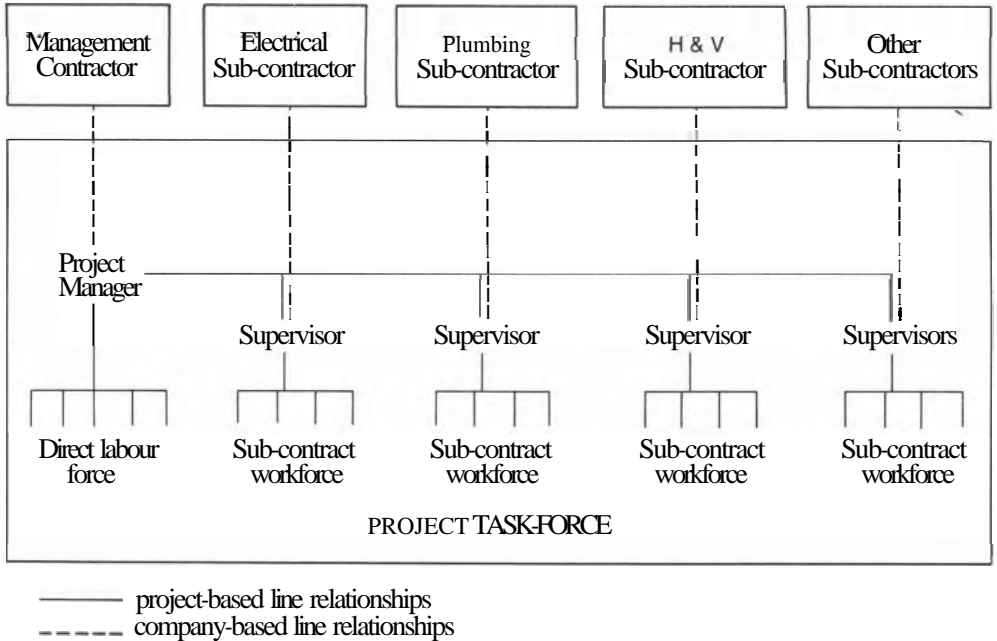
Figure 3.2   Matrix organisation structure: construction project.

There are still problems. The success of this form of organisation depends on people's willingness to break away from established methods and attitudes, shifting their allegiance from specialist group to task group. A buyer has to see him/herself not primarily as a member of the buying department, but as part of a project team.

A project organisation is further complicated because its structure changes over its lifespan. This is a major difference between projects and factory-based manufacturing. The skills and resources needed within the project team alter sharply over a period of weeks or months. The team members have to collaborate closely, but their backgrounds and skills are quite different.

A project organisation should be flexible. It should respond to the type and complexity of the job. It will vary, for instance, with the ratio of specialist engineering and services work to main contractor's work. The traditional line and staff organisation may not encourage the close co-operation and good communication that are essential to the success of projects. Rigid roles, captured in job descriptions, can create problems. Loosely defined, overlapping roles can encourage the kind of teamwork needed in construction. The organisation structure must provide for ideas and information to flow in all directions, so that people are better informed and become more supportive of one another. Informal, lateral communications are legitimised in the

matrix structure because they are essential for bringing the task-force members together and focusing their attention on mutual problems.

The characteristics of a matrix organisation for a construction project are summarised in Table **3.2.** The main variables are its goals, timescale, tasks, people and environment. These alter considerably from project to project, so it is important to adopt a contingency or 'best-fit' approach. The resulting project organisation may not always be tidy, but what matters is whether it works. Adherence to time-honoured principles of organisation is pointless unless, in the end, the project goals are achieved.

Table 3.2   Characteristics of a project organisation.

Goals	Clearly defined and short-term, in comparison with those of the parent firms. Stated as cost targets, time deadlines, quantities and standards of performance, quality and materials. Most project goals are quantifiable and progress towards them can be measured.
Timescale	Relatively short-term. The project lifespan is finite, with specific dates for commencement, completion and key stages of the project.
Tasks	Variable in scope and technical complexity. Less repetitive than most manufacturing tasks. Assembly of a wide range of raw and partly processed materials and components. High level of task specialisation, reinforced by trade practice and custom.
People	Wide range of backgrounds, knowledge and technical skills. Mixture of specialists, craft workers, semi-skilled and unskilled. Many involved for only part of the project duration. Willing to tolerate job mobility, low job security and poor working conditions.
Environment	Comparatively stable for the duration of the project, except for the weather, which is highly variable, and the labour market, which fluctuates in response to local competition and changes in workload.

Writers like Harrison (1992) have emphasised the special features and problems of project organisations. The characteristics of complex, one-off projects are summarised below.

● Decisions are not repetitive and a bad decision early on can affect the rest of the project. It may be impossible to recover from an early mistake.
● The learning time for those involved is limited. **A** manager may only experience each stage of a complex project once every few years.
● It is difficult to define suitable work patterns, planning and co-ordination methods, and control systems.
● Project personnel are drawn from many organisations and some contribute to the project on a 'part-time' basis. Their work must be thoroughly integrated.

- The companies and departments involved usually work simultaneously on other projects, each of which is probably at a different stage in its life-cycle.
- As work progresses, the emphasis shifts from design to procurement, then to site organisation and construction, and finally to commissioning and operation. No single firm or department is the most important over the whole project lifespan. No single manager (except a project manager) can assume the leading management role for the entire project period.

Project management

A lot of attention has been paid to the overall management of construction projects and, during the 1970s and early 1980s, much of the interest focused on the role of the *project manager.* Project management is not confined to construction and is used extensively in other industries, such as petrochemicals and the US aerospace/weapons programmes.

Lack of a clear definition of project management led the Chartered Institute of Building to set up a working party to define more clearly the duties implied in the role.

The working party used the following definition of project management:

'the overall planning, control and co-ordination of a project from inception to completion aimed at meeting the client's requirements and ensuring completion on time, within cost and to required quality standards' (CIOB, 1982).

This role can be broken down into four main areas:

- Advising the client at the outset of the project on financing and land acquisition, preparing the brief and appointment of consultants and contractors.
- Planning, controlling and directing the project for the client.
- Motivating and co-ordinating all participants to achieve project completion to programme and within budgeted cost.
- Providing a project that satisfies the client's requirements in terms of quality, performance and cost in use.

Separating the management of a project from the design and construction processes allows project management to develop in its own right. Normally, the project manager is appointed by the client. Good project managers can be found in all the construction disciplines. The use of an independent project management organisation is not common and is usually confined to large, highly complex projects. In these, planning and cost control are very difficult and special organisation structures and techniques are needed.

Large client organisations, who commission construction work regularly,

may employ their own project managers. Construction firms have mainly limited their involvement in project management to that of *management contracting.* Here, the contractor acts as project manager for the client and works with the professional advisors in return for a fee. The contractor does not execute the work but sublets the whole of the work to sub-contractors.

The term *project manager* is used in several ways. It can mean the limited role of co-ordinating the parties involved or, in its widest sense, embrace total responsibility for the management of a project from inception to completion.

Project management has undergone radical change since the late 1980s, helped by increasingly elaborate management information systems. Better planning and control methodologies, integrated and structured approaches to project organisation and better understanding of how to manage people on projects are the factors identified by Harrison (1992) as crucial to the success or failure of project management. A detailed treatment of project management is beyond the scope of this book, but there is now an extensive literature on this subject (see, for instance: Harrison, 1992; Morris, 1993; Walker, 1996).

Sub-contracting

A major feature of twentieth century construction has been the growth of sub-contracting. Murdoch and Hughes (1996) summarise some of the general and specific pressures to use sub-contracting, including (among others):

a   Assigning the non-wage costs of employment, such as training, sick pay and pension rights.
●   Coping with the increasingly diverse range of skills needed to deal with growing complexity on projects.
●   Off-setting the risks associated with responsibility by transferring them.
a   Securing the services of specialist staff of proven reliability.
●   The perceived threat posed by unionised direct labour.
●   Reducing costs by employing labour from firms local to the project.
●   Achieving more economically the varying skill combinations needed on different projects.
●   Reducing the cost of employing and developing the expertise of specialist workers who cannot be given continuity of work.

The success of many projects now depends heavily on the designer's ability to *integrate* the work of the main contractor and the various specialist sub-contractors, many of whom are nominated, and the manager's ability to *co-ordinate* the main contract and sub-contract operations on site.

Effective co-ordination and integration depend on thorough consultation

between main contractor and sub-contractors, especially concerning the following areas:

● The programming of the work.
● Information requirements and communication channels.
● Responsibilities for facilities, such as off-loading, storage and welfare.

Many factors influence the success of co-ordination, including:

● The number of firms involved.
● The range and type of work to be integrated.
● The quality and availability of information.
● Differences between organisations.
● The number of visits to be made by the sub-contractor.
● The quality of supervision.

Nomination

The use of nominated sub-contractors is well-established and gives both client and design team more control over selected specialist inputs (especially those which include design work or work for which there is a long lead time). Although there are a number of valid reasons for using nomination, some clients and contractors have been unhappy about the practice, having experienced project delays and extra costs arising from poor performance by nominated firms.

Specialist engineering contractors have defended nomination, pointing out that much specialist work is concentrated towards the end of projects when any slack in the programme has been used up. Such delays are just as likely to be the result of poor project co-ordination.

Self-employment

Self-employment in the construction industry trades and, specifically, labour-only sub-contracting, increased markedly in the 20 years up to 1995. Contractors enjoyed some of the benefits of this trend. It helped them to keep costs down in a period when workloads were mainly on a downward trend. New guidelines from the Inland Revenue in 1994, coupled with the 1995 Finance Bill, may halt this trend – and possibly reverse it, as tax changes make self-employment less attractive.

New forms of organisation

The future is likely to bring even more diversity among organisations, as businesses struggle to cope with the burgeoning complexity of commerce and

technological and social change. One extreme will be the portfolio company, consisting of one or a small number of owner-workers, who carry out a range of services for their customers, flexibly responding to uneven demand. One month, they may be managing a small housing development, the next digging a pond in someone's back garden. The other extreme is perhaps the verti-cally-integrated multinational development corporation, embracing planning, design, production and facilities management and operating almost any-where in the world.

Partnering and project partnering

Partnering has developed from the TQM (total quality management) phi-losophy and has been used successfully in countries like the US, Japan and Australia. It is an approach which tackles many of the concerns identified in the Latham Report which stressed the need to overcome adversarial attitudes and improve the industry's management at all levels, adopting a TQM approach, with emphasis on teamwork and co-operation (Latham, 1994). The essence of partnering is that it highlights shared risk and common objectives, seeks win-win solutions, encourages trust and co-operation and tries to minimise conflict. It calls for a new outlook on inter-professional relationships and demands total commitment from senior managers in participating organisations.

Fleet (1995) points out that partnering is not a new or unified concept. It can apply to a commitment between two organisations – client and main contractor – or can be extended to include other organisations. It offers a particularly strong basis for creating a long-term relationship between client and contractor, where the client has an on-going building programme but, as Baden Hellard (1995) points out, it works very well on one-off projects – project partnering. At its most comprehensive, project partnering integrates the efforts of all the stakeholders in a project – the client/project owner, the client's financiers, the design team, main contractor, specialist contractors, sub-contractors and main suppliers. When it brings together all the stake-holders, the partnering process ensures that even those sub-contractors and suppliers whose services are not required until late in the programme, benefit from early involvement in agreeing objectives, drawing up plans and iden-tifying potential problems. This is achieved by holding a partnering work-shop, before any work begins, and establishing an up-front agreement, called a partnering charter or partnering agreement.

The key features of partnering are:

Top management commitment from the outset.
● Empowerment of staff.
● A partnering agreement or charter, agreed at the beginning, through detailed discussion.

- Shared goals and a positive, win-win approach.
- Openness, trust and teamwork (no adversarial attitudes).
- Mutually-agreed strategies.
- Joint approach to problem resolution, leading to rapid response.
- Shared monitoring and evaluation processes.

The partnering agreement covers social and environmental, as well as economic and quality objectives. Typical objectives for project partnering might be as follows:

- Realise all the stakeholders' economic goals.
- Build a high quality building within budget.
- Provide satisfying and rewarding employment for all personnel.
- Achieve excellence in teamwork and communication.
- Satisfy community and environmental concerns.
- Complete the work without injury or occupational health incidents.
- Minimise disruption to adjacent owners and the public.
- Achieve programme targets and complete the project in x months.

A contract establishes legal relationships, but partnering creates *working* relationships, using a mutually-developed, formal strategy of commitment and communication to bind the stakeholders to common goals. Baden Hellard points out that the approach actually uses a traditional business philosophy, one which values good faith and believes that a person's word is his or her bond. For a comprehensive discussion of project partnering, its processes, benefits and difficulties, and some case studies, see Baden Hellard (1995). Further sources on partnering include Stephenson (1996), Godfrey (1996) and the report *Trusting the Team* (Bennett and Jayes, 1995).

Summary

We live in an organised society, depending on organisations to satisfy most of our needs. Yet the activities of organisations do not always contribute to people's well-being and there is a need to balance economic, environmental and social objectives of business. Moreover, attitudes to work and to organisations are changing and employees expect a fairer deal from their employers.

There are many types of organisation, but no single ideal one. A well-designed organisation enables tasks and resources to be allocated efficiently and provides a system for co-ordinating and controlling them. Rules and procedures ensure that tasks get done and are carried out efficiently. Good organisation ensures that information flows and decisions are taken.

The size and complexity of organisations has encouraged a shift towards decentralising some organisational functions. At the same time, there is growing support for reducing the level of specialisation in some jobs, where it has been taken too far. Jobs are being re-examined with a view to making them more varied and interesting.

When a client decides to build, the construction industry has to create a temporary, project organisation and make it operational in a very short time. Construction projects have special characteristics and the kind of structure which suits them may not suit their parent firms. The success of a project relies a lot on effective co-ordination of design and production and of main contractors and specialist sub-contractors. The task-force or matrix structure offers some advantages for organising construction projects.

Some organisations need to be more flexible than others, but flexibility is a vital dimension in project work. The ability to adapt to change may be the most important factor affecting the success and survival of many organisations. Downsizing is one of the ways used to improve organisational efficiency and competitiveness.

Chapter 4
Leadership

Management and leadership are not the same thing. Management evolved with the growth of formal organisations, but leadership is one of the oldest and most natural relationships in society. Managers have to be appointed, but leaders emerge naturally, whenever people get together to do things. But if the manager is not the person the group would choose as its leader, there could be problems. One of the fascinating debates in management is whether managers can learn to be better leaders and if so, how.

Leadership has been a popular subject for over half a century. It was eclipsed for a while by new ideas about worker participation and group decision-making, but has re-emerged with a new focus which recognises that the leader's role varies with the circumstances.

Leadership is hard to define for it is a complex process. There have been countless leadership studies, but almost all have looked at only a small part of the picture. Few studies have pulled together all the features of leadership in a comprehensive way. Moreover, much of the research overlaps with other areas like power, motivation and group processes. The piecemeal approach to leadership has meant that much of the work is inconclusive and some of the most exciting ideas, put across with conviction and enthusiastically received by many managers, have no sound empirical basis.

One of the many attempts to distinguish management from leadership defines management as 'ensuring effective and efficient operations' and the core of leadership as 'direction setting' (Novelli and Taylor, 1993).

The idea of direction setting is underscored by Schmidt and Finnigan (1992) who cite research that stresses the importance of the leader's ability to create and communicate a vision that inspires the team. These authors also remind us of Warren Bennis' witty remark that while managers give their attention to doing things right, leaders focus on doing the right things!

Without doubt, the concept of management has become debased in the 1990s 'now that everyone claims to manage something' and future-oriented leadership may supersede management as we understand it (Thomason, 1994).

Measuring the leader's behaviour and performance is difficult. One can

measure the group's output, but this will depend on many factors, of which the leader's behaviour may be one of the least important. One can ask sub-ordinates, peers or superiors to rate a leader's effectiveness, but they will have the same problem. Moreover, they will find it hard to be objective, because of their personal feelings about the individual. Many biases creep in.

Taking a broad view, the ideas about leadership fall into three categories, focusing on:

- The leader's personal characteristics or traits.
- The leader's behaviour or leadership style.
- The setting or situation.

The characteristics of the leader

For a long time, the popular view was that certain people make good leaders because of their personality traits. Indeed, there have been hundreds of studies of leaders' traits. As personality was thought to be inherited, it was believed that leaders were born not made.

The evidence from psychology now strongly indicates that personality is only partially decided by hereditary factors. Good leaders are not just born, their personalities develop through experience.

Researchers have looked for links between personality and effective lea-dership. Knowing the ideal personality, firms could then select good leaders, even if they couldn't train them. Long lists have been produced of desirable leadership qualities, like intelligence, good judgement, fairness, insight, self-confidence and imagination. Others include honesty, courage, perseverence, imagination, reliability and industriousness. Yet some of the most successful leaders in history have not had certain of these qualities. Indeed, some have been unjust, neurotic, narrow-minded and even insane!

Certainly, good leaders can be above average in intelligence and may have been chosen for this reason. But many intelligent people never become lea-ders and research has shown that the correlation between intelligence and effective leadership is low. At best there is merely a *tendency* for leadership and intelligence to go together. Similarly, personal characteristics like dominance and extroversion only correlate weakly with the leader's effec-tiveness.

The personal traits and qualities of leaders influence their success – but only partially. The writer has found that employees in the construction industry look for qualities like fairness, competence and decisiveness in their leaders. Research findings do not deny the value of such qualities, but suggest that they cannot wholly explain the leader's success or failure.

A common objection to the trait approach is that it labels people as good

or poor leaders on the basis of rather subjective measures of leadership performance and fails to take account of other factors which affect the leader's behaviour. To demonstrate whether or not personal traits affect leadership ability, one would need valid and reliable measures of:

● The traits themselves.
● The criteria on which a leader can be considered successful.

So far, this has proved difficult, because both personality and leadership behaviour are dynamic. People often exhibit different characteristics in different situations. A manager who is a good leader when things are going well may not be successful in a crisis.

The overall picture does not suggest an ideal leadership personality. Rather, good leaders come from many backgrounds and the personal qualities they need depend on the circumstances.

Leadership style

The search for an ideal style of leadership was spurred on by the belief that people work harder under the right style of leadership. Styles are commonly classed as *authoritarian* and *democratic*. The difference reflects the personality and attitudes of the leader and the power structure of the **firm.** Handy (1985) uses the less emotive titles of *structuring* and *supportive.*

The structuring leader retains most of the power for controlling rewards, settling disputes and making decisions in the group. The supportive leader shares power with the group, so that they have control over what happens.

The extreme authoritarian leader decides objectives and gives orders without consulting the group. The democratic leader seeks the group's views and keeps members informed. The authoritarian tends to be aloof and concentrates on the task. The democratic leader participates as a team member and shows an interest in the group's well-being.

The style a manager adopts reflects his or her attitude to people and assumptions about authority. Negative attitudes lead to a more autocratic style. The authoritarian manager believes that people are basically lazy and need **firm** control. The democratic manager has a positive attitude to the team, seeing them as responsible, keen and capable of exercising initiative and self-control. The democratic manager listens to their ideas and gives them encouragement.

In the 1950s and 1960s, democratic leadership became very popular and was thought to produce better results. Many people prefer a democratic leader and such a style can improve morale and reduce labour turnover and disputes. But there is little evidence that people will work harder for a

democratic leader. Cause and effect are difficult to separate. An efficient, happy group may permit a democratic style rather than result from it. Moreover, some people prefer an autocratic leader and will work harder for one. Some managers believe that in the world of business, democratic leadership is unworkable.

Another way to describe the leader's style is as 'task-centred' or 'employee-centred'. The two terms need not be mutually exclusive. Indeed, construction managers cannot afford to neglect either task or people. This opens up the possibility that managers need to combine the best features of task-centred and employee-centred leadership.

After all, the leader is responsible for certain activities and will have to schedule the group's work, instruct and train subordinates, check finished work and give subordinates feedback on their performance. The manager must decide how closely to get involved in tasks and how much to delegate. Close supervision can cause output to drop and adversely affect job satisfaction and labour turnover. People don't like too much interference!

At the same time, the manager must look after employees' needs. This includes helping them achieve personal goals, dealing with their problems and establishing warm, friendly relationships.

There is some evidence that considerate leaders get better results from their groups, and lower labour turnover and absenteeism. However, the relationship is complex. Peter Smith (1984) cites studies of Japanese firms operating in the West, which show that task-centred managers, who stress efficiency, quality control and good time-keeping, have hard-working, willing subordinates who accept exacting standards. White and Trevor (1983) suggest that such employees co-operate because managers are not aloof, work the same hours and wear the same uniforms. These managers convey a sense of unity of purpose.

Some studies of leadership style

Likert: employee-centred leadership

In a series of studies of morale and productivity, Likert (1961) concluded that the best supervisors are employee-centred. They concentrate on building cohesive work groups and focus on the human aspects of their groups. They exercise general rather than detailed supervision and are more concerned with targets than methods. They allow maximum participation in decision-making.

There have been some powerful criticisms of the way Likert's data was collected and interpreted. Most of the data was based on surveys. The research did not attempt to change the leader's behaviour experimentally, but merely recorded the relationship between supervisor behaviour and

worker performance. It is very difficult to establish cause and effect from such studies.

Indeed, attempts to replicate Likert's findings have produced inconsistent results. Employee-centred leaders sometimes get poorer results than task-centred ones. Likert's work resembles the trait approach, looking for an ideal leader for all occasions. Nevertheless, his work has stimulated managers' interest in leadership style.

Tannenbaum and Schmidt: leader style continuum

In one of the best-known discussions of leadership, these writers identified a spectrum of leader styles ranging from totally autocratic or task-centred to fully democratic or employee-centred. Between these extremes are a number of style variations, one of which may be the most suitable in a given setting. A simplified spectrum of leadership styles is shown in Fig. 4.1.
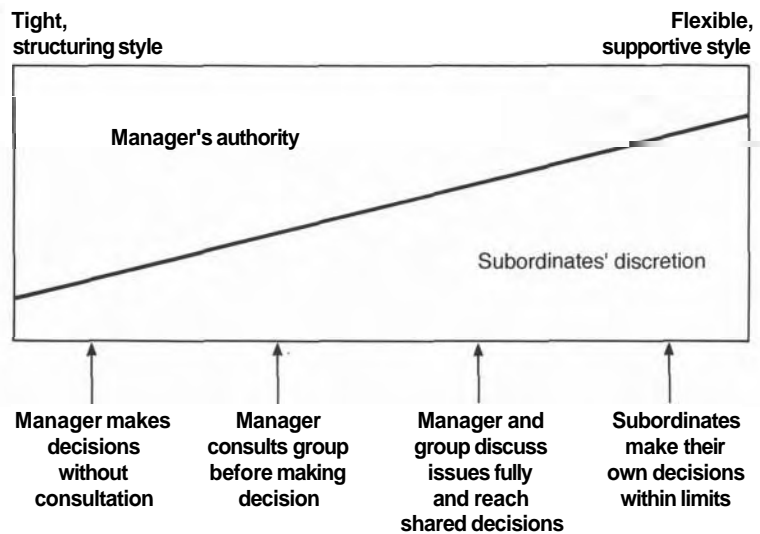
Figure 4.1 Some styles of leadership (adapted from Tannenbaum and Schmidt, **1973).**

Tannenbaum and Schmidt (1973) maintain that choosing the right style depends on a careful assessment of the leader, the followers and the situation. Leaders must be sensitive to the needs of the situation and flexible enough to adjust their styles to suit.

Tannenbaum and Schmidt identify some of the factors influencing the leader's style but, like many other leadership studies, do not suggest how managers might assess and improve their own styles.

There has been a renewal of interest in employee-centred leadership, with its flexible, supportive style. This is a result of interest in empowerment and

self-managed teams which managers hope will lead to efficiency gains in the 1990s.

Vroom and Yetton: leadership and decision-making

Drawing on previous research on group decision-making, Vroom and Yetton (1973) have developed a prescriptive model of leadership which would provide managers with definite guidelines on leader style. Their focus of attention was on the problems leaders face.

The leader must analyse the problem situation before choosing the right approach for dealing with it. The factors include:

● The qualitative importance of the decision.
● The amount of information the leader and group have about it.
● How structured the problem is.
● Whether subordinates need to be committed to the decision.
● Whether an autocratic decision is acceptable.
● How much subordinates want to solve the problem.
● How much subordinates might disagree about the decision taken.

Rules are given for relating these factors to leadership style. For instance, if the problem is serious and the manager lacks the information or expertise to solve it, participative leadership should be chosen.

Vroom and Yetton's model identifies three main styles for arriving at a solution to a group problem – autocratic, consultative and group – and identifies within this span seven leadership styles ranging from highly authoritarian to totally participative.

The authors recognise that in some settings more than one style might work equally well. In such cases, time constraints or the leader's preference should dictate the style. The effectiveness of a style is judged by:

● The quality of solution reached.
● The time taken to reach it.
● Its acceptance by subordinates.

This approach tries to offer managers a practical framework for leading. Some commentators claim that there is little empirical evidence to support the validity of the model, although Handy (1985) claims there is a lot of pragmatic evidence to support it. The approach uses a decision tree and appears rather mechanistic.

Most of the research evidence suggests that the amount of attention the manager should give to task and people depends on many factors. All in all, it seems that there is no single ideal style of leadership. For example, a style that will work on site for direct labour may not be effective in controlling sub-contractors.

The leader and the situation

Most of the evidence suggests that leadership is specific to the situation. Faced with a difficult work problem, a group may turn to someone tough, clever or experienced. In a routine or social setting, they may follow the lead of someone friendly. After a serious accident, a first-aider may temporarily become leader.

Managers need to know what kind of leadership will work in a specific situation. The main variables are:

● The leader
● The subordinates
● The task
● The setting.

The leader

The success of leaders depends on many factors, including their personalities, values and preferred styles of management, their level of competence and self-confidence. It also depends on how much they trust their teams and their ability to cope with stress.

Whether leaders choose structuring or supportive roles depends on such factors. Some leaders will trust their teams more than others do, others will feel it is their job to make the decisions. Leaders who give their teams more of a free rein must be able to live with uncertainty – and not all leaders can.

The subordinates

The success of a group partly depends on how competent its members are, how interested they are in their work, their attitude towards their leader, how much freedom they want in their jobs, their goals and how long they have worked together. On construction sites, the composition of groups can change frequently. Groups will try to balance task demands with their own needs.

The more competent they feel, the more they will want control over their work, especially if it is important or challenging. Past experience will affect the kind of leadership they find acceptable. Younger people, reared in a more permissive and democratic society, expect more involvement than many of their elders.

The task

The kind of operation is important – whether it is well defined, long term or short term, important or trivial. Mass production often needs tight super-vision and control because the job has to be done in a certain way. On the

other hand, research work cannot be strictly controlled. Much has to be left to the researcher's discretion, because the manager may not know what the end result will be.

Construction falls between these extremes. Some work is repetitive and interlinked and has to be tightly controlled, but other tasks are one-off and must be loosely programmed and left to the initiative of those involved.

Key issues are whether the task requires obedience or initiative, whether it is routine, problematic or pioneering and whether it is urgent. If a task has to be performed in a hurry, this may push the leader towards tighter control. Participation takes time.

The complexity of the task will affect the leader's style. Technical complexity may necessitate a supportive style if the leader lacks expertise, or may demand a tight rein because operations are closely interrelated. Organisational complexity can have similar effects. In the construction of a power station, novel technical problems may force managers to be flexible, relying on their teams to come up with fresh answers. Conversely, a large contractor, experienced in commercial contracts, will have evolved many set procedures which staff are expected to follow.

An added difficulty is that work groups often have a variety of jobs to undertake, ranging from well-defined routines to ill-defined and long-term tasks. The leadership demands may be different for each task and this calls for a good relationship between leader and group. It is understandable that many managers give up trying to cope with such complexity and simply fall back on their habitual style.

The setting

The leader's behaviour is affected by his or her position in the firm, the extent to which the work is important and closely related to other activities in the business, and the organisation's norms and values. No manager or worker is entirely free from organisational pressures or from systems and procedures. The power the manager wields is not static; it changes from one setting to another and this affects leadership behaviour too.

Some studies of situational leadership

Fiedler: situational leadership

Fiedler's leadership studies in the late 1960s provided a much needed new focus. Arguing that leadership varies with the situation, he identified three factors which seem especially important (Fiedler, 1967):

● Whether the leader is liked and trusted by the group.
● How clearly the group's task is laid down and defined.
a The amount of power and organisational backing the leader has.

In his view, the relationship between leader and group is the most important of these factors. A leader who is liked and accepted by the team, and has their confidence and loyalty, needs little else to influence their behaviour. If the leader is unpopular or rejected, the group will be difficult to lead.

Fiedler found that the style which worked best depended on how 'favourable' all three factors were to the leader. The most favourable situation is where the task is well-defined and the manager is liked and respected and has good position power. The situation is most unfavourable when these conditions are absent. Fiedler concludes that in very favourable or unfavourable conditions, a structuring approach is better. When conditions are only moderately favourable, the leader will find a supportive approach more effective.

If the task is confused or the construction manager is unpopular or lacks power, a firm stand is needed to keep control. If the leader does not take charge, the group may fall apart. If the task is well-defined, or the manager is popular or powerful, he/she is expected to take a firm lead, giving clear information and instructions. Under these conditions the passive construction manager may lose the group's respect.

A supportive style of leadership seems to work best in two situations. One is where the task is unstructured but the leader is popular. Here, a people-centred approach is needed to elicit the team's help in finding the answer to the problem. The stricter, directive style will not elicit the group's co-operation, for they will be afraid that their ideas will be judged unfavourably. The second is where the task is structured, but the manager lacks popularity or power. Here the leader must tread softly and be diplomatic to avoid being rejected by the group. Here the democratic leader is likely to get better performance than the tougher, controlling leader.

Fiedler's model suggests that we may have paid too much attention to selecting and training leaders, whilst neglecting the needs of the situation.

Hersey and Blanchard

Hersey and Blanchard (1982) put forward a variation to the situational leadership approach in which the leader's style changes over time, as the employee develops. In their model, the task-centredness of the leader starts high and diminishes as the employee becomes more experienced, skilful and willing to take responsibility. The leader's relationship behaviour (such as giving support and encouragement) starts low but increases in the early stages, eventually diminishing again as the employee achieves high levels of skill, motivation and autonomy. This approach uses a four-sector grid, reminiscent of Blake and Mouton's managerial grid. But Hersey and Blanchard's theory differs in proposing shifts in the leader's style, whereas the Blake and Mouton model argues for a single best style.

Charles Handy: 'best fit' approach

Handy (1985) puts forward a contingency approach to leadership in what he calls the 'best fit' approach. This puts the style preferences of the leader and subordinates and the demands of the task along a continuum, ranging from tight (structured) to flexible (supportive). There is no fixed measuring device for this scale – it is rather subjective.

Handy suggests that effective performance depends on some changes being made so that the three factors 'fit' together on the scale. How the leader or organisation achieves this depends on the group's **setting** – such things as the leader's power or position, organisational norms and relationships, and the kind of technology the business uses. Unless the match between the factors is improved, the group will cease to be effective. Leaders who have strong organisational back-up may pull the group and task towards their preferred ways of working. Leaders who lack this may alter their own behaviour.

Handy's approach recognises that the leader has two main roles vital to the performance of the group – ambassador and model. As ambassador, the leader represents the team in dealings with others at the same and higher organisational levels. As a model, the leader must recognise that some subordinates will copy his or her successful behaviour.

Leadership, goals and social exchange

Tolman (1932) showed that most human behaviour is goal-directed. To achieve their objectives, people often have to co-operate with others and have to choose between different courses of action. Their choices depend on many factors. Belonging to a work group is a way of achieving some of their goals and they see the leader as someone who can help or hinder them in this process.

Evans (1970) and House (1971) laid the foundations for *path–goal* leadership theory, which argues that the leader's job is to define a path along which subordinates expend effort to achieve a group goal. The approach assumes that:

● subordinates will accept the leader's behaviour if they believe it is helping them achieve immediate or future goals; and
● rewards are made conditional upon subordinates achieving the work targets set.

The effectiveness of leaders depends on their ability to help subordinates clarify their goals and see ways of achieving them. If employees feel that the leader is giving this help, their motivation will increase.

Like **Fiedler's** approach, the theory stresses that the leader's behaviour is influenced by subordinates, as well as task demands and environmental factors. For example, subordinates who need to work independently or feel competent at their jobs may show their dislike of having a structuring leader.

Workers carrying out routine tasks, for which the rewards are clearly identified and related to performance, would not require an authoritarian leader, because behaviour is goal-directed and the path to it clear. This conclusion differs from that of some other researchers.

Path–goal theory makes some plausible statements and House found it held up in studies in seven organisations. Research is needed to look more closely at how subordinates' expectations affect, and are affected by, the leader's behaviour.

Hollander (1978) argued that there has been a tendency to view leadership as something static, with leader and group in fixed positions. Realistically, leadership is a process in which leader and followers influence one another and their situation.

Viewing leadership as a social exchange puts the emphasis on the impact of all group members, not just the leader. Initiatives and benefits are seen to come not just from the leader but from the other team members too. Being a leader and a follower are not mutually exclusive roles.

An effective leader does things that benefit group members, but makes demands on them too. The team provides the leader with status and other privileges of position, but influences and makes demands on the leader as well. Both leader and group must give and take for the relationship to work. They are parts of a system that takes time to develop.

The leader often defines standards, sets objectives, maintains the group and acts as its spokesperson. But many situations are ambiguous, with the goals, tasks and procedures not clearly defined. Here, the leader's help is especially sought because the group wants guidance on what to do, how to do it, or why.

Trust and fairness are important. If leader and group trust each other, they are more willing to take risks. Without trust, the leader may have to resort to position power or authority. Fairness is essential in the social exchange. Even a friendly and unthreatening manager may not help the group achieve job satisfaction or meet its demands for fair play, if he or she is not fair. Members may feel they are being exploited.

Task and socio-emotional roles

In most groups, two leadership roles are present – a task role for co-ordinating the work, and a socio-emotional role, for looking after the well-being of the group.

Two people may even share these roles where, for example, one person is seen as competent in the task, whilst the other is more popular and recognised as having skill in holding the group together.

The leader cannot do everything. There are many roles to be performed in a group such as trouble-shooter, negotiator, advocate and counsellor. Some of these may be delegated to group members, or they may take them on uninvited. Some individuals have more status than others and will be closer to the leader. They exert more influence over the leader and the others.

Formal and informal leaders

Every work group has an appointed leader – its supervisor or manager. If there isn't one, a leader will almost always emerge, because groups need task and social leadership.

Most organisations expect one person – the *formal* leader or manager – to perform both roles. The manager has to allocate work, show people what to do and make sure they do it properly, in addition to dealing with human problems and ensuring that group members work together as a team. The successful formal leader does both things well, achieving high productivity and group satisfaction. But this is a tall order.

Blake and Mouton (1964, 1978) recognised this in their managerial grid which measures, on separate scales scoring from one to nine, the leader's concern for production and for people. The 9.1 manager concentrates on the task and shows little concern for the group; the 1.9 manager does the opposite; 5.5 is a compromise – the middle-of-the-road manager – whilst 9.9 is often regarded as the ideal, to be aimed for, but rarely achieved. Perhaps more important is that the leader knows when to concentrate on the task and when to focus on the group.

If the formal leader tends to be task-centred and fails to meet the social needs of the team, an *informal* leader may emerge within the group – someone the members turn to with their work problems and personal worries. Similarly, a group whose formal leader concentrates on the social aspects of the group may accept an informal, task leader, especially if success at the task is vital to the achievement of their own goals. A group can operate successfully with two leaders, an official and an unofficial one, but this can lead to conflicting goals and loyalties. The group member accepted as informal leader may vary with the situation.

A further complication arises if the group's manager is ineffective in both leadership roles. In this case, informal task and social leader roles may be adopted by one or more members of the group.

The leader's competence

Many kinds of leadership study have taken account of the leader's competence or ability, either in the limited sense of technical ability or in the wider sense of competence to lead. One factor which has sometimes been underestimated is the group's view of its leader's competence. The group's perceptions of the manager's ability can account for much of his or her success as a leader. Although subjective, judgements about the leader's ability to get results carry a lot of weight with the group (Hollander and Julian, 1970).

Of course, competence may be attributed to someone who has been lucky or who has been helped by others. It may rely on a reputation built on earlier success. A successful site manager will not necessarily be an effective contracts manager (see **serialist/holist** distinction in section on learning, Chapter 15).

Clearly, numerous factors affect leadership performance, yet the leader may be unaware of many of them. Researchers have often focused on only some of these variables when studying the leader's behaviour. They should not do so if they wish to discover what leaders could do to improve their performance.

Summary

The search for the ideal leader has led to the conclusion that one does not exist. There are no specific traits which can be relied on to make a manager an effective leader. Personality is not a fixed commodity. People change. A manager's confidence, decisiveness, judgement and so on, will vary over time and with circumstances. A leader may display good judgement on one occasion and poor judgement on another; be confident about some matters, unsure about others. The leader will handle some people skilfully and make enemies of others. At best, there may be certain combinations of personality factors which give the manager an advantage in some situations.

There is no mode of behaviour or ideal style which can be relied on to be effective. Leaders must learn to be flexible and alter their behaviour to suit the circumstances. Some managers are better at this than others. The evidence shows that both autocratic and supportive leaders can get good results, but attitudes to authority are changing. Many people today have been brought up to expect a better deal in their jobs and want more involvement and autonomy. Employees today will not always accept without question what managers tell them to do. Many of them want and expect to be involved in the management process.

Leadership depends on a dynamic relationship between the leader, the group members, the task and the setting in which they operate. Good leaders

know the right behaviour to match the circumstances. They know when to be tough and when to be friendly. They understand that when the task is **non-routine** and ill-defined, as it often is in construction, they must be flexible and encourage group participation. They also know that there are times when the group may need them to take a firm lead. There are always many factors to consider, not least the abilities and preferences of the people who work under the leader's direction and how willing they are to take responsibility.

How ideas about leadership will change in the future is difficult to predict, but shifting attitudes to authority could have a big impact on the kind of leadership that will be acceptable. Nevertheless, every unique situation will still produce leaders for the job in hand. How effective they are will depend on their skills for dealing with the variables they can control and on being lucky with those they cannot.

Chapter 5
Communication

Poor communication has long been a problem in the construction industry. Part of the trouble is the way the industry is organised. The project team is made up of people from many different firms. Their contributions vary and a lot of information has to pass among them. This requires a well-organised network of communication using the latest technology. Even when this network exists, communication still breaks down at a personal level, because people fail to keep their messages simple; they pass on too much information or too little; the information they give is inaccurate or misleading.

On the receiving end, people are flooded with paperwork they haven't time to read, yet often they cannot get the information they want. Estimates may be wrong, drawings out-of-date, descriptions ambiguous. Meetings go on for too long and people stop listening.

The size of the firm matters. In small organisations, communication is often good. There is more face-to-face contact, so if people don't understand what is being said, they say so and the problem is cleared up straight away. Communication is more direct. Those making the decisions are closer to those who have to implement them.

Larger firms rely more on the written word. This puts the message on record, but misunderstandings cannot easily be cleared up. Information can be delayed and distorted as it goes up and down the hierarchy. People are separated by divisions and departments, sometimes by shifts.

Formal communication channels can be slow and impersonal. The faster 'grapevine' takes time to develop and is often discouraged anyway. The larger the firm, the more acute the communication difficulties tend to be.

Poor communication skills make matters worse. Most people, including managers, are poor communicators and don't even realise it. Yet, improvements can easily be achieved through training or simply by making people aware of the main pitfalls and giving them feedback on how well they are communicating.

The functions of communication

Communication serves many functions, all of which are important in construction management. The list below is not exhaustive and most of the manager's tasks involve several of these functions.

Information function

Information is being exchanged all the time. **A** manager explains a company policy to an engineer; a joiner tells an apprentice how to prepare a joint; a senior estimator tells a junior how to build up a unit rate.

But information passes both ways. The engineer will tell the manager about a problem with a sub-contractor. The joiner's apprentice will talk about a grievance over bonus.

Instrumental function

Communication is used to get things done. Good communication is vital in organisations, where groups undertake discrete tasks and depend on one another to achieve mutual goals. People need to know what they are expected to do, how quickly and how well. In construction, most of the targets are available in drawings, programmes and specifications, but the manager needs skill to communicate them clearly and make sure that they have been understood.

Managers constantly use communication to get action. For instance, they may ask a sub-contractor to increase its labour strength to finish the job earlier.

Similarly, others communicate with the manager to get some management action. **A** supervisor will ask for some equipment or for a meeting about production targets.

Social relationships function

Much of the communication which circulates round an organisation is aimed at maintaining relationships between individuals and groups, so that they continue to work as a team. The larger the organisation, the more important this social contact becomes. The contact itself is not directly productive, but it facilitates the kind of communication that is the life-blood of the business. On site, where communication channels have to be created from scratch, social contact helps create co-operation between members of the team.

Expression function

Communication enables people to express their feelings. This may happen spontaneously, as in an argument during a site meeting. But it may be carefully planned, for instance, to create a favourable impression at an interview. A grievance procedure is an example of this function operating at a formal level.

Attitude change function

Simply giving orders is not always enough. Managers may need to change employees' attitudes to get the best work from them. This would apply if, for instance, employees felt that the firm was treating them unfairly.

But this can be difficult. Some kinds of attitude are resistant to change. Others are easier to influence and personal discussion is often the best way. The manager may use group discussion to achieve certain kinds of attitude change, especially where several people are affected.

Role-related or ritual function

Sometimes people communicate because they are expected to. An operative who talks little may be labelled unsociable. The manager is often expected to give a speech or have a few words with a retiring employee.

Communication structure

An effective system for passing on information and instructions, and for receiving feedback, is essential for management control. In construction, this system must work both within and among the many firms – consultants, contractors, sub-contractors, suppliers, and client – who contribute to the design and production of the finished structure.

In large organisations, it becomes necessary to use recognised channels of communication to ensure that people get the information they need. Even in small groups, studies have shown that a communications 'free-for-all', in which anyone talks to anyone, can be less effective than a network which directs information through specific channels. In a business, these channels are:

- A leadership or line hierarchy, linking people who decide policy with those who implement it.
- Functional and lateral relationships, linking people in different sections, some of whom contribute specialist knowledge and skills.

● Procedures through which managers and workers can consult and
negotiate with one another to resolve conflicts and increase commitment
and co-operation.

Yet the existence of these information channels is not enough. Communications must not only reach the right people, they must be accurate, timely and clear. This demands reliable sources of data, prompt action and skilful communication.

To produce reliable information, firms need procedures for recording and storing data systematically and retrieving it in various forms to suit different needs. For instance, some of the data needed by contracts managers, estimators and planners are similar, but they want the information for different reasons and in a different form.

Information and telecommunications technologies have made the information generated during design and construction more reliable. Cheap, portable PCs have made it more accessible. But technology alone will neither make people understand a communication nor make them willing to act on it.

The direction of communication

Communication within companies and project organisations can be classed as upward, lateral or downward, although the distinction is not always helpful. Some lateral communication is between people of roughly equal status (e.g. consultant to contracts manager), whilst some is between people with functional relationships (e.g. plant manager and site supervisor).

Within a work group, a lot of lateral communication takes place and is expected to take place, as people swap information and advice about the job. Much of the information which passes informally along the grapevine is lateral and travels fast. It can be vital for getting work done quickly and efficiently.

Upward communication provides essential feedback to management. It is used for reporting progress, making suggestions and seeking clarification or help, although people often seek help from their peers before going to their bosses.

Managers may have difficulty in getting feedback on progress and costs when things are not going well. Bad news often reflects on someone's ability, possibly the manager's, so no one is in a hurry to break the news. Upward communication for control purposes is often delayed and distorted. Supervisors and managers are told what they want to hear, or what subordinates want them to hear – and only when they are in the mood to take it! Upward communication can become distorted when the sender wants promotion.

People are reluctant to take suggestions or complaints to their bosses if it means admitting to failure.

Traditionally, management discouraged upward communication, but modern organisations encourage it. This is achieved through participative management, joint consultation, disputes procedures and empowerment. The employment legislation has put pressure on firms to make sure that employees can express their grievances and get a sympathetic hearing.

Downward communication is used not only to give instructions and explain strategies and objectives, but to give people information about their progress, as in appraisal interviews, and to give advice, as in contacts between head office specialists and site personnel.

More firms are recognising the importance of keeping the workforce informed about policies and activities, although some companies don't even tell their managers what is happening! However, it is widely accepted that employees ought to know about the firm's background, objectives and plans, and should be kept up to date on their prospects. Most people want to know how their work fits in with the organisation's overall goals, otherwise a sense of isolation and alienation from the task can set in.

Communication with sub-contractors demands special attention. Sub-contract site personnel have responsibilities both to their own company and to the main contractor, so that lateral and downward communications 'compete' for priority. This is a problem in any task-force or matrix organisation and there is heavy reliance on contract documents to define the duties and obligations of the contractor and sub-contractor.

It is vital that good communications are established at the outset and that contractor and sub-contractor have continual, direct contact throughout the sub-contract period. Special problems arise with engineering services on complex projects and main contractors sometimes have to appoint services co-ordinators to liaise with services sub-contractors and consultants.

Why communication fails

Many organisational problems are caused by communication failure. Breakdowns occur because of faulty transmission and reception of messages and because people put their own interpretation on what they see and hear. And, of course, the computer is often blamed! Common causes of communication failure are given below.

Poor expression

The communicator does not encode the message clearly because of difficulty in self-expression, poor vocabulary, lack of sensitivity to the receiver or, perhaps, nervousness.

People often fail to speak and write directly and simply. Obscure and redundant words clutter messages and hide their meanings. This problem shows up clearly in many formal communications such as reports and standard letters.

Overloading

Managers often give and receive too much information at once. This causes confusion and misunderstanding. Research has shown that the amount of information a person can cope with at one time is quite limited, especially when the subject matter is unfamiliar and several communication channels (spoken, written, graphical) are being used.

Poor choice of method

People don't always stop to think how to get their message across. Sometimes the spoken word is best, but what is said is usually quickly forgotten. The written word is often preferred and it leaves a semi-permanent record. **A** simple sketch may be clearer than a lot of words. The method must suit the communication.

Disjunction and distortion

Sender and receiver may not share the same language, dialect, concepts, experiences, attitudes and **non-verbal** behaviour. Non-verbal cues can have different meanings in different cultures. **A** message can be misinterpreted because receivers see it in terms of their own experiences, expectations and attitudes. Their outlook and what they think is important will influence how they interpret the message.

Communicators may also 'shape' the message, sometimes unconsciously, to protect their own position or through lack of trust. People often edit information when they feel their credibility is threatened.

Distance

Designers are separated from contractors, sites from parent companies. This limits face-to-face communication and non-verbal signals, like facial expression, which help the communicator and receiver to judge each other's responses.

Status differences

People in relatively junior positions may find it **difficult** to communicate with

those in more senior positions. The opposite can happen too. People may be reluctant to report difficulties or lack of progress to their managers, yet they often like to be consulted and given the chance to air their grievances.

Feelings

How a person feels about a message or about the sender can distort or overshadow its content. In face-to-face communication, the sender may be able to detect this problem, often through the body language of the other person. If a message is received unfavourably, a negative attitude may be provoked in the sender and this in turn affects the receiver. Positive feedback has the opposite effect. If people are aware of this problem, they can avoid setting up a chain of negative reactions. People sometimes totally ignore negative or critical communication to protect their self-esteem.

Skilful managers recognise that each communication is more or less unique. They judge the situation and use all their skills to ensure that people understand what they are trying to convey, accept it and are willing to act on it.

Communication methods

People communicate through language and pictures. Language is conveyed through speech, writing and symbols; pictures are communicated by graphical means, such as drawings and photographs. Managers seldom give enough thought to choosing the best means for conveying an instruction, idea or piece of information. Each method offers a range of options, but has drawbacks as well as strengths. One, or a combination of, methods will usually provide the manager with the right vehicle for conveying a message.

Spoken communication

This can be direct, face-to-face conversation or an indirect telephone call or recorded message. Face-to-face communication is a powerful method, although many people do not use it skilfully. It takes several forms:

● Individual directives, such as a work instruction.
● One-to-one discussions, as in staff appraisal.
● Manager to group, as in a briefing.
● Group discussions, as in site meetings.

Spoken communication needs careful planning, clear expression and the ability to arouse the listener's interest and support.

With indirect conversation via telephone or two-way radio, lack of non-verbal feedback can cause problems. With recorded messages, the sender gets no immediate feedback at all.

If the manager wants to give the same information orally to many people, it usually pays to call them together. But if the manger wants to gauge individual reactions or understanding, the group should be small.

Spoken communication leaves no permanent record. This encourages people to speak more freely, but they soon forget most of what they hear.

Meetings

Organisations use meetings to exchange information, generate ideas, discuss problems and make decisions. Some meetings, like company annual general meetings, are required by law.

Site meetings are used to inform, co-ordinate, allocate tasks, update plans and check progress. They create commitment and enable people to get to know and trust one another. They help people to understand one another's viewpoints and problems. Problem-solving meetings have become more common because the manager seldom has all the information and skills needed to find a solution single-handed.

However, meetings can fail. They can be so formal that time is wasted on rituals. They can be so casual that they lack direction and purpose. In meetings, people seldom build on one another's ideas. Instead, they wait for the chance to make their point, ignoring what was said earlier. They often criticise and antagonise one another before ideas have been properly debated.

A good chairperson avoids competing with the others, encourages every-one to contribute, listens to what they say, keeps the group on course and makes sure all ideas are considered.

However, chairpersons can unwittingly stifle creative suggestions and discourage the positive thinking that is needed to throw up new ideas. Also, they are usually senior employees and have influence outside the meeting, so people are careful what they say.

Some people believe that unchaired meetings are more productive, but others claim that even a reasonably competent chairperson can increase the value of a meeting. He or she acts as a conciliator, controlling aggressive and defensive behaviour; and sums up, stating clearly the agreements and decisions reached.

Before calling a meeting, a manager should ask:

● Is the meeting necessary?
● What will it achieve?
● How can it be effectively managed?

Project meetings

These meetings, attended by members of the project team, are used to:

- ensure that the contractor and other team members understand the project requirements and have an opportunity to check contractual, design and production details and ask for clarification or information;
- ensure that proper records are kept and contractual obligations met;
- compare progress with targets and agree on any corrective action;
- discuss problems like delays or sub-standard work which may affect the quality, safety, cost or timing of the project;
- ensure that contractors and sub-contractors agree on action necessary to meet their obligations;
- check that changes are confirmed in writing and that work is recorded and agreed.

The designer, quantity surveyor and main contractor normally attend project meetings, together with those consultants and sub-contractors involved at each stage of the project. Normally, meetings are held at regular intervals.

Site meetings

The main contractor will hold regular site meetings, some of which will be attended by sub-contractors and key suppliers. The designer may be invited. A meeting will often be used for several purposes. These may include:

- Internal control, to review progress, cost, safety and quality against targets and contractual commitments; to update plans.
- Co-ordination, to ensure that the work of the main contractor and sub-contractors is properly co-ordinated.
- Problem-solving, to identify and discuss problems such as delays, materials shortages and labour difficulties, and to take action to remedy them.
- Contract administration, to identify any information needed; to check that proper records are being kept; to monitor the documentation and agreement of variation orders.
- Labour relations, to discuss problems relating to work methods, working conditions, safety, incentives, etc.

Written communication

Written communications range from a hand-written note on a scrap of paper to a formal, word processed report. They can be transmitted manually or, as is increasingly the case, by electronic means using systems like fax, E-mail or

the Internet. Technology has made it possible to transfer a written communication, in hard copy, to someone's desk the other side of the world, in seconds.

Written communications can be carefully planned and leave a permanent (or at least, semi-permanent) record. On the other hand, an effective written message demands considerable skill and can take time to produce. Once published, it is difficult to retract. People are therefore careful what they write. Their readers can quickly see any contradictions when the message is on paper!

Reports

There are many kinds of report. On site, they give feedback on costs, progress and other aspects of performance. At head office, they may precede a policy decision or change of procedure, or simply give an account of something happening in the organisation. Reports don't necessarily result in decisions or action, but frequently do because they show a deviance from intended standards or targets.

Business reports can be oral, but are usually written because they deal with matters needing careful consideration. They are often supported by figures and diagrams.

A good report is clear, accurate, concise and timely. It should:

- contain everything the reader needs to know and nothing more;
- present the subject matter accurately and logically, giving sources of data, where appropriate;
- make sense to anyone intended to read it;
- clearly summarise the key points, conclusions and any recommendations.

Most reports are structured to help the reader obtain information easily. The exact arrangement depends on the purpose and subject of the report, but typically includes an introduction, the body of the report and a terminal part.

Introduction

This states the aims and terms of reference. It may explain the format of the document and give an outline of the findings. A good introduction focuses the reader's attention on the theme and purpose of the report. There may be a title page and contents page, depending on the length and formality of the report.

Body of report

This contains the subject matter and discusses the data and findings. It need

not necessarily be lengthy. Some of the best reports set out the main points in short, crisp paragraphs. Sub-headings make the arrangement clearer, but should be short and self-explanatory.

If the data are bulky, they should be put into appendices at the end of the report. This keeps the body of the report short and clear and readers need only refer to the appendices if details are needed.

Terminal part

This ranges from a Summary, if the report has simply gathered data, to a lengthy Conclusions section, if advice has been sought. Some reports contain Recommendations, where stipulated in the terms of reference.

Busy managers welcome brevity and often rely on reading the summary or conclusions of a report. The terminal part of the report should contain nothing new, apart from any appendices and, if necessary, references and an index.

Plain talking and writing

Business communication is about getting information and ideas across to people. So much information flows through the organisation nowadays that neither manager nor team has time to waste on elaborate communications. Messages must be put over as clearly and succinctly as possible.

Engineers may wish to know that 'transmissions containing formal gearing require detergent lubricants of high viscosity range', but the fitter wants to know whether to use green label oil in the lower gear box (Maude, 1977).

Writing and speaking skills have been neglected. Few managers are trained in the use of language beyond their school-days. The following extracts from construction publications show how much improvement is possible:

Drawings are all too rarely fully available at this stage of the proceedings, but now is a good opportunity to initiate a comprehensive drawing register and index. [27 words]

The author was trying to say: 'Start a drawing register and index now, even though some drawings are missing.' The main point comes across here in half the words.

A building magazine reported:

It is difficult to approach the subject of the possible takeover and rehabilitation of failed housing from the public sector by entrepreneurs from the private sector with any confidence, simply because there is not a single case where this has actually happened. [42 words]

In other words: 'As no private developer has ever taken over failed council housing, it is difficult to comment'. (16 words)

Vague, general words should be driven out in favour of 'concrete' words. Key words should be near the beginning, so that the receiver knows what the message is about.

Another building publication had this to say:

> The more optimistic among us might have expected that post-war housing, taking advantage of new building techniques, would be less troubled by condensation and damp than pre-war housing. Unfortunately the reverse is the case. [34 words]

What the author meant was: 'Post-war houses have more condensation and damp troubles than pre-war housing, despite new techniques'. (14 words)

Some might argue that the original versions had more style. Harold Evans (1972) cites Matthew Arnold's advice: 'Have something to say and say it as clearly as you can. That is the only secret of style.' One of the beauties of the English language is that clarity, vigour and economy of words can go hand in hand.

Evans says that people should write positively, prune ruthlessly, and care about the meanings of words. His advice is given below.

Limit the ideas in sentences

Sentences should communicate one idea. Short sentences make for clarity. Too many compound sentences make the message heavy-going. The following sentence contains too much information:

> Three bricklayers who between them had more than twenty years' continuous service with the company and who, until now, had given no cause for complaint, were ordered off the site today by the angry supervisor, after two verbal warnings and a written warning about their bad behaviour and poor **workmanship**.

Be more direct

Use the active voice. 'The manager called a meeting' is more vigorous and economical than the passive version: **'A** meeting was called by the manager'. A succession of passive sentences can ruin a communication.

Be positive. Make sentences assertive. 'The manager has abandoned the new bonus scheme' is more effective than the negative statement: 'The manager is not now going ahead with the new bonus scheme'.

Evans argues that government officials, reports and ministers are the worst

perpetuators of the passive: 'It was felt necessary in the circumstances; it should perhaps be pointed out; it cannot be denied', and so on.

Communicators should avoid double negatives. 'It is unlikely that annual bonuses will not be paid to site staff means that they probably will! Look at the improvement that is possible:

> At its meeting last month, the Board of Directors decided that it was highly unlikely that there would be no deterioration of the housing market and that the company could not be expected to maintain its present market share unless a drastic change of policy was agreed by all concerned. [50 words]

> The Board of Directors warned at last month's meeting that a drastic policy change is needed to maintain the company's workload in a declining housing market. [**26** words]

Avoid monotony

Messages can become monotonous if the suggestions above are too rigidly followed, but there is plenty of scope for variety. The structure and length of sentences can be varied without losing **vigour** and directness. The function of a sentence can be changed between statements, questions, exclamations and commands.

Avoid unnecessary words

Every word should earn its keep. If a word doesn't add something to a message, it should be left out. Redundant words waste the reader's time and obscure meaning. Driving out abstract words often saves on length and aids clarity. Abstract nouns like issue, nature, circumstances and eventuality are often mere padding:

> In the circumstances, the plasterers should be paid last **week's** overtime, even though the issue cannot be resolved to the entire satisfaction of the manager because of the faulty nature of their work. [**33** words]

> The plasterers should be paid last **week's** overtime, even though the manager is still dissatisfied with their work. [**18** words]

Economy has to be used intelligently, but writing with concrete words is usually shorter and more interesting. As Harold Evans points out, words stand for objects, ideas and feelings. Failure to match words with objects leads to vagueness.

Car parking facilities	Car park
Adverse climatic conditions	Bad weather

| The canteen has seating accommodation for **80** people | The canteen seats **80** |

Like words, signs and symbols also stand for objects and information. They have become popular and important in communication. When they make use of icons, as they often do, they become graphic communication.

Graphic and numerical communication

Written communication can be unsuitable when information is extensive or complex. Text ceases to be effective when:

- whole paragraphs have to be read before meaning can be understood;
- individual facts or numbers are difficult to single out from the mass of data; or
- trends are hard to identify and comparisons difficult to make.

In construction, there is heavy reliance on graphic and numerical communication, mostly as drawings, diagrams, schedules and charts. **A** single drawing often conveys a great deal of information in a much clearer way than would be possible using words alone. Drawings are very useful as long as they are accurate, easy to understand and supplied at the right time. Bills of quantities use numerical data linked with tightly structured text to give condensed information. They are expected to fully and accurately describe a project. Bar-charts and network diagrams are good ways of presenting information which is partly numerical and partly written. They are a valuable tool for management control.

These communication methods are not always satisfactory. **A** designer's drawing may be supplied late or may be unclear. Bills of quantities don't always describe the work as fully as they should. Programme charts are based on approximate information and may not be kept up-to-date.

However, charts, tables and graphs are powerful methods of communicating certain kinds of information. They are often regarded as an aid to text communication, but can in fact do the main work of communicating (see Fig. 5.1). Tabulated information:

- makes the information clearer by presenting it in a logical way;
- communicates more concisely than would be possible using words alone;
- makes comparisons much easier, by arranging data in columns and rows.

Graphic presentation is especially useful for:

- highlighting key trends or facts in complex information;
- showing relationships and differences;
  displaying information that can best be understood against some visual scale.
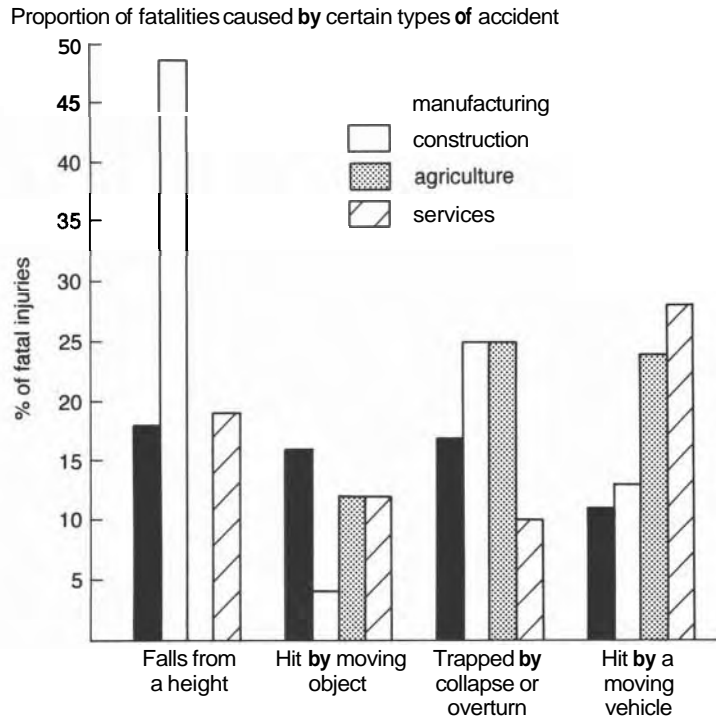
Proportion of fatalities caused **by** certain types **of** accident

Figure 5.1 Example of graphic communication.

On the other hand, graphic information takes time to produce and can only effectively show a limited amount of information at one time, without causing confusion.

Information management

Communication is about moving information around and processing it in various ways. Some of the information may be in the form of ideas or expressions of feelings, but it still affects organisational performance. Because communication is the life-blood of an organisation, managers now recognise that creating effective systems for managing information is crucial to their success. Information technology (IT), with its associated fields of microelectronics and telecommunications, has revolutionised information management (and therefore communication) in several ways, in particular by:

● speeding up enormously the processing of information (collection, collation, analysis, synthesis, presentation and transfer);

- making available to organisations much more information about their own performance, knowledge of their competitors, and data about other external bodies, events and trends;
- improving management information systems through computer-based systems, giving managers faster access to better information, leading to more effective planning, decision-making and control.

It is easy to decry IT as merely a tool of management, but it is much more than that. IT does not simply improve communication, it performs work for the organisation. For example, computer programs can simulate dozens of project management decisions the manager might make, and present and compare the outcomes. Such a task, performed in minutes or even seconds using a PC, can produce results which might have taken the manager weeks or months to achieve (if at all). Database technology can be used to manage the large quantities of data generated on projects. Flowers (1996) describes the operation of relational databases and shows how data can be structured to give maximum benefit to the manager on a construction project.

Expert systems already exist, programs which perform tasks using artificial intelligence to simulate human expertise. These systems can make diagnoses and judgements, cope with unreliable and unclear information and handle probabilities ('it seems as if...') and possibilities. Developments in IT are so far-reaching, they will require managers to rethink words like information and system, and perhaps even the concept of management itself (Harry, 1995).

The implementation of computer-based management information systems can create problems, typically:

- *Negative attitudes to change.* Many employees resent having their tried and tested routines overturned.
- *Lack of employee commitment.* Employees have not been consulted or involved in the design of the new system.
- *Disruption of organisation structure.* The system disrupts established departmental boundaries.
- *Disruption of informal communications.* New systems alter communication patterns and destroy the informal networks which existed.

In addition, some communications, at a more personal level, depend for their effectiveness on face-to-face contact and body language, vital to the richness and success of interaction. Here, electronic communication remains inadequate.

Management information systems create new posts, including the chief information officer (or MIS manager), whose roles include change agent, overseeing the design, introduction and monitoring of MIS and its

surrounding technologies; and 'human link' with senior management. Unlike conventional data processing managers, who concentrate on the day-to-day tasks of their departments, MIS managers focus on planning and developing creative solutions to the organisation's changing information needs.

In the future, it seems that self-managing computers and robots will learn about the organisation and its activities, teach themselves to perform tasks, repair and update themselves as situations change and, of course, communicate with and learn from one another.

Summary

Communication breaks down in organisations because people's interests, perceptions and viewpoints differ. People fail to see how their work affects others and their communication skills are often weak. Senior managers have the job of developing a communication network to suit the size of the firm, the projects it undertakes and the people involved.

Managers must help employees to improve their communication skills and encourage two-way communication within their groups, making time to listen to, and understand, what people say. The time will be well spent.

Informal communication channels are important but are sometimes suppressed. They must be encouraged. They supplement rather than replace formal channels, which can be inadequate on their own. However, managers must use judgement where channels are contractually prescribed.

Communication should be as direct as possible, without too many links in between the sender and the person who must act on the message. This is especially important in large organisations, where neglect of lateral relationships between people of similar rank creates problems. In construction, the site manager is largely isolated from other site managers who have similar problems and from the specialists who provide expertise. Opportunities for the exchange of ideas and information are restricted.

Good communication and willing co-operation are inseparable. Managers who stress the technical side of their jobs often fail to recognise that people may be suspicious of their motives and may misunderstand or distort what they say. Sensitivity and positive attitudes to people are vital to successful communication.

Revolutionary changes have taken place in organisational communication, with the development of the technologies associated with microelectronics and telecommunications. Information is now available to managers and other employees faster, more reliably and in larger quantities than ever before. Information now has to be systematically managed and information networks carefully designed and monitored. Communications can pass at lightning speed around and among organisations and between individuals anywhere in the world.

The information technologies are influencing much more than the flow, speed and reliability of information; they are making a major impact on planning, decision-making and control. When coupled with developments like artificial intelligence, computer-based management information systems can take over parts of the management process itself, even at strategic level.

Chapter 6
Human Performance

People and work

People have mixed feelings about work. To some it is liberation, to others slavery. In industrial societies, much of the work consists of ready-made jobs. Many of them don't offer much scope for individual expression or fulfilment. Yet, work is undeniably important. Robert Kahn and his colleagues asked nationwide samples of American workers the same question over a period of more than 25 years:

> If you were to get enough money to live as comfortably as you'd like for the rest of your life, would you continue to work?

The answer did not change very much. About three-quarters of employed men and the majority of employed women said they would carry on working even if they didn't need a wage. Seventy per cent of all workers surveyed said they have met some of their best friends at work. Even the small number of people who would give up work if they could afford to, mentioned their co-workers when asked what they would miss most. The majority who would carry on working pointed out that having a job keeps them from being bored and gives direction to their lives (Kahn, 1981).

Kahn defines work as human activity that produces something of recognised value. All elements of this definition are important to the worker's well-being:

- The activity itself.
- The experience of making something.
- The fact that the activity or product is valued by the worker or by others.

One of the problems of industrial work is that one or more of these elements is often poorly provided for.

For many people in an industrial society, there is no alternative to paid employment; nothing to replace it for providing activity, meaning, reward and social status. The industrialisation of society has reduced many people's

jobs to merely making a living. For them, work is just a means to an end. But for most people, having a job means much more than just earning a wage. They want to work, even if they don't need to. They might not do the job they do now, but they want work of some sort.

Many features of work are important. It can create dependence or autonomy, danger or safety, isolation or belonging, monotony or variety. The social reformer, Gandhi, argued that the object of work is less the making of things than the making of people. Work brings people together to co-operate, in direct contact with materials, giving them knowledge of those materials, engaging the whole person, mind and body. Work gives people a sense of belonging to society, of having something positive to do, of having a purpose in life.

Of course, work is not the only way in which people satisfy needs. And too much work can be as unsatisfactory as too little. The way in which work meets people's needs varies. In particular, different occupations satisfy different needs. Senior contracts managers may achieve status and power through their jobs, steelfixers may not. However, steelfixers may get satisfaction from making something with their hands, whilst contracts managers sit at their desks worrying about the piles of paperwork. Some people satisfy most of their needs through work. Their jobs become a main life interest. Others mainly satisfy their needs outside the workplace. For them, paid employment is a means to an end.

Employee performance

Within any group of people performing the same job, some will do it better than others. This applies to all employees, whether operatives or managers, engineers or clerks. One reason is that the better workers are more skilled or more experienced. They have more ability. Another explanation is that the high performers are willing to work harder. They have more motivation.

Other factors affect job performance too (see Fig. 6.1). Employees must have a clear idea of what the job requirements are – role clarity. Misunderstandings about what they should or should not be doing can lead to wasted effort and poor performance, even if the employees are able and highly motivated.

Employees' personalities can also have a bearing on performance. If their characters are ill-suited to their jobs, they will not be so successful. Managers whose jobs involve co-operating with people and influencing their behaviour, are unlikely to be successful if they are arrogant, intolerant or poor listeners.

Performance can suffer if any factor is weak. The most able employees will not work well if their motivation is low. The most highly motivated workers will not be a success, if they lack the skills or personality needed for the job.

Figure 6.1 Factors affecting human performance.

A great deal has been written about improving workers' motivation with a view to finding out how to get the best out of employees – including managers themselves! But human performance depends on many other variables, including the task and the individual's level of alertness, anxiety and fatigue.

In most tasks, people set themselves standards which they are content to achieve. Often they don't exceed these targets, even though they are capable of doing so. The level individuals set for acceptable performance depends on the situation, and on their past successes and failures. It is not always possible to predict how successes or failures will affect people's future performance, but psychological experiments have suggested that successful performance leads to an increase in the standards employees set themselves, whilst failure leads to a decrease. However, there are exceptions to this. For instance, continued success may eventually lead to boredom and an unwillingness to expend further effort.

Many psychological experiments have shown that performance is influenced by people's expectations. For instance, in one well-known experiment, *C.* A. Mace improved subjects' performance at an aiming task by adding more concentric rings around a bulls-eye, making a previously good score look mediocre.

People work closer to their capabilities when given feedback comparing their performance with other people's, or with their own earlier achievements. Objective criteria for measuring performance are needed to achieve this.

For many operative and clerical tasks in construction, measurement is fairly straightforward and is relied on in management control, estimating and bonusing. The performance of technical and managerial work is less easy to

measure because there are so many variables. We can say that one task is harder than another, but we cannot always say how much harder. We can see that a manager's performance has improved, but cannot say by how much.

Human performance partly depends on *skills*. People develop hundreds of skills during their lives, including highly developed skills for listening, observing, understanding and dealing with social situations. Some skills are used so often and so naturally that people don't recognise them as skills at all. People are very versatile at developing skills for coping with life, but their capacities are not unlimited. The rate at which skills are learned and the level of performance finally achieved depend on the body's musculature and nervous system, as well as on the tasks themselves (Fitts and Posner, 1973).

Skilled performance depends on organisation, awareness of a goal, and feedback. But even a well-organised sequence of activities directed towards a specific objective is not enough, if the individual receives no feedback.

Feedback

There are two kinds of feedback. *Intrinsic* feedback comes from the individual's own senses. *Extrinsic* feedback comes from other people. Both provide the individual with information and, if used properly, can enhance motivation. Feedback can serve as a reward, providing strong motivation to continue a task, because it gives information about progress towards a goal. For this reason, feedback is important for both effective performance and learning. Its importance may not be recognised until it is missing and performance has declined as a result.

Intrinsic feedback

Normally, intrinsic feedback is automatically present and is immediate. In construction, the operative receives constant feedback from sensations like pressure, vibration, noise and movement. Seeing is an important source of feedback in many tasks.

Sometimes part of the feedback is missing. For example, operatives working in noisy surroundings cannot hear the sounds made by their tools. This can disrupt their performance. Similarly, if operatives working in cramped, poorly-lit conditions cannot see what they are doing, their speed and efficiency will be impaired.

Gould (1965) conducted an experiment in which subjects were able to watch themselves on a monitor as they performed a task. Selectively blocking out parts of the intrinsic feedback (by excluding them from the picture on the screen) always impaired performance, although the subjects did slowly adjust to the lack of feedback. Other experimenters have reached similar conclusions. It seems that:

- performance is disrupted when any part of feedback is eliminated or distorted;
- when feedback is missing, performance improves with practice, but only up to a point;
- people carrying out a task without proper feedback seldom perform as well as people receiving adequate feedback.

Managers should be aware of the importance of intrinsic feedback, the lack of which may seriously disrupt speed and quality of people's work. People adjust to lack of feedback in the same way that they learn new skills, but they rarely achieve their full potential.

Extrinsic feedback

Feedback from others is very important and can provide strong motivation, leading to high performance levels. If this feedback is augmented from another source, its value is increased. For instance, Smode (1958) gave two groups the same task. One group was given a feedback report after each trial. The other received a report *and* a display of their cumulative score. From the outset, the group receiving the extra feedback performed much better and continued to do so, even when conditions returned to normal.

One of the problems with extrinsic feedback is that it is often delayed; the busy manager forgets to tell an employee how well he/she is doing; bonus payments are received a week after the work was done. This feedback 'lag' is most serious when the individual moves on from one task to another, so that feedback is received when it is too late to influence behaviour at that task. If the individual is carrying out similar tasks over a long period, the feedback lag is less serious.

Ability and skills

It is quite commonly believed that some people are inherently more able than others. Psychologists increasingly think that ability depends more on matching people to tasks and giving them proper training, than on any inherent factor. An individual's ability in a particular task is affected by many factors, of which one of the most important is the level of skill attained.

Understanding the stages in the acquisition of skills can help the manager to:

- devise suitable training programmes and job experiences for new recruits and less skilled employees; and
- monitor their progress as they acquire skills.

The stages of skill development, although not necessarily sequential, are summarised by Taylor, Sluckin *et al.* (1982) as:

- *Plan formation.* New skills are built on to existing skills, which are numerous. Before people can modify or extend their existing skills, they need a plan of action. They need to understand the task they are learning and its purpose.
- *Perceptual organisation.* The learner begins to sort out the important information from the less important, recognising patterns in incoming information, **e.g.** A is usually followed by B, rarely by C and never by D.
- *Economy of action.* The unskilled operator has to work harder than the skilled one. The apparent effortlessness of the skilled worker comes from knowing when to act or respond.
- *Timing.* This is an important feature of skilled behaviour and often the last to be learned. Skilled workers become expert at timing their actions and this is the first aspect of skill to be lost under stressful conditions.
- *Automatic execution.* The elements of the skilled behaviour become so automatic that many of them are performed unconsciously and the operator can work whilst thinking about other things.

Learning does not stop here. Fitts and Posner and others have shown how skill continues to improve until limited by the age of the operator or the constraints of the task. To maintain automatic performance, especially in complex tasks, regular practice is needed. This would apply to driving a large crane or excavator. Operators may think their performance remains at peak, but what deteriorates is their ability to cope with incoming information. The less practised operator is less able to respond effectively when the demands of the task suddenly increase, as in an emergency.

Performance and stress

Stress can be defined as the demands that a task and the environment make on an individual. The structural engineer uses the term in a similar way to describe the demands made on materials.

It has been found that people perform best under *intermediate* stress. If all the demands of the task and environment are removed, the individual becomes bored, less alert and may even fall asleep! Hopefully, this will not happen too often on site. When the work is too demanding or working conditions are very unfavourable, people also perform poorly.

People can cope with a range of physical conditions and can tolerate wide variations in temperature, lighting, noise, ventilation and humidity. But extreme physical and social conditions are stressful.

When the job demands and working conditions are reasonable, the

employee is most likely to find the work stimulating and challenging, and will put in maximum effort.

People react to excessive stress in various ways:

- *They work faster.* They act without weighing up all the available information and allow more errors to happen.
- *They work out priorities.* They filter incoming information, discard some or set it aside for later attention, delegate some tasks to subordinates and concentrate on the important ones themselves. Many people work fairly effectively in this way. Managers often have to.
- *They put all work in a queue.* Jobs, important or trivial, just wait in line. This evens out the individual's workload, but causes delays. Some delays lead to costly mistakes, but others may be productive. In some tasks, human performance improves if information has been absorbed before being acted on.
- *They stop working.* Under extreme pressure, people cannot carry on. Taking a break may seem undesirable in the short-term, but can lead to better performance later on.

The causes of stress do not necessarily have a cumulative effect. Stress involves many factors which interact in various ways. For example, if someone is doing a job which involves *reading,* a small amount of extraneous *conversation* will be more disruptive than a loud mechanical noise. Lack of sleep produces a low level of arousal, but loud noise increases it. So, a noisy workplace would offset tiredness.

Optimal stress

It is not easy to specify an optimum level of stress. Its effects can change as a task progresses. Normally, moderate levels of stress produce the best performance, so a demanding task should be counterbalanced by favourable environmental conditions, and vice versa. Talking to fellow workers or listening to the radio can make the performance of a routine task more efficient, but would hamper a demanding task which needed concentration (Fitts and Posner).

Alertness and fatigue

Alertness drops when an employee has been doing a job for too long under low stress conditions. Tasks which need vigilance, as in checking a bill of quantities for errors, usually result in a steady fall in alertness and performance. Tasks of this kind are becoming more common, as routine operations become automated.

A typical task in which fatigue occurs is mechanical excavation, where the driver is continually adjusting controls in the cab. At first, performance improves as the operator adapts to site conditions. But efficiency declines if the task goes on for too long. The continual demands of this 'tracking' task cause fatigue and loss of attention. The longer the task goes on without a break, the more the worker makes mistakes. Performance can be improved by adding variety to the work, using frequent rest pauses and giving feedback on performance.

Anxiety

People respond to excessive stress in different ways. It has been cited as a contributory factor in heart disease, cancer and stomach ulcers. Often, however, the reaction is simply anxiety or anger. As with stress, a *moderate* amount of anxiety can improve performance, but too little or too much is usually counterproductive.

People become too anxious if the job they are given is too hard. Employees need to be given goals which are challenging but attainable, and should be encouraged to organise their work more efficiently. Anxiety caused by personal problems can interfere with an employee's ability to concentrate. This may be harder to remedy.

Stress and its management

Many factors beyond the task and working conditions also act as stressors. What an employee finds stressful depends on his or her characteristics, the situation and the interaction between the two (Payne, Fineman and Jackson, 1982). Research by Arsenault and Dolan (1983) also suggests a contingency theory of job stress. For an introduction to potential sources of stress, see Cooper (1978, 1984).

Much effort has gone into suggesting ways of managing stress at work. Methods of stress management training include muscle relaxation, biofeedback and meditation. Murphy (1984) suggests that these can be cost-effective, but must take account of sources of stress at the organisational, ergonomic, group and individual levels. He points out that while stress factors cannot be designed out of some jobs, work environment and organisational factors *can* be modified, through organisational change, job enrichment and job redesign. Murphy sees stress management methods as a useful support to these techniques, but not as a substitute. The organisation must still tackle the causes of excessive stress. Whilst some people doubt whether techniques like job enrichment can increase productivity, it seems that they can help to reduce stress.

Information technology

One of the technologies which is having an increasing effect on employee performance is information technology. IT is changing work practices and hence employees' attitudes towards work. It is changing the nature and content of individual jobs and work groups; the tasks of supervision and management; and the hierarchical structure of work roles.

On the positive side, this 'new work' (as it has sometimes been dubbed in the 1990s) may offer more employees work which is less repetitive, less boring; tasks which empower them and involve them in constant learning; roles which require them to do more problem-solving, decision-making, innovation and other higher-order thinking.

Motivation

Miller (1966) and others point out that what constitutes motivated behaviour is very diverse. Its study encompasses biochemistry, sociology, psychology and anthropology, to name just a few.

There have been numerous attempts to explain motivation and the boundaries between approaches are not clear cut. Few theories embrace the full complexity of motivation. Instead, they provide partial explanations of motivated behaviour and offer the manager sketchy advice about how to influence the process.

Even in psychology, many kinds of explanations have been put forward, some more plausible and useful than others. A contingency approach seems most appropriate – what motivates one person will not necessarily motivate another. For each individual, what motivates depends on the circumstances and how the person perceives them.

Although some theories are more soundly constructed than others, there is no single theory which explains all motivated behaviour. Most introductory psychology books expand on some or all the ideas mentioned below, but vary in the way they categorise them.

Approaches to motivation

Needs and drives

Drive-reduction theory

Hull's theory (1943) was built on by Mowrer (1950). People have a range of primary biological needs, **e.g.** hunger, thirst. These activate primary drives such as searching for food. *Anxiety,* caused by the fear of being unable to

satisfy primary needs, is also motivating. This anxiety drives people to strive for success, power, social approval and money. Mowrer maintains that the need for security keeps most people in their jobs.

For many reasons, most psychologists are disenchanted with **drive-reduction** theory.

Self theory

Snyder and Williams (1982) claim that people have a basic need to maintain or enhance their self-image. They suggest that this theory could provide a unifying theme for a range of cognitive theories of motivation and be a useful addition to operant conditioning theory (see below).

Other needs theories

There are numerous needs theories. Some, such as Murray's (1938), list about 20 needs. Others list a few arranged in a hierarchy. **Maslow's** hierarchy (1954) is perhaps the best known to managers.

Maslow claims that needs operate in a kind of hierarchy, where *reasonable* gratification of one level triggers the next level to operate. These needs include basic necessities like food, clothing and shelter, which lead to physical well-being and security. Then there are higher needs, like affection, respect and self-fulfilment, which are said to be triggered when the basic needs are reasonably well catered for.

At first glance, the idea seems plausible. People will not be interested in gaining one another's respect, if they are starving to death. They will be motivated by the need to obtain food.

Managers should certainly be aware that for any individual, some needs will be *prepotent* at certain times. Despite its appeal to many managers, **Maslow's** theory has been heavily criticised.

Some needs theories mention only single items, such as the need for affiliation (Schachter, **1959**), achievement (**McClelland, 1961**), and competence (White, 1959).

Cognitive theories

These relate motivation to cognitive processes like thinking, perception and memory. They include the following.

Cognitive consistency theories

Motivation depends on how the individual perceives the world. An example is Korman's theory (**1974**), which argues that an individual is motivated to

behave in ways consistent with his or her self-image. Festinger's cognitive dissonance theory (1957) is another well-known example.

Expectancy theories

Examples are Vroom (1964); Porter and Lawler (1968). Motivation is seen as a joint function of *expectancy* – a belief regarding the probability that a particular course of action will lead to a particular outcome – and *valence* – the value an individual attaches to each probable outcome. If the most probable outcome is highly valued, motivation will be high; if the likelihood of achieving the most valued goal is low or if the most probable outcome is not highly valued, motivation will be low. Expectancy theories assume that people always make rational choices, but the evidence throws doubt on this (Wason, 1978 and others).

Instrumental conditioning

The theory of instrumental conditioning looks at the relationship between performance and rewards. The general assumption is that people will work harder if rewarded for their efforts (B. F. Skinner, 1953). The reward, and hence the motivation, is *extrinsic* to the task. Skinner found that if a reward is given when people behave in a certain way, they are more likely to repeat that action. There is solid evidence to support this.

To establish a desired level of behaviour, managers must reward improvements in performance, until eventually they reward only behaviour which closely approximates to the desired behaviour, and finally only the behaviour itself. Rewards should be given regularly until the desired behaviour is well-established. Ideally, the reward should follow the desired behaviour fairly soon.

A reward is anything valued by the individual. Some people prefer tangible rewards, others a word of praise or hint of promotion (Higgins and Archer, 1968). Moreover, what the individual regards as rewarding varies over time.

Even if employees don't want a monetary reward, money can be motivating if it helps them *buy* the rewards they do want. In this role, money acts as a *secondary reinforcer.*

What Skinner found out about the repetition of rewards is not widely known among managers. First, he noted that if the performing/rewarding sequence is repeated regularly after the desired behaviour is established, there is a gradual decline in performance. But rewards given unpredictably lead to continued motivation to repeat the task. This is how gamblers are rewarded; they do not know when they are going to win and they do not always win.

Second, Skinner noted that when a person's behaviour is ignored, there is a

tendency for it not to be repeated. Thus, the absence of a suitable reward can cause performance to decline, unless something else takes its place.

Reward systems often have unpleasant connotations, implying that some controlling person offers rewards to some less influential person. In practice, extrinsic motivation operates continuously in all aspects of human relations and is a two-way process. Construction managers and workers reward, or fail to reward, one another all the time (Fryer and Fryer, 1980).

Intrinsic motivation

Even when rewards are absent, people often work at a task for no other reason than the pleasure of doing it. Motivation is derived from the task itself. Such a task is said to be *intrinsically* motivating. Bruner (1966) identifies three reasons for this.

Curiosity

We become curious about a task when it is unclear, uncertain or unfinished. Our attention is maintained until the problem is solved. Operatives are motivated in this way when they have an unusual construction detail to work out. But motivation of this sort will only be sustained if employees are given tasks which are slightly different from, or a little harder than, those they have done before. If a task is too easy, employees become bored. If it is too dif-ficult, they become frustrated. Either way, motivation suffers.

Setting challenging tasks for subordinates demands ingenuity and imagi-nation on the part of the manager. Fortunately, construction work is often more varied and interesting than mass production and processing work, because projects are quite challenging and diverse. The manager must look for opportunities to restructure tasks to provide people with a challenge. The scope for this may be limited by outside constraints, such as rigid job specifications and job demarcations agreed with the unions. Overcoming such problems may require help from senior managers in the firm.

Sense of competence

It seems that most employees are motivated by a need to become more competent. Bruner argues that unless people become competent at a job, they will find it difficult to stay interested in it. To achieve this sense of compe-tence, employees must have some measure of how well they are doing. This relies on having a clear target and some feedback on performance. **A** vague task, stretching far into the future, offers little scope for measuring progress. Its effect on motivation will be small.

The need for competence may vary with age, sex and background, and

managers must be sensitive to individual differences if they are to provide opportunities for competence needs to be met. Construction managers recognise the need to treat their subordinates as individuals (Fryer, 1979a), but may not recognise how much their needs differ.

Employees often have *competence models* – individuals with whom they work, whose respect they seek and whose standards they wish to make their own. They identify with such models even when the latter are not in positions of authority – hence the success of many informal group leaders. People are very loyal to their competence models.

The need to co-operate

Many people need to respond to others and work together towards common objectives. They satisfy this need in different ways. Some are natural leaders whilst others contribute to the group by offering helpful suggestions, by evaluating ideas or simply by doing what is asked of them.

Managers must be tolerant and flexible; it is in cultivating these varied but interlocking roles that they help their subordinates to get a sense of working together. If individuals can see how they contribute to their team's effectiveness, they are likely to become more motivated. Construction work is often organised so that it is carried out by small gangs. Tasks like bricklaying, which often depend on co-operation, will encourage motivation, if properly managed.

Goal-setting theory

Developed initially by Edwin Locke in the 1960s, goal theory argues that performance in almost any work activity can be improved if clear goals or targets are set in relation to specific tasks, the employee accepts those goals, and performance of the task can be measured and controlled. Cooper (1995) says that extensive research into the effect of goal-setting on performance shows that:

- Difficult goals lead to higher performance than moderate or easy goals.
- Specific, difficult goals are more effective than vague, broad goals.
- Feedback about the person's goal-directed behaviour is necessary if goal-setting is to work.
- Employees need to be committed to achieving the goals.

Bruner argued that if tasks are *too* difficult, there is an adverse effect on motivation. Locke made a similar point; employees will not be motivated if they don't possess – and know they don't possess – the skills needed to achieve a goal. But of course lack of skills is not the only reason a task may be

too hard. Some of the obstacles may be beyond the employee's control. The manager must ensure that such obstacles can be resolved and that targets are therefore feasible.

Locke has suggested that goal-setting should be viewed as a motivational technique rather than a motivation theory.

Motivation and job satisfaction

There is a widely held view that if people are satisfied with their jobs, they will be motivated to work harder. However, it is difficult to draw a distinction between satisfaction, rewards and needs. Many rewards are sources of satisfaction, in the sense that they satisfy needs.

Researchers have put a lot of effort into showing that job satisfaction and motivation are correlated, but the evidence does not support this. Moreover, it has been difficult to separate cause and effect. Effective performance could lead to job satisfaction, rather than be the result of it. Also, removing the causes of dissatisfaction does not automatically lead to satisfaction!

It does seem that unconditional rewards – fringe benefits not directly related to performance – do help the firm attract and hold employees. They can therefore contribute to productivity by reducing absenteeism and labour turnover. But it seems very doubtful whether they lead to increased motivation.

Financial incentives

Financial rewards are based on instrumental conditioning. The construction industry introduced financial incentives after World War II to improve productivity. They have generally not worked well, because of the complexity of motivation and even of reinforcement (see instrumental conditioning, above). They are still widespread because most managers have not appreciated how complex motivation really is. Moreover, bonus schemes are 'visible' and are relatively easy to operate. Agreements about financial incentives have been reached by employers and unions over many years and these are formally written into working rule agreements.

For an incentive scheme to work even reasonably well, the following conditions must be observed:

- *Simplicity.* Operatives must be able to calculate or check their bonus earnings.
- *Honesty.* The scheme must be seen to be fair.
- *Agreement.* The terms must be fully accepted by workers and management.
- *Targets.* These must be reasonably attainable.

- *Size of task.* Bonus should be based on small parcels of work, enabling the operative to assess progress and bonus earned.
- *Group size.* Bonus should *be* related to individual effort (although, in practice, rewarding a small group can be effective and can encourage co-operation).
- *Availability of work.* There must be adequate bonusable work available, so that operatives are not prevented from earning bonus.
- *Payments.* These should be regular and prompt (although this is more likely to keep operatives happy than maintain their performance).
- *Scope of scheme.* As many tasks as possible should be bonusable.

For a discussion of the types of incentive scheme and their implementation, see Harris and McCaffer (1995).

Sub-contractors

Site managers are concerned with the motivation of two distinct groups – direct labour and sub-contract labour. Whilst they have direct influence and control over their own labour, sub-contractors pose a different problem.

The manager, having no direct authority over sub-contract operatives, must identify ways of supporting the sub-contractor's own efforts to get high performance levels.

A great deal can be done to support sub-contractors' site personnel. Although managers do not dictate the rewards to sub-contractors, the attention they give to target setting, planning and co-ordination can create better prospects for sub-contract staff to achieve their goals. Construction managers can do much to provide favourable conditions for sub-contract performance, but their efforts will be of little value unless the sub-contractor's own management is making an effort too.

Job design

Job design is about improving motivation and performance at work. Some people thought machines would help, by automating dull, monotonous work out of existence. But the replacement of human energy by machines has created problems too. It has encouraged specialisation and the deskilling of many jobs, making it hard to provide varied, interesting (and hence intrinsically motivating) work. We have paid a price for our technical progress. Some would argue that the price has been too high. What can be done to make work more meaningful? Several techniques have been tried.

Job enlargement

This involves making a job more interesting or challenging by widening the range of tasks. Normally the extra work is no more difficult. The challenge comes from the greater variety of tasks the worker handles. Monotony is reduced because each task is repeated less often.

Work can be restructured in this way for humanitarian reasons, but the underlying purpose is to improve performance. Individuals may see it as a management ploy to get more work out of them for the same pay.

In construction, job enlargement would certainly involve removing some trade demarcations. This could create problems, but would lead to more flexible use of employees. The gain in terms of human satisfaction might not be great. Many of the more skilled construction jobs already offer variety and interest.

Job enrichment

Sometimes called vertical job enlargement, this allows workers to take more responsibility for their work. This could include quality control and decisions about work methods and sequencing. The **autonomous work group** or **self-managed team** is an extension of this idea.

Whether job enrichment succeeds is hard to evaluate. There is some evidence that workers are more satisfied, but production levels are not always higher. The aim is to promote productivity by providing challenging jobs. One difficulty is that if people are given more responsibility, their bosses will have less. The effects of job enrichment on higher management levels must be considered, although there is often scope for senior staff to turn their attention to strategic problems, which might otherwise be neglected.

Some people may not want their jobs enriched or may not be able to cope with the responsibility. Extra training may be needed and this cost must be set against the benefits. Quality of work may improve when jobs are enriched and this must also be taken into account.

Ergonomics

This involves an interdisciplinary approach to work, using knowledge of anatomy, physiology and psychology. It is used to design better workplaces and to improve machine layouts and controls. Its main aim is to improve efficiency rather than job satisfaction, but designing jobs to suit people can help to increase satisfaction and reduce frustration. This will not be achieved if the purpose of the exercise is only to achieve efficient and cost-effective production. To maximise productivity **and** satisfaction, there must be a

trade-off between technical efficiency and the employee's well-being. In ergonomics, human satisfaction should be a key consideration.

Job rotation

A rather more straightforward way of enlarging people's jobs is to move them around the business. This can widen the range of their work, creating interest and motivation, but its value may be short-lived if they see it as moving from one boring job to another. It is also costly to move people from jobs they are good at to jobs they are unfamiliar with. It can lead to union demarcation problems and, unless the tasks involved are well-designed and interesting, it is unlikely to lead to a substantial change in workers' attitudes to their jobs.

There is scope for varying the length and timing of job rotation and making it voluntary rather than compulsory. This may make it more attractive, but too much rotation can cause confusion, breaking down the task and social bonds which exist within the organisation.

Job rotation has another function – in staff development. In a study by the writer, construction managers said they valued job rotation as a way of developing managers (Fryer, 1977, 1979b).

Summary

Human performance is complex and difficult to control. Whether or not an individual works hard or works effectively depends on many diverse factors, such as skills, age, personality, past experience and motivation. The type of task, developments in technology, the job design, the feedback given and the organisational setting are also important. Moreover, all these variables interact with one another.

Stress affects performance, but not necessarily in a negative way. People often work best under moderate levels of stress.

Motivation is extremely complex. It seems that an individual's motivation depends on factors intrinsic to the task and on extrinsic rewards that the individual values. However, people are different and what motivates one person will not necessarily motivate another.

There is no simple relationship between job satisfaction, motivation and performance. Indeed, some evidence shows that poorly motivated people performing badly can be more satisfied than highly motivated workers doing good work.

To improve performance, managers must be aware of all the variables involved and take a contingency approach, recognising that what will work in one situation may not work in another.

Chapter 7
Individual and Group Behaviour

Personality and individual behaviour

The manager needs to understand what affects people's behaviour and performance at work: why people are sometimes hard working, lazy, trusting, miserable or content.

This behaviour is partly determined by personality, the set of characteristics by which we recognise a person's uniqueness. These characteristics are relatively enduring, but aspects of an individual's personality may change as a result of experience or circumstances.

We tend to label people as types – friendly, hostile, domineering, shy, etc. – because they have a general disposition towards certain kinds of behaviour. But in fact they behave quite differently in different situations. This is because their behaviour is affected by interaction with others and by the setting. Interestingly, people tend to describe their own behaviour in situational terms, but label others in terms of their personality.

Although some people are more rigid than others, most psychologists now agree that personality is not a fixed set of attributes. They see personality as dynamic rather than static. It depends partly on inherited factors, but is heavily influenced by the individual's experiences.

Individuals and groups

There are also organisational factors which influence the individual's behaviour – the structure of jobs, the tasks performed and the group to which the individual belongs.

Individual behaviour is strongly affected by the workings of groups, and managers must understand group processes if they are to manage effectively. Organisations use groups to fulfil most of their purposes. Through gangs, project teams, committees and meetings, organisations distribute tasks and responsibilities, organise and monitor work, reach decisions, solve problems, gather and exchange information, test out ideas, negotiate and settle conflicts, and agree terms and conditions.

It is now widely accepted that individuals will behave differently, and even change their ideas and beliefs, if they are members of a cohesive group. Groups can therefore exert more influence over an organisation than individuals can. Yet firms pay much more attention to individuals than groups – through career plans, staff appraisals and the like. In construction, project groups are difficult to monitor, because their composition changes so quickly.

Primary and secondary groups

One of the distinctions used by those who study groups is between small groups in which the members have some common bond or direct relationship, and larger groups in which the link is more tenuous or indirect.

The term primary group was first used by C. S. **Cooley** in 1909 to describe those groups in which there is intimate, face-to-face association and co-operation. There is a certain fusion of individualities so that, in many ways, the group shares a common life and purpose.

A primary group is relatively small and its members all have close contact with one another. This can be said of a bricklaying gang or a group of buyers sharing an office. It cannot be said of a building firm or a trade union. The latter are secondary groups. Members of these larger groups are aware of a bond between them, but the link is weaker.

Every group has ways of dealing with differences among its members. In secondary groups it is through rules laid down, often in writing, and modified as conditions change. In primary groups, it is largely through unwritten rules or norms. These are also modified through time. Primary groups and their norms are very important to the manager who wants to be effective.

Developing group performance

It takes time for a work group to become efficient. The group's task has to be defined; responsibilities have to be shared out; conflicts between people and between goals have to be resolved; norms have to be worked out. Group members have to resolve two major problems simultaneously:

- How to handle the *tasks* they have been given.
- How to come to terms with one another as *people.*

In a semi-permanent group, this process can take many months (even years), depending on the group's size, membership and task. In construction, project groups have to gel very quickly – within days or weeks. Moreover, these groups alter their composition as the project moves through its lifespan.

Every time people leave and others join, there is a period of adjustment, both for new and existing staff.

A further period of adjustment occurs just prior to project completion. Output falls away sharply, feelings of uncertainty develop and there is some nostalgia. The manager's aim in construction must be to get temporary groups into their cohesive, *performing* stage as quickly as possible and keep them performing.

Group cohesiveness

Group cohesiveness is the degree of solidarity and positive feelings held by individuals towards their group (Stoner *et al.,* 1995). One of the earliest researchers of group behaviour, Michael Argyle, described a cohesive group as one in which the members like each other, enjoy being part of the group and co-operate over group tasks. He noted that there was more conformity among members of cohesive groups and that members tended to spend more time with the group.

Mullins (1996) has summarised the factors which appear to influence group cohesiveness:

- *Membership* – the size and **permanence** of the group; the compatibility of members.
- *Work environment* – the kind of task; the group's physical setting; communications and technology.
- *Organisational factors* – management and leadership; personnel policies and procedures; success; external threats.
- *Group development and maturity* – the stage the group has reached in the development of task performance and group relations (agreement on norms, for instance).

Argyle argued that the amount of interaction among group members and the length of time they stay in the group are also important for cohesiveness to develop. This is an interesting point, because project organisations are made up of teams which change their composition and either meet infrequently or spend a lot of time working apart, whereas the project team members – architect, QS, engineers and so on – spend relatively little time together.

Group cohesiveness is important. It leads to greater interaction among members, creates a climate of satisfaction and co-operation, and can result in lower absenteeism and labour turnover (Argyle, 1989). These factors can lead to high productivity. But there can be problems if group members are cohesive simply because they are all alike. Belbin (1993) and others have argued that groups need to contain a mix of different types of people, because effective group work requires a range of different skills and behaviours.

Norms

Norms are shared attitudes, shared ways of behaving, shared beliefs and feelings within a group. They encourage the conformity and predictability which are important in any task needing co-operation. For any group to be effective, there must be some measure of agreement about what has to be done, and how.

There are norms about:

- *The work.* The best methods, how fast to work and what standards to aim for.
- *Attitudes and beliefs.* Management, unions, the importance of the group and how satisfying the work is.
- *Behaviour.* Co-operation, sharing things, what jokes to tell and where to go for lunch.
- *Clothes and appearance.* How to dress at work and outside work; the wearing of safety helmets and protective clothing.
- *Language.* Use of technical jargon, slang and bad language.

Norms develop as the group tries to solve its social and work problems. The more dominant members have most influence over norms. People new to the group have little impact and tend to shift their behaviour towards the norm.

This shift towards group norms can occur because:

- individuals are under pressure from other group members to conform; if they don't, they may be ignored or rejected;
- individuals think the majority view must be right, especially if the others are more experienced or have been found to be right in the past.

Some people conform more readily than others. People who have a strong need for belonging conform more readily than those who are independent. When people's goals or beliefs are far removed from those of the group, they are more likely to deviate from its norms. Authoritarian people tend to conform more than less rigid types.

Norms take time to evolve and must be reasonably well settled before the group can perform effectively. This is important in construction. With new projects, norm-building often starts from scratch and the norms may change as the composition of groups alters over the project's life-cycle. Many contractors try to keep certain key staff together when they move them from project to project, to speed up the process of getting groups working effectively.

Group norms represent the standards of conduct of the group. It is difficult for the members to operate effectively unless they can be reasonably sure what responses they can expect from their colleagues. Of course, groups

vary in the 'tightness' of their standards; some are much more free and easy than others. Some members are tolerated even though they don't always conform. But without some agreement between members about what they will and will not tolerate, the group would find it difficult to continue.

Managers must appreciate this and have some understanding of how norms develop and how they can influence this process. They should realise that individuals may depart from their own judgement because of group pressure. Indeed the manager may sometimes be that individual!

Solomon Asch demonstrated this phenomenon in a well-known experiment in which a series of groups were asked to make a judgement about the length of a line. All but one of the group members had, however, been briefed by the experimenter to agree on an answer which was clearly wrong. The naive members were therefore faced with a group whose judgements contradicted the evidence of their own eyes.

About two-thirds of the naive subjects followed their own judgement, many showing acute embarrassment at doing so. But the rest gave in to group pressure and gave the answer they thought was wrong. They mainly did so either because they thought they must be mistaken, or they thought they were right, but didn't like to contradict the rest of the group.

Clearly, the manager must be aware of such group pressures, which may cause individuals not only to give opinions that conflict with their true feelings, but also change statements of fact.

Encouraging interaction

The work of social psychologists on small groups has given managers some useful insights. For instance, it has been shown that arranging group members in a circle, rather than sitting them in rows, often produces more interaction, and more members join in. Also, people tend to speak in response to those sitting opposite them, except when an authority figure is present. Then they tend to speak to the people sitting beside them.

Although the findings are scattered and incomplete, it is clear that *seating arrangements* for groups, chosen by architects, interior designers and managers, have a marked effect on the social structures which emerge. If people cannot easily talk face-to-face, social interaction is seriously impaired. They rely on visual, as well as verbal, feedback from others. Given a free choice, group members often seat themselves at a distance from their leader, but sit where they can see and be seen by the leader. Those who can most easily make eye-contact with the leader often do the most talking. A circular pattern, often favoured for informal discussions, maximises the eye-contact between group members. The arrangement of seats and other furniture (as in a contractor's office) facilitates or inhibits eye-contact and thus affects communication.

Roles

To understand how groups work, we have to look at how people behave towards one another. Every member of an organisation occupies a position, such as engineer, buyer, chargehand or clerk. For every position there is a role – the activities and patterns of behaviour typical of people in that job.

People's behaviour depends on many factors, defined by their and other people's expectations.

The different roles in an organisation interlock, like the roles of doctor and patient. One role cannot be performed without the other. Each role includes the tasks performed, ways of behaving towards people, attitudes and beliefs, the clothes worn and even aspects of the individual's lifestyle.

Managers tend to behave like other managers, architects like other architects. A bricklayer is more likely to behave like other bricklayers, than like a quantity surveyor. Organisations rely on this conformity in behaviour to ensure that work is done effectively. The task itself generates role behaviour if it can only be performed in certain ways. Each person is expected to play a part, not only by the boss, but by colleagues and subordinates. The attitudes and beliefs held by members of a group about what a particular job-holder should do are called role expectations. Group members often have differing expectations of how each of the other group members should behave.

Selection helps to perpetuate role behaviour. People are selected for management jobs because they look the part – or may be turned down because they don't! Self-selection operates too. If people don't like the look of managers they have seen, they probably won't apply for a management job. Several other processes encourage new job-holders to behave like the established ones, including training, imitation and coaching.

People only conform up to a point. Their individuality still shows through. This is because most people belong to several groups – family, work and leisure – and therefore have various roles to perform.

The other people in an individual's group are that person's role-set, the people with whom he or she has regular dealings – colleagues, bosses and, where applicable, subordinates. Managers can have quite large role-sets.

People experience role conflict when members of their role-set put different pressures on them. The site supervisor who has to choose between a course of action which will please the manager and another which will suit the workers, is suffering from role conflict.

Role ambiguity occurs when people cannot agree about what a role should be. For the individual this often means a lack of clarity about the scope of his or her job. The writer found that poor role definition was quite common among construction managers (Fryer, 1979a). Variations in the type and size of projects, the people involved, company rules and contractual procedures, accounted for much of this uncertainty.

When people experience role conflict or role ambiguity, they may become tense and unhappy, dissatisfied with their jobs, less effective in their work or even withdraw from contact with those exerting pressure on them. They will try to resolve the conflict or ambiguity in various ways – by giving some demands priority, by seeking a ruling from their seniors or by bargaining with the people involved. Conflict can also result from differences between people's individual needs and job demands. Many site managers like to be out and about, close to the work, and resent sitting behind a desk full of papers.

The organisation can help minimise this kind of conflict by taking more care over selecting people for jobs. This may mean putting more emphasis on individual needs and interests in staff selection. Interestingly, during the early years of people's careers, there is a tendency for their goals to change to fit their roles better. This is especially true of vocations like architecture, where the training period is long. Moreover, Argyle points out that as people become more influential in their jobs, they may change organisational goals to be more compatible with their own.

Analysing group behaviour

Managers perform most of their duties by leading, or taking part in, groups (project teams, departments, etc.) and therefore need to understand group behaviour. They particularly need to know how to get specific responses – how to persuade a sub-contractor to speed up progress, or the architect to provide some design information quickly. Management trainers have responded to this need by including in their courses techniques for studying group behaviour, known as *interaction analysis*. These help those taking part to:

● understand their own behaviour better;
a improve their social skills;
● analyse, understand and respond more positively to other people's behaviour.

One way to study group behaviour is to watch a group at work. The observer can either participate in the group or observe it from the outside. Psychologists have developed a number of systems for recording and analysing group interaction. These can be used, for example, to assess the roles people play (role analysis), who speaks to whom (interaction flow analysis), the social relationships within groups (sociometry) and what people say to one another (content analysis, behaviour analysis, and so on).

R. F. Bales developed one of the earliest methods of content analysis which

used twelve categories, six related to the group's task and six to the social relations between group members. Some behaviours were positive and some negative:

Task-centred

Positive – gives an opinion, gives information (or confirms, clarifies, repeats), makes a suggestion;
Negative – asks for an opinion, asks for information (or repetition or confirmation of information), asks for suggestions;

Social

Positive – agrees or accepts; shows solidarity (or gives help), jokes, laughs or shows satisfaction;
Negative – rejects or disagrees, shows antagonism, shows tension or withdraws.

In behaviour analysis, observers normally use a chart listing the behaviour categories and the names of the group members. The observer has to record, for each contribution to the discussion, the speaker's identity and the kind of behaviour used. When the group has finished, the observer totals the contributions of each individual in each category. The analysis can be extended to include non-verbal behaviour, such as gaze, facial expression, posture and so on. Analysis is not always easy. It can be difficult, for instance, to tell whether a remark is an *opinion* or a *suggestion.*

A system developed by **Rackham**, Honey and Colbert, uses different sets of behaviour categories to suit the situation (Rackham, 1977). One of these sets is:

- *Proposing* – putting forward a new idea, suggestion or course of action.
- *Building* – extending or developing a proposal made by another person.
- *Supporting* – deliberately agreeing with another person's ideas.
- *Disagreeing* – declaring a difference of opinion, or **criticising** another's ideas.
- *Defending/attacking* – attacking another or defensively strengthening one's own position.
- *Blocking/difficulty stating* – placing an obstacle in the path of a proposal or idea without offering an alternative or a reasoned argument. This kind of behaviour tends to be rather bald, 'It won't **work'** or 'We couldn't possibly do **that'.**
- *Open* – the opposite of **defending/attacking**. The speaker exposes him/ herself to the risk of ridicule or loss of status. This would include admitting a mistake.

- *Testing understanding* – trying to find out if earlier contributions have been understood.
- *Summarising* – restating concisely the content of earlier discussion.
- *Seeking information* – seeking facts, opinions or clarifications.
- *Giving information* – offering facts, opinions or clarifications.
- *Shutting out* – excluding, or trying to exclude, another member of the group.
@ *Bringing in* – a direct and positive attempt to involve another member.

These categories are fairly easy to understand, but they can sometimes be difficult to separate. For example, if a group member states an opinion which conflicts with someone else's, it may be hard to decide whether he or she is giving information, disagreeing, attacking or making a proposal. Accurate analysis depends on training and practice, but the framework is good enough to be useful for trainers in team building exercises (Clark, 1994).

The technique often reveals that group members spend a lot of time exchanging information and the remaining contributions are often rather self-centred and negative – disagreeing, defending, attacking and blocking. Members spend more time putting forward their own ideas, than supporting or building on others' ideas. If group members are shown a video-recording of their performance and are asked to make more effort to support and build on one another's ideas, they often achieve better results the next time round.

Summary

In a labour-intensive business like construction, managers need a good understanding of human behaviour. Many factors influence the way an employee behaves in a given setting. Personality is one of them, but not necessarily the most important. Indeed, an individual's characteristic way of behaving often alters in response to different people and problems. More-over, employees' behaviour is affected by the work they do and the groups they work with.

A work group can exercise considerable power over its members. Just as organisations have rules which govern what people can and cannot do, so groups have norms, which dictate what behaviour is acceptable and unac-ceptable within the group. Individuals often conform to group norms, even when this conflicts with their personal preferences. Some people deviate more from norms than others; they are often the independent thinkers.

People perform various roles in the organisation. These roles cause them to shift their behaviour towards that of other people doing similar jobs. The way people behave may not be the way they want to behave, but how they think others expect them to behave.

A number of techniques have been developed for analysing group behaviour. When these are used in training sessions, they can help group members to evaluate their behaviour, leading to improved group performance.

Chapter 8
Problem-Solving and Decision-Making

Most managers, including construction managers, regard decision-making as a key aspect of their work. Studies have shown that managers do not always spend a lot of time on decisions, but making a good decision is often the result of much careful information gathering and analysis, involving discussions with a range of people, scrutiny of recorded information and, for some decisions, manipulation of data using computer programs.

So a decision reached in minutes may be preceded by many hours of collating and analysing information. Even a key business decision may be reached quickly, but only after prolonged consideration of information, a process which may have been spread over weeks or months and involved other staff.

Problem-solving has not enjoyed the same status in management thinking as decision-making. Problem-solving occurs all the time as people try to achieve their goals, find they cannot do so directly and search for ways round the problem. Much problem-solving, though quite elaborate, is performed without the individual's awareness of the process.

Some problems do not involve a decision, because there is only one course the manager can take. A decision almost always involves choosing between several courses of action. If the choices are well-defined, the problem can be described as routine. There may already be procedures for dealing with it. If the choices are unclear, the problem is non-routine and the manager may spend a lot of time looking at the options before reaching a decision.

The decision will be more difficult if the number of choices is large or the outcomes are hard to compare. If the manager lacks information about the problem or about the options available, the decision can become very diffi-cult indeed.

Most decisions are routine. They may not take up a lot of the manager's time, but they interrupt other work. They distract the manager from more critical decisions, which are less structured but have long-term consequences. The manager must guard against this and get priorities right. But routine problems cannot be ignored. They can be urgent too!

The conflict between short-term and long-term decisions is a real one, as this site manager lucidly describes:

> The long-term decision is to some extent a stab in the dark, an attempt to decide policy some distance in the future based on today's standards and events. Immediate, operational decisions require no crystal-ball gazing. A problem presents itself and the manager makes a decision with most of the facts available. It is perhaps unfair to say that long-term decisions are 'neglected' but rather that they are 'shelved' – until today's long-term decision becomes tomorrow's immediate decision.
>
> To completely neglect the long-term is to court disaster, but equally if the short-term is neglected then, as fast as the organisation thinks it is **making** money in the future, it is definitely losing money in the present.
>
> As a site manager with too few supervisors under me, I have had to make the decision to spend an afternoon in the office, scheduling and programming, when I know full well that labour is idle or not fully employed on site. I have had to balance the effects of 50 per cent production against the possibility of a total lack of direction, or no materials on site with which to work. But in all honesty, I invariably end up scheduling and planning at home! That is, these items take second place to the immediate decisions.
>
> Consider too my contracts director. He feels it his duty to oversee existing contracts and seek out new work at the same time. But if one of his contracts is doing badly, he will feel that time spent in finding new work will be to the detriment of the existing contract.
>
> The site manager will be judged on the performance of the contract to date, rather than on the final result, and is therefore unlikely to plan too far ahead if the problems of today are pressing.
>
> Our industry is subject to change at short notice, often negating weeks of preparation and planning. The factors influencing a long-term decision may have changed before it has been implemented.

Clearly, managers face a dilemma, but the situation can be eased. The same manager had these suggestions for striking a better balance between **long-** and short-term decisions:

> If I had more intermediate supervisors, I would delegate more and my time could be spent more effectively on long-term tasks. Managers must do as much as possible to control the changing environment. Good long-term policies can ensure that many immediate operational decisions have already been made as part of a longer-term view.

Types of problem and decision

Management problems come in all shapes and sizes. They vary with the type of work, the rate of external change, the levels of management involved and so on. Some problems are easily resolved; others need a long and difficult period of creative thinking and decision-making. Igor Ansoff developed

one of the best known analyses of decision types or categories (see Ansoff, 1987):

- *Operating decisions* relate to the firm's day-to-day activities and to making current operations profitable. They absorb a lot of time and energy and include decisions about allocating resources and people, planning and monitoring projects, scheduling routine tasks and co-ordinating sub-contractors.
- *Strategic decisions* are about long-term problems, risks and uncertainties. Senior managers have to decide about markets and clients. They must review objectives and consider new techniques, to guarantee the firm's long-range survival. They must have a policy about sub-contracting work and employing direct labour.
- *Administrative decisions* bridge the gap between operating and strategic decisions and deal with how the firm functions effectively. Some of these decisions are about organising the business: what decision-making to centralise and decentralise; how to structure responsibilities, work flow, information flow, and location of facilities. Others are about obtaining and developing people and resources, and the financing of operations and capital assets.

Important decisions come mixed up with trivial but time-consuming demands. Somehow the manager must strike a *balance* between them. On a single day, a senior manager may have to make a decision about the firm's future, reconcile a **conflict** between two members of staff and advise on a host of operating problems. The strategic decisions are the ones most likely to remain hidden, or be pushed aside. The manager must actively pursue them.

Some managers write down their problems and arrange them in order of priority. However, importance and urgency do not always coincide. Managers must try to delegate routine decisions to give themselves more time for important ones. These are not always obvious and managers may have to search for the opportunities and threats looming up. Many contractors try to solve their trading problems using operating decisions, like cost-reduction exercises, when what is needed is a complete rethink of the business.

Site managers work mainly at the operating level, leaving the main strategic problems to their seniors. However, viewing the site as a separate organisation, some of the manager's decisions are strategic in relation to the project goals. The site manager must strive to balance the immediate and long-range issues, albeit within the narrower timespan of the contract.

H. A. Simon suggests another way of classifying decisions:

- *Programmed decisions.* These are repetitive and can be dealt with using tried procedures. If a problem occurs often – how much spot bonus to pay

for sweeping up, how soon to call up a delivery of timber – a routine will be worked out for dealing with it.

- *Non-programmed decisions.* These are the difficult ones. They relate to problems which are novel and unstructured. There is no obvious method for dealing with them because they haven't happened before, or their structure is complex. To solve them, the manager must rely not only on techniques, but on judgement, intuition and generative thinking.

Many decisions are taken under pressure. The manager hasn't time to think them through and may seem to behave irrationally. Thorough planning, thinking ahead and the use of some decision rules can help the manager to cope. Decision rules evolve when a problem occurs regularly. Once a problem has been solved, the manager knows, more or less, what to do if it happens again.

Stages in problem-solving and decision-making

Problems and decisions vary so much in complexity and importance that the manager needs to be flexible to cope with them. On site, some of the problems are technical and can be quantified. Others, like some sub-contract problems, are organisational or contractual and demand judgement and compromise. The manager may have to decide what is *reasonable* rather than right.

Managers must know when a problem should be tackled alone and when to involve others who have some special knowledge or skill. They must be able to judge when others want a firm directive and when they expect consultation.

There have been many analyses of problem-solving and decision-making processes, but for many simple problems the steps are passed over quickly and without much conscious thought. A decision can emerge without anyone being sure when it was made or who made it; indeed, without anybody realising a decision was reached at all.

More complex problems must be approached systematically.

Deciding priorities

Problems rarely crop up one at a time, but come in thick and fast, important ones mixed up with trivial ones. The first step is to decide which problems need to be tackled first. This is not easy. Information will be incomplete and it will be difficult to judge priorities objectively.

Defining the problem

For straightforward problems, this stage can be passed over quickly, but classifying a problem too soon can limit one's thinking. Many problems need clearer definition before a solution can be sought. It often helps to write the problem down in simple language, identifying causes and the desirable outcome (although defining an acceptable solution is not always easy). If the problem is complex, it can be helpful to break it down into a series of 'problem statements' (Parnes, 1992). This makes the task more manageable and is more likely to lead to novel solutions.

Collecting information

Information is gathered, often from many sources. Opinions must be separated from facts and accuracy of data checked. Some of the information can be converted into numbers, graphs and diagrams, which make the problem more visual (but perhaps more abstract).

Major or complex problems may have to be tackled piecemeal to make them manageable. For instance, with materials wastage it may be necessary to tackle one cause of waste at a time (say, multiple handling) or one material (presumably one causing high wastage costs).

Generating choices

Possible solutions must be identified, but there may not be an ideal one. Choices emerge as information is analysed, evaluated and synthesised. However, the information is often incomplete and the validity of each possible solution can rarely be accurately assessed. The manager may have to be content with a course of action which is acceptable rather than correct. Most books on decision-making stress the importance of considering alternatives, but there are times when only one course of action is open.

Drucker has pointed out that one choice is to do nothing. Even this requires a decision, for it will produce an effect, just like any other course of action.

Reaching a decision and acting on it

Choosing between the alternatives is not easy. The full facts are seldom available, so the manager simply doesn't know which decision is best and has to fall back on experience and judgement.

Some decisions need two kinds of knowledge: that which comes from knowing the local situation and that which comes from knowing where the local situation fits into the wider picture. The person on the spot – the site

manager, for instance – understands the local situation better than the senior manager, who may be very experienced, but is distant at head office. However, the senior manager is better able to judge the effect of a local decision on the whole firm and must decide when a decision needs this wider perspective.

Once implemented, the effects of a decision should be monitored to ensure that the solution is working.

Problem-solving and decision-making demand a mixture of experience, intellectual ability, skill in rearranging the problem, and insight. Previous habits play an important part in the process. Skills and principles previously learned can be used in solving problems, but people may persist in using solutions that worked in the past, but which are no longer appropriate.

Lack of skills for dealing adequately with any part of problem-solving can lead to poor results. Managers who are good at generating ideas will not necessarily be able to solve a problem if they cannot diagnose it properly in the first place.

Human reasoning and problem-solving

Before the development of experimental psychology, philosophers thought that all human thinking followed the laws of logic. We now know this is not the case. People are not always logical or rational. Instead, they often solve problems intuitively. They don't always know how they arrived at a solution, but are fairly sure it is correct.

H. A. Simon contrasted these two views of people as decision-makers. In the *rational* view, the manager has perfect knowledge of the problem and a clear idea of the alternatives and the kind of solution wanted. The other view is that the manager solves problems in a much more *intuitive* way. The manager rarely has perfect knowledge and cannot operate entirely rationally.

Some interesting research on human reasoning has been carried out by psychologists like P. C. **Wason** and J. St. B. T. Evans. Logical reasoning involves two processes – deduction and induction. *Deduction* involves drawing specific inferences from a general set of statements, as in:

All construction workers are mortal.
Alex is a construction worker.
Therefore, Alex is mortal.

However, consider:

All construction workers wear safety helmets.
Alex is wearing a safety helmet.
Therefore, Alex is a construction worker.

The reasoning in the second example is faulty. **Wason** (1978) argues that people are often poor at reasoning; this can be counter-productive, but at times invaluable. Faulty reasoning forms the basis of much prejudiced thinking, but it becomes invaluable when it allows people to base useful conclusions on hunches. Strictly logical reasoning cannot be used in this way.

Induction involves generating a rule based on some specific instances. **An** example is 'All construction workers wear safety helmets' based on seeing a number of operatives wearing hard hats. Inductive inferences can always be disproved, for instance, by the appearance of a construction operative *not* wearing a hard hat.

Much of the time people do not reason logically, unless they have had special training. **Wason** argues that instead of looking at people's abilities to reason logically, it is more productive to study how they perform when given *closed* tasks, where they must choose among fixed alternatives, and *generative* tasks, where they have to think up their own hypotheses and examples. **Wason** evolved a number of experimental tasks which mirror the processes involved in everyday problem-solving. The results have been surprising. They show that people faced with difficult problems may regress to a simplistic approach. Having reached a solution, often latching on to information given in the problem, they strongly resist attempts to persuade them to change their minds.

In the **mid-1970s, Wason** and Evans published their *dual-process hypothesis* of reasoning. They argue that for simple problems, people can state accurately how they reached a solution. For more difficult problems, they cannot always do so. How people say they solved a problem may bear little resemblance to how they really did. They cannot recall how they reached the solution and therefore tailor their explanations to fit the result. **Wason** says this is like the intuition of mathematicians who 'know' when a solution is correct and work out a proof afterwards. It is interesting that research on logical reasoning should result in statements about intuition and irrational thought.

Don Norman made some interesting comparisons between the reasoning capabilities of human beings and computers. People make elementary errors in perception, have poor memories and make mistakes in their reasoning. Computers handle vast amounts of data quickly and accurately and make logical inferences from data given. On the other hand, people play violins, paint masterpieces and understand language. Almost all the things computers are good at, people do badly and vice versa. Ironically, the aspects of human behaviour that we understand best are the things we do most poorly (Norman). One reason for this is that errors give clues to how people think. Indeed, psychologists have devised many experiments intended to cause people to make mistakes so that they can study human thought processes.

Some of the strengths of people and computers are compared in Table 8.1.

Table 8.1 Comparison of human and computer attributes (adapted from Norman, 1978).

Computers	People
Fast at computation	Flexible
Accurate	Have vast stores of information and
Good at computation	learned strategies
Good at storing and manipulating information	Good at applying things already known
	Good at exploiting new situations
Good at storing abstract data (codes and figures)	Capable of insight
	Good at intuition
Good at making logical inferences	Can tackle novel problems
Known memory capacity	
Rigid	Slow at computation
	Prone to errors of perception, logical reasoning and recall

We are lucky to have the best of both worlds. We can use computers for tasks that people are poor at or find boring. This gives people more time to concentrate on those creative tasks which they do better than computers.

Artificial intelligence (AI)

AI uses computational approaches to simulate the characteristics of intelligent human thought and behaviour. One of the applications of AI is in the development of expert systems, which can emulate human judgement and expertise – diagnosing problems, recommending alternative solutions, identifying possible strategies, and so on. It is likely that computers and hence robots will eventually be able to do many of the things humans can do.

It appears that human skills and computer programs are arranged in the same, hierarchical way. That is to say, human behaviour is governed by programs or sequences of instructions, similar to those used by digital computers. Parts of these programs, like the actions of a scaffolder tightening a coupling, or a crane driver slewing right, are repeated again and again. These *sub-routines* are under the control of higher-level instructions called *executive programs,* which decide the overall plan of action and call upon the various sub-routines at the right points in the process.

Critics of this computer analogy stress that AI programs have not yet come anywhere near modelling the complexity of human cognitive processes. The human mind is so elaborate that even the most advanced AI models leave major aspects of thinking unexplained. But one should remember that a model does not have to be complete or correct to be useful. Its value lies in its

ability to foster new understanding and stimulate research that extends our knowledge (Smith, 1993).

Group decision-making

A lot of interest has centred on whether groups make better decisions than individuals. The conclusion is that there are benefits and drawbacks. Some groups are very creative and produce consistently good decisions. Others never get things together.

Managers should avoid judging the value of group decision-making solely on the quality of decisions reached. The very process of co-operating to solve a problem can have a powerful effect on employees' satisfaction and motivation, and this may outweigh the disadvantages of a few poor decisions.

Hunt (1992) and other writers have summarised the advantages and disadvantages of group decision-making.

Advantages

- More skills and experiences are brought to bear on the problem.
- Groups can generate more ideas and information than individuals.
- Members can spot one another's mistakes.
- The task can be divided up between members.
- Group involvement can increase commitment, motivation and satisfaction.
- Groups sometimes average their answers and eliminate extreme positions (but see 'Group polarisation' below).

Disadvantages

- Members may be too alike.
- Members may be so different that they cannot communicate with, or understand, one another.
- Averaged answers may end up as ineffective compromises.
- Decisions often take much longer to reach.
- Members may not identify one another's skills and experiences, so that their contributions are wasted.
- Discussions go off at a tangent, wasting time and effort and creating frustration and annoyance.
- Some members don't understand the problem as well as others.
- Time is lost dealing with personal clashes and social issues.
- Some members dominate the others and do not listen to their ideas. The more passive members stop making suggestions.
- If there are too many in the group, some will not get a chance to express their views.

Despite these problems, the trend towards group decision-making, some-times called management by committee, has continued. For one thing, organisations have become larger and more complex, making it increasingly difficult for one person, or even one department, to reach a decision without consulting others who have relevant information or are affected by the outcome. Moreover, people want to be involved in decision-making about matters that affect them.

Hunt suggests that groups are more effective at decision-making if certain guidelines are followed:

● Give the group a clearly defined, 'concrete' task, with a clear objective.
● Give the group autonomy to carry out the task, and feedback on its decisions.
● Reward the group as a whole, not as individuals.
● Give the group a task which needs a variety of skills and experiences.
● Teach group members about group processes.
● Appoint a good leader who will co-ordinate the group and keep it on course.
● Restrict the size of the group. Five or six is often about right.
● Don't give a group a decision which only justifies one person's attention. Decisions should be assigned to groups only when there is a clear benefit to the members or the organisation.

The problem-solving abilities of a group depend to a large extent on the interaction within the group (for further discussion, see Chapter 7).

Group polarisation and 'the risky shift'

Groups often make more risky decisions than individuals. This was dis-covered in the late 1950s. It came as a surprise because it had been assumed that committees and other groups tend to stifle individual boldness and produce cautious, unimaginative decisions (Taylor, Sluckin, et al. 1982).

Various explanations were put forward for this risky shift. The most successful was by R. Brown (1965). He suggested that risk is valued in Western culture. We admire risk-takers more than people who are timid and cautious. People discover that there are others in their group who are pre-pared to take higher risks, so to maintain their self-image, they shift their level of risk-taking towards the higher level.

However, the shift is sometimes towards caution. A group may make a safer decision than the individual members would have done. Brown's explanation is that caution is also valued in some situations (as in investment decisions).

In the late 1960s, it became apparent that an effect called group polarisation

was at the root of the risky and cautious shifts. An important French study by Moscovici and Zavalloni (1969) showed that individuals are drawn towards the predominant attitude in their group. When group members' individual judgements tend towards the risky pole, a risky shift occurs. When individuals are tending towards the cautious pole, there is a cautious shift. This effect has been amply shown by experiments.

Brown identified another factor which contributes to the polarisation effect. He argued that individuals tend to support the dominant group opinion because they want to remain popular. This reinforces the tendency towards a risky or cautious shift.

Managers should be aware of this polarisation effect, as it will affect the choice of individual and group decision-making for specific problems. For instance, it has been found that trade union mass meetings produce more militant decisions than ballots among members. Similarly, when members of bargaining teams set high targets, discussion results in even higher targets.

Suspending judgement in problem-solving

When managers think about a problem, their purpose is not to be right, but to be effective. The education system instils in us the idea that we should be right all the time, but the manager only needs to be right *in the end.* The danger of trying to be right all the time is that it puts the manager's thinking in a straitjacket. It shuts out ideas that are not right in themselves, yet could trigger an original approach to the problem. An effective solution could depend on identifying this fresh angle.

Approaches to thinking stressed by people like Liam Hudson and Edward de Bono rely on the premise that we may need to be wrong on the way to a solution if we are to come up with a good one.

Lateral thinking – a term introduced by de Bono – is not concerned with the *logical arrangement* of information, but with where it will *lead.* De Bono stresses that we have been taught to reject silly or impractical ideas; we judge ideas as useful or useless almost as quickly as we think of them. The impractical ideas are pushed aside so quickly that further thinking which they might have generated is cut off. Instead, we immediately channel our thinking into well-trodden paths that often end with unimaginative solutions.

If managers suspend judgement, ideas survive longer and may breed further ideas. If a manager resists the urge to label an idea as good or bad, subordinates may feel safer in making suggestions – suggestions the manager might find very helpful. Ideas which don't fit into the manager's current framework of ideas may survive long enough to show that the framework itself needs modifying.

In lateral thinking, the manager suspends judgement because exploring an idea is much more productive than evaluating it. The longer the idea survives, the more likely it is that it will lead to a fresh insight.

Creative problem-solving techniques

There are a large number of techniques which can be used by managers and others, individually or in groups, to generate and evaluate original and imaginative solutions to problems. VanGundy (1988, 1992) provides an excellent summary of some of them. Although training in creative problem-solving (CPS) is common in the USA, it is less well established in the UK. However, a number of UK centres do provide CPS training for managers and others, including the Centre for Innovation and Creativity at Leeds Metropolitan University (run by Marilyn Fryer and her colleagues) and Manchester Business School (Tudor Rickards and his associates).

CPS techniques help people to break away from entrenched thinking habits and generate truly original ideas. Participants are required to suspend judgement on their own and others' ideas, so that they can explore very unusual, even fantastic, ideas without fear of ridicule.

Brainstorming is one of the better known techniques and uses spontaneous group discussion to generate more ideas and better solutions to problems.

For brainstorming to be effective:

- the problem must be stated clearly and simply;
- participants should not criticise one another's ideas;
- self-criticism is discouraged;
- all ideas are recorded, preferably in a way which allows everyone to see them;
- free association of ideas is encouraged;
- quantity of ideas is important – they should come thick and fast;
- building on and relating to previous ideas is encouraged.

Suspending judgement is vital in creative problem-solving. If members criticise one another, this inhibits thinking and discourages people from sharing their ideas. Fear of looking a fool or being proved wrong is probably the biggest barrier to creative thinking. The barrier is heightened when people of varying seniority work together on a problem. Juniors are afraid to put forward unusual ideas for fear it will damage their prospects. Seniors are reluctant to make wild suggestions which might damage their image or credibility.

It is vital to get rid of such barriers in CPS sessions. Participants must free-wheel, letting go of inhibitions and allowing themselves to think freely about

the problem. Even a wild idea may quickly be modified by someone else, exposing a fresh insight into the problem. Usually, ideas are not evaluated until later, often some time after the session.

Participants should actively develop one another's ideas, allowing one idea to spark off another. In normal meetings, this rarely happens; people are so busy deciding what they want to say next, that they ignore other people's suggestions.

Before a group CPS session, the leader should remind the group of the rules and perhaps start with a warm-up on an unrelated theme. This helps overcome initial anxiety and lack of self-confidence. Ideas often dry up after half an hour. It may help to have a break, before returning to the problem.

Study of CPS groups in business suggests that members learn to show greater empathy and tolerance for their colleagues' ideas. It can also lead to improved morale because there is more interaction and everybody feels they are making a contribution.

Alex Osborn is credited with founding the technique of brainstorming. His process was elaborated by Parnes and is now known as the **Osborn–Parnes** creative problem-solving process. The CPS process can be used by individuals and teams and, in essence, involves a systematic approach to idea generation carried through to implementation of the chosen solution. At every stage, problem solvers are required to first think broadly (as in brainstorming) and then analytically, before finally homing in on the chosen course of action.

Another creativity development programme, *Synectics,* deliberately brings together people with different expertise to work on a problem. The techniques used involve drawing analogies which may relate to quite disparate disciplines. For example, designers and engineers often use biology as a fruitful source of ideas. They might explore how plants cope with harsh climatic conditions. They then consider what analogies can be drawn with their design brief. Synectics uses analogies in complex ways (Gordon, 1961). Gordon points out that often the really productive ideas result from noticing the points of similarity between otherwise unrelated phenomena.

Summary

Problems crop up in an endless stream, important ones mixed up with trivial ones. When a problem can be solved in various ways, a decision is needed. Decisions vary from routine and short-term, to unstructured and long-term. Managers often neglect the strategic decisions and spend too long on the operational ones. It is important to strike a balance between the two.

There are definite steps in problem-solving and making decisions, but for simpler problems they are passed over quickly and without much conscious

thought. Many decisions are reached intuitively rather than logically. **A** common difficulty is that people classify problems too soon, failing to collect and interpret all the relevant information. Lack of skill in any stage of problem-solving will lead to poor decisions and solutions.

Group decision-making has benefits and drawbacks. It is most effective when there is a clear task with specific objectives, and when participation helps secure the group's commitment to the task. Groups may reach a riskier or safer decision than they would have as individuals.

There is a wide range of creative problem-solving techniques for generating and evaluating new ideas. They help remove the barriers to creativity, leading to more imaginative solutions to problems.

Chapter 9
Managing Teamwork

The importance of teamwork

The mid 1980s saw an upsurge of interest in teamwork in the construction industry. This focused both on teams working in individual firms or practices and, more importantly, multi-disciplinary project teams, where ineffective teamwork had led to mistrust, communication breakdown and faulty management.

Since the energy a team can devote to its work is finite, it follows that time spent dealing with the shortcomings of the team and its workings is time lost to *real* work. So, it is important for the industry's managers to know about teamwork and, in particular, about how to build a team fast and maintain its performance throughout a project.

But, first, why has teamwork become so important? In the past, it was possible for an individual to have a good command of most aspects of construction management. Such a person, if reasonably competent, could be relied on to provide an adequate and comprehensive service to the client. However, the last decade or so has placed huge demands on organisations and managers to rethink what they are doing and how they are doing it. Projects have grown more complex – technically, organisationally and contractually – and it has become increasingly difficult for an individual to possess *all* the know-how to manage a project from inception to completion. We are having to acknowledge that large-scale modern building requires a team effort, simply to share out the total project into manageable tasks, to keep customers and society happy and to maximise the chances of a project's success in what is often a fiercely competitive environment.

Such success is embodied in project goals, which have traditionally been expressed in terms of the design, quality, cost and speed of erection of a building, but other criteria have increasingly been introduced, such as energy efficiency, flexibility for future adaptation and costs-in-use. Moreover, major new issues about *sustainable* development and environmental protection are triggering an urgent review of business objectives and the emergence of new disciplines, such as environmental accounting. The inescapable 'greening' of

the economy and business practice will cause the industry's managers to further reappraise the priorities for teamwork among the professions.

In the construction industry, creating good project teams isn't always easy. This is because project teams are temporary, *task-force* groups, whose members are brought together only for the duration of the project (and some for only part of the duration) and then disbanded on completion. At the best of times, such teams can be difficult and frustrating to manage.

Of course, teamwork isn't always the answer. Some professional tasks don't need it – and to use it would be inefficient. Many of the routine tasks that professionals carry out are best discharged independently and only require intermittent co-ordination. There is a well-established maxim which says that if an individual can do a job perfectly well, don't give it to a team.

Nevertheless, even the fairly disparate tasks which can be performed by different professionals working in isolation, need to be co-ordinated – and teamwork is essential for *integrating* specialist work into the total scheme of things.

Moreover, as **Baden** Hellard (1988) points out, the network of human relationships in a project team becomes a network of *contractual* relationships that is at the root of many disputes. Disputes are far more likely to arise from deficiencies in organisation and communication between the different groups than from failure of technology, materials or problems arising from unforeseen circumstances.

There are several other reasons for giving special attention to teamwork in construction:

- *Location.* The specialists who make up the project team are not located in the same place and do much of their work away from the site and away from one another. They only meet intermittently to exchange information and to solve problems and co-ordinate their actions.
- *Different firms.* Team members work for different parent businesses, each of which has its own values, goals, strategies, ways of working and so on. Team members may experience conflict of loyalty between the project and the firm.
- *Individual differences.* Each profession tends to attract different types of people to its ranks; they are likely to have different interests, skills, backgrounds and personalities. These differences can be reinforced by the pattern and focus of education and training adopted by each profession.
- *Late involvement.* Team members are often appointed at different stages, sometimes after key decisions have been made. This can make it difficult to create commitment to the project and, if meetings are infrequent, it can take a long time before the team can function fully.
- *Teambuilding.* Project teams are not usually put together in a systematic way – but rather in an idiosyncratic way, depending on who is available

(and when), who has the necessary experience for this particular type of building, who recommends whom and so on. Moreover, many of the participants are 'part-time', in the sense that they are also contributing to other projects or they are not involved in the project for its full duration. All this makes teambuilding difficult.

- *Delegation.* Project managers and senior managers in parent companies who employ members of the project team aren't always good at delegating. Thus, some members may feel their hands are tied and that they lack the responsibility to commit themselves to major decisions, without consulting their bosses. When this happens, team effectiveness can be drastically reduced.

These issues are set against a backcloth of inter-professional problems, including differing perceptions of status, power and role among the professions; lack of mutual respect, understanding and trust; and a reluctance on the part of some professions to adapt to new roles and relationships to meet clients' changing demands and expectations (Fryer and Douglas, 1989).

However, it is possible to identify some basic requirements for good teamwork, all of which can be achieved with good management.

- Managers should receive training in teamwork skills.
- Teams should be much more carefully selected.
- Clear goals need to be set for the team, so that they develop a common purpose.
- Adequate resources should be made available to the team.
- Good communication between team members needs to be established from the outset.
- The team members need to develop mutual trust and understanding.
- Simple but effective procedures should underpin the actions of a team.

Features of a good team

A number of studies of teamwork, notably by Hastings, Bixby and Chaudhry-Lawton (1986) at Ashridge Management College, have helped unravel many of the secrets of good teamwork. Some of the qualities they have observed in highly effective teams include:

- *Persistence.* The team perseveres in its efforts and is obsessive in pursuing its goals, but it is also creatively flexible in getting there.
- *Tenacity.* The team is very tenacious and is inventive in removing obstacles – whether people or situations – which lie in its path.
- *Commitment to quality.* Team members are committed to quality performance and excellence in teamwork, with high expectations of themselves and of other people.

- *Inspiration.* The team has strong vision and sense of purpose; it knows where it is going and has a realistic strategy for achieving its aims.
- *Action-orientation.* The team makes things happen, responding rapidly and positively to problems and opportunities. Team members are optimistic even when the going gets tough.
- *Strong leadership.* The team has a really effective leader who fights for support and resources for the team.
- *Excitement and energy.* Members are lively and thrive on success and the recognition it brings.
- *Accessibility and communication.* Members proclaim strongly what they stand for, but welcome outside help and advice.
- *Commitment to success.* Team members are committed to the success of their organisation and thrive on the responsibility and authority delegated to them.
- *Drive.* The team is never complacent; members are continually striving for ways of doing things better.
- *Flexibility.* The team likes to work within guidelines and principles, rather than rigid rules, thus maintaining the important quality of being adaptable.
- *Prioritising.* Team members can distinguish between what is important and what is urgent.
- *Creativity.* The team prides itself on being innovative and will take risks to achieve significant results.
- *Influence.* The team has a significant impact on parent organisations because of its credibility.
- *Co-operation.* Teams always try to work with others, rather than for or against them.
- *Keeping things going.* Team members are able to maintain momentum and communication even when they are working apart.
- *Values.* The team values people not for their position or status but for their contribution, competence and knowledge.

For comparison, two other lists of desirable team characteristics are summarised in Table 9.1, although Adair stresses that some of these are often missing, even in good teams. Indeed, to expect a building project team or a contractor's site team to exhibit all these characteristics would not be realistic. But the lists help to pinpoint problem areas and aspects of teamwork on which managers can focus when trying to make practical changes in a team's performance.

Teamwork roles

Meredith Belbin has also provided valuable insights into teamwork by looking at the roles people perform in teams. His research shows that people

Table 9.1 Some characteristics of effective teams.

● People smile, genuinely and naturally	● People care for each other
● There is plenty of relaxed laughter	● People are open and truthful
● People are confident – a 'can do' group	● There is a high level of trust
● They are loyal to the team and to one another	● There is strong team commitment
● They are relaxed and friendly, not tense and hostile	● Feelings are expressed freely
● They are open to outsiders and interested in the world around them	● Conflict is faced up to and worked through
● They are energetic, lively and active	● Decisions are made by consensus
● They are enterprising and use their initiative – proactive not reactive	● Process issues (task and feelings) are dealt with
● They listen to one another and do not interrupt	● People really listen to ideas and to feelings
(Adapted from Nolan, 1987)	(Adapted from Adair, 1986)

play a *team role* in their work groups as well as a technical or functional role. The team role defines a person's contribution to the team's internal functioning. Belbin argues that most people have a preferred role, which will to some extent reflect their personalities, values and attitudes – and their roles are not static. People often carry out a number of roles or a kind of composite role which includes several of them.

Belbin (1993) identifies nine team roles which are consistently found in work groups. They are summarised in Table 9.2.

Team leadership

Whilst leadership has been discussed in Chapter 4, the comments which follow draw attention to aspects of leadership specific to managing teams. In the most effective teams, the leader is likely to be straightforward, honest, trusting, considerate and respected – and not dominant or power-orientated. Although team leadership, like all management, must be flexible to suit the situation, in most team settings the leader must show integrity, enthusiasm and consistency; and lead by example.

For managers in construction, the physical separation of team members can pose problems. For example, contracts managers controlling wide areas

Table 9.2   Belbin's nine team roles (adapted from Belbin, 1993).

Role title	Description and team contribution	Allowable weaknesses
Plant	Creative, imaginative, unorthodox. Solves difficult problems.	Ignores details. Too pre-occupied to communicate effectively.
Resource investigator	Extrovert, enthusiastic, communicative. Explores opportunities. Develops contacts.	Over-optimistic. Loses interest quickly.
Co-ordinator	Mature, confident, good chairperson. Clarifies goals, promotes decision-taking, delegates effectively.	Can be seen as manipulative. Delegates personal work.
Shaper	Challenging, dynamic, thrives on pressure. Has drive and courage.	Can provoke. Hurts people's feelings.
Monitor evaluator	Sober, strategic, discerning. Sees all options. Judges accurately.	Lacks drive and ability to inspire others. Overly critical.
Teamworker	Co-operative, mild, perceptive, diplomatic. Listens, builds, averts friction, calms waters.	Indecisive in crunch situations. Can be easily influenced.
Implementer	Disciplined, reliable, conservative, efficient. Turns ideas into practical actions.	Somewhat inflexible. Slow to respond to new possibilities.
Completer	**Painstaking,** conscientious, anxious. Searches out errors. Delivers on time.	Inclined to worry unduly. Reluctant to delegate. Can nit-pick.
Specialist	Single-minded, self-starting, dedicated. Provides knowledge and **skills** in rare **supply.**	Contributes on narrow front. Dwells on technicalities. Misses the big picture.

or site agents running extensive engineering projects may find that their teams lose their sense of identity and cohesion. Such team leaders must be especially sensitive to the needs of their subordinates, who may feel out of touch and neglected. Ways must be found of keeping these people updated and involved. Telecommunications can help, but will not provide the whole answer. Part of the solution rests with the leader's own behaviour.

Adair (1986) summarises a useful analysis by J.R. Gibb and L.M. Gibb, who suggested five broad classes of leadership functions within teams (or groups as they called them):

- *Initiating* – getting the team going or the action moving, by identifying a goal, suggesting a way ahead, recommending a procedure, etc. This function mainly applies at an early stage in the team's activities.
- *Regulating* – influencing the pace and direction of the team's work, by indicating time constraints, summarising what has happened so far, etc. This becomes an important function as the team gets into its stride.
- *Informing* – providing the team with helpful information or opinions. Like regulating, this will mainly apply when the team is established in its work.
- *Supporting* – creating a climate which holds the team together and helps members to contribute effectively, by giving encouragement, showing trust, relieving tensions in the team, etc. This function is needed all the time.
- *Evaluating* – helping the team to monitor the effectiveness of its actions and decisions, by testing for consensus, taking note of team processes, etc. This function will become more important as the team approaches completion of a task.

Hastings *et al.* (1986) identify four primary team leadership functions:

- *Looking forwards* – giving the team a vision and a sense of direction, being able to anticipate events and obstacles and creating an environment that encourages high performance.
- *Managing team members' performance* – defining success criteria for the team, showing interest, keeping performance on course and rewarding significant achievements.
- *Looking inwards* – continually analysing how the team is working and how it can be improved, taking an objective view of what is happening and what is likely to happen.
- *Looking outwards* – creating links with other parts of the organisation and the outside world, ensuring a two-way flow of information, resources and support between the team and others.

Hastings and his colleagues emphasise the need for team leaders to create the right *climate* for effective teamwork, by being more aware of their own behaviour and attitudes, demonstrating their values and expectations and putting forward an exciting vision of what the team can achieve. They also suggest that, wherever possible, leaders should influence the composition of their teams and should spend plenty of time with team members discussing

the kind of climate and ways of working which could best contribute to *joint* success. The values and qualities associated with such team leaders include: unshakeable confidence and trust in the team; persistence and positiveness; optimism tempered by toughness and realism; a sense of urgency; accessibility and an openness to ideas.

Day **(1994)** points out that an important leadership role of project managers is that of *integrator,* pulling together the efforts of the organisations and people contributing to a project. This involves unifying a group of diverse specialists, who may have different ideas about priorities – and, perhaps, tunnel vision.

Team leadership and the self-managed team

The leadership qualities identified above are reasonably consonant with the ideas of empowerment and self-managed teams, but they imply certain features of hierarchical structure and the kind of organisational culture which goes with it. Stewart **(1994)** questions whether existing organisation structures and cultures provide a suitable basis for empowered, self-managed teams. She discusses the need for an *empowerment culture* within organisations. Pointing out that even modern organisations, with their flatter pyramids and shorter chains of command, are still hierarchical, Stewart suggests that team leaders can create new cultures and structures by inventing their own team hierarchies and their own roles – so that they play a supporting, rather than figurehead, role.

One implication of such action would be the reappraisal of some of the leadership functions stated earlier. Leaders might spend less time initiating, regulating and evaluating their teams; they would spend more time looking forwards and outwards and less time looking inwards and managing team performance. In their inverted pyramid structure, these managers give up their top role of command and see themselves at the bottom, providing a firm foundation for their teams. In this kind of structure, Stewart argues, leaders use the experience and skills of their front line team and deploy important new management skills, which include:

- *Enabling* – ensuring the team has all the resources it needs to be fully empowered.
- *Facilitating* – removing blocks and delays which prevent staff from doing their best work.
- *Consulting* – with staff to harness their knowledge and experience and use it in both operational and strategic ways.
- *Collaborating* – going beyond consultation to collaborate fully, freely and openly with team members, harnessing all their expertise towards the

organisation's goals. This requires seeing the staff as full partners, not just junior members, and is the ultimate test of the leader's skill in empowerment and the *will* to implement it.

- *Mentoring* – helping team members develop and play a fuller role.
- *Supporting* – giving help when it is needed and being especially supportive when someone makes a mistake (Stewart, 1994).

These abilities suggest a radical departure from conventional management thinking – and they are just that. They may not be appropriate in all situations or suit all team members. But for the leader who really believes in empowering a team, they represent the kind of shift that is needed. This is no abdication of leadership, for it leaves many important tasks for the leader to perform. Stewart calls these the eight Es of empowerment:

- *Envision.* Ensure the staff have a shared vision of the goals.
- *Educate.* Train staff to use their own judgement, make decisions, develop understanding and special skills.
- *Eliminate.* The barriers to empowerment.
- *Express.* What empowerment is, what it can achieve, what needs to be achieved, what is going wrong.
- *Enthuse.* Generate excitement, encourage enjoyment; be energetic.
- *Equip.* Devolve resource **power/budget** control; ensure training happens.
- *Evaluate.* Including self-evaluation; monitor what happens, appraise and give feedback; receive feedback from staff.
- *Expect.* Resistance to change, errors, teething problems; plan to avoid them or overcome them. Also expect success.

Training in teamwork and team leadership

Construction organisations are increasingly recognising the value of training their managers and other employees in teamwork skills. There are many approaches to this, but an interesting example is where team members are brought together, away from the normal pressures of their work, and given the opportunity to analyse their teamworking methods and ponder on how they might improve them. Nolan (1987) argues that teams benefit from a regular workshop or teamwork course of this kind, because it provides them with some commonly agreed processes and structures and a common language, which the team can subsequently use.

Nolan describes the Synectics' Innovative Teamwork Programme (ITP), an example of a training technique developed by his organisation, which specialises in teamwork training. Participants bring tasks from their workplace and these are used as vehicles for learning in group and individual

training sessions. This makes learning more relevant and helps people tackle real problems back in their jobs. The emphasis is on creative problem-solving and on developing in individuals responsibility for their own actions.

Group sessions are video-taped and replayed, giving participants a chance to see themselves in action – and the group is able to analyse each person's behaviour and contributions. Used in this way, video is a powerful learning tool; a tape can be replayed again and again to pick up subtle nuances – and the action can even be re-recorded, with team members doing things a different way and comparing this with earlier versions.

The role of the trainers is quite a humble one, because their main responsibility is to set up a relaxed, non-threatening environment conducive to learning; to be positive and encourage risk-taking, and to be good listeners – open-minded and responsive. Good team-workers, in fact!

In this way, participants on Synectics' courses learn firstly from the problem-solving sessions, secondly from video feedback, next from each other and *lastly* from the trainers. As in many of the modern approaches to training, these trainers don't impose their views on the participants, don't even do most of the talking, but basically set up a learning event and allow it to happen. If feedback is given by the trainer, it is constructive and positive and it accepts the ideas of participants as 'true or valid for them'. The trainer at all times respects the autonomy, experience, competence and self-respect of course members.

George Prince, co-founder of Synectics, has concluded from his studies of thousands of meetings, that when participants act destructively, this is 'grounded in their need to *apparently* win'. He says he deliberately uses the term 'apparently' since 'no-one really wins anything' in a meeting, except that too early a criticism of an idea often results in it being dropped. He identifies other discouraging behaviour, such as pulling rank, acting distant, insisting on early precision or proof, being impatient, making fun of the person who puts forward the idea, or not listening. On the other hand, groups which treat every suggestion as a starting point and try to build on them are often much more productive and creative (Prince, 1995).

Other teambuilding exercises

Adair (1986) classes teambuilding activities as either *substitute* team tasks – business games or outdoor activities – or *real* tasks, such as a weekend conference devising a major business plan. He argues that such activities are crucial in making a group into a high performance team, particularly because they reinforce valuable informal relationships and mutual understanding among team members.

Since the 1950s, a variety of courses have been devised under the banner of Outward Bound or Adventure Training, with the common feature of using

outdoor activities to focus on developing individual and teamwork skills. Laings are among the construction firms which have used this kind of activity. It is very popular with many managers, but some don't like it at all. Among the strengths of outdoor activities are the bonding effect of shared experiences, the 'Hawthorne' effect of concentrating on teamwork matters and, of course, the potential for learning which is present in any new experience (Nolan, 1987). However, Nolan questions the relevance of such training for managers and others working in a commercial and creative environment. Adair points out that business games and outdoor activities are only simulations of corporate teamwork and have the advantage of being risk-free; however, there is also the possibility that they may be seen as irrelevant diversions and not taken seriously.

Nolan quotes Reginald Revans' argument that business games and outdoor activities have more to do with solving puzzles than problems. A puzzle entails finding an already known solution, whereas a problem involves finding a solution where none yet exists. Since management is about creating the future of organisations, training ought to be about solving problems, not puzzles.

The concept of a business planning conference, where the task is real, has the benefit of providing an immediate and relevant task. However, participants may become so immersed in the reality of the problem that the training value of the exercise is overlooked.

Also, if the conference is poorly organised or participants are unable to become actively involved, it can lead to increased discontent and scepticism among team members.

Evaluation of teamwork training

As with most kinds of management training, it is difficult to evaluate teamwork training, because the results aren't easy to quantify. Ideally, one would try to measure progress in the team's performance, but this is difficult because improvements aren't always easy to assess and many other factors are at work in influencing the team's achievements. Moreover, as with many kinds of management development, the benefits of training may not be seen immediately and may only show up in the long-term performance of the team.

The most effective teams will tend to regularly engage in self-evaluation and select their own criteria for evaluation. This is probably the best form of teamwork evaluation. Careful reflection and discussion can lead to major insights into the complexities of teamworking and the team's situation; they can also create a better understanding of the values, attitudes and concerns prevalent among the team members.

Summary

Not until the 1980s did the merit of good teamwork become firmly established in management thinking and in most other areas of human activity. In the construction industry, sound teamwork is now widely regarded as crucial for the achievement of increasingly complex and interrelated social and economic goals, not only within departments and organisations, but on widely dispersed sites and (most importantly) within multi-professional teams, which perform major aspects of project management.

Most of the characteristics of effective teamwork are now well understood, as are the conditions under which teams are likely to succeed. Teams which benefit from good organisational support and competent leadership are, for example, more likely to be highly motivated, cohesive, flexible, tenacious and committed to success and quality. Good team leaders create the right climate for teamwork, lead by good example and spend time with their teams negotiating ways of working which contribute to joint success.

Some leaders are keen to empower their groups and help them become self-managing teams. To do this, the leader must undertake a thorough reappraisal of his or her own roles, skills and attitudes, team members' roles, the group culture and the implications of empowered teams for the organisation.

Teamwork training is now taken very seriously and many approaches have been tried. The most effective techniques seem to be those which involve participants working in groups on realistic and relevant problems, sometimes in the workplace but often away from the job, where the day-to-day pressures and interruptions can be temporarily forgotten. The very best teams learn to evaluate their own performance and to choose the criteria on which to judge their own achievements. Such teamwork is likely to be increasingly valued in an industry which finds itself under growing pressure from its customers to deliver a better co-ordinated service.

Chapter 10
Managing Quality and Environmental Impact

The management of quality and environmental impact have become linked in many managers' minds. This is partly because similar approaches to quality and environment standards are identified in the relevant British and international standards and partly because, in the minds of many senior managers, the issues of quality and environment are major threads in the strategic thinking which is expected to guide most organisations into the twenty-first century.

These two subjects share another important feature – their success is rooted in the management of *people.* Ultimately, the improvement of environmental and quality standards depends on the attitudes of managers and employees and their commitment and willingness to change. Technical innovation and organisational change will largely fail, unless people believe in the changes and actively pursue them.

The Construction Industry Research and Information Association (CIRIA) began a research project in 1996 to examine current construction industry practices for integrating the management of quality, environmental impact, and health and safety.

Quality management

Managers have always been responsible for the quality of goods and services produced by their teams. In this sense, there is nothing new about quality management. But the emphasis given to delivering quality more systematically and in every aspect of the business has certainly grown over the years. This is a reaction to at least three factors:

- Poor quality in components, production processes and service to clients.
- The impact, during the 1980s, of BS 5750 *Quality Systems* and its international successor, the ISO 9000 series.
- A reduction in clients' tolerance of poor quality.

Total quality management

TQM is not the only approach to quality management, but it has been an influential one. Quality guru W. Edwards Deming described TQM as 'the Third Industrial Revolution', despite the fact that quality control ought to be part of every manager's job. Schmidt and Finnigan (1992) have called it 'a new paradigm of management'. Whilst they agree that the elements of quality assurance are well known to managers, Schmidt and Finnigan argue that it is in *combining* the elements that a new way of thinking about managing organisations arises. They also cite a 1989 report by consultants Coopers and Lybrand, comparing TQM with traditional management thinking. The move to the TQM approach has included:

- *Quality definition* – a shift from product specifications to fitness for consumer use.
- *Quality control* – a shift from post-production inspection to building quality into the work process.
- *Errors* – a shift from tolerance of margins of error and wastage to no tolerance (right first time).
- *Improvement – a* shift from technological breakthroughs to gradual, continuous improvement of every function.
- *Problem-solving and decision-making* – a shift from unstructured to participative and disciplined decisions, based on reliable data.

TQM also recognises the concept of the *internal* customer, something missing from conventional management thinking.

TQM is really a business philosophy based on commitment to customer satisfaction; it involves organising the business to deliver consistent customer satisfaction by careful design of products or services; and creating systems that deliver the chosen quality standards reliably. The growth of global markets and tough international competition will ensure that quality remains high on the organisational agenda, but the *overt* expression of quality concerns in concepts like TQM may recede, as thorough quality assurance procedures become routine – internalised in the culture and management systems of the organisation.

Sadgrove (1994) stresses that benchmarking should focus on measurable items. In construction, this could include the number of complaints from clients and building users and the percentage of work (by value) that fails inspection.

Benchmarking

Many firms have introduced benchmarking. It involves studying the best practices and achievements of competitors and others in the field – and

adopting them as standards for improving the company's own performance. Benchmarking can be integrated with TQM or used as part of any quality system. It can include looking at the processes in, and product/service features of, other industries. Indeed, this is sometimes where the most creative improvements can be found. So important is this activity in a highly competitive environment that organisations may set up a research department to do their benchmarking activities.

Tackling quality management in construction

The Construction Quality Forum was set up in 1993 to help the **UK** industry compete with its counterparts in other countries. All sectors of construction are represented in the forum, whose information on defects and failures in design and construction is fed into a computerised database developed by the Building Research Establishment (BRE).

BRE figures published in the mid-1980s attributed 90% of building failures to problems arising during design and construction. Interestingly, these were mainly 'people' related problems. They included:

- Poor communication.
- Inadequate information or failure to check information.
- Inadequate checks and controls.
- Lack of technical expertise and skills.
- Inadequate feedback leading to recurring errors.

Clients' *perceptions of quality* are also very important. Clients quite often assess quality in terms of how they experience the building in use, rather than its components and assembly.

Gaining the industry's acceptance of formalised quality management and processes has not been easy. Certification under the 1987 version of BS 5750 was almost obligatory in many sectors by 1990, but the **UK** construction industry has been slow to adopt quality assurance. Compared with countries like Germany and Japan, **UK** construction had a lot of catching up to do in the early 1990s. The situation started to change when some firms began to see the competitive advantage they might gain through BS 5750 certification. The first construction firm to win a British Quality Award was the John Laing Group, in 1991.

However, many firms that experienced quality assurance inspections perceived little, if any, improvement in the services they were offering. Indeed, many firms (including clients) argued that BS 5750 was unsuitable for construction. The industry report *A strategy for quality management systems in the construction industry,* found ten important features of construction work which differed from those embodied in the British Standard.

At least one major property developer publicly questioned the relevance of BS 5750 to building, pointing out that it was based on repetitive manufacturing practices, not one-off construction projects. The developer claimed that quality assurance should begin by examining the way a business works, not by imposing a set of predetermined work practices (but most quality managers would start this way anyway). As **Baden** Hellard (1993) pointed out, the construction industry has tended to misunderstand the procedures embodied in the quality standards. It has viewed BS 5750 (and the International Standard **ISO** 9000, developed from BS 5750: 1979 and reflecting eight years' subsequent experience of its operation) as being about paperwork systems and certification, whereas the focus is on improving the overall performance of the business.

So, some companies hesitated to become involved, seeing quality standards as an obstacle to business efficiency, forced on them directly by government or indirectly by clients, especially public sector clients. **Baden** Hellard argued that total quality management can improve all aspects of design and construction, if it starts at the top, which is with the building client.

Another argument against adopting the British Standard was that it focused on achieving consistent standards or minimum standards – not necessarily high standards. But the proponents of BS **5750/ISO** 9000: 1987 argued that the standard did lead to higher quality, because it required organisations to thoroughly examine existing work practices and procedures before any changes were introduced. And the EC standard, developed from **ISO** 9000 for the service industries, contains a module specifically written for construction consultants. The **ISO** addresses four areas which are important in achieving long-term high quality in construction – management of human resources, business development, sub-contracting and the importance of feedback.

Nearly all other sectors of UK industry have recognised the importance of quality management and have installed quality management systems. Defining and implementing quality management is more difficult in service industries like construction; and in professional practices, it can be even harder to define and implement quality assurance, because there is no tangible product directly attributable to one practice. A practice will try to improve on the skills and competencies it offers its clients, but these are not always easy to measure. The results that the practice achieves are often intertwined with, and will partly reflect, the strengths and weaknesses of other contributors to the project.

A further difficulty is that while price remains a major criterion on which tender decisions are based, firms can continue to argue that the cost of formal quality systems cannot be justified. A powerful counter-argument is that greater efficiency resulting from quality systems reduces a firm's unit costs and increases its competitiveness.

Industry action

There is a further benefit. Quality management techniques can help reduce contract conflicts which have been one of the most damaging problems in the industry. CIRIA examined this problem in 1990 and 1991. It argued that current forms of contract do not encourage full use of quality assurance systems. As architects and engineers are under pressure to take on quality management, CIRIA also looked at how it may have a knock-on effect on these professions' conditions of engagement. At the same time, the Building Employers Confederation took a close look at how it could involve itself and its members more directly in quality management and in developing suitable systems.

Other industry bodies have since contributed to the quality debate. For instance, the joint review of the industry (Latham, 1994) stressed the importance of better quality management. The report called for measures to raise construction standards (such as fairer construction contracts; better procurement practices like partnering; and standardisation and modularis-tion throughout the construction chain) and improved management and professional training. In an effort to implement these recommendations, the Construction Round Table (representing major public and private sector clients) has since formed a partnership with the National Contractors Group to look at a raft of improvements aimed at changing the culture of construction.

Quality benefits

An important approach to obtaining business, from which some professional practices and contractors can benefit, is to sell on quality and not on price, as many successful businesses already do. Many companies in other industries have found it a better policy to go for a higher value-added product or service, than for a low cost, low quality product or service.

Since the industry has long complained about having to cut prices to win contracts on tight margins, perhaps there is a lesson to be learned about the industry attempting to persuade clients that it pays to pay a little more – and get a building that gives more satisfaction and incurs lower running costs. But, importantly, higher quality does not necessarily mean higher costs. There are costs associated with poor quality, examples of which are:

- The management cost of handling clients' complaints.
- Inspecting the work concerned.
- Making good faulty work.
- Replacing sub-standard materials and components.

These costs can be incurred during and after completion of a project. Repair work carried out when a building is in occupation can be difficult and

expensive. If these costs are taken into account, improving quality doesn't automatically mean adding to building cost; the reverse may be true. Peters (1989) claimed that in manufacturing industries, putting right poor quality work absorbed as much as 25% of a firm's resources. In service industries, he argued it could account for as much as 40% of total costs, which is quite staggering. It must also be remembered that one of the purposes of quality assurance systems is to improve efficiency. If this succeeds, there should be long-term cost reductions.

Interestingly, housebuilding is a success story in the quality field. The **NHBC's** third-party quality assurance certification, which has operated successfully for a number of years, gives customers a legal guarantee of the building's performance and quality standards, and insurance cover against deficiencies or building failure (**Griffith,** 1990).

Attitudes to quality

One of the critical factors in achieving effective quality and implementing good quality control is employees' attitudes towards it. Frequently, employees lack commitment to quality and this shows up in the level of rejects, customer complaints, repairs under warranty, and so on. In construction, it shows up as bad work, long snagging lists and user dissatisfaction. The industry has to realise that quality comes from people – employees who care and are committed. And people will only care about quality if their managers do – and this means managers and professionals paying attention to quality all the time and being proud of what they are doing. As Peters and Austin (1985) put it 'quality is an all-hands-on' proposition. Or in the words of John Laing's quality director, Phillip Ball, 'quality management is all about people – how they work, how well they communicate and how well they develop and implement a process of continual improvement in their every day activities'.

In the end, perhaps, the achievement of total quality management will depend on whether the industry can replace confrontation and conflict with a philosophy of teamwork and co-operation (**Baden** Hellard, **1993),** a thought echoed in the report *Constructing the team* (**Latham,** 1994).

Installing a quality management system

The essence of a quality management system is that quality is managed in ways which are clearly identified, well documented and **efficiently** planned, implemented and controlled. So, introducing quality management involves setting up procedures, if these do not already exist, and providing documentary evidence that quality targets are being achieved (see Box 10.1).

> **Introducing quality assurance**
>
> Induction and training of staff in quality assurance matters
> Thorough analysis of existing processes and routines
> Development and documentation of new processes
> Trials of new systems
> Modification of systems following trials
> Implementation of modified processes
>
> **In addition, if accreditation is sought**
>
> External audit of systems and procedures
> Amendments to meet auditors' requirements

Box 10.1 Introducing quality assurance.

It also means that everyone involved must be trained in quality control methods and that there should be incentives to implement the quality control procedures. Peters (1989) suggests that incentives can be extended to suppliers (and therefore sub-contractors), who are paid the premium rate for high quality materials/work, but a lower rate for sub-standard goods and services. Whether or not quality reward systems are being used, contractors are certainly paying much more attention to assessing their sub-contractors and suppliers, monitoring and recording their performance, and listening to their ideas. Some contractors provide training seminars in quality management for their sub-contractors.

It has long been known that incentives can undermine quality because they usually focus on the *quantity* of work achieved. What hasn't been so widely appreciated is that staff performance appraisal and other forms of employee evaluation can affect quality too. Deming (1986) recognised, for instance, that staff appraisal often lays stress on short-term performance, discourages long-term planning, demolishes teamwork and encourages rivalry. Deming felt that these directly worked against the achievement of quality.

Most companies wanting to install a quality management system appoint a quality manager, often called a quality controller in smaller firms. The design of the quality system usually involves the know-how of a number of people, so a quality group may also be set up. Because an important role of the quality standard is to define responsibilities for quality assurance, this must be built into the documentation of processes and systems.

Three kinds of *auditing* are used in quality management – internal auditing to regularly review achievement in relation to quality targets; auditing of suppliers and sub-contractors; and external auditing by a certification body if the organisation wishes to be certified to ISO 9000. Part 1 certification is for

design and production; **ISO** 9000 Part 2 certification is for production only. A further kind of audit, known as a second party audit, occurs when a client visits the company or its **site(s)** to assess its quality systems.

Certification under the current quality standard, **BS/EN/ISO** 9000: 1994 requires organisations to demonstrate that their systems are capable of meeting customer requirements through:

- Effective systems, procedures and working methods.
- Clear communication systems.
- Clear lines of responsibility.
- Thorough documentation of all systems.
- Control of documentation and clear procedures for change.
- Satisfactory training.
- A clear system for auditing quality procedures.

Quality culture

However, as Drummond (1992) points out, one must not forget that the quality standard is just a means to an end; it is the quality that counts, not the systems. The quality standard is simply a basis for a quality *culture* in an organisation. Systems must be built on – and are no substitute for – a quality culture or philosophy. A quality management system must become part of the mind-set of everyone in a firm, practice or project team. This is built on self-respect, pride and dedication in every aspect of the organisation. Indeed, the best quality systems recognise the notion of the internal client, so that departments treat one another as customers and try to observe similar quality criteria to those which apply to their external clients. And importantly, as Drummond points out, a quality culture is not about fanatical workforce commitment, but about abandoning outdated business and management assumptions. Implementing quality systems forces managers to develop a deep understanding of processes within the firm and the difficulties employees face. Employee commitment should follow.

Quality manual

A key document in implementing quality assurance is the quality manual. There is no standard manual; one has to be written to meet each **organisation's** operating procedures and type of work. The manual normally includes:

- a summary of the firm's policy on quality, suitable for uncontrolled distribution to potential and existing clients;
- an enlarged version of the above, describing the quality management systems and procedures, by department or function as appropriate;

- the firm's detailed operating procedures and standard forms, including purchasing specifications and product or service specifications.

This information may be split into two or three manuals – a systems and a procedures manual and perhaps a work instructions manual (Sadgrove, 1994). The systems manual is a strategic document which may be used by marketing staff in bid presentations to potential clients. Quality system records and forms, together with documents such as codes of practice, may also be bound together in a further manual.

Control of quality depends on the manual being realistic. A manual which is too vague or idealistic is largely useless; and so are operating procedures and work instructions which are over- or under-specified.

Quality control also depends on the existence of objective criteria, such as strength and stability, durability, dimensional accuracy and environmental performance – and on the clear identification of responsibilities of the people involved. If quality cannot be measured in a fairly objective way, improvement will be difficult to achieve. Tom Peters insists that the measurement of quality should be carried out by the people or department doing the work, not by inspectors or auditors, who may cause the process to become bureaucratic and may become the focus for arguments over the interpretation of quality control data.

Perhaps the most important requirement for effective quality control is senior management commitment. Quality must be high on the agenda for such managers and they must have the tenacity to carry on the campaign for high quality, whatever the difficulties.

Quality in service organisations

Construction is a service industry and the quality of a service is less tangible than that of a product. The criteria which clients use to judge a service are often highly subjective. Indeed, Drummond cites evidence that there are elements of service quality that have little to do with either the service itself or the style of its delivery. What one building user views as a comfortable working environment, another will find unbearable. What one client judges as sociable, informal behaviour, another will view as discourteous or impudent.

Building owners and users will consider objective factors such as the specification of the building's components, but many aspects of the building will be judged much more on their subjective responses. Examples include: whether the individual *feels* that the internal environment is comfortable, bright and pleasing; whether the individual *judges* the air conditioning to be satisfactory; whether the internal finishings meet the occupants' *expectations* (with all the subjective overtones of taste, status and self-esteem).

There is also the level of client satisfaction or dissatisfaction which goes beyond the fitness for purpose of the building itself. It relates to the quality of the *delivery* of the service. Effective management of the service delivery of design and construction processes is vital. The interaction which takes place between providers and clients crucially affects clients' perceptions of quality.

The client's evaluation of service quality will be raised if the industry's professionals demonstrate competence, trustworthiness and dependability; show their concern for, and understanding of, the client's needs; and exhibit considerate, friendly and enthusiastic behaviour. The client's perceptions of a contractor or private practice will depend on *consistency* of service and the *confidence* this engenders. But first impressions also count. Research has shown that the initial contacts have a lot of influence on subsequent relationships. The concept of partnering addresses many of these issues.

The industry might do well to examine US achievements in TQM. Schmidt and Finnigan (1992) summarise the success factors in US award-winning TQM companies as follows.

- **A** very high level of management leadership and commitment.
- Supportive organisational structures and roles.
- Quality-orientated tools and processes.
- Tailored education programmes.
- Innovative reward strategies.
- Full and continuing communication.

In addition, total quality managers:

- give priority to customers' needs;
- empower, rather than control, their team members;
- emphasise improvement, rather than maintenance;
- encourage co-operation rather than competition;
- train and coach, rather than direct and supervise;
- encourage and recognise team effort;
- learn from problems, rather than minimising them;
- choose suppliers on the basis of quality, not price.

Environmental impact

Business and the environment

Quality has always been somewhere on the management agenda, but the environment has not. Years ago, managers could take a largely 'closed system' view of their organisations and ignore environmental factors almost

totally. But this has all changed. Today, business survival is largely about understanding the external environment and how it affects the organisation's performance.

This environment is complex. It includes all the interrelated events, changes and decisions taken in the systems of society (some predictable, but many not) which directly and indirectly influence markets, productivity, competitiveness and so on; and it includes the physical environment, and customers' and society's expectations for the future of the natural environment. More importantly, it includes our growing understanding of the long-term damage that organisations are doing to natural systems and the high probability that this damage is irreversible and will, at some point, lead to global ecological changes.

Bennis and his colleagues (1994) have underlined the importance of reassessing conventional business assumptions and beliefs and moving them towards the goal of sustainable development. This requires a major shift in people's attitudes and behaviour. Only when this happens and senior managers commit themselves and their teams to a new business philosophy, will organisations meet the environmental challenge. A few examples of the economic and business assumptions and beliefs needed for sustainable development are as follows.

● The purpose of businesses should be to satisfy all human needs, with minimum consumption of scarce resources.
● The interests and needs of future generations, and of other communities, must not be jeopardised for short-term economic interests.
● Business operations should enhance the environment, rather than damage it, and contribute to ecological balance.
● The well-being of all the other stakeholders in a business is as important as that of its equity shareholders.
● Businesses do not own all the resources they use; they hold them in trust to make the best possible use of them on behalf of society.

In construction, the refurbishment sector is well-placed to meet some of the criteria for sustainable development. The building is, in effect, recycled or re-used and, with good design and management, keeps its consumption of virgin materials and manufacturing energy to a minimum. It also recycles land, extending the useful life of areas already 'de-natured' and reducing demand for green field sites. New build is a different story and many hectares of green space are put under concrete or tarmac every day in the name of progress.

Environmental management and construction

Both the construction and property industries must play a responsible role in managing the environmental impact of development, because the problems

stem both from building operations and buildings in use. Infrastructure projects, particularly roadbuilding, also have significant environmental repercussions. The issues affect planners, project owners, designers, project managers, construction managers, material producers and manufacturers, sub-contractors, facilities managers, building users, local authorities, regulatory bodies and others whose decision-making has an impact on natural systems.

New approaches to procurement, such as partnering, reinforce the point that environmental responsibility is a shared one and must be tackled collectively. Solutions to major environmental impact risks can only be achieved through multi-professional, and even pan-industry, collaboration.

By the beginning of the 1990s, most major projects throughout Europe were subject to an environmental assessment and increasing numbers of construction organisations were thinking hard about drawing up environmental policies and plans. They did this in response to new and proposed environmental legislation and because they could see a slow but unstoppable shift in client and public concern about the environmental impact of buildings and the building process (Fryer and Roberts, 1993).

By 1991, a number of construction industry organisations were carrying out research on environmental issues and the actions needed. CIRIA set up the Construction Industry Environmental Forum in collaboration with BRE (the Building Research Establishment) and BSRIA (the Building Services Research and Information Association) to promote awareness and understanding of environmental issues in the industry. At about the same time, BSRIA began a major research study aimed at producing and encouraging the adoption of an environmental code of practice for building services.

More recently, CIRIA started a multi-disciplinary research project to review the industry's practices in the context of ISO 9000 (Quality Systems), ISO 9004 (Environmental Management), the Construction (Design and Management) Regulations and the Health and Safety at Work Act. Important research into specific environmental problems is also being undertaken by many university departments and other organisations with research capabilities.

The effects which buildings and construction processes have on the environment can be stated fairly simply, but the issues are in fact complex and interrelated. CIRIA grouped the issues under these headings:

- Energy use, global warming and climate change
- Resources, waste and recycling
- Pollution and hazardous substances
- Internal environment of buildings
- Planning, land-use and conservation
- Legislation and policy issues.

Recognising the breadth and severity of these environmental imperatives, organisations like the Construction Industry Council are responding to the call for better environmental management. It is at the level of individual firms, especially the smaller ones, that reaction has been slow. The climate in which many of these firms are struggling to survive is an *economic* one.

Construction managers have a special responsibility for the efficient use of energy and resources, waste management and recycling, avoidance of pollution, land contamination and danger from hazardous substances – all within the context of new environmental legislation and their companies' increasingly visible environmental policies.

The construction industry is under increasing pressure to reflect on and assess its impact on the environment and take concerted action. This requires integrity and commitment on the part of all the industry's professions and a thorough understanding of the issues and the burgeoning European legislation, to which whole books can be devoted (see for instance Griffith, 1994).

Environmental management systems

Until the early 1990s and the enactment of the Environmental Protection Act 1990, few construction organisations had taken the environmental impact of their operations seriously. By 1996, when the Environmental Agency was launched, the situation had changed, but was still far from ideal. Client pressure and the publicity given to BS 7750: *Specification for Environmental Management Systems* (1992), contributed to some shift in attitudes. Some firms began to understand the importance of *sustainable development,* a concept which stresses using resources of energy and materials in a responsible way, so that future generations can benefit from them too.

The Environment Act 1995 set up the Environment Agency. The agency amalgamates the National Rivers Authority, HM Inspectorate of Pollution and some 80 Waste Regulation Authorities in the UK. The 1995 Act makes the polluters of land liable for the costs of its remediation, a responsibility which cannot be ignored by the construction industry. Environmental law is a growing and enormously wide-ranging subject, the bulk of UK legislation now emanating from EU proposals and regulations (Francis *et al.,* 1995).

Environmental management policy and strategy

Environmental management involves designing or revising an organisation's practices, processes and structures so that it can achieve its core objectives in an environmentally responsible way. Any company taking its environmental obligations seriously must start with a policy which relates its core business

objectives and strategies to its environmental aims. Such a policy must be flexible, because firms differ markedly and their circumstances change (Griffith, 1994). But unless the policy informs the organisation's business strategy, it is unlikely that effective environmental performance will be achieved. In addition to the requirements of environmental legislation, clients increasingly enquire about the environmental policies of the construction firms and practices with whom they enter contracts, so it is realistic to expect that in future the existence of a sound environmental policy and strategy will be a key factor in a firm's competitiveness (Fryer, 1994a).

BS 7750/ISO 9004 provides guidance for a firm wishing to introduce a management system for improving its environmental performance. The standard parallels EC environmental standards and shares many of the management principles embodied in the quality standard BS/EN/ISO 9000. The main building blocks are now in place to allow a full and positive relationship to develop between corporate objectives and environmental needs. Sustainable development and environmental protection ought quickly to become the norm in the industry. If this doesn't happen voluntarily, governments will introduce further legislation, bringing about change the hard way.

Environmental action planning

Practical guidance on formulating an environmental plan are given in the Institute of Management's action checklist No 19, Taking Action on the Environment, published in 1996. The checklist advises firms to:

- secure top management commitment;
- identify the environmental laws and regulations;
- designate a senior manager to be responsible for environmental affairs; establish and communicate a clear policy;
- work out the environment-business link;
- carry out regular audits;
- develop a procedures manual;
- start an environment training programme;
- publicise environmental objectives internally and externally;
- build in measures and controls;
- communicate environmental benefits internally and externally;
- involve employees to gain their commitment.

As is so often the case in management, effective communication, consultation and training – to encourage appropriate attitude change and to gain the commitment of employees and other stakeholders – are key factors in the successful implementation of management plans.

Environmentalimpact assessment

Also known simply as environmental assessment (EA), environmental impact assessment is a set of procedures for measuring the probable environmental effects of a project before it is allowed to start. The principles of EA are not new and have been practised in the oil, gas and petro-chemical industries since the early 1970s (Griffith, 1994).

The UK construction industry is affected by an EC Directive aimed at ensuring that all major projects – public and private – are the subject of an environmental assessment before consent is given. The DoE introduced a system in the late 1980s for ensuring that projects conform with the EC Directive and the major output of the EA process is an environmental statement prepared by the developer and submitted to the competent authority – usually the planning authority – ideally after prior consultation with that authority, which can provide the developer with valuable advice and information (Roberts, 1994).

Environmental and quality auditing

Many larger organisations have introduced an auditing process for both their quality management systems and environmental management systems. An audit is a systematic, periodic evaluation of a management system in an organisation to assess its effectiveness in meeting key objectives and statutory requirements. The frequency of audits, the procedures used and the methods of reporting need to be carefully thought through. They will probably differ from organisation to organisation.

There is no statutory requirement for auditing, but many firms see it as an essential part of responsible business operation, contributing to the regular review of the organisation's strategy and, where appropriate, being integrated with procedures imposed by statute, such as the COSHH regulations and other health and safety legislation (Roberts, 1994).

Steps to be taken in quality or environmental auditing include the following.

● Setting audit objectives.
a Deciding on the scope of the audit.
● Defining its baseline.
● Selecting an audit team.
● Collecting evidence and information in relation to audit objectives and means of assessment.
a Assessing and evaluating audit results.
● Publishing the results.

● Developing an action plan for change and improvement.
● Monitoring the effectiveness of action taken.

Summary

Since about 1990, quality and environment have become two of the most frequently used words in management. The setting up of both quality and environmental management systems is seen as a high priority in many forward-looking organisations which want to survive and prosper in the global marketplace. Both systems are recognised as having strategic importance and both have necessitated a major shift in attitudes among employees and managers, with accompanying changes in organisation structures and cultures.

Quality is not a new concern for the manager. Quality assurance has always been a recognised management function. What has changed is the emphasis placed on quality in every aspect of an organisation's activities and the formalisation of quality assurance procedures. The first is a result of concepts like TQM, aimed at changing the philosophy of businesses; the second follows from adoption of the new quality standards.

Environmental impact, on the other hand, is a relatively new issue for most managers. Not many people in industry and the professions had given it serious consideration prior to the World Commission on Environment and Development in 1988, the so-called Brundtland Report. Now, the construction industry, like other sectors, is under pressure to respond to demands from clients, governments and other groups to demonstrate commitment to sustainable development; and to meet new standards and statutory requirements emanating from EC directives. The introduction of environmental assessments prior to approval of all major development projects has put environmental protection right at the forefront of planning and development. All the parties involved in the construction and property industries will have to play a part in achieving new environmental standards.

In future, excessive formality in quality management systems, which has beset some firms as they grappled with the new quality standards, may recede. Their quality procedures may become absorbed into the culture, corporate plans and operational routines of their businesses and ways may be sought to remove the bureaucracy which such systems can spawn. The future of environmental management systems is not yet clear. Governments are more likely to legislate on environmental issues than they are on quality, except where the latter affects health and safety. If organisations don't meet new environmental standards, governments may bring about change through further statutes.

Because quality and environmental impact can both impinge on health and

safety, a likely development is the integration of management systems used by firms to deal with these three areas. As many of the procedures used are already similar, this is a logical development which will improve efficiency.

Chapter 11
Managing Change

Even in the early 1990s, many people still regarded the mid-1970s downturn in world trade as simply the onset of another recession. A number of people were, however, quite sure that the problem was more fundamental, that another boom was not just around the corner. Indeed, people started to question whether there would ever be another boom again.

Alvin Toffler (1984) and others have argued that what has been happening is not a recession – not a crisis of underproduction or low productivity – but a crisis of restructure, the collapse of the industrial system as it gives way to the post-industrial or tertiary society. A rapid social transformation is taking place on a global scale, forcing both capitalist and communist economies into a crisis of survival. The 1970s 'recession', whether we blame it on lack of investment, poor management or lazy workers, was not just a phase in the established trade cycle. No previous recession has been accompanied by such an explosive growth in new technologies. These technologies – electronics, optics, information, biotechnology, alternative energy, ocean science, etc. – operate on different principles. The technology of the industrial revolution extended human muscle power. The new industries extend human brainpower and have very different consequences.

These changes coincide with a shift in attitudes towards organisations and a growing interest in small-scale, localised industry. At the very time when the multinational corporations were growing, increasing interest was already being shown in the opposite strategy of breaking down large, centralised organisations into small, decentralised units. Many managers have been attracted to this idea, influenced by the writings of Fritz Schumacher and his contemporaries. Such a move would decentralise communities as well as businesses, with implications for the structure of demand for construction.

One effect of decentralisation, coupled with information technology, is that many people can work from home, instead of travelling to their offices. Toffler's idea of the 'electronic cottage' was considered unrealistic when he put it forward in 1980 but, within two years, American experts were predicting that millions of jobs could be performed at home by the mid-1990s.

It seems we are indeed in the early stages of another revolution, not an

industrial revolution, but one that will change the nature of work, shift the basis of power and lead to a further redistribution of wealth. It will alter the relationship between industrial and developing countries and transform communities, businesses and families, further changing people's roles, both within and outside the workplace.

When organisations are operating in a stable, predictable environment, there is little pressure to change. But most organisations are not. They are having to face up to the need for quite dramatic change and this must be planned.

Future studies

Future studies is a developing discipline which uses a number of quantitative and qualitative methods to study change. These methods range from forecasting based on trend extrapolation, which mostly uses numerical data, to more judgemental methods, such as scenario building and the construction of forecasting models, some of which are very complex (e.g. global models).

All the methods suffer from a common problem – the future is basically unpredictable – it can only be assessed in terms of possibilities and probabilities. As the possibilities are almost endless, a whole range of futures can be posited, from highly optimistic to totally pessimistic. Trend extrapolation, in particular, can be very misleading, because past trends may be totally unreliable as a guide to what will happen in the future.

At best, reliable assessments of future change have to be relatively short term. Managers will increasingly need to be aware of futures methods so that they can appreciate the limitations on their attempts at forecasting. Langford and Male (1991) examine futures methods in some detail.

The process of organisational change

Recognising the need for change

Part of the pressure for change originates outside the organisation, in the form of shifting market structure, technological development and government measures. Other pressures come from within the organisation. They include new attitudes to work and industrial conflict. Any effort to change the organisation must take account of both external and internal forces.

External pressures

Companies are experiencing unprecedented pressure to change the processes, structures and functional divisions of their organisations. These have been

identified by various organisations, for example, the Institute of Personnel and Development in its 1994 position paper, *People make the difference.* The forces for change include the following.

- More exacting requirements from clients.
- The shift towards global trading and competition.
- Removal of international trade barriers.
- The slow growth of the mature economies.
- The industrialisation of the so-called Pacific-rim countries.
- Fast developing, easily transferable technology.
- Privatisation and public sector financial constraints.
- Political pressure for efficiency improvements and added value.
- Public concern about the environmental impact of business.

Arguably, construction has been protected from some external pressures in the past, with its largely protected home market. But the future is likely to bring even more international contracting, so that construction will be affected by much the same business environment as other industries. The future of the industry will depend on how successfully it adapts to change and, more proactively, how it creatively engineers change to its own advantage.

Inside pressures

The manager must take account of the organisation's *climate* or ethos, because it creates pressure for change. The norms, values and attitudes of managers and other employees are among the factors affecting its ethos.
   An organisation's climate can be assessed by looking at the following.

- Workers' perceptions of whether the atmosphere at work is friendly or hostile.
- The kind of leadership style adopted by management.
- The extent to which people have to conform to rules and procedures.
- The production standards set by managers and workers.
- The ways in which employees are rewarded.

The climate can centre around power, relationships or achievement. In a power-oriented climate, the decisions are centralised, communication channels are clearly defined and authority is clearly established and frequently used. There is little room for individual discretion.

   In a relationship- or affiliation-oriented climate, the firm is organised along more democratic lines. Workers participate in problem-solving and are encouraged to bring their difficulties to the manager.

The climate is said to be achievement-oriented when senior managers formulate objectives, but allow groups to work out their own procedures and rewards. Top managers expect high performance from employees and give them feedback on their achievements.

Planning organisational change

The firm's problems must be thoroughly investigated before any action can be taken. Managers must agree on the scope of the problems and the need for change. Data must be collected and analysed with care and presented in a suitable form to employees affected by the changes or involved in putting them into action.

The goals of change should be realistic and clearly stated. Where possible, they should be quantified, so that progress can be measured. Many attempts to change organisations have failed because the purpose was not clearly stated and misunderstandingsarose among employees who had to implement the change. There should be a clear statement of the timescale for change and the activities needed to achieve it. The process cannot be monitored or controlled unless there is a clear plan of action.

Implementing change

Change can be structural, technical or social. Structural changes introduce new systems of authority, work flows, rules and decision-making systems. Technical change stresses new work methods and layouts, the use of computers and so on. Social changes include such things as the modification of social skills, changes in attitudes and organisational cultures and new approaches to motivation.

Systems thinking stresses that these variables are interdependent. For example, a change leading to decentralised decision-making will affect the attitudes and skill needs of more junior managers. Similarly, the introduction of a technical change, such as a management information system, may change the structure of the organisation and alter the tasks and skills of some employees.

Different firms adopt different strategies for coping with change. Some firms lack rigid structure and rules and are therefore inherently adaptable. Bureaucratic firms find it harder. They often respond to rapid change by setting up new departments or functions, or by strengthening the formal structure. They redefine managerial roles and working relationships along conventional lines, making reference to organisation charts and manuals. Unless a new department has been set up, problems with change tend to be referred up the hierarchy and end up on the desks of senior managers. The latter become heavily loaded with decisions. If a new department is set up to deal with the demands of change, a communications problem arises between

the new and existing departments. In the hierarchic firm, people are not encouraged to move freely across functional boundaries. In flexible firms, these problems hardly exist.

Once changes have been introduced, they must be closely monitored for some time to ensure that they are working properly.

Managing change

Change can be implemented at various levels. At the organisational level, it involves activities like strategic management, marketing and organisational development. At the individual level, it involves changing employees' attitudes and helping and encouraging them to develop creative and adaptive skills (Fig. 11.1). To integrate these levels of change, the composition and tasks of groups and departments may have to be altered.
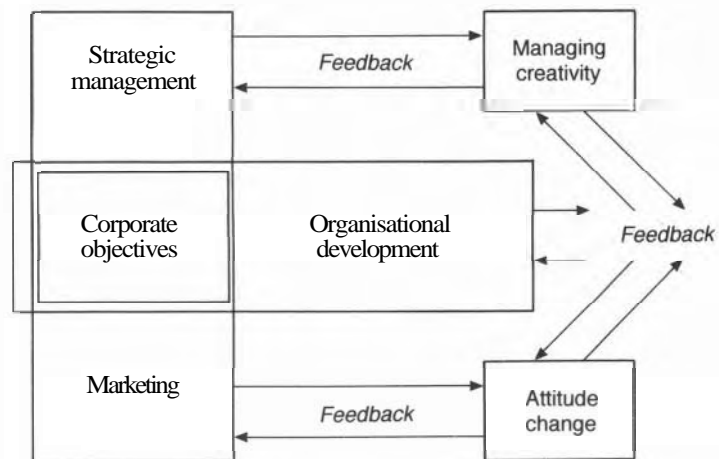
Figure 11.1 The organisational change process.

Strategic management

Terms like strategic management, strategic planning and corporate strategy tend to be used interchangeably. The term strategic management is used here as the umbrella term. Grundy (1994) defines *strategy* as:

> A pattern in the decisions and behaviour of an organisation, team or individual in creating and responding to change.

Although strategic management usually focuses on the organisational level, Grundy's definition is revealing because it stresses the human elements of

strategic change (decisions and behaviour), that they are organised (patterns) and that they occur at various levels (including teams). Indeed, Edgar Schein's concept of the psychological contract was built on the premise that there is a consensus between management and employees about the **organisation's** mission, goals and the strategies for achieving them.

Many people find this hard to accept – seeing strategy as the prerogative of top management. But this belief needs to be reviewed in the light of modern management thinking, with its emphasis on participation, empowerment and ethical and social responsibility. Most would, however, agree that strategic management is fundamental. It deals with significant change, ambiguity, complexity – everything that is non-routine. It is about where the **organisation** is heading, why, and how it plans to get there.

Deciding how to get there is given names like strategic planning or corporate planning. One analysis uses strategic planning as the overarching level which divides into:

- *Corporate planning* – planning that can't be delegated[1].
- *Business planning* – decisions that are critical to sustainable competitive advantage.
- *Functional planning* – to develop the organisation's core competencies, the sources of its competitive advantage (Hax and **Majluf,** 1994).

Strategic management establishes the mission of the organisation and its long-term goals, assesses its strengths and weaknesses and searches for the opportunities and threats on the horizon. These questions also form the starting point for marketing. Strategic planning addresses the question of how to implement the long-term goals. This also impacts on marketing.

Hunger and **Wheelen** (1996) break down strategic management into: environmental scanning, strategy formulation, strategy implementation, and evaluation and control. Strategy formulation includes establishing the organisation's mission and long-term goals, leading to strategies and policies. These strategies and policies are the basis of strategic planning. Figure 11.2 summarises the elements of strategic management using Hunger and Wheelen's broad framework.

Environmental scanning

Decisions about the organisation's future have to take account of both external and internal constraints. Actively searching both the external and internal environment for signs of new opportunities, strengths, trend shifts and dangers is sometimes called environmental scanning. An internal appraisal should include company performance and assets, financial standing, the organisation's structure and systems, and employee strengths and
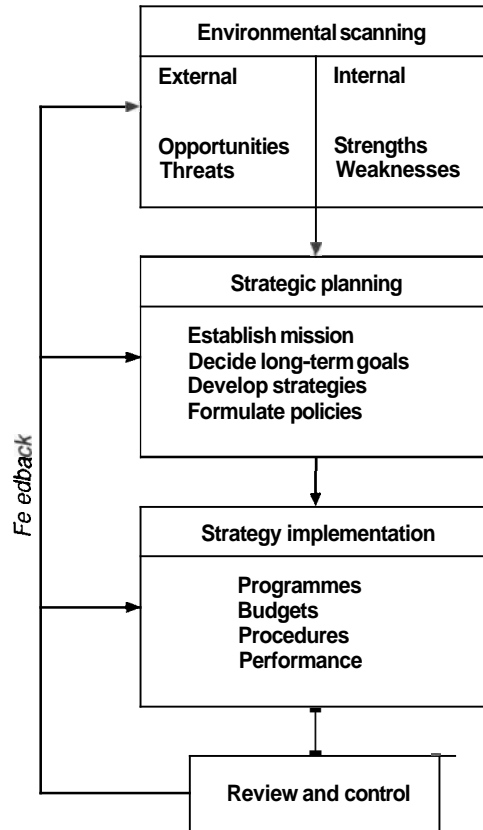
Figure 11.2 The strategic management process.

weaknesses. An external appraisal would include a study of the expected pattern of future competition and other events and trends which may influence the organisation's future success.

The aim is to collect reliable data and identify the environmental factors which will most influence the business – and how they may impact on it. The main difficulty is, of course, uncertainty – data is unavailable or unreliable; things change all the time; today's opportunities may become tomorrow's threats. The changes themselves are complex. Organisations aren't just affected by individual changes (public opinion, a new Act, a dispute with employees) but by combined trends, influenced by political, legal, socio-economic, demographic and other factors (Langford *et al.,* 1995).

Strategic planning

The plan describes how the organisation will try to meet its strategic goals. It can be broken into a hierarchy of sub-plans using the kind of breakdown

suggested by Hax and **Majluf** above. This ensures that issues like markets, competitive advantage, financial constraints, resources and employee competencies are systematically examined, making the plan as realistic as possible.

However, because its timescale is long, it is impossible to exercise strategic planning in too great a detail. Too much detail would, in fact, make the plan too rigid. Like all plans, the strategic plan must be flexible enough to meet unexpected events. Much of the process will rely more heavily on the experience and judgement of managers than on quantitative techniques.

Implementing the plan

The plan must be disseminated throughout the organisation. Co-ordinated, goal-directed action cannot occur if employees don't know what the plan is. The plan is divided up and allocated to departments and groups. The information will include targets, programmes of action, a budget for each programme, and procedures for operationalising it. Clearly, this stage is important and requires close attention. Clear communication of this information is vital to effective implementation.

Review and control performance

The strategic plan, like any plan, must be continually monitored, and corrective action taken if performance varies from it. Systems must be set up to provide reliable feedback.

There are a number of broad options open to a firm when reviewing its long-term plans:

- Containment. Attempt to maintain present workload in existing **market(s).**
- Expansion. Try to increase workload in present **market(s).**
- Contraction. Reduce current workload.
- Diversification. Try to enter new **market(s).** These can either replace or be additional to present ones.

Expansion and diversification have long been the assumed goals in long-range business planning. Contraction or shrinkage is not normally considered a respectable strategy. Contraction can be a temporary policy, to cope with a downturn of work, but Peter Lansley and his colleagues noted that some construction firms, especially building services companies, do not readily recover from shrinkage, because their assets become too depleted and they lose contact with the work (Lansley *et* al., 1979; Lansley, 1982).

In smaller firms, strategic planning is often neglected owing to pressure

from recurrent operational problems, some of which are quite important and urgent. It must be actively pursued, with time set aside for it. This may mean delegating other tasks and responsibilities. The degree of formality adopted in strategic planning will reflect the size and circumstances of each firm.

There are various tools and techniques for helping to deal with the uncertainties and risks associated with strategic management. Future studies has already been mentioned. Another is risk management, a discussion of which can be found in Flanagan and Norman (1993).

Marketing

A company's survival and success depends on its ability to satisfy its customers. Marketing identifies what clients want and how the company can most profitably meet those wants. A firm's marketing policy must be flexible, to cope with market changes.

New construction markets open up just as existing ones decline or change. Some British firms were quite active in Europe during the 1960s and early 1970s, but ironically have not done so well since Britain joined the European Community in 1973. Similarly, the Middle East was an expanding market until the late 1970s, when there was a sharp decline, caused by foreign competition and political problems in the Middle East.

Some of the larger contractors and designers responded by increasing their activities in other parts of the world. Indeed, some construction firms widened their horizons and invested in coal-mining and other energy-related projects overseas.

A few of the large British contractors collaborated with multinational engineering groups to build equipment for exploring mineral resources, notably North Sea oil and gas. This included some major petrochemical projects on land.

Apart from major civil engineering work, much of which is financed by the public sector, the main market sectors are:

● Industrial and commercial, where the product is a building or structure used for the manufacture, supply or sale of other goods and services. The client is usually discriminating and knows what services the construction industry can offer. The decision to build is largely taken on commercial grounds.
● Consumer, where the product is sold to the public or to clients whose wants are partly influenced by taste or impulse. This market, which includes housing, offers more scope for the industry to create and alter the pattern of demand, although many clients' decisions are still partly determined by commercial factors.

Another useful way of classifying construction markets is:

- *General contracting.* The contractor erects a structure or building to a design and specification normally provided by the client's professional advisors. Most of this work is in the industrial, commercial and public works markets, is won in competition with other contractors and offers limited scope for the contractor to influence the end product.
- *Maintenance, repairs and refurbishment.* These provide an immense variety of work for the industry, under many kinds of contractual arrangement. Maintenance and repair work has always been an important market, especially for smaller firms. In the 1980s, refurbishment work became established as a major market sector and is likely to remain so.
- *House building.* This is an important market, especially in the private sector. In private house building, the contractor has considerable scope for influencing demand by applying the techniques of marketing used in other industries.
- *Specialist contracting.* Here the firm offers a limited, but highly skilled, service to general contractors. The selling aspect of marketing is more difficult to apply. Persuasion, the establishment of a network of contacts and a good corporate identity are important for obtaining work.

The elements of marketing

Market research

This involves identifying the market structure and systematically collecting information about markets, clients, competitors, competitive pricing and general trends. Several trends are important in arriving at marketing decisions, including political, economic and social trends. Trends aren't always reliable because there can be discontinuities or step-changes, which alter the expected future dramatically. Most of the official statistics containing trends are issued through HMSO.

Information about specific contracts are contained in a range of commercial leads publications, usually available by subscription. Unfortunately, the projects described will normally have been officially advertised for tender action or reached the planning approvals stage and important design and management appointments are likely to have been made already (Pearce, 1992).

Information about customers and competitors is available from numerous reference publications, but the information quickly becomes out-of-date. On-line electronic data will increasingly replace printed information, giving more up-to-the-minute information to contractors. A lot of financial

information is already available in this form, so that, before meeting a potential client, a contractor can now view summaries of the client's recent annual reports and financial statements, together with press cuttings about the firm's activities.

Marketing strategy

Pearce defines marketing strategy as that part of corporate strategy and business planning which considers the needs of customers, identifies the customers on whom the firm should concentrate its efforts, anticipates their needs and plans how to go about satisfying them. The data used in this process comes from numerous sources and much is gathered through market research.

Unlike some marketing writers who stress the importance of deciding which products or services to develop, Pearce puts a lot of emphasis on deciding who the firm's customers should be and on building good relationships with those customers. In an industry like construction, where products and services cannot be displayed in shops, this seems a thoroughly sensible approach to marketing.

A marketing strategy should ultimately answer the question 'What business are we in?' and this analysis must be based on sound research and imaginative thinking.

SWOT analysis

One of the first stages in developing a marketing strategy is normally to carry out an audit of the firm's strengths, weaknesses, opportunities and threats – a SWOT analysis, as it is usually called. Managers can exercise some control over most of the firm's strengths and weaknesses, but opportunities and threats are external and often cannot be directly influenced. However, it is essential that the organisation knows what these outside factors are and responds in an appropriate way.

Positioning

To be successful, most construction firms have to limit the scope of their activities and concentrate on particular market segments. Positioning is about choosing what products and services the organisation will offer to clients; at what price, quality and timescale; and for what type of client. This is a key market strategy decision; it identifies what business the firm is in. It is, of course, essential to let potential clients know where the firm is positioning itself in the market-place.

A *unique selling proposition* (USP) is an exceptional characteristic of a service or product which clients know separates it from services or products

offered by competitors. The Bovis Fee Contract has been cited as an example of a USP.

Building personal and corporate relationships

Contractors used to say that they could exercise very little influence over what competitive contracts they were awarded, other than by submitting a price that was so low they were unlikely to complete the project at a profit. Nowadays, firms are much more active in pursuing business opportunities and, apart from giving assiduous attention to all kinds of marketing information, one way is to build good relationships with clients at personal and corporate levels.

This makes use of the human preference for working with people we know and trust. It gives the contractor a more thorough understanding of the customer's business needs and can also give rise to earlier information about the client's building needs.

Enquiries and contracts

An enquiry can literally be an enquiry from a potential client or it can be any project a firm is interested in undertaking. An enquiry which may lead to a firm's first contract with a new client is especially important. It could lead to further business direct from the client, without competition, so such a relationship helps a contractor to keep down the costs of abortive tendering. The sooner the contractor makes contact with the customer, the more influence can be exerted over the customer's decision-making and this can benefit the contractor.

Winning contracts has always been a problem for general contractors, especially where tender lists have been long. Speculative builders are more like companies in other industries, with an identifiable product to sell. Pearce (1992) suggests that contractors should adopt a three-pronged bidding strategy for getting contracts:

(1)   Avoid competition by ensuring that competitors are not aware of the opportunity.
(2)   If there is competition, try to arrange for it to take place on the firm's favoured ground.
(3)   If price competition is inevitable, use all available tactics to submit the offer that will be accepted.

The purpose of avoiding competition is not primarily to increase profits on the project, but to increase the likelihood of winning the contract and to reduce pre-contract costs.

Meetings with clients

These can take several forms, including initial face-to-face contact with customers to establish personal and corporate relationships, formal interviews, tender presentations and contract negotiations. Selection interviews are now commonplace prior to awarding a contract. Contractors and professional consultants make a presentation to the client and answer questions; and their selection can depend on the quality of that meeting. Contractors take a lot of trouble preparing for such meetings, choosing interview teams carefully, rehearsing presentations, and including presentation skills training in their management development programmes.

Corporate identity

The phrase 'corporate image' has been largely superseded by 'corporate identity', which can be defined as the way a company expresses to the outside world what it is and what it stands for. A company's corporate identity reflects its mission or objectives and its products and activities. Corporate identity is demonstrated through the communications and publicity materials the firm produces, the appearance of its buildings and sites, and the behaviour and appearance of its employees. The attitudes of managers and other employees are very important. They will be visible in many communications the company has with clients and others. At the other extreme, the design of the company's letterhead will convey a distinct impression of the firm – for better or worse.

Brochures

Many construction firms now routinely use brochures to help communicate their corporate identity and give positive information to potential and existing clients. If the firm operates in several market segments, it will usually have different brochures for each, probably with an overarching company brochure. The brochures need to reflect the firm's marketing strategy and should usually be thought through at the time that strategy is being formulated or updated (Pearce, 1992). They also need to be carefully designed so that they accurately and effectively present the desired message.

Other marketing activities

A number of other activities can support the marketing effort. They include advertising, press coverage, sponsorship, entertaining, exhibitions and other forms of publicity. These activities are expensive; they need to be carefully targeted and their cost-effectiveness assessed. An advertisement aimed at potential customers is useless if it appears in a publication that those clients don't read! Advertising in the right place can help to establish a firm's

corporate identity, by giving details of successful projects and conveying information about the company's philosophy and standards. In all advertising, the critical factors include repetition, timing, careful wording and good layout of 'copy'.

Marketing audit

The purpose of the marketing audit is to review the organisation's marketing intentions, performance and methods. The audit can be carried out by internal staff or by external consultants, but either way it must be performed systematically, objectively and by people who have a thorough understanding of marketing. The outcome should be a report summarising what can be learned about the organisation's marketing efforts and how they might be improved.

The audit can be carried out annually to coincide with the preparation of the annual report, but it may be advisable to do it less frequently. After all, any audit is a disruptive process, which unsettles people and interferes with the smooth running of an important business function. There is an argument for having no set frequency and only performing an audit when there are signs that it is needed (Pearce, 1992). Nevertheless, when the audit is carried out, it must be done thoroughly and may lead to major changes in marketing activities.

Organisational development

Companies affected by continuous and rapid change may draw up a formal policy for dealing with it. Organisational development (OD) is a term used to describe formal approaches to organising change. Ways of implementing OD include:

- Employing consultants to advise on change.
- Setting up a specialist department to do the work.
- Integrating the change process with the mainstream activities of the firm.

Each approach has its strengths and drawbacks. Consultants bring new ideas and expertise into the organisation, but their services are costly and they will not know the business as well as the employees do. Staff may resent outside interference, especially when the consultants start telling them what to do. Most important of all, perhaps, the people who benefit from the exercise – the ones who develop new skills and gain real insights into the organisation's problems – are the consultants themselves and not the firm's employees.

For this reason, many firms prefer to get as many as possible of their own personnel involved in change, so that they can learn from the experience, as well as becoming committed to new systems and methods.

Whether internal OD work is best done by a specialist department or spread through the organisation, depends to some extent on the firm and its problems. Line managers may be too busy to devote time to development work. Specialists will have the time but, like the consultants, may lack a detailed understanding of how the firm operates. If the specialists design all the changes, those who have to implement them may lack commitment. They won't understand the need for change and how it might benefit them.

Sometimes the firm combines the talents of its line managers (thus gaining their ideas and commitment), a specialist department (which can offer both the time and techniques for developing and implementing the changes), and outside consultants (who will see the problems more objectively, having experienced other change activities).

The difficulty here is how to co-ordinate people and get them to trust and share their ideas with one another. In some organisations, the OD specialists are isolated from other employees – the people who will have to implement and live with their ideas. To overcome these difficulties, OD specialists need to have good social skills and be prepared to network extensively.

An increasingly popular way of using consultants without losing the benefit of employee involvement, is to alter the role of the consultants, so that they 'facilitate' change rather than carry out the work themselves. The consultants act as mentors, helping the organisation's employees to learn the skills for engineering and coping with change.

It is widely believed that people resist change. Perhaps it is more accurate to say that there is a time lag between the introduction of a new idea and people's attitudes catching up with it. Certainly, the social aspects of change present special problems. To introduce a new process or alter a work method may require a major shift in the attitudes and behaviour of the people affected by it. In OD work, the biggest task is not changing the system, but changing the people. As Hannagan (1995) and others have pointed out, OD may involve changing the organisation's *culture.*

When specialists and consultants are involved, no single person is likely to have all the knowledge and skills needed to cope with the whole change programme. Many consultants who are experts in designing a computer system or setting up an automated production process, would not know where to begin to help or persuade employees to adapt to them. It is therefore essential that OD is a team effort, using people with a wide spectrum of skills. It usually means that any development must be tackled as a multidisciplinary task at three levels: organisational, group and individual.

Modifying individual and group behaviour is often the most important and time-consuming part of a change programme. It involves creating the right organisational climate, in which two-way exchange of ideas is actively encouraged. It is important that managers and workers trust one another and know that the other group will listen to them.

Employees who know their jobs well often have worthwhile ideas about what the firm ought to be doing and what changes are needed. If managers are receptive to these ideas, the firm may become more efficient and employees will feel valued and gain a sense of identity with the firm and its goals. Human factors play a major role in organisational change.

Business process re-engineering

BPR is a technique which became more widely known among UK managers in the early 1990s. It involves the organisation in a radical rethink and redesign of business processes aimed at making major improvements in key performance areas, like cost, time and quality. This process sounds similar to OD and the two processes are quite difficult to separate. Both can be approached in different ways; both can lead to major changes. BPR is perhaps a little more focused.

Leading BPR proponents Hammer and Champy (1994) claim that the outcome of re-engineering a business process can be dramatic; it can lead to narrow, task-oriented jobs becoming multidimensional, to functional departments losing their reason for existing, to workers concentrating more on customers' needs than bosses' needs and managers behaving more like coaches than supervisors. Almost every aspect of the organisation changes.

As with many new management concepts, BPR describes actions which many would see as long-established aspects of the manager's job. Indeed, Whiting (1994) sees BPR as another flavour of the month and argues that managers must focus on people for long-term success, not on processes and products. BPR also overlaps significantly with total quality management and other approaches to quality assurance. Like OD, TQM adopts much the same approach as BPR – a radical reappraisal of all the organisation's processes, followed by redesign and implementation to improve performance. TQM appears to focus on quality, but in practice all the factors affecting organisational performance are interrelated and have to be tackled together, as in BPR.

The value of initiatives like BPR is that they can help focus managers' attention on the need for change and ways to achieve it. The implementation of BPR needs to be approached in the manner described above for OD. Gaining employee commitment to change, involving them in the process and altering organisational and group cultures are vital.

Changing people's attitudes

Corporate planning, marketing and organisational development will fail unless the policies they introduce are accepted by employees. People will

adapt to new strategies more willingly if they have been properly consulted and involved in decision-making.

Many factors have a bearing on attitude change and there is a spectrum of ways of influencing people. *Education* and *persuasion* are the more socially acceptable methods. Education is normally the mildest form of social influence. One of the aims of education, at least in Western society, is to give people information in a reasonably unbiased way and present as many viewpoints as possible. Even so, the material chosen and the way it is presented involves value judgements. Implicit biases may be passed on, without the receiver being aware of it. The purpose of education is to develop people who will help to steer organisations into the future. Fuller discussion of the role of education can be found in Chapter 15.

Persuasion, like education, is considered socially acceptable by most people. If managers are to do their jobs properly, they will have to persuade employees to accept new methods of working, adapt to new technologies, be more safety conscious, and so on.

Propaganda comes further along the spectrum of influence methods. It is not considered very ethical, but companies, governments and advertisers do resort to it from time to time. It can involve censoring or doctoring information, concealing its source or using emotive language. The aim is to get the message accepted and acted upon.

However, in a pluralist society, propaganda is no more likely to be effective in changing attitudes than education or persuasion, except amongst poorly educated and insecure individuals. Propagandist activities may go on within an organisation or a whole industry and this can sometimes cause difficulties for those trying to foster good labour relations.

Extreme forms of social influence include indoctrination, brain-washing and torture. Clearly, they are beyond the scope of the manager's job! The manager is left with education and persuasion.

Making persuasion work

There are two conflicting views about the effectiveness of persuasion. One is that people are very malleable and can easily be persuaded to change their attitudes and beliefs. The other is quite the reverse – that people are stubborn and resistant to change.

These opposing views partly result from early research on persuasion by social psychologists at Columbia University and experimental psychologists at Yale. They studied persuasion in different ways. The Columbia centre used surveys to monitor the effects of media campaigns on the public. The Yale psychologists concentrated on laboratory experiments with individuals.

The Columbia group found that only about one in 20 of the population were affected by persuasive communications, but the Yale group found that

between a third and a half changed their attitudes. The Yale experiments showed that persuasive communications can be very powerful if there are no conflicting influences. The Columbia studies found that *personal contact* is more effective for changing opinions and behaviour than mass media campaigns. This is not a problem in small firms, but large organisations often have to use impersonal, formal communications. This may be ineffective unless supported by *opinion leaders.* These are popular or respected employees who take an interest in developments by attending meetings or actively seeking information in other ways. They influence others as they pass on new information and ideas.

The importance of personal contact in attitude change has been demonstrated in many studies. People take much more notice of those they admire or identify with, than they do of impersonal communications, however well these are formulated. For instance, researchers found that Iowa farmers took more notice of their neighbours' opinions about a new seed corn than they did of information from a government department.

Formal communications are not a waste of time, but are more likely to be successful when supported by opinion leaders and when the audience is already mildly interested. For example, a circular letter from the managing director can help awaken latent ideas or beliefs. It creates favourable conditions, in which personal persuasion by those closer to the work is more likely to succeed.

Persuasion can be more successful, especially in larger organisations, if:

- empowerment is used to include everyone in the change process, even those who are indifferent or antagonistic to change;
- the communicator considers the individuality of those at whom persuasion is aimed: differences in their goals, values, attitudes and beliefs, lifestyles;
- the goals for change, as presented, are SMART: *specific, measurable, achievable, relevant, timed;*
- the communicator arouses a moderate level of anxiety about the proposals. Too much anxiety can reduce susceptibility to persuasion; too little can lead to indifference.

Many factors are involved, such as the complexity of the message and employees' anxieties about the subject being communicated. Employees who are anxious about redundancy, may become unco-operative if put under pressure to accept new working practices which they feel would increase the likelihood of redundancies. Similarly, employees worried because they can't cope with their work are unlikely to respond positively to threats about what will happen if they don't improve. Low-threat persuasion has considerably more effect on anxious people than it does on calmer ones.

Encouraging dialogue

Attempts to change attitudes in organisations are unlikely to meet with total and instant success – and this is just as well! In a free society, a plurality of viewpoints exists and is encouraged (one hopes!). When people come into contact with one another daily, this partly offsets the effect of persuasive media communications. In an organisation, attitudes are influenced by information from many sources – the media, friends, family, opinion leaders and management. The firm is more likely to successfully engineer change if, rather than imposing its views on employees, it encourages dialogue and values a range of independent viewpoints.

It is important that differences of opinion can be aired without fear of recrimination. This encourages independent thinkers as opposed to conformers (Jahoda, 1959). The independents are likely to be the creative members of the organisation. To create something better, people must question and criticise what exists. If suggestions are welcomed and taken seriously, the firm is more likely to have an innovative and enthusiastic workforce, well equipped to face the future.

Managing creativity

Creativity is essential to an organisation's survival. In stable conditions, creativity can drive organisations out of stagnation and in the direction of progress. When rapid change is the norm, there is a danger of simply being swept along. Then creativity can be used to make sense of what is happening, cope with novel conditions and achieve a new equilibrium somewhere between chaos and stagnation!

In business, creativity involves searching for ideas, adopting fresh perspectives and identifying new opportunities – new markets, services and ventures. It means thinking of ways of using resources more effectively and getting around difficulties. More importantly, it is about gaining fresh insights. Not all results which can be described as excellent are necessarily innovative; they may simply be first-class examples of existing practices. Creative ideas, designs or products are those which push forward the boundaries in ways which are *original, useful, valuable* and *appropriate*. These and other relevant creativity criteria are discussed in M. Fryer (1996).

Several studies of creativity have focused on the characteristics of highly creative people. The list is getting quite long. It includes:

- Curiosity
- Courageousness in convictions
- Independence in thinking and judgement
- Being preoccupied with tasks

- Vision
- Willingness to take risks
- Unwillingness to accept authority unquestioningly (Torrance, 1965).

Perhaps the most consistently cited characteristics are:

- Persistence
- Tenacity
- Tendency to work hard (see, for instance, Roe, 1952).

In other words, really creative people are highly motivated by their work (Amabile, 1986).

Torrance (1995) has coined the term 'beyonders' to describe highly creative people. Such people, he has found, are more likely than the average to really enjoy their work and to enjoy thinking deeply about things. They tend to have a clear sense of purpose and mission. They feel unperturbed about being in a minority of one, something which Torrance points out is essential if you are the one putting forward an original idea. Highly creative people repeatedly say that they feel they are in some way different from others. Often, they are not well-rounded; there may be some very ordinary things they cannot do. Such individuals can be quite tolerant of mistakes and are not afraid to be creative.

There is evidence that it takes about ten years' immersion in a particular field for people to become highly innovative in that domain. Once they become experts, they tackle problems in more complex ways than novices do. For example, they are better at recognising patterns, thinking in terms of underlying principles and seeing analogies (Weisberg, 1993).

It is worth noting that, as in management, creativity research is increasingly adopting a holistic approach, focusing on the complex relationship between people, the creative process, its product or outcome, and the environment in which innovation takes place. For a brief review of what is known about these aspects of creativity, and an outline of various creative problem-solving techniques, see M. Fryer (1996).

Developing creativity

Most psychologists agree that just about everyone can become more creative. At work, this can be achieved in two main ways. One is through staff development programmes which explore what creativity is and introduce various approaches to creative problem-solving. With business attention firmly focused on the future, an expanding number of such programmes are available to firms. These need careful evaluation. Some are extremely expensive, but high cost and slick packaging don't guarantee quality. Busy managers usually do not want to have to examine the evidence underpinning

the training providers' claims (some of which may be quite extravagant). It is worth shopping around to find good creativity development programmes which offer a balanced perspective and a range of approaches.

The second way in which managers can help creativity thrive is in the way they organise the firm or project, and treat their employees. VanDemark (1991) offers some useful guidelines and stresses that managers should be dynamic and 'people-orientated'. This tallies with British research which found that teachers most keen to support creativity development were also keen on student-orientated approaches to teaching and learning (Fryer, M., 1989). There are many similarities between managers' and teachers' roles (Fryer, M., 1994).

VanDemark sees the creative organisation as providing a stimulating and challenging environment where managers and employees work together towards clearly articulated, common goals. Although careful planning is undertaken, there is a willingness to experiment with new ideas (Steiner, 1965). Steiner also notes that creative organisations enjoy good communication flow internally and with other organisations. The creative **organisation** is so structured that although things are well-organised, there remains a flexibility which allows for rapid change. It is not run 'as a tight ship'.

VanDemark points out that younger organisations are the most conducive to creativity. They have the necessary openness, flexibility and fluidity. There is enthusiasm and willingness to experiment. Older organisations, especially if they are large, can easily get bogged down with bureaucracy and rigid management structures. Over time, people become protective of their territory and unwilling to tolerate innovative plans (which they see as a threat). In construction, temporary projects are an asset because they provide the scope for flexibility which underpins creativity at work.

All managers can help generate creativity in their employees very simply. They need to encourage an open exchange of independent ideas, show interest in them and avoid making employees feel foolish. Very creative people often need to be protected from other people's ridicule long enough to try out and modify their ideas. Managers don't always provide this support.

There is a view that creativity thrives on informal, unstructured settings. But the evidence suggests otherwise. Creative people use a raft of skills and need a pool of information from which useful associations can be drawn. Information technology, with its capacity for putting together and **organising** huge amounts of data, offers the possibility of endless scenario building and without risk – an exciting prospect for creativity.

Summary

The 1970s were labelled 'the decade of change'. The need for organisations to face up to change has been stressed throughout this chapter and elsewhere in

this book. The impact of IT and telecommunications and the globalisation of trade are just a few of the irreversible trends which are changing the structure of work and the shape of organisations. Many more employees are becoming electronics and systems specialists and other professionals. Women are demanding a fairer deal in paid employment, with implications for the whole pattern of employment in society. Information technology is altering the nature of clerical work, and office jobs are changing fast.

People's expectations and values are changing. They demand more from their jobs and are less deferential to the authority of their bosses. They don't expect a job to be 'for life'.

Organisations must manage change if they are to remain in tune with society's needs. Managers have to respond to changes which are beyond their control, but they must also shape the environment in which their firms operate – they must engineer change and involve their teams in the process. Innovation is a central process of change, over which managers and teams can exercise some control.

The management of change starts with strategic management and marketing. These strategic activities give the company a clear idea of where it is going and how to get there. If the impact of change is likely to be great, the company may introduce a programme of organisational development or business process re-engineering. This may mean setting up a new department and using the help of outside consultants or using self-managing teams. The process may not be easy.

No programme of change will succeed unless accepted by the people who will be affected by it. Changing the organisation involves changing people. Employees may have to be persuaded to alter their work practices, learn new skills and change their attitudes. They must learn to live with change.

Employees directly involved in the process of change may need encouragement and training in generating creative ideas and putting them into practice. They may have to forget some of their old thinking habits and develop creative thinking skills.

Notes

[1] As firms adopt practices like **partnering,** empowering staff and allowing them significant decision-making, employees will develop a growing interest in the mission, goals and long-term plans of the business. Perhaps corporate planning can't be delegated, but it could be co-determined.

Chapter 12
Managing Yourself

Many managers are so preoccupied with the problems of managing others that they fail to manage themselves – they do not plan or organise their work systematically, they do not use their time effectively and they do not learn to understand their strengths and weaknesses. The result is that they are either mediocre as managers or they don't identify and use their special talents to the full. Alternatively, they make many mistakes – without realising it and without appreciating the harm they are doing.

However, a lot of advice has become available to managers about 'how to know yourself, 'how to value and be yourself, 'how to manage your time', 'how to get things done', 'how to behave skilfully', and 'how to work with other people' – to mention some of the more central themes.

Some of the advice is very good; some of it sounds good – until you try to put it into action. Below, in summarised form, are some of the more work-able suggestions that have been offered to managers about how to manage themselves better. Broadly speaking, they fall into two groups: (1) manage-rial behaviour and personal skills and (2) personal organisation and time management. As Cole (1993) and others have pointed out, these issues overlap with leadership, delegation, communication and other established elements of the manager's job.

The manager's behaviour

One of the most influential works on this subject is Dale Carnegie's highly readable book, the title of which has become a catch phrase: *How to Win Friends and Influence People.* The book has sold more than ten million copies in dozens of languages.

Carnegie's underlying message is simple enough – how you behave towards others must be based on what you hope to achieve and how people will react to you. If your behaviour makes other people feel upset, this will more often than not limit your chances of achieving what you want to achieve in working with them. On the other hand, if your behaviour makes

other people feel good, they tend to feel positive towards you and are more likely to be co-operative – and this improves your chances of achieving your goals. In the context of managing yourself, the important point here is that managers who learn to control their own behaviour understand the impact they are having on others and adapt their behaviour to get the results they want.

Such managers learn how to make other people feel good, so that they are more likely to be motivated. Achieving this is not simple, but some of the following suggestions can help to get the best from people:

- Make people feel important.
- Show that you value them and recognise their abilities.
- Be a good listener and show an interest in them.
- Show that you can see people's points of view.
- Be sympathetic to their ideas and needs.
- Give plenty of praise and encouragement.
- Be sincere and fair with everyone.

Recognition

A special reason for wanting to make people feel important and for **recog-nising** their capabilities and achievements is that it often helps in getting the most out of them – spurring them on to greater success. To achieve this, the manager must behave in such a way that the individual's confidence is built up and this means seeking opportunities for giving the person praise and recognition. Many managers are quick to **criticise,** but slow to congratulate people on a job well done. Yet the praise – or positive reinforcement – is much more likely to produce an improvement in the individual's perfor-mance, than criticism or negative reinforcement.

People will, of course, see through false praise – or flattery – but the manager should be able to find some basis, however small, for compli-menting people on their work. Many employees want to be seen to be competent and want to maintain their self-esteem, so even a word of praise for a minor job can have a beneficial effect on their future performance and motivation.

Of course, there are times when subordinates have been careless or lazy – or for some other reason have done a bad job. How does the manager **cri-**ticise such people? This depends on the individual – but what the manager must guard against is the negative effect that direct criticism can have on many employees. If criticism damages their self-esteem or creates bad feeling between them and the manager, the net effect of criticism is negative – and some long-term harm can be done to the relationship between manager and

subordinate. In extreme cases, the manager may cause bitter resentment or even become hated for handing out criticism.

Carnegie goes to some lengths to explain that people want to feel competent and good about themselves and that criticism should therefore be used sparingly. He argues that it should, where possible, be subtle and indirect – especially where sensitive employees are concerned. The manager might also try to introduce a criticism by admitting his or her own mistakes, so that the other person feels less defensive.

Empathy

Carnegie emphasises the importance of trying honestly to see things from other people's viewpoints. But most managers are somewhat self-centred. They are mainly interested in their own problems and achievements. The trouble is, everyone else is the same. So the manager who can break out of this mould and show a real interest in others will make a big impact. Such a manager will really try to understand people's aspirations, feelings, ideas and worries – and show that these are as important as his or her own. To show empathy with another person, the manager should pause before starting a conversation and think 'if I were the other person, what would I want to hear now?. This requires considerable sensitivity on the part of the manager, a quality well worth developing.

Empathy involves not only trying hard to understand what another person is saying or thinking, but responding in a way which *shows* that you understand or are trying to understand. So, the many signals the manager gives to the other person – verbal and non-verbal – can be very important. And, of course, the best way to demonstrate that you are trying to understand the other person is to take the trouble to listen.

Listening

Being a good listener is an important skill, often lacking in managers and non-managers alike. In fact, most people much prefer talking to listening. The manager who can listen not only conveys a message to others that they are *worth* listening to – but also learns a lot from what they have to say. Of course, there are exceptions and managers generally haven't got time to waste on irrelevancies. But there is scope for a lot of useful listening, if the manager has the skill to do it properly and be selective about it.

Among the skills of listening are:

- Interpreting what is being said to understand its meaning (this involves 'decoding' non-verbal as well as verbal signals from the person talking).
- Giving feedback which shows you really understand what the person is saying, but without interrupting.

When the other person is being long-winded and taking up too much of the manager's time, then action is needed to curtail the listening. Here the manager must signal to the other person that the exchange must be brief and to the point.

Encouraging a long encounter	*Signalling a time limit*
'Come in, Joan. How are you? Has Henry recovered from his operation yet? Did you enjoy your trip to France…'	'Joan, I have an appointment at ten but I'm happy to spend ten minutes with you now, if we can solve the problem in that time.'

Assertiveness

Assertiveness has not been given much attention in management, probably because it has rarely been thought of as a problem. But in the last few years, the value of assertive behaviour has been recognised and taken more seriously. Training in assertiveness has become quite common and there are even self-help guides for those who want to assess or improve their assertiveness (see, for example, Lloyd, 1988). An insight into assertiveness shows that many managers are *aggressive* rather than *assertive* – and the two are not the same.

Aggressive managers convey an impression of superiority and often disrespect, their wants and rights being placed above those of others and therefore tending to infringe the freedom and rights of others. Aggressive people tend to stand their ground, are often inflexible and obstinate, belittling others and making them angry or humiliated. They can be sarcastic, accusatory and rude.

Compare this with assertive behaviour. Assertive managers encourage honesty and directness – and do so by *example;* they communicate a feeling of self-respect and respect for others. They try to help others achieve their needs, as well as achieving their own – creating 'win-win' situations that benefit all concerned. Assertive people seek co-operation, show tact, and are genuine, open and enthusiastic.

Less common among managers, although elements of it are often present, is non-assertive behaviour. Non-assertive managers tend to be placid and sometimes vague and obscure, imparting messages of inferiority or lack of self-confidence. Such managers can be hesitant, defensive and subtly dishonest, being at the same time disrespectful to subordinates but deferential to their seniors.

Coping with stress

The evidence suggests that most managers are not unduly stressed compared with their subordinates and with other people in non-managerial jobs.

Indeed, if their hard work and long hours lead to success, stress can have a positive effect. For instance, surveys by Metropolitan Life Insurance some years ago showed that the death rate among 1078 top businessmen was 37 per cent lower than in other males of a similar age, whilst among 2352 highly successful women, it was 29 per cent lower than that of their peers (Seliger, 1986). But many managers are not high flyers and do suffer from stress and stress-related illnesses from time to time, especially when excessive demands are placed on them. Stress can also be caused by boredom or lack of challenging work, but for most managers this isn't a problem.

Learning to say 'no'

Some managers take on more and more work, until they are overwhelmed by the amount they are trying to do. Often people agree to take on extra work either because they are afraid of offending their bosses or because they think it will have an effect on their prospects. Many people, including managers, find themselves under pressure and become candidates for stress, because they say 'yes' when they want to say 'no'. They end up organising their lives around other people's priorities.

They don't realise that most bosses respect employees who take a firm line and refuse to take on extra work, if it is explained to them that the new assignment is unreasonable or is likely to jeopardise more important tasks. So the message to managers and their subordinates is that they must learn to tactfully decline every request that does not contribute to achieving their primary objectives.

Learning how to relax

Another way of dealing with stress is to learn to relax. The trick is to harness the benefits of relaxation during periods of heavy demand or special difficulty. Relaxation can help the manager to avoid over-reacting to a problem or demand (and therefore the risk of displaying unsuitable behaviour) and to remain effective – something which helps bolster the manager's self-confidence and others' confidence in the manager. At work, it is particularly important to be able to handle problems in a measured and proficient way, and relaxation can help achieve this. Many books are available on the subject and relaxation techniques are easily learned.

One thing to bear in mind is that relaxation isn't something to be practised for just half an hour a day. The manager needs to be on the lookout for – and keep in check – unnecessary tension building up at all times (often showing up physically as tensed up muscles). The manager needs to learn what tension feels like, how to consciously release it and how to develop a calm attitude. A simple way of learning to recognise tension is to create it and disperse it

deliberately – and *feel* the difference. This can be done using quick and easy relaxation exercises described in most books on the subject.

Keeping fit

In recent years it has become much clearer that every aspect of mental and physical health has an important impact on how well managers function. As a consequence, more and more advice is now being offered to managers about the benefits of regular exercise, healthy eating, adequate sleep and the effective use of leisure time and holidays. At the same time, managers are being encouraged to cut back on smoking, **drinking** and unnecessary medication, as the harmful effects of these are becoming more clearly understood.

Personal skills

Construction firms are realising more and more that their managers and other employees need good personal skills to carry out their jobs effectively. This realisation has not only dawned on the construction industry; in recent years, many other industries and professions have started to give much more attention to training in this field.

For instance, the Metropolitan Police Force included in its complete policing skills programme: (1) self-awareness; **(2)** interpersonal **skills;** **(3)** group awareness. This means that along with the training they receive in the more 'glamorous' side of their work – driving, detective work, firearms and so on – police officers learn such skills as how to assess their own behaviour, how to compare themselves with their peers, positive and negative aspects of verbal and non-verbal communication and how to control and change people's attitudes and behaviour, whether colleagues or the public (Mitchell, 1989).

Even very senior managers often value personal skills very highly. For instance, in a recent UK study of 45 managing directors, most of them mentioned *people skills* in one form or another as 'equally important or a very close second' to decision-making skills (Cox and Cooper, 1988). Managers in UK construction firms often rank their interpersonal skills higher than all other management skills, regardless of whether they are from a trade or technical background and irrespective of their age (Fryer, **1994b).**

One reason why such skills are rated so highly is that managers realise that to get things done and to elicit co-operation from people, they have to establish rapport with them, persuade them to accept goals and motivate them. This involves creating feelings of satisfaction, approval and respect in a range of situations, such as when discussing a work problem, interviewing someone, explaining a new method, counselling or bargaining.

Establishing a good rapport is an important starting point in exercising

personal skills and is achieved in a number of ways. Argyle **(1983)** summed up the ways in which rapport can be created:

- Adopting a warm, friendly manner; smiling; using eye-contact.
- Treating the other person as an equal.
- Creating a smooth and easy pattern of interaction.
- Finding a common interest or experience.
- Showing a keen interest in the other; listening carefully.
- Meeting the other person on his or her own ground.

Clearly, establishing good rapport with people requires skill. It involves good communication, trust and acceptance, and creating relationships in which people feel comfortable with one another. It brings into play a number of human skills which have not been taken seriously enough by most managers in the past. And these skills must mostly be practised face-to-face; not through memos and telephone calls, but through personal communication.

Personal communication

Even though most managers and professionals *appear* to understand the value of good communications, somehow the message often fails to get through. Managers seem clear enough that an important purpose of communication is to involve employees, so that they are committed to the business and therefore contribute effectively to its work, but little seems to be done to apply communication to make this happen.

Drennan **(1989)** gives an interesting case study of a large firm which wanted to 'beef up' its internal communications. This is how it did it. First, senior management redefined the firm's key goals so that they would be simple and understandable to all employees, relatively stable over the next five years and couched in such a way that every department and employee could do something to contribute to them.

Next, senior managers were asked to consider what, in practical terms, they were going to do to achieve these goals. A series of conferences were held at various levels, so that ideas and proposals about how the goals could be achieved and how to measure and communicate progress flowed back and forth among employees throughout the organisation. Each working team put together its practical programme and presented it to the next level of management for approval. The work teams set new performance targets for themselves and soon charts and graphs started to appear showing how well teams were doing.

The message is clear – if people know what they are striving for, they will largely manage themselves. But they cannot find out what they are striving for without good two-way communication and this will only happen if

people – managers and other employees – want to talk to one another and know how to do so effectively.

A good way to improve personal communication, not only with employees but with customers too, is by getting out of the office and talking to them. MBWA – management by walking (or wandering) around – is a technique notably practised by Lord Sieff of Marks and Spencer in the UK and strongly advocated by Tom Peters and his colleagues, based on their experience with US businesses (see, for example, Peters and Austin, 1985; Peters, 1989). Walking around talking to people is a highly effective way of keeping in touch; and of exercising leadership; and of letting people know that they matter; and that you are interested in what they are doing. MBWA shows everyone that you are paying attention! Because managers are usually busy, it requires self-discipline to practise MBWA – but the effort will normally pay dividends.

Personal organisation and time management

A common problem among managers is that they draw up plans and pro-grammes for other people's work, but rarely find time to plan their own. The result follows a typical pattern – too much time is spent on routine work, important jobs are left unfinished, too much overtime is worked, delegation is poor, follow-up on subordinates' performance is patchy, signs of stress are showing . . . and so on. There is quite a lot that can be done about these kinds of self-management problem. Some examples are given next.

Planning and prioritising

When managers fail to plan their own time, they end up as victims to whatever happens to land on their desks and other people's actions and demands determine how their day is spent. This results in the manager dealing mainly with *problems* instead of *opportunities.* To avoid this, managers should regularly plan the days and weeks ahead and identify the tasks which need to be given priority.

Many managers do find it helps to keep a detailed list of tasks to be done, but a lot do not bother or say it does not work. Yet it can work well, so long as the manager finds time to keep the list up-to-date. There are several advantages in keeping such a list. One is that the manager can see at a glance what needs to be done and when, without having to rely on memory. This is important because many managers have more tasks in their pending trays than they can possibly keep 'in mind'. Another benefit of such a list is that it can be marked up to show which jobs are trivial, which are important, which are urgent and important and which are simply urgent. It can also be easily converted into a *plan,* by

marking which jobs are to be done when – and a control document, by marking off the jobs completed, partly finished, and so on.

This kind of analysis is very important for those managers – and there are many of them – for whom there aren't enough hours in the day to keep up with everything. By marking up the list to show which activities are important and which are urgent, it becomes easier to organise one's time and delegate realistically to others. Every manager needs to be aware that tasks which are urgent are not necessarily important. Indeed, many are not. So, in prioritising jobs, it is sensible to first of all identify the important tasks – and then mark them up in order of urgency.

Diary format

Keeping a diary is not a substitute for this careful planning and prioritising of tasks. But the right kind of diary is an important adjunct to the task list. The diary format is important because it must reflect the importance and urgency of the various tasks and what work can be grouped and/or done most effectively at certain times of the day. To mirror the task list, the diary should have a format similar to the one shown in Fig. 12.1.

Avoiding putting things off

From time to time, most managers put off tackling difficult, time-consuming or boring jobs, promising themselves they will deal with them tomorrow or the next day. This sort of procrastination invariably leads to problems and causes a lot of stress and worry to the person doing it. A simple technique for overcoming this kind of mental block when a long or difficult job needs to be done, is to sit down and analyse the job – breaking it down into manageable pieces. The key to success is to make each step in performing the task simple and quick so that, on its own, it seems easy and insignificant. Indeed, it becomes possible to carry out a slice of the larger task between meetings or while waiting for a phone call. And in this way, a task which might otherwise not have been started, is steadily being progressed.

A more radical solution involves changing managers' attitudes and work habits. Managers learn to put things off – and therefore can learn not to. Bliss suggests a simple strategy. Start by resolving to stop putting things off. Don't try to achieve too much too quickly, but start each day by tackling the most unpleasant task on your list of jobs. It may be a minor matter, but do it straight away before tackling any other job. This sets the tone for the day, giving a feeling of exhilaration because the job you were most likely to put off and worry about has already been accomplished. If you persevere (but only if you persevere), you will find, after some days, that you become locked into this new habit and that you look for opportunities to tackle unpleasant tasks,

Tuesday, 4th August		**Daily Diary**
08.00	Incoming post	**Key tasks to be done**
08.30	Site visit – Gatwick	Report for CJ	3
09.00		Agree Gatwick programme changes with GH	1
09.30		Discuss claim with DAC Timber	2
10.00	JTA project meeting	See Janet about Brierly discount	4
10.30		
11.00		
11.30	Phone calls	**Phone calls to make**
12.00	Lunch with M H and PW (45 min)	JCH – Crawley PO	1
		CJ – Report	2
12.30		David H – Delivery schedules	4
13.00	Open door	Sally R – DTA quality checks	3
13.30		Keith W – move to Sheffield	5
14.00	Key tasks	
14.30		
15.00		**Tomorrow**
15.30	Meeting with Keith L – DAC	Crawley meeting
16.00		Progress mtg – Drake & Co Monthly cost returns
16.30	Update Gatwick programme	
17.00		
17.30		
Evening		

Figure 12.1 Preferred diary format for time management.

because of the satisfaction gained from putting them behind you (Bliss, 1985).

Monitoring employees' work

Good managers don't just delegate, they check up to make sure that goals are achieved. Yet many managers don't keep track of the jobs they have assigned; and their subordinates, finding that their managers don't chase them, fail to finish tasks, or give them low priority. Also, the managers forget some of the tasks they have assigned, leading to problems and crises later on.

A simple way that managers can follow through their delegation – and gently remind their employees that they mean what they say – is to keep a record of agreed goals and deadlines. When a manager is holding a meeting with the team, it is useful to keep a record of this kind handy; it provides an easy way of recording actions agreed and who was assigned to do what, thus minimising misunderstandings. It also lets the team see that the manager means business. They learn that when a goal is assigned, the manager will expect progress! The manager benefits too, because the record acts as an effective reminder of what needs to be done and when.

Every time a manager talks to an employee, an opportunity arises to give positive feedback or reinforcement to that individual. The manager should see each finished job as an opportunity to praise or give recognition. This can work wonders on staff morale and motivation, leading to improved performance and job satisfaction.

Often it is a good idea for the manager to ask subordinates to report back when goals have been achieved. This puts the onus on them to confirm that action has been taken and reduces the amount of routine follow-up for the manager.

Self-development

An important part of self-management is the ability of managers to supervise their own development. They must be able to improve themselves as managers, taking responsibility for the process; learning without being taught for much of the time – and choosing the means by which to do it. As with many things, this isn't too difficult once the techniques have been understood; it is within most people's grasp to learn how to learn.

Indeed, a lot of advice on self-directed learning or learning for capability, as it is increasingly called, has been offered to managers in recent years. Some publications give more than advice – and provide detailed self-development programmes. An example is *A* Manager's Guide to Self-Development by Pedler, Burgoyne and Boydell (1986), which sets out diagnostic tests to help

managers identify their strengths and weaknesses and set themselves goals for self-development; it then provides a series of practical exercises for developing a range of skills and abilities.

Sadly and despite the availability of such information, much of the organised provision of management development remains 'traditional' and teacher-centred, geared to learning facts and figures. Whilst such learning is useful, it is inadequate for producing the high flyers that industry desperately needs.

An important point about self-directed learning is that it involves much more than cultivating better study skills. It has a lot in common with problem-solving – a process all managers are familiar with and know something about. Indeed, the motivation for much of the learning is that the manager has a problem to solve and wants to know how to tackle it.

The first step is to learn how to learn – and to recognise the value of both 'off-the-job' learning and 'experiential' (or 'action') learning (see Chapter 15). Although much of what the manager needs to learn can be gleaned within the workplace – and a great deal of effective learning happens in this way – there are many things for which the answers cannot be found there – and the manager has to look further afield.

Cox and Cooper (1988) stress the importance of giving young, able managers early experience of 'challenging and extending assignments – 'real consultancy' assignments that have practical value to the organisation and for which the developed managers are given total responsibility. These assignments should often be set in unfamiliar functions or industries – thus widening the managers' knowledge and their ability to cope with complex and changing environments. This really is *experiential* learning!

Independent learning for managers

There has been a growing trend towards helping managers to improve their understanding and skills in an *independent* way, avoiding heavy reliance on management teachers. Although self-directed learning has been viewed as a major step in this direction, it has often taken the form of fairly prescribed pieces of private study, in which it is still the trainer/developer who decides the learning objectives, provides the study materials and evaluates the manager's work.

Independent learning can be much more ambitious. It can involve managers in deciding their own training needs, setting learning goals and choosing topics or 'problems' they want to tackle. It allows them to decide when and where to study, what resources are needed and how to assess their learning. Self-assessment is perhaps the most radical departure from conventional management training and development and raises many problems. Nevertheless, this challenging idea is being applied on some management

development programmes and has been taken very seriously in the further and higher education sectors. For a review of the opportunities that independent learning presents and its practical difficulties, see, for example, Boud (1988).

Self-assessment of learning can involve managers deciding what standards they wish to achieve, selecting the criteria on which assessment is to be made and grading their own work. One of the strong arguments in favour of self-assessment is that it helps to develop managers' self-confidence and reduces their dependency on trainers and management developers. It also helps shift the focus from the content of what is being learned to the more fundamental issue of the learning process itself. Managers develop a commitment to life-long learning and can initiate new learning whenever the need for it is perceived. Independent learning has become a major thrust in management development in the 1990s.

Summary

Anyone who is good at managing others might be expected to be good at managing themselves. Frequently this is not the case. Indeed, it has only recently dawned on most management trainers and commentators that a lot of managers are quite inefficient when it comes to managing their own time or organising their daily agenda. It turns out that managers who expect others to deliver results on time often fail to meet their own deadlines!

Today's most effective managers have self-knowledge; they know their own style and appreciate their strengths and weaknesses. They have a significant grasp of time management techniques and have learned to gauge the effects of their own behaviour on others. They know when to talk and when to listen; when to be firm and when to be flexible. They have grasped why and how to prioritise urgent and important tasks. They get on with things instead of putting them off and they know how to communicate clearly and succinctly. They have learned how to minimise interruptions and distractions, handle stressful situations and delegate effectively. Managers who are competent at managing themselves are able to demonstrate commitment without anxiety, be assertive without being aggressive and be hard working and conscientious without being a victim of undue stress.

Perhaps the greatest triumph of self-management is acquiring the ability to manage one's own development. Independent learning is promising fresh scope for managers and others to take charge of their own personal development and decide on their own career goals; such managers know how to set targets and standards for themselves, how best to achieve them and how to evaluate their own learning.

Chapter 13
Personnel Management and HRM

Personnel management or human resources management?

The department which supports line management in dealing with employees and employment relationships has traditionally been called *personnel management.* In the mid-1980s, the term *human resources management* (HRM) started to take over. This coincided with an important change in thinking, in which the role of personnel management shifted from one of mediating between employees and senior management, to one of supporting corporate strategy by integrating business goals and people management (Pemberton and Herriot, 1994).

As these authors point out, the emergence of HRM seemed to offer a lifeline to personnel staff 'who had long felt undervalued by line managers'. The low status of personnel work had arisen from the view of some people, especially line managers, that personnel management was little more than a clerical job – keeping the people records straight and adding little value.

But *human resources* is the language of slave owners of the eighteenth century who treated labour as a disposable resource. Pemberton and Herriot argue that HRM needs a radical re-think that takes it back to its roots. Its strategic role should be based in its established position as broker between senior management and employees, bridging the gap between business concerns and employee needs, in a way which shows how people's potential can best be unleashed for the benefit of both business and employees. This view recognises that people cannot be treated as simply a factor of production. They are at the heart of the organisation and the management of people is more central to business success than the management of materials, money or plant. People can act on resources in a way that resources cannot act on people.

For these reasons, the author prefers the term personnel management, despite the widespread use of HRM. It is interesting to note that the leading body for personnel professionals, the Institute of Personnel and Development, in its 1994 position paper *People make the difference,* avoided the term human resources management and instead used *people management*

throughout this publication. In doing this, the Institute also underlined the fact that the responsibility for managing people is shared between line managers and personnel specialists.

Construction personnel

Because much of its work is one-off and it lacks a factory base, construction is labour intensive compared with most industries. Its personnel costs are high in relation to total costs. This is another reason why labour remains an important asset, especially in the building sector of the industry, and effective management of people is a key part of every manager's job. Personnel specialists are increasingly employed to support and advise managers.

Even when construction is capital intensive, as in many civil engineering projects, the management of people is still a critical factor. Studies have repeatedly shown that differences in productivity between companies, and even between departments within a company, cannot be solely explained by variations in manufacturing methods. Rather, they result from differences in the way people are managed.

Technology has made the human factor more important, not less so. Disasters show the negative aspect of this – how human error is magnified as technical scale increases. Technology is no protection against people's mistakes or poor judgement. understanding human behaviour and how to deal with people is therefore a crucial aspect of management.

Personnel management is often misunderstood and undervalued in the construction industry. This is because personnel work is not very 'visible' and its contribution to the business is difficult to measure. Also, it evolved in a piecemeal and somewhat haphazard way, so that it can lack a clear identity.

Moreover, many aspects of personnel management are not easily separated from general and production management, and rightly so! One of the prime tasks of management is to use people's skills effectively. In this sense, all managers are personnel managers and should work within a well **thought-**out personnel policy.

The personnel function

Personnel departments hardly exist in many construction firms, but the personnel function is present in every firm. It is the process of channelling human energy and skills into achieving business results. Almost every manager is involved in this.

As organisations have become larger and more complicated, work has been broken down into more manageable, specialised jobs. The jobs which are labelled personnel management are those which specialise in designing

and operating systems and procedures for recruiting, employing and developing people.

Because of fluctuations in workload, high labour turnover and casual employment, personnel practices and policies have tended to lag behind those of most industries. Also, the industry includes many small firms that cannot afford to employ full-time personnel staff. However, someone still has to do the personnel work. Normally it will be other managers – line managers concerned with production or general management. Some do the personnel work well, but others admit that they neglect this part of their role because other tasks fill their time. These other tasks seem more urgent or important, or appear to have a more direct impact on productivity. The growing body of legislation on employment and other personnel issues has gradually forced organisations to take the personnel function more seriously.

Even among larger firms which do employ personnel staff, there is no typical personnel department. The form it takes usually reflects the firm's special personnel problems. For instance, most large civil engineering companies have operated safety policies and employed safety officers for many years, because they recognised that they had a safety problem. Similarly, some firms were running training schemes long before the industrial training legislation. Like the football clubs, they had recognised the value of intensive training for getting the most out of their human assets.

Conversely, labour relations have been comparatively good in building, so most firms have not felt the need to employ industrial relations specialists. They have been slow to formulate written labour policies and procedures for consulting with workers and unions.

In nearly every case, firms have concentrated on those aspects of personnel management which have helped them solve their particular problems. Some construction companies, mainly the larger ones, have eventually rationalised their personnel work and brought it under the control of a single manager or director. When this has happened, personnel management has been able to offer a more integrated and long-range contribution to the running of the business. Figure 13.1 shows a possible structure for a well-developed personnel department.

The tasks of personnel management

The main areas of personnel management are:

- Employment planning
- Staff development
- Health and safety
- Industrial relations and employment.

Figure 13.1 Example of a personnel department structure.

These are dealt with in the remaining chapters. However, a well-established personnel department will become involved in other issues, such as:

● Strategic planning
● Organisational development
● Employee remuneration
● Counselling.

These issues are discussed later in this chapter.

Some of the tasks are more strategic than others. For instance, personnel managers increasingly take part in budgetary control and produce staffing budgets. This is important in an industry which relies heavily on labour.

But personnel staff contribute to many day-to-day tasks as well, such as induction, dismissals, grievance handling and advice on pay. The personnel manager has to balance the immediate and tangible operational problems – which can be very time-consuming – with the long-range, more nebulous concerns of senior management.

If the strategic tasks of personnel management are neglected, its potential will not be realised and it will indeed become little more than a clerical function. At its best, personnel management contributes to the overall running of the business, helping managers to use their most important asset to the full.

Personnel policy

A firm which has a system of personnel procedures is likely to have a sound personnel policy. The more people-orientated firms will try to ensure that the policy reflects the needs and ambitions of employees. This means that social as well as economic goals have to be considered when formulating and reviewing company policy. Each company's policy will reflect its particular priorities and problems.

An example of a personnel policy statement for a large construction firm is given below.

Personnel policy statement

This policy recognises that the successful achievement of the company's objectives of profitability and development depends on its ability to provide employees with satisfying and rewarding employment.

The policy will be implemented in accordance with generally accepted employment practices and current employment legislation and the need to avoid unfair discrimination of any kind.

General policy

(1) All employees will be kept informed of the company's practices and policies and of the terms and conditions of their employment.
(2) The company will establish and maintain suitable procedures through which employees can express their views on all matters affecting their employment.
(3) The company will create and encourage an atmosphere of mutual understanding and co-operation, in which all personnel feel a sense of involvement and freedom to express constructive views to management.
(4) Procedures will be established, and made known to employees, governing disciplinary action and the rights of employees to raise grievances and disputes with management.

Employment policy

(1) The company's recruitment and selection procedures will take account of the need to match individual abilities and preferences to the post concerned.
(2) The performance standards expected of employees and their progress towards achieving them will be made known to them by their managers.
(3) Wherever possible, posts will be filled by internal promotion, unless existing personnel are unable to provide the necessary expertise.
(4) The company will offer alternative employment to, or terminate the employment of, employees who, after adequate warning and the opportunity to improve their performance, fail to reach the company's standards.
(5) The company will comply with all statutory requirements regarding the employment and termination of contract of all employees.

Staff development policy

(1) All managers will keep themselves informed of the career expectations and training needs of their employees and will counsel them as necessary.

(2) Regular appraisal of all employees will be undertaken in order to identify individual development needs and career potential, and to help employees make their best contribution to the company, whilst obtaining maximum job satisfaction.

(3) The company will provide suitable opportunities for staff development, having regard to individual needs for promotion and increased responsibility, subject to the availability of suitable training opportunities.

(4) The company will assist and encourage employees who wish to obtain relevant technical, professional and management qualifications.

Industrial relations policy

(1) The company will **recognise** the right of a union to represent and negotiate on behalf of a specific group of employees, providing a majority of those employees wishes to be so represented.

(2) The company will encourage employees to become members of recognised trade unions. Where practicable, such unions will be those taking part in collective bargaining in the industry.

(3) The company will comply with agreements and procedures established by collective bargaining and contained in relevant working rule agreements.

(4) The company will operate conditions of employment no less favourable than those provided by competitors.

(5) Every attempt will be made to maintain good relations and provide proper facilities for consultation and co-operation with union representatives.

Remuneration and employee services policy

(1) The company will remunerate employees and provide benefits at a level commensurate with performance and responsibility, having regard to current legal requirements, government policies and market forces.

(2) The company will adequately insure all employees during the period of their service.

(3) All personnel will be given assistance in periods of sickness or hardship. Pension arrangements on retirement will be on terms no less favourable than those offered by competitors.

Health and safety policy

(1) The company will maintain a high standard of safety and health and take every practicable step to safeguard the health and safety of its employees.

(2) The company will comply with all statutory health, safety and welfare requirements.

(3) The company will provide a high standard of welfare facilities for employees.

Strategic planning and organisational development

One of the strategic jobs of personnel management is to take part, with other managers, in a continual analysis and review of the organisation's structure, culture and operations. The personnel manager can help to develop personnel forecasting and budgeting techniques and to improve administrative functions, as well as supplying forecasts of staffing needs, labour availability, wages budgets, and so on.

Personnel managers can play an important part in identifying the strengths and weaknesses of the organisation and assessing the effects of social, legal, economic and other changes. Personnel staff can help to develop and implement strategies and timetables for organisational change to ensure that the organisation survives and becomes better at doing the things it is designed to do. To achieve this, the personnel manager may recommend improvements to the structure of the organisation, its departments and work groups. He or she will advise on management style, job designs and organisational 'climate'.

The climate of the firm is difficult to analyse, but some measure of it can be obtained by seeing how conflicts are resolved, how people are treated and what levels of trust, co-operation and participation exist. These factors are important, for they can affect efficiency and hence the profitability of the business.

Personnel managers may have more skill – or simply more time – than line managers, for monitoring the organisation and the match between its tasks and people. Because they are not directly involved in operations, they can be more objective.

Employee remuneration

Personnel staff can help the firm to develop effective payment systems and to review them to cope with outside influences, such as government policy, the labour market and wage agreements with the unions. The personnel manager must know how national and local agreements affect the company's employees and see that they are applied.

A salary structure must be established for the many employees not covered by national wage agreements. Guidelines must be laid down for salary increases, benefits and incentives, and how to link these to staff performance.

A system may have to be developed for assessing the relative worth to the company of different people and jobs. This could involve *job evaluation* and *merit rating* techniques, where aspects of a job or an employee's performance are ranked, classified or given a points rating, on which remuneration can be

based. In *productivity bargaining* employees agree to make changes in work practices which will lead to greater efficiency in return for improved pay, benefits and working conditions.

Personnel staff may also be asked to produce inter-firm comparisons of salaries and benefits, so that the company continues to offer conditions that will attract the right calibre of employee.

Counselling

The word *counselling* has become popular, as in investment counselling and career counselling. Managers have increasingly recognised that counselling their employees is an important part of the personnel function.

However, the manager's power over subordinates sometimes makes counselling difficult or impossible. Personnel staff may be in a better position to counsel employees because there is no 'authority barrier' between them.

Counselling methods are rooted in psychotherapy and owe much to Carl Rogers, who pioneered client-centred therapy in the United States. Rogers (1951) stressed the importance of certain qualities in the counsellor, especially:

- *Empathy* – the counsellor tries to see the problem through the eyes of the 'client', the person being helped.
- *Genuineness* – the counsellor is honest, sincere and puts up no facade.
- *Congruence* – the counsellor uses his or her feelings and is open with the client.
- *Acceptance* – the counsellor regards clients as important and worthwhile, whoever they are and whatever they have done.

These qualities must be conveyed. The person being helped must experience them to benefit from the relationship with the counsellor.

Counselling skills are not easy to separate from general social skills, but experience of counselling has helped clarify our understanding of how warm, trusting relationships develop between people (Hopson, 1984). Counselling embodies the belief that individuals benefit and grow from this kind of relationship and that, properly managed, it helps the individual to become more independent.

Counsellors are unlikely to be successful if they cannot see other people's viewpoints, have radically different values, are poor listeners, make harsh judgements too easily, are unable to be 'open', get emotionally involved, or feel they have to put on an 'act'.

Hopson argues that once counselling relationships have been established, clients will be willing to talk through and explore their thoughts and feelings.

This process helps them clarify their **difficulties** and uncertainties, and to explore options for changing their situations. Given support, people are likely to become more prepared for, and capable of, dealing with their problems.

Unless counselling is properly managed, there is a risk that it may encourage clients to become dependent on their counsellors. They turn to their counsellors every time they have a problem. So, counselling must try to build self-reliance.

Administration and records

Construction firms whose personnel procedures are well developed will have reliable records, providing information for planning purposes and for employee administration. These records must comply with the data protection legislation.

Most firms need records of:

- personal information about employees (such as experience, qualifications, health and the name of a person to contact in the event of illness or accident);
- staffing levels and productivity;
- wages and overtime;
- absence, sickness and accidents;
- statutory requirements and returns.

Personnel staff will be responsible for developing and using suitable methods of data collection, storage and retrieval, including the use of computer-based information systems. They will have to interpret and present information in the way that best facilitates decision-making and control.

Sometimes these tasks lead to a proliferation of records without achieving the intended results. Care is needed to ensure that personnel administration remains a means to an end and does not become a tiresome ritual.

Summary

Human resource management is the term many businesses now use to describe personnel management. HRM embodies the unsatisfactory notion that employees are a resource – a factor of production. In construction, the terms personnel management and personnel manager are still in widespread use.

The personnel function is present in every firm, but a personnel department will normally be found only in the larger firms which can afford to

employ specialists. Personnel management has been prone to conflicting assessments, because its contribution to production is not always visible. But in companies which recognise that people are their primary asset, personnel management plays a key role.

The main tasks of personnel management are to obtain and retain employees of suitable calibre, to develop their potential and to help the organisation to manage people effectively. Some personnel tasks are more long term than others and the manager must try to balance immediate demands with more strategic issues. An experienced personnel specialist can help senior management to keep the organisation in tune with changing demands and conditions.

Chapter 14
Employment Planning

The author uses the term employment planning in preference to human resources planning (see page 192). The purpose of employment planning is to maintain an adequate supply of suitably experienced labour. This can be a major problem for an organisation, especially in the construction industry. The scope for such planning in construction firms varies, but broadly involves the following.

- Analysing and describing jobs and preparing personnel specifications.
- Assessing present and future staffing needs.
- Forecasting labour supply and demand, and preparing budgets.
- Developing and applying procedures for recruiting, selecting, promoting, transferring and terminating the employment of staff.
- Complying with the requirements of employment legislation.
- Assessing the cost effectiveness of employment planning.

Contractors need forecasts of future staffing requirements and the likelihood of meeting them, but the task is extremely difficult. Both future workload and the labour market are highly unpredictable. Most firms have to be satisfied with cautious, short-term predictions and hope that trends don't change too much. However, failure to attempt any forecast of future workload and labour needs leads to staffing problems and organisational inefficiency.

Organisations need people of the right calibre doing the right jobs. This demands reliable recruitment and selection procedures, followed by mentoring, training and monitoring of individuals' career progress.

Staff selection has always relied heavily on judgement and hunch, sometimes based on little more than a short, badly-planned interview. Yet there are other selection methods which can help.

Group problem-solving sessions are sometimes used to assess candidates' skills. They enable selectors to judge how applicants contribute to teamwork and cope with pressure. To build up a realistic picture of the applicant, as many selection methods as possible should be used.

Forecasting and budgeting

Forecasts of future labour needs and the likelihood of achieving them should take account of:

- Natural wastage due to retirement and labour turnover.
- Promotions, creating vacancies at lower levels.
- The company's plans for growth, diversification, etc.
- The availability of labour having the necessary skills in the right location.

One of the problems in forecasting is obtaining reliable information. Managers are often reluctant to make predictions and may be sceptical of forecasting, believing it to be a waste of time. Careful data collection and analysis, including a review of existing personnel, are essential for forecasting both the demand for labour and its supply.

Some of the information must come from outside the firm. The state of the labour market can be assessed from published statistics and help can be obtained from job centres and recruitment agencies.

Employment plans must remain flexible. Events rarely turn out as planned! The demands for the firm's work may fluctuate unpredictably. Economic trends may go into reverse, or technical innovations may force the firm to review its methods. Such changes don't invalidate planning. On the contrary, uncertainty makes planning all the more important if the firm is to survive. Every construction firm needs an accurate picture of its labour force and the labour market. Unfortunately, only the larger companies will have the resources to produce it.

Present labour force

Many operatives are employed on a temporary basis, from project to project, but technical, clerical and managerial staff will be more stable. The firm needs to know quite a lot about its present employees. It helps to have:

- *A* skills analysis, showing where the firm's strengths and weaknesses lie. One person leaving or absent through sickness can create serious problems if no one else has the same skills.
- *A* succession plan, showing who can take over if someone leaves the company. This particularly applies to more senior posts.
- Trainingplans, **specifying** what training is needed by employees. This will usually be carried out in conjunction with some kind of appraisal scheme.
- *A* labour turnover analysis for each occupation, indicating problems like excessive losses in one department or specialism.

In construction, where there is a rapid movement of labour, the stability of the workforce can be monitored using the ratio:

$$\frac{\text{Number of employees with one year's service or longer}}{\text{Number of employees one year ago}} \times \textbf{100}$$

The level of detail in such planning will vary from firm to firm.

Employment planning will help an organisation to know if it is overstaffed in some sections and understaffed in others. This makes it possible, with retraining, to transfer employees from one part of the business to another, rather than dismissing and recruiting staff. Whatever the picture, the firm will inevitably have to look outside for some of its labour needs.

External labour supply

There is a lot to consider when assessing the external labour supply, including:

- *Local population profile.* Its density, distribution and occupational composition.
- *Pattern of population movement.* This is important if the people coming into or leaving the area are in the occupations the firm needs to tap.
- *Career intentions of local school and college leavers.* Whether there are suitably trained young people wanting careers in construction.
- *Local employment levels.* How particular occupational groups are affected by the demand for labour.
- *Level of competition for recruits.* Whether the firm is able to attract people of the right calibre.
- *Patterns of travel* and local transport arrangements.

These factors are especially important when a contractor is starting up in a new area.

Producing the plan and an action programme

Mullins (1996) points out that a reconciliation of the supply and demand data not only forms the basis of the plan but of *apersonnel action programme.* The latter is the starting point for increasing, decreasing or changing the composition of the workforce, through recruitment and selection, training and staff development, transfers, redeployment and redundancies. Figure 14.1 shows some key relationships between the processes involved. A vital part of planning is the setting of target dates for achieving these actions. In larger firms, computer programs are used to model the organisation's personnel planning options.
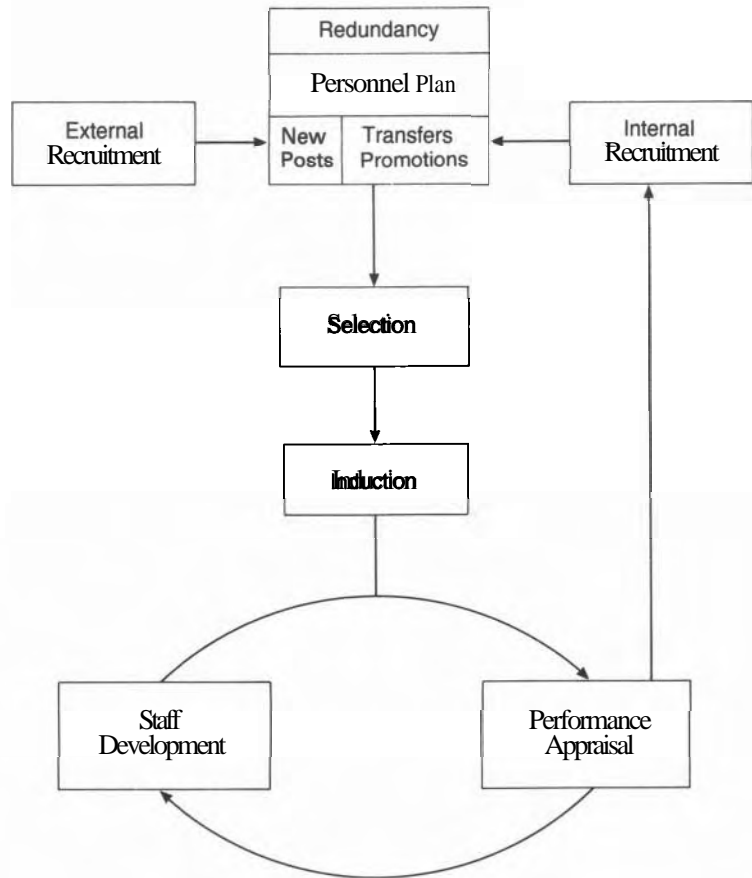
Figure 14.1 Matching people to jobs: some key processes.

Unfortunately, many companies these days are going through downsizing or restructuring, leading to redundancies rather than new jobs. Perhaps UK companies will follow the lead of their US counterparts, some of whom have gone to great lengths to help redundant staff find new jobs. AT&T took out newspaper advertising, promoting their former employees and their skills to other businesses (Stoner et al., 1995).

Planning for projects

Project staffing must be planned too. The manager must forecast project workforce requirements, taking into account the availability of various kinds of labour (including sub-contract labour), the need to avoid sharp fluctuations in staffing levels and the overall resource pattern for the project.

Even when unemployment is high, certain types of labour may be in short supply and the organisation may have to train people to meet its needs. A shortage in just one trade or occupation may make nonsense of a contract programme and add considerably to the project duration or cost. **Recog-**nising such problems at the outset can lead to better balancing of work and reduce peak labour needs.

Site labour should be built up and run down in a planned way, avoiding sudden changes in the numbers of each trade on site. This means scheduling project activities so that cumulative needs do not exceed the labour available and do not fluctuate too much. Such planning will not guarantee high productivity or good labour relations, but its absence can lead to poor performance and strained relations.

The number of employees that can work simultaneously on a project without productivity falling is limited, but there should not be too much reliance on overtime to make up for labour shortages. Regular overtime is usually expensive and output during overtime working is often lower than that achieved during normal hours.

Recruitment

Job specifications

Before recruiting an employee, the job requirements should be carefully analysed. The purpose of the job should be questioned and whether it might be better to transfer someone from elsewhere in the organisation or reallocate parts of the job to other employees. A vacancy may still emerge from this exercise, but it may bear little resemblance to the job of the previous **post-**holder, and other jobs may have been rationalised or enriched in the process. For this reason, it is important to draw up an accurate job specification at the outset.

Normally a job specification includes:

- a description of the job;
- a specification of the kind of person likely to do the job well.

Producing a job specification is not a one-off exercise. Jobs change for technical, legal and organisational reasons. In construction, some jobs are more easily defined than others. The work of a plasterer is fairly stable and can be easily measured, but the site manager's role is more difficult to assess. Management work can vary considerably from project to project and it is more difficult to define criteria for assessing it.

Job specifications have several uses. They help in recruitment and selection by giving a clearer picture of the firm's needs, making it easier to locate

and choose suitable applicants. They give employees a clear statement of what they are expected to do and what they can expect not to do. By comparing the job specification with information obtained from the applicant, the firm can discover any deficiencies and hence identify training needs. Specifications are sometimes used in productivity negotiation and job evaluation to establish standards of performance on which to base wage structures.

On the other hand, job specifications are time-consuming to produce and can discourage flexibility. People may be unwilling to do work which is not in the specification. Unions may use these documents to enforce demarcations which are inconvenient and costly to the employer. In construction, the one-off nature of projects means that jobs have to be adaptable and job specifications may therefore be ignored. At best, they are difficult documents to draft and large firms may employ specialist job analysts if they want them prepared properly.

Job descriptions

Typically, a job description will contain some, if not all, of the following details:

- The title of the job
- The title of the job holder's manager
- The job location
- The purpose of the job
- A description of the job content
- A list of responsibilities
- Details of subordinates (if any)
- Standards of performance expected
- Working conditions
- Prospects.

If a firm intends to take job specifications seriously, it must give some thought to standardising the words with which it describes objectives, tasks and responsibilities. If a word is used in different job descriptions to mean different things, much of the value of the description is lost.

A job description may state what level of performance is expected from the employee. This is often left out of manual worker descriptions, but may appear in managerial job descriptions under such guises as 'key results expected.'

A job description is only a means to an end. A compromise must be reached between a comprehensive but unwieldy description, and a vague summary which makes it hard to distinguish one job from another.

Personnel specifications

These describe the kind of person likely to perform a job well. They are often difficult to produce and the help of a skilled job analyst may be needed when attempting this task for the first time. Various schemes have been developed for analysing personal characteristics and skills, and these usually centre around headings like:

- *Physical characteristics.* Such as strength, health and appearance.
- *Education.* Schooling, further education and qualifications.
- *Job experience.* Previous employment, responsibilities undertaken.
- *Intelligence.* Ability to think analytically, capacity for difficult mental work.
- *Interests.* Inclination towards social, practical, physical or intellectual activities.
- *Personal qualities.* Such as reliability, self-confidence and ability to work with others.
- *Special skills.*

Other breakdowns include factors like impact on others and motivation, but the ability to think creatively is often neglected!

The kind of analysis used will depend very much on the job. Some attributes, such as physical strength, are important for manual construction jobs but not for technical or clerical ones.

Belbin (1993), discussing team member selection, makes a very important point. He notes that the characteristics often identified in personnel specifications and subsequently used in selection are based on *eligibility* for the job, not *suitability.* Eligibility criteria for entry to a job include:

- Qualifications
- Relevant experience
- References
- Acceptability at interview.

Belbin argues that suitability criteria should be used. These would be performance criteria, not entry criteria. They include:

- Aptitude and versatility
- Assessments (which measure potential performance)
- Role fit with those adjacent to job (because working with others is a key determinant of performance).

Belbin cites a study in which he and his colleagues examined the differences between high performers and low performers in a job for which they were

equally qualified. It turned out that the entry criteria (necessary to secure the job) were not related to the performance criteria (by which excellence could be assessed). There was no match between eligibility and suitability for the job.

Belbin identified some of the difficulties in relying on entry criteria. References can be unreliable because they may distort the merits of applicants, whereas assessments compare candidates using the same yardsticks. Experience sometimes channels behaviour down a particular path, when what matters in the job is having a wider range of behaviour. Qualifications are sometimes sought as a compensation for poor aptitude (only sometimes). Those who impress at interview are not always the easiest to work with.

Recruitment procedures

The purpose of recruitment is to bring jobs to the attention of job seekers and persuade them to apply. Most firms use several recruiting methods, depending on the type of job. The more common methods are described below.

Personal introductions and contacts

This method has been widely used in the construction industry and with some success. But it cannot be relied on to produce the right applicants at the right time.

Vacancy lists outside premises

This method is used on some construction sites. It is an economical way of advertising vacancies but the information may not reach the right people.

National press advertising

This reaches large numbers of people looking for jobs, but only a small proportion of readers will be suitable or interested. Much of the effort and cost of national advertising are wasted.

Advertisements in the technical press

These reach a specific group and there is less waste. A minimum standard of applicant is more assured. However, some publications are infrequent, causing delay.

Advertisements in the local press

These are mostly read by local people seeking local employment. This may be

satisfactory for routine jobs, but may be inappropriate for more specialised posts, for which a wider range of applicants is sought.

Job centres

These can produce applicants quickly and, with computer back-up, from a wide area. They tend to produce applicants who are unemployed, rather than employed people who are looking for a change.

Commercial employment agencies

These have become quite popular in some areas, notably London, and for certain kinds of vacancy. They reduce the administrative burden on the employer, but can be expensive.

Management selection consultants

These are mainly used to obtain applicants for senior posts, often in confidence. The consultant's skills should ensure that a high calibre of applicant reaches the final stage of selection. Again, this service is expensive and not always reliable.

Visits to educational establishments

Some of the larger construction firms regularly visit schools, colleges and universities, to seek out potential employees. This method only produces new entrants to the industry but is a sound, active way of exploring the labour market. It also provides an opportunity to put across **a** favourable company image.

Internal advertisement

Many construction firms try to fill more senior posts from within the **orga**-nisation. They prefer senior staff to have had experience of the organisation's methods and culture. This does, however, exclude able outsiders who might bring new ideas and enthusiasm to the business.

Personnel selection

Selecting people for jobs is a very important process. For the applicant, it could be one of the most important events in his or her life. Choosing the right person for a job is not easy. In the past, selection has relied a great deal

on experience and judgement, and the results have not always been successful. Firms have tried to take some of the guesswork out of selection by using a wider range of techniques and by giving those involved more training. Personnel selection is only a small part of most managers' jobs and there is a lot they can learn about selection techniques, if given specialist guidance.

The selection process involves the use of:

- Biographical information
- Interviews
- Selection tests and questionnaires
- Group methods
- Work try-outs.

Because the content of jobs differs, it is not always necessary or appropriate to use all these methods but, as a rule, the more techniques used, the more reliable the process is likely to be. This is because each method has different strengths.

Biographical information

Information about the candidate's experience and personal history can be obtained from either a carefully designed application form or curriculum vitae (CV), and from references or testimonials.

The application form provides a basis for comparing applicants and usually gives a reasonably factual summary of what an applicant has done. It will not, however, indicate how well he or she has done it. Moreover, applicants will emphasise the details they consider most relevant to the job and play down those which are inappropriate or which suggest they may be unsuitable. Occasionally, a questionnaire is used to obtain more depth of information about the candidate's background and experience. Failing this, applicants should be encouraged to give extra information on separate sheets. Application forms are often poorly designed, allowing too much space for some kinds of information and far too little for others.

The organisation can either ask applicants to fill in an application form or invite them to submit a curriculum vitae. The CV has the advantage that it is tailored to the applicant's background and experience. From the organisation's point of view, comparing applicants will be difficult because they will structure their CVs in different ways.

References are a useful source of biographical data if used with care. The referee must be honest and should be familiar with the individual's recent work performance. Many people are reluctant to give unfavourable references and tend to play down the applicant's weaknesses. Selectors should be aware of such biases in references and testimonials. Some companies devise a

detailed questionnaire so that the referee has to make specific judgements about the applicant, but this is a time-consuming task and not very popular with referees.

Clearly, biographical details are important in selection, but they should be interpreted with care. Some of the information they contain may not be reliable or relevant to the job.

Interviewing

Interviews are used almost universally in staff selection, although they vary from a casual conversation to a lengthy interrogation. The applicant may be faced with a single interviewer or a panel of interviewers, sometimes as many as a dozen. Fortunately, this does not happen very often!

The strength of a panel interview of, say, three selectors is that a more balanced approach is possible. However, panel interviews are often rather formal, making it hard to create rapport with the applicant, who may then have difficulty in talking freely. The success of a panel interview relies a lot on the chairperson's skill in managing the progress of the interview and controlling the others.

The one-to-one interview is often more relaxed than the panel kind, but its effectiveness as a selection method relies on one interviewer's ability and judgement. An insensitive or biased interviewer can damage the company's image and applicants' job prospects. One-to-one interviews are, however, easier to organise and take less time. For this reason, they are often used.

There may be more than one interview, especially for senior posts. The purpose of the first interview is to short-list the more promising of the applicants.

The interview can vary in level of formality. One way of describing this formality is the extent to which the interview is structured or open. In a structured interview, the interviewer usually follows a checklist of questions designed to give an overall picture of the applicant in fairly factual terms. The open, unstructured interview does not rely on set questions and the selector tries to get applicants to talk, to find out about their attitudes, motivation and so on.

A combination of these two approaches often gives a good balance between the two kinds of information. Some interviewers prefer to start informally to establish some rapport with the applicant, before switching to a more formal approach to elicit particular information.

Choosing the right questions and giving the candidate the opportunity to answer fully are probably the most important features of an interview. Unfortunately, these features are frequently missing. Questions that merely elicit a **yes/no** response are unlikely to throw much light on the applicant's suitability. The interviewer should try to ask open-ended questions which

force the applicant to give more comprehensive answers. With careful preparation, the outcome of the interview is likely to be more positive.

The interviewer may record ratings of each applicant against the main selection criteria. These may appear in a job specification. Without such ratings, it is difficult to compare candidates from memory after hours of tiring interviews, especially if they have been held over several days. Even with the ratings, comparison is not easy, because each candidate will have different strengths and weaknesses, making an overall judgement difficult.

The uses of interviewing

Although some research suggests that interviews are very inefficient and fail to elicit a clear picture of the candidate, the interview does make an important contribution to selection:

- It helps the interviewer to gain some impression of the applicant's suitability for the post. Whilst the picture of the applicant will be limited, the interviewer can gain some insight into the candidate's impact on others and whether he or she is likely to fit into the team.
- It provides an opportunity to clarify and expand on points in the application form, such as details of the candidate's previous experience.
- It helps the applicant to assess the job and the company. This is important because selection will only be successful if both parties are satisfied with the appointment.

The weaknesses of interviewing

Despite the popularity and widespread use of interviewing, it has some serious drawbacks:

- Few people have been trained in interviewing. They tend therefore to use poor interview techniques and do not appreciate the limitations of the method and of their own skills.
- Interviewers vary in their ability to make judgements about people. In particular, they may have difficulty judging applicants who differ from them in age, sex, race, politics, accent, background or general intelligence.
- People who are biased, or given to extreme viewpoints, tend to be poorer interviewers than those of a moderate disposition.
- The interviewer may be able to identify specific personal qualities of applicants without being able to arrive at an overall evaluation of their suitability for the job.
- Interviewers are seldom totally objective. Their judgement is affected by whether they take a liking to the applicant. Fletcher (1981) cites a study of

the Canadian Armed Forces which showed that most interviewers made up their minds about applicants in the first four minutes of the interview! They may interpret the rest of the interaction in such a way that it supports their first impressions.

- Interviewers are not very good at predicting an applicant's job performance. Moreover, interviewing experience does not seem to make them any better at this.
- It is difficult for the applicant to be objective about the company, the job, the interviewer, and even him or herself.
- Applicants often find it difficult to talk freely. Indeed, many interviewers find it difficult too! It is a tense, artificial occasion, when both applicant and interviewer are trying to present themselves favourably.
- The information available is usually too limited, and the setting too unnatural, to enable good judgements to be made. Judgements are sometimes made on irrelevant information. Many firms rely too much on the interview, instead of using several selection methods.
- The applicant's job performance depends on numerous factors, some of which are unrelated to the candidate's qualifications and past experiences. These factors cannot always be assessed at the time of the interview (see Belbin, 1993).

Some guidelines for the interviewer

The interviewer must manage the interview competently. Interview plans, identifying key areas for questioning, are available. However, interviewers will often prefer to compile their own.

Interviewers should:

- prepare as thoroughly as possible for the interview; inexperience and lack of planning can show up as poor questioning, hesitancy and a tendency to be too formal or too casual;
- try to be aware of their prejudices, in so far as they might affect their judgement;
- try to put candidates at ease, listen to them without interrupting and make some encouraging responses;
- ask the right questions, concentrating on matters relevant to the applicant's job performance; it is easy to waste time on unimportant topics;
- avoid asking leading questions and try not to make judgements until after the interview;
- rate the applicant against important criteria of job performance.

Stress interviews

One special kind of interview, known as the stress interview, is sometimes

used for jobs which require the job-holder to cope with stress. The applicant is deliberately put under pressure, to see how he or she responds. In most interviews, however, stress is counterproductive and the applicant should be put at ease. Fletcher points out that the stress interview may not indicate how well the applicant would normally cope with stress, since the interview itself has personal importance for the applicant.

Selection tests and questionnaires

Many of these are psychological tests which give quantifiable answers. The appeal of using them is that some objectivity is possible and applicants' scores can be compared. They are quite widely used in the UK for many types and levels of selection, especially in large organisations. Construction firms have been slow to adopt them, but the larger contractors have tried them and the Construction Industry Training Board has used certain tests in apprentice induction.

The main types of test and questionnaire measure:

- *Attainment.* Acquired knowledge or skill in a particular field, such as engineering.
- *Intellectual ability.* The capacity to acquire knowledge, especially of an abstract type, and to solve intellectual problems.
- *Personality.* The complex of characteristics by which an individual's uniqueness is recognised. Some types of personality test yield no quantitative data and only give some description of the individual's characteristics. Others give a numerical measure of specific characteristics, such as 'sociability' and 'emotional stability', which may be quite precisely defined (British Psychological Society, 1981).
- *Interests.* Areas of activity or thought which are especially attractive to the individual.
- *Aptitudes.* Special capacities, such as mechanical ability.

For some purposes, attainment tests are excluded from the general category of psychological tests, since they do not strictly measure psychological attributes. For most purposes, the scores obtained can be of some use in predicting an individual's behaviour or performance in a given setting.

The construction and refinement of a psychological test is a lengthy and technical process. The value of a test depends on the care with which it has been constructed, administered, scored and interpreted. Used correctly by people trained in administering them and interpreting their results, tests can provide useful information about job applicants, but their use by untrained people has caused concern.

Psychological testing is a form of measurement, but is different from the measurement of physical qualities like length or weight. A test score can only

indicate one person's standing relative to others in respect of the attribute being assessed. A score can only be evaluated by comparing it with scores of an adequate sample of the population to which the person belongs. The process of collecting representative scores from different groups is called the *standardisation* of the test. This is an important stage in test construction. Tests vary in their validity and reliability.

Validity

This is the extent to which a test measures what it is supposed to measure. This is obviously important. Differences in individual scores on the same test are only valid if they reflect differences in the attribute the test is intended to measure.

Reliability

This is the extent to which a test gives consistent results. The more reliable the test, the less the scores will fluctuate when the test is administered in different circumstances or by a different tester.

The information obtained from psychological tests can be misleading, unless the following guidelines are adhered to:

● Only well-designed tests should be used. A good test can overcome the problem of applicants giving the answers they think the selectors will favour.
● The validity and reliability of a test must be known.
● Tests should be suitable for the people being assessed and the information required. An unsuitable test could discriminate against people from cultures or groups for whom it was not designed.
● The tester must strictly adhere to the instructions. The procedure for *administering* certain kinds of tests can be taught to people without psychological training and there are facilities for this.
● The *interpretation* of test scores demands special skills and should only be done by a psychologist.

Attempts by untrained people to interpret test scores can be misleading and dangerous, resulting in misinterpretation of results or 'labelling' the individual as a particular type. Moreover, a test is not a once and for all measurement. If tests are to be used, people should be regularly reassessed.
    The British Psychological Society stresses that psychological tests only provide part of the information necessary for assessing an individual. A

person's test score is only a starting point and should be interpreted in conjunction with other information about the individual.

Group methods

With this technique, groups of applicants are brought together to discuss a topic or investigate a problem. The theme may be chosen from current affairs or from the firm's business activities. This is a very difficult and stressful task for the applicants who are being asked to co-operate with their rivals!

Selectors observe the group at work to gain insights into applicants' social and problem-handling skills. For instance, it is possible to see whether an individual:

● puts forward ideas effectively;
● adopts a leading or following role;
● persuades others to listen to his or her ideas;
● gets on well with people;
● copes with conflicting views within the group.

Typically, a group session might focus on a broad organisational issue, like productivity, or something specific, such as recycling. Simple discussion exercises will provide the selectors with information about applicants' attitudes. Specific, problem-centred exercises can give valuable information about applicants' skills.

These exercises may take less than an hour, or considerably longer. The selectors analyse each candidate's contribution, taking into account the number and quality of his or her inputs to the group and whether they were well communicated and positive. The extent to which the individual helps the group to make progress with the problem, or prevents it from doing so, may be a useful indicator of the candidate's future performance, if appointed. Aspects of the applicant's personal approach and outlook on life may become apparent, as well as certain qualities, such as self-confidence and initiative.

Selectors should be aware that applicants may not behave normally during the group encounter, which is artificial and sometimes very stressful. Some applicants may perform better under pressure, but many may not achieve their usual performance. This is an important limitation of group methods, for it may discriminate against able candidates who only perform well when they have settled down in the job and are not under pressure. For some jobs, particularly in management, the ability to work under pressure and influence comparative strangers, may be an important quality. Selectors should, however, still be aware that an individual who leads in one group may adopt a quite different role in another. Often, the role adopted depends on whether

the problem the group is tackling is personally important to the individual. Moreover, an applicant who, for example, disagrees a lot or is disruptive, may nevertheless contribute many valuable ideas to the group. In any event, group methods should only be used in conjunction with other selection techniques.

Work try-outs

Also called work sample testing or proficiency testing, this technique requires the job applicant to perform a task or tasks relevant to the job. In the case of, say, a tiler or mason, typist or engineer, straightforward tasks can be set – fixing some tiles, typing a letter, and so on – and the applicant's performance judged. It is difficult to set a proficiency test of this kind for a managerial job, where performance depends on detailed knowledge of the job and on establishing a working relationship with a team. However, an attempt to introduce this method into managerial selection has taken the form of decision-taking, in-basket exercises, in which applicants tackle simulated managerial or administrative tasks.

Work by Robertson and Kandola (1982) suggests that work sample tests compare favourably with conventional selection testing. They found that work sample tests involving manual skills, as in craft work and typing, can be very good predictors of the applicant's job performance. It must be remembered, however, that the applicant is not performing the task under normal conditions. A candidate who really wants the job might perform poorly because the situation is too stressful.

Summary

Employment planning includes a range of tasks aimed at satisfying the staffing needs of an organisation, taking into account its future plans and changes in its workforce. Like all planning, it must be flexible.

In construction, the rapid movement of labour between projects and between firms makes employment planning necessary and challenging. However, most organisations have to be satisfied with cautious and relatively short-term forecasts of staff needs, because construction markets fluctuate unpredictably. Even in times of recession, there are often localised shortages of specific crafts and other skills.

The first step in recruitment and selection of personnel is to consider the jobs that need filling. Attention must be given to both the content of jobs and the sort of people likely to do them well. Job specifications provide this information and have a number of uses, but they have their drawbacks too. They can create rigid job boundaries and discourage flexibility.

The selection process is vital for obtaining employees of the right calibre and matching them to suitable jobs. Here, the knowledge and skills of a personnel specialist can help managers to cope with the problems inherent in selection. One of the difficulties is that job specifications and selection methods often put too much emphasis on eligibility criteria and neglect suitability criteria, which are the better predictors of performance.

Companies have reassessed their approach to personnel selection which, in the past, relied heavily on interviewing. Now, they are using a range of techniques in an attempt to get better results. However, the selection process has not proved very reliable in predicting the people likely to be high performers. Applicants' performance subsequent to selection is affected by many factors, some of which have little to do with their abilities or previous experience.

Part of the selection process involves taking a hard look at present staff, with a view to promoting them. But when a company appoints fewer external applicants to vacant posts, it loses opportunities for bringing fresh ideas into the organisation.

Employment legislation has imposed new obligations on organisations, such as the provisions relating to redundancy and dismissal, and this has added to the complexity of staff planning.

Chapter 15
Staff Development

The author has used the term staff development to describe all the processes by which employees' competencies are assessed and developed. The alternative term human resources development is not used (see pages 192–3).

Performance appraisal

Performance appraisal is the regular review of the way employees are performing in their jobs. In construction, these reviews are carried out with varying degrees of commitment. In most firms, appraisal techniques are not used. Only among larger firms are formal appraisal schemes likely to be found.

Appraisal objectives aren't always clearly defined and a single scheme may serve several purposes, such as:

● Agreeing performance targets for the next period.
● Identifying employees' strengths and weaknesses, so that training needs can be defined.
● Telling employees how well they are doing.
● Counselling individuals about their job performance, problems and career development.
● Identifying employees with promotion potential.

There are a number of problems with appraisals. It is difficult to select suitable criteria for the review and to design valid and reliable assessment methods. The manager's ability to make accurate and consistent judgements of subordinates depends on many factors. Many managers are reluctant to carry out appraisals. Specific problems include:

● *Central tendency* in rating employees' performance, where managers are reluctant to give either very favourable or very bad reports, especially the latter.

- **Recent behaviour bias,** where the manager is influenced by the most recent actions of the subordinate.
- The manager's *lack of experience and skill* in forming judgements from observations.
- *Inconsistency in assessment standards,* so that some individuals are appraised more harshly than others.
- *Difficulty in defining the factors* being assessed.
- *Inadequacies in rating scales* and whether managers know how to use them reliably.
- *The purpose of the appraisal* and how the appraiser feels about it. A single appraisal cannot be reliably used for different purposes. Managers tend to vary their assessments depending on the purpose of the appraisal. For instance, the rating given for assessing an employee's salary increase may differ from that given if the purpose is to decide whether or not to make the individual redundant.

External factors also make appraisal difficult, such as the frequency with which a manager can observe subordinates at work. For instance, a chief surveyor, responsible for five surveyors who spend most of their time on different sites, will see comparatively little of their performance.

A case study in staff appraisal

The company is a division of an established construction firm, operating on an international scale. As the firm's policy is to promote from within, the firm evolved a staff appraisal scheme. It applies to all fortnightly and monthly paid staff.

The appraisal is based on an annual review meeting, in which the manager discusses with each subordinate the past year's achievements and future prospects. The personnel department issues guidelines for the conduct of appraisals.

The manager records the appraisal of each subordinate on a form (Fig. 15.1). The employee also makes a self-assessment on a personal appraisal sheet. This is used in the review meeting as a basis for discussion.

Managers have the option of using target-setting, in which they review subordinates' performances against annual targets. Individual performance (whether or not targets have been used) is rated on a four point scale:

(1) **Marginal/unsatisfactory**
(2) Satisfactory
(3) Good
(4) Outstanding.

Appraisers can decide how to conduct the review, but are expected, by the end of the meeting, to tell subordinates what they think about their performance and potential. Managers must take into account the subordinate's level of responsibility

Staff performance appraisal		Period ending_____
Employee details: 　Name 　**Department/project** location 　Job title		
CURRENT PERFORMANCE		
Duties and responsibilities	Performance rating	Manager's comments
Motivation and commitment		
Special circumstances		
Overall performance during review period		
FUTURE DEVELOPMENT		
Employee's achievements and strengths		
Areas for development		
INDIVIDUAL DEVELOPMENT PLAN Knowledge needs Skill needs Work experience needs		ACTION
Appraisal prepared by	Date	Job title

Figure 15.1 Example of a staff appraisal form.

and experience and the difficulty of any targets set. They must check the consistency of their ratings.

The review meeting should result in:

an assessment of the individual's performance;
- identification of problems and opportunities;
- recognition of scope for improvement;
- a plan for developing the subordinate.

The firm considers the counselling aspect of the meeting to be important and the subordinate is given a chance to discuss problems and seek advice.

After the meeting, plans are implemented as soon as possible. These may include job changes, training or personal assignments. Progress is monitored and plans are reviewed at the next meeting.

Some people claim that formal review meetings are unnecessary, as there should be a continuous dialogue between manager and subordinate. However, other pressures often make it difficult for manager and subordinate to sit down quietly and discuss matters. The formality of the review forces them to tackle the problem thoroughly. Nevertheless, the difficulties inherent in appraisals have led to widely varying opinions about their value.

A special problem with appraisals is how to measure the effect of external factors. The employee's relationship with the manager and with colleagues, and the demands of the job, are just a few of the factors affecting performance.

Appraisals tend to be one-sided, focusing on the employee's strengths, weaknesses and training needs. A more constructive approach might be to look at a task and ask the work group how they tackled it as a team. What made it easy or difficult for them? What did they learn from it? This sort of appraisal could become part of *organisational review.* In this climate, people would feel less threatened and be more willing to discuss difficulties. The approach would be especially apt in the context of self-managing teams.

Education and training

The words *training* and *education* are often used rather loosely to describe a variety of ways of helping people become better at their jobs. Education can mean the narrow process of learning a fixed syllabus in order to pass an examination. It can also mean the broad process in which an individual's whole outlook on life is shaped by a succession of varied experiences. The term training usually refers to learning a specific task or job, the skills and behaviours of which can normally be quite precisely defined.

Educational objectives are harder to express in behavioural terms because the learning is often complex and the results difficult to measure. Educational objectives can be expressed in vague, abstract terms, concerned with improving the learner's understanding and self-awareness. The emphasis is on future potential as well as present performance. In a sense, education is person-centred, whereas training is job-centred.

This difference is very apparent when one compares the training of a crane driver with the objectives of a degree course in construction management. Many training objectives are short-term. Indeed, some can be achieved in a few days or even hours. Educational objectives, on the other hand, are long-term and may take months or even years to achieve.

The methods used in training are usually more *mechanistic* than those used in education. Mechanistic learning relies a lot on stimuli and responses, reinforced with plenty of practice, whereas the more *organic* methods of education are less easy to control. They are concerned with developing the individual, and the outcomes are difficult to predict or measure.

Training is essentially practical and job-related. Most of the learning is about work methods, skills and procedures within a firm, trade or profession. Educational activities are broad-based and more conceptual, aimed at developing the individual's critical faculties.

However, these differences should not mask the fact that both education and training are concerned with human development. They are complementary and they overlap. Almost every training activity has some educational impact on the learner, just as many educational programmes help the learner to do a job better. The educational element in the training of an engineer or quantity surveyor will, however, normally be greater than in the training of a scaffolder or joiner.

Development

The terms *staff development* and *human resources development (HRD)* are now used by personnel specialists to describe a range of activities wider than those traditionally linked with education or training. They recognise that learning takes place all the time, as people experience new situations and cope with fresh problems. Learning is not confined to the classroom and, indeed, the most important learning often takes place elsewhere. In staff development, the focus is on *changing* people rather than just teaching them.

Most construction firms acknowledge the need for staff development, but they differ markedly in how they think it should be done. Some firms spend a lot of money and even set up their own development programmes. Other firms simply carry on their business, believing that employees will develop

themselves, learning by their experiences and mistakes. There is some validity in this approach too.

Systematic staff development

The government put more pressure on firms to undertake **staff** development when it passed the Industrial Training Act in 1964. This and later legislation led to an increase in the amount of staff development.

The Construction Industry Training Board (CITB) has worked hard to improve the quantity and effectiveness of training in the industry. However, some companies have paid lip-service to staff development and have barely met the **CITB's** minimum training recommendations. Staff development is often given low priority and tackled in a piecemeal fashion, without looking at long-term needs. The result is that time and effort are wasted.

Effective staff development is most likely to be found in firms that recognise its potential for improving company performance.

Systematic staff development involves the following processes.

Identifying development needs

The underlying goal is to make the firm more efficient by making its employees more competent. But it is important to realise that some development objectives are short-term, whilst others are long-term. The organisation needs a supply of reliable, skilled people – operatives, engineers, buyers, and so on – to maintain its present workload. People need to learn the skills for dealing with current projects, because these are the foundation of long-term success.

But the firm also needs people who can steer it into the future; people with the knowledge and skills to recognise new opportunities and to develop and exploit them – people who are adaptable and innovative. Training has always tended to focus on current needs, but the emphasis is steadily switching to preparing people to cope with the future, where different knowledge, attitudes and skills will be needed.

Employees, particularly senior professionals and managers, will increasingly need to understand creativity and creative problem-solving techniques; and they will need a knowledge of future studies methods (see Chapters 8 and 11). Training employees in these areas has often been neglected in the past.

The types of development needed and the people needing them must therefore be analysed. Different groups will have different needs.

Planning development programmes

Plans should relate to specific objectives, reflecting the differences between the present and desired knowledge and skills of staff. Thought must be given to how best to meet training needs, keeping in mind any constraints. Development programmes should be flexible enough to meet the specific needs of individuals, provide a timetable for learning activities, and specify where they will take place.

Implementing development activities

Development programmes must be realistic. The award of a new contract may mean that a manager who was to attend a training programme is no longer available. On-site methods of training are usually flexible enough to cope with this kind of problem, but most external courses are not. Efforts must be made to ensure that the methods, content and timing of development activities meet the needs of both the firm and participants. Records should be kept of the progress made by learners so that the programme can be changed if it is too difficult or too easy, or is in some way failing to meet participants' needs.

Evaluating programmes

It is now common practice to evaluate development programmes and incorporate the lessons learned in future activities. Moss (1991) summarises four kinds of evaluation:

- Reaction evaluation – the immediate responses of trainers and participants to the programme or its components. In-house as well as externally provided training is evaluated by participants in this way, especially in quality-driven organisations which have adopted the concept of the internal customer.
- Learning evaluation – changes in participants' knowledge, attitudes and abilities. For some kinds of learning, changes can be quantified by comparing participants' scores on tests administered before and after the programme.
- Performance evaluation – changes in the participants' subsequent job performance. Again, for some types of learning this can be measured quantitatively.
- Impact evaluation – the effectiveness of the programme in terms of the changes participants generate in their organisations or departments.

This analysis of training evaluation reflects important work by Peter Warr and his associates in the late 1960s (Warr et al., 1970). These authors had the

same basic framework, but used the phrase *outcome evaluation* to describe the common purpose of the three activities which Moss calls learning, performance and impact evaluation. Outcome evaluations are the ones that really measure whether development objectives have been met. The difficulty is how to attribute longer-term outcomes (measured perhaps a year or more later) to a specific development programme. This is because participants are continually exposed to new experiences and are learning about and changing things all the time.

Senior managers must take responsibility for development programmes but, in larger firms, the tasks of designing and running specific programmes are carried out by personnel or training staff.

Learning

Despite a bewildering array of systems and methods used in developing people, there is only one underlying aim – to encourage people to *learn,* so that they realise their potential and make the organisation better at doing what it does. Learning is not an occasional or one-off activity for employees. In a changing world, where knowledge quickly becomes obsolete, the best way to help both individuals and companies, is to encourage employees to become self-directing, life-long learners, able to decide for themselves when to abandon old ideas and information, and seek out new.

This is especially true for more experienced staff who can be expected, with guidance, to learn how to identify their own development needs and how best to meet them. Managers should recognise that human development is a continuous process of personal growth and adaptation, demanding much more than an occasional attendance at a one-day conference or seminar.

Approaches to learning

Psychologists define learning as a change in behaviour as a result of experience. Learning happens all the time, sometimes without the learner being aware of it.

There have been two conflicting assumptions about the way people learn:

● They actively seek out information and organise it.
● They passively absorb the information presented to them.

These assumptions have influenced the kinds of questions that experimental psychologists have asked and therefore the answers they have obtained (see Table 15.1). Behaviourist psychologists, interested mainly in observable,

Table 15.1 Comparison of active and passive learning methods.

	Passive learning	Active learning
Assumption	Learner simply absorbs information presented by others	Learner seeks out and restructures information to gain fresh insights
Teaching style	Expert tutor puts learner through step-by-step sequence	Tutor is resource provider, sounding board, facilitator
Focus	Content	Process
Approach	Traditional, teacher-centred. Programmed instruction	Innovative and learner-centred. Learner chooses method and route through learning material
Psychological orientation	Behaviourist	Cognitive

measurable behaviour, have argued that learning involves the slow, passive accumulation of knowledge. In their experiments, they have not allowed learners to organise their own learning, but have decided themselves how the material should be ordered and presented. Not surprisingly, they reported that people have only one way of learning.

This *passive* learning school has made quite an impact on tutors, encouraging them to break down information into small bites, to be taught step-by-step. They have stressed the importance of specifying behavioural objectives, so that the learner's progress can be monitored. They aim to see that learners gradually progress from the familiar to the unfamiliar. This suits some people, but others find it useless or counterproductive.

A famous behaviourist psychologist, B. F. Skinner, did much to encourage programmed learning using teaching machines, with routines based on small steps and feedback of results. The focus of behaviourist research was on *what* people learned, not *how* they learned.

Although learning has its passive elements, most psychologists now recognise that this is only part of the story. Psychologists of the *active* learning school, which has arisen out of Gestalt psychology, maintain that learners are actively involved in the process. Learning, they say, involves more than taking in information. It means restructuring information in new ways to give fresh insights. These psychologists see close links between learning and problem-solving. Their focus has been on *how* people learn. They have shown experimentally how learners seek out rules and regularities in information, how they interpret it using these rules and how they some-

times modify the rules in the light of new data. They have shown how learners test hypotheses, make decisions and solve problems.

Because these psychologists assume that learners are actively involved in the process, their experiments have given learners maximum control over their learning. They have found that people have different learning styles. For instance, people tackle problems in various ways. Some are impulsive in coming to conclusions, whilst others are reflective. People tend to become reflective as they grow older. Especially relevant to staff development is the work of Pask and his colleagues. They devised a range of complex tasks and found that some people work best step-by-step, learning some material in depth before proceeding to new ground. These they called *serialist* learners. Others prefer a more global approach, identifying an overall framework before filling in the details. These they called *holist* learners. They found that whatever tasks they were given, learners consistently adopted one or other of these learning strategies.

Of particular importance are **Pask's** findings on the mis-matching of teaching and learning styles. When serialist learners are put with serialist tutors (or holists with holists), learning is very effective. But when serialists are taught by holists (or vice versa), they perform badly. When holists are put through the tightly-structured learning programmes of the serialist, their creativity is severely limited. It is therefore important to let people choose their learning methods. This demands more of the tutor, not less, because learners demand a wider range of learning resources.

Left to their own devises, serialists and holists may not achieve complete learning. Serialists tend to collect irrelevant detail and fail to see the wood for the trees. They recall individual pieces of information well, but not the overall picture. The holist starts building relationships as soon as learning begins, but cannot remember details.

According to Pask, holists can tolerate more uncertainty than serialists. But Holloway (1978) argued that they are tolerating different kinds of uncertainty – the serialist is unsure about the framework; the holist is uncertain about the detail.

It would be interesting to see if serialists make better operations managers, since they have to cope with detailed information, and whether holists make better strategic managers, since they are concerned with broader issues. Because of this difference in learning strategies, it may be quite misleading to assume that an effective technical manager will make a good general manager. Similarly, employees turned down for junior management might eventually have made excellent senior managers!

Approaches to staff development

Staff development has improved over the years, but many development

activities have remained rather conventional, with heavy reliance on passive learning, using lectures and other teacher-centred activities. The tutor is expected to know what staff need to learn and how to teach them, putting them through formal courses or programmes of instruction. The content of these has often been rather rigid and general, with the tutor controlling the learning.

The learner is mainly passive; he or she doesn't need to know how to learn, only how to be taught. It is assumed that an engineer, manager or joiner needs to know the same things as other engineers, managers or joiners. Little attention is paid to the differences between individual jobs and people.

Moreover, the emphasis is on teaching facts rather than skills. This approach begins at school and continues into further education and parts of mid-career development. Yet much of the knowledge taught is largely irrelevant to the individual's needs in later life. For instance, very few people need to use algebra, calculus or quadratics in their work.

Regretably, too many courses still assume that the learner:

- is willing to be dependent on tutors;
- respects tutors' authority and trusts their expertise;
- views the learning as a means to an end (such as a diploma);
- accepts a competitive relationship with other learners.

Under these conditions, the learner is expected to do little more than listen (sometimes uncritically) to the tutor, take notes, remember facts and, sometimes, pass examinations.

There is growing concern about this approach, for there is little evidence that it really helps to achieve industry's future supply of competent staff. In fact, it hasn't been easy to demonstrate that it is necessary at all. Edward de Bono has argued that the time spent on teaching mathematics, for instance, could be reduced to one tenth if the focus was on mathematics for ordinary life. The time saved could be used for learning social skills, the use of computers and how to think effectively (de Bono, 1980). Anyone needing more advanced maths could learn it during their vocational training.

In the 1970s, many industries started to move away from the traditional approach, searching for ways of making staff development more active and realistic. Some construction firms followed this trend, but the industry has been rather slow to adapt.

Under various titles, like project-based learning and experiential learning, attempts have been made to bring about such changes as:

- Shifting the emphasis from the content of learning to the learning process.
- Stressing skills and attitude formation, instead of facts.

- Shifting some of the learning from the classroom to the workplace.
- Stressing skills for coping with new situations, rather than for maintaining current practices.
- Altering the tutor's role from subject specialist to 'learning manager', helping participants to take charge of their own learning.

Here, the role of the tutor includes mentoring, providing trainees with resources and acting as a catalyst. Instead of acting as subject expert – telling people what they need to know – the tutor concentrates on creating an effective environment for learning. Here, people learn something because it helps them solve a problem or do their jobs better. They learn at their own speed, using the materials and methods they prefer (Burgess and Fryer, 1978; Fryer, 1994b).

This approach does not suit all learners (nor for that matter, all tutors), but many people like it. It brings more learning into the workplace where it can be readily related to real problems and realistic circumstances. It means that tutors increasingly meet the learners on the learners' own ground.

Action learning

Action learning or experiential learning is an approach in which people learn by doing things, instead of passively listening to a lecture or reading a book. However, action learning still involves finding things out, so reading and listening are part of the process.

David Kolb (1974) showed how learning is a cyclic activity, demanding four activities on the part of the learner:

- Becoming involved in new experiences.
- Observing and reflecting on experiences from various view points.
- Turning these observations and reflections into ideas.
- Finding ways of testing the new ideas in practice.

Two kinds of reasoning are needed – *deductive* and *inductive.* Inductive reasoning makes generalisations from particular experiences. Deductive reasoning is the application of a general idea to a specific case. These types of reasoning can be related to Kolb's model of learning, as shown in Fig. 15.2.

One of the strengths of action learning is that it integrates theory and practice, showing that both are necessary for learning to take place. The gulf between ideas and action has always been a source of misunderstanding between the construction industry and the education system serving it. Action learning can help to remove this barrier.

The main features of action learning are:
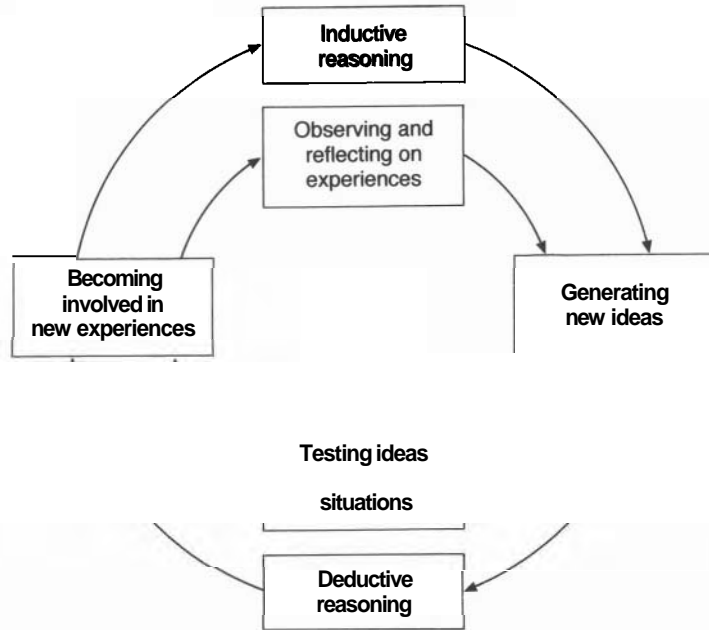
Figure 15.2 Cyclic model of learning (adapted from Kolb, 1974).

- Learning takes place under conditions that are real, or simulate reality closely.
- The learning environment is risk-free, but not anxiety-free.
- Activities are learner-centred and emphasise both individual and team work.
- Learners are encouraged to share ideas and experiences.
- The tutor guides rather than teaches, helping participants to develop learning skills.

The approach adopts active learning assumptions: people want to learn and learn best when working on relevant problems, at their own pace, using the methods they prefer. They need skills for diagnosing gaps in their ability and knowledge, collecting and analysing data, formulating questions and finding answers to complex problems.

Action learning relies heavily on the learner making sense of his or her experience. But experience can be unreliable, ambiguous and hard to interpret. It is rooted in the past; what worked yesterday may not work tomorrow. So, an important part of action learning is training people to interpret and capitalise on their experiences.

Typically, an action learning programme takes place within an organisation and involves three groups – the employees being developed, some senior staff from the company and a team of tutors, often from a local college or

university. The programme is usually part-time and may extend over many months or even a year or more.

The programme centres around solving problems which the senior managers judge to be important to the organisation. The employees being developed tackle the problems with guidance and support from the tutors. The programme is flexible and can be changed as it evolves. Employees submit progress reports and recommendations to senior staff at specified intervals. Ideas are then tested out in the company. The solutions may not be perfect, but a lot of learning occurs on the way.

Action learning has been widely used in management development where its potential is considerable. Its methods and content are especially suited to the development of management skills. It is also a useful approach to staff development in small firms which cannot take advantage of more formal training programmes (Fryer, 1979c).

The farming approach

Parallel with the shift of attention from passive to active learning, interest has grown in the idea that developing people has much in common with farming. The farming approach emphasises the organisation's attitudes towards staff development and the importance of establishing the right climate for people to develop. Like the farmer, the company does what it can to create the conditions in which its employees can 'grow' and then hopes that nature will co-operate over the uncontrollable factors.

The idea is not new, but has attracted fresh attention, after being eclipsed in the 1950s and 1960s by a preoccupation with the technical aspects of industrial work. At that time, the traditional approach was the norm – putting learners through rather rigid programmes of instruction. That kind of development has more in common with manufacturing than with farming.

The farming method need not replace more formal programmes if these are working successfully, and may usefully complement them. But in firms where size or other limitations prevent the use of costly training schemes, the farming approach can be used on its own. The company gives its employees the opportunity to gain as much as possible from their own experiences, in a climate of encouragement, co-operation and self-help. The employees develop themselves as they struggle along. They learn from their mistakes, which the firm accepts as part of the cost of learning. The yield from this method can be high.

Selfdirected learning

In a fast-changing world, where knowledge quickly becomes obsolete, the best way to develop employees is to turn them into self-directing, life-long

learners. They decide when to abandon old information and ideas, and look for new.

As a development method, self-directed learning concentrates on helping employees to develop confidence in their learning abilities and in their capacity for making independent judgements. The self-directing employee knows how to identify learning objectives and how to achieve them. Staff development becomes a continuous process of personal growth and change, in which employees find that:

- learning is a natural activity, to which they have developed a sense of commitment;
- they enjoy being responsible for their own development;
- they can exercise imagination, ingenuity and creativity in both their work and learning.

This changes the tutor's role. Instead of being a teacher, the tutor's job is to develop the individual's ability to manage his or her own learning. This approach is invaluable in the context of developing employee empowerment and self-managing teams.

Open learning

Open learning is an approach to human development, which grew rapidly in the 1970s and 1980s and is still popular. Its aim is to help people learn at a time, place and pace which suits them best and to give them a wider choice of study methods. It tries to remove or minimise the barriers to learning – travel difficulties, absence of local courses, domestic commitments, personal disability, work demands, inability to get time off work and the rigid content and programming of most courses.

Many organisations are now involved in open learning, which received great stimulus from the pioneering work of the Open University, the Council for Educational Technology and the National Extension College. Both individual colleges and consortia of colleges have taken up the challenge of open learning and have produced many varied and imaginative learning packages.

Open learning makes use of private study at home and at work, supported where possible by face-to-face or telephone tutorials and practical work. It can involve tailor-made workshops and flexible access to colleges, training centres, equipment and multi-media resources. It makes use of a wide range of learning materials.

Capability learning

A lot of vocational training is shifting its focus from knowledge-based

learning towards capability learning. Capability is defined by John Stephenson as:

'an all-round human quality, an integration of knowledge, skills and personal qualities used effectively and appropriately in ... varied, familiar and unfamiliar circumstances'.

Stephenson and Weil (1992) define capable people as those who have confidence in their ability to:

- take effective and appropriate action;
- explain what they are about;
- live and work effectively with others;
- continue to learn from their experiences ... in a diverse and changing society.

Learning for capability addresses the often heard criticism that people who acquire knowledge do not always learn how to use it in their jobs. Indeed, quite a common complaint among the industry's employers is that graduates lack important personal qualities and general skills; that they understand, but are not trained to act, in their professional roles. There is some truth in this, because many courses have tended, in the past, to concentrate on imparting knowledge and understanding to students, at the expense of teaching them skills.

Capability can be looked upon as a combination of many general skills or competencies. However, capability is, in a sense, greater than the sum of the competencies and reflects the learner's ability to integrate a number of areas of skills and understanding. Experience has shown that the competencies which are valued in capability learning need to be dealt with in the education and training of professionals. They apply in varying degrees to all people employed in the industry.

Staff development methods

Coaching and learning from experience

People learn a great deal at work by trial and error and by seeing how others cope with problems. Watching others and taking advice from them are valuable ways of acquiring knowledge and skills. There is no problem of transferring what has been learned from training situation to workplace.

On the other hand, experience can be misleading. Coaching means helping people at work to assess their own performance, think through their difficulties and find suitable solutions. Many people have a contribution to make

in coaching others, but the learner's own manager is often in the strongest position, having regular contact with the learner and detailed knowledge of the individual's work.

Construction industry managers value coaching and learning at work, but many managers find it difficult to coach their subordinates effectively, either because of lack of time or because they lack the necessary skills (Fryer, 1977, 1994b).

Computer-aided learning and beyond

Information technology and telecommunications are already playing an important part in education and training. They can put vast amounts of information at the learner's disposal and can be used interactively to help people develop new skills. But, more importantly, the telecommunications revolution is set to revolutionise all kinds of learning and change the face of training and higher education.

Provision already ranges from the powerful but relatively static CD-rom and computer-based, authored teaching package to dynamic, interactive programs and networks. Yet almost anything that can be written about these developments will be out-of-date within a year or two, such is the pace of progress.

What is clear is that the new technology is set to fundamentally change the education and training system itself and will challenge all the old ways of helping people to learn. As Plant (1995) points out, the last generations of twentieth-century students are already throwing off their dependence on tutors and 'are learning to learn for themselves, becoming detectives, hunting for contacts and data on the Net, in countless webs of connection'.

Projects and assignments

A wide range of projects and assignments are used in both college courses and in-company training programmes. Companies have used work-based projects for many years in their management development programmes. If carefully designed, projects and assignments are really valuable. They involve the learner – whether student or employee – in actively tackling real-life problems, developing useful skills and learning about processes and procedures in organisations.

One of the strengths of such activities – their realism – is a potential weakness. Learners, immersed in real activities, may not critically analyse their experiences and actions, so that their learning becomes superficial or even misleading. The process therefore needs to be managed by tutors or mentors who really understand what learning from experience is about.

Another problem with assignments and projects, when used in company

training programmes, is that they may be undertaken on top of a normal day's work. It is not uncommon in management training programmes for learners to find that they have quite ambitious projects to tackle, but insufficient time to carry out the work. The company must make allowance for this and the tutor or mentor should help the learner to set priorities and exercise time management.

Managed effectively, good projects can help students or employees to develop self-reliance and the capacity to think for themselves. For projects which are part of a course leading to an award, the use of *learning contracts* is becoming popular. A learning contract is an agreement reached between the learner and the **person(s)** supervising the project. It is set up at the beginning of the project and stipulates the aims and objectives of the project and the activities the learner will carry out to achieve these. Often, the learning contract will cover other matters, such as how the finished project will be assessed.

Group projects can offer the added dimension of helping people to learn about work groups and develop their team skills. They bring both the benefits and problems of group work (see Chapters **7** and 8).

Lectures

The lecture has been widely used in education and training. It has some value for imparting knowledge and changing attitudes, but its contribution to skills training is limited. A major criticism of the lecture is that it requires the learner to be mainly passive.

Many of the functions of a lecture can just as easily be achieved by giving the learner a book or article to read. However, good lectures can give a quick overview of an unfamiliar subject and guide the learner's private study. They give the learner a chance to ask for clarification; books cannot. The lecture may have some 'inspirational' value, although a good book can usually provide this too.

Role-playing and simulation

These techniques are valuable for changing people's attitudes, helping them to see other people's viewpoints, and developing their problem-solving and social skills. The activities usually happen off-the-job but are designed to reproduce the work setting as closely as possible. A useful feature of role-playing is that learners can be asked to 'be themselves' or to adopt another role, thus gaining insights into other people's points of view. Again, feedback is essential, from the tutor, other role-players and, sometimes video recordings.

For role-playing and simulation to be effective, the following would apply.

- The activity used must provide a realistic scenario.
- The activity must be designed to meet different participants' needs, which will not all be the same.
- The trainer must prepare the learning activity thoroughly.
- A clear briefing must be given. Any constraints or rules of the game should be explained.
- The trainer must know how to evaluate participants' performance and should give them feedback.
- The trainer should use video facilities, where appropriate, to provide additional feedback and should help participants interpret that feedback.

A balance needs to be struck between a structured and open learning experience. Some structure may be essential but excellent learning can also occur when there are no objectives and no rules. A lot depends on the group and their perceptions of the activity, the task they are involved in and the whole training set up.

Sensitivity training

The purpose of sensitivity training is to heighten people's awareness of their own and other people's behaviour and how they influence one another. They learn to think and feel differently about social situations.

The T-group or training group is the basic form of sensitivity training. The group usually meets under the following conditions:

- The group has no structure and no task, except to study and interpret its own behaviour.
- The tutor is passive, makes no judgements and only comments when clarifying what is happening.

The **skills** needed by the tutor have much in common with those of psychotherapy, especially the client-centred **kind** developed by Carl Rogers. Careful screening should be carried out to ensure that only 'suitable' individuals take part. Tutors should also ask themselves whether their objectives could be achieved in a less threatening way, such as a role-play.

Sensitivity training is not easy to evaluate. Some participants benefit a great deal, whilst others are unaffected by the experience. Some actually suffer. A few people find the experience so disturbing that they need psychiatric treatment.

Mentoring

Mentoring describes ways in which one person can help another to learn from their work. It is a process which is quite well established in management

development, but it can be valuable in most kinds of staff development or training. The mentor is often the manager of the person being trained, although this isn't essential and, indeed, is sometimes undesirable. The mentor acts as:

- Role model (sometimes called a competence model) – providing vision and inspiration, setting expectations of performance and demonstrating professional behaviour.
- Instructor – passing on knowledge, insights, wisdom or perspective to another or providing challenging tasks or ideas.
- Coach – making suggestions for improvement, offering encouragement, building self-awareness and self-confidence, and providing feedback on the learner's performance; helping when things go wrong.
- Counsellor – actively listening to the learner's difficulties and offering suggestions.
- Assessor – helping to evaluate the learner's performance so that suitable credit can be given either towards a qualification or career advancement.

The use of mentoring increased during the early 1990s, spurred on by a fast-growing interest in learning in the workplace, or work-based learning. Clearly, the success of mentoring depends on the skills of the mentor and on his or her relationship with the learner. Among the many skills mentors need are the ability to:

- help people change their ideas, attitudes, values and behaviour;
- encourage planning, analysis, experimentation and increasing autonomy;
- show positive regard for people, even when things go wrong;
- empathise with and show understanding of people's feelings;
- deal effectively with negative behaviour or mistakes;
- give learners scope to think and decide for themselves.

Although it seems obvious that mentoring should include giving advice, this should be done sparingly. Learners can become too dependent on the mentor. They can only learn to become truly independent and think for themselves if they make the most of their own decisions. The mentor should therefore avoid taking over problems and solving them for the learner. In particular, the mentor should encourage the learner to set his or her own targets and goals (Fryer, 1994b).

Management development

The education and training of managers has expanded rapidly since the 1950s, accompanied by a startling growth in the numbers of management

colleges, business schools and courses. Impetus for this came partly from industry and government and partly from professional bodies, such as the Institute of Management and the Foundation for Management Education.

During the period of expansion, many management development programmes were rather conventional. They often embodied the concept of the 'ideal manager' centred around the basic management functions. Their approach reflected what Handy (1975) called an *instrumental* philosophy, which sees learning as deductive, proceeding from theory to application. Teaching tends to be expository. Inductive thinking and creativity are the province of the teacher and researcher; the manager is concerned with deduction and application.

Handy contrasted this approach with what he called an *existential* view. This focuses on helping people to formulate their own ideas and develop their unique talents. Existential tutors tend to talk of teaching people rather than subjects, of giving feedback rather than examinations, of progress rather than achievement, and of general aims rather than specific objectives.

New approaches to management development, such as action learning, embody much of this philosophy. Action learning was largely pioneered in management courses by people like Reginald Revans. Techniques like role-playing and simulation have been widely tested on managers, because of their value in developing interpersonal, problem-solving and information-handling skills. A recent example of innovative management development is described in Box 15.1.

Two reports, *The Making of British Managers* (Constable and McCormick, 1987) and the so-called Handy Report, *The Making of Managers* (Handy, 1987), were important position statements on management development as the UK approached the 1990s. *The Making of British Managers,* commissioned by the CBI and the Institute of Management (then the BIM), reported that British managers lacked the education and development opportunities of their competitors. Indeed, the study found that the great majority of UK senior and middle managers had had no formal management education and training. The Handy Report provided international comparisons and also concluded that most UK management development lacked a systematic approach and was approached on an individual, *ad hoc* basis.

Some of the issues requiring particular attention in UK management development seem to be:

- a need for greater professionalism;
- a better understanding of new technologies;
- a need for skills for managing innovation and change, including flexible approaches to organisational design;
- a better understanding of social issues like employee participation, empowerment and equal opportunities;
- as ever, a need for better leadership and communication skills.

Innovation in management development

In 1993, Shepherd Construction Ltd and Leeds Metropolitan University collaborated to develop a unique postgraduate diploma/ MSc in construction management. Key features of the course are that it incorporates a high level of work-based learning, uses work-based projects supported by mentoring as learning and assessment vehicles and gives managers credit for prior learning experiences (Blackburn and Fryer, 1996). Perhaps the most important characteristic of the scheme is its inherent flexibility – enabling the learning experience to be tailored to suit each participant's current knowledge and future work needs.

Shepherd senior managers play a major role in delivering the 'taught' element of the scheme which comprises seven short units occupying 17 days, spread over a year. They also operate the company's mentoring scheme and jointly oversee the students' work-based projects and learning contracts.

The company selects the participants for the course and decides the core content of the modules according to its business needs. The university provides specialist tutoring, jointly oversees work-based projects, assesses participants' work and ensures that academic quality standards are maintained.

Increasing national interest in work-based learning, mentoring, learning contracts and accreditation of prior learning means that innovative programmes like this are likely to become more popular.

Shepherd Construction was awarded a National Training Award in 1996 for its in-house management development programme.

Box 15.1 A unique management development programme.

Strategic management development (SMD)

The practice of downsizing, to create leaner, flatter structures in organisations, has in many cases resulted in real shortages of managerial expertise. McClelland (1994) suggests that this has created a need for a more strategic approach to management development. Strategic management development is the name given to the process of integrating management development with the formulation of competitive strategy. Its purpose is to ensure that, despite management shortages, competent managers are identified and mobilised in pursuit of business goals.

One view is that SMD is just another name for a process already well established in organisations; that the systematic planning of management development to meet long-range objectives is normal practice. In fact, it

often isn't, as the report *The Making of British Managers* has shown (see above).

SMD can help to clarify the framework of management development, by:

- identifying more clearly the strategic management needs of the **organisation;**
- concentrating management development activities where they will best support the achievement of major business goals;
- raising awareness of the need for management to be future-oriented and proactive;
- making a clearer distinction between the management development needed at operational and strategic levels in the organisation.

Organisational development (OD)

In some large companies, staff development is now viewed as part of the larger process of *organisational development* (see Chapter *11*). Stoner *et al.* (1995) describe OD as a long-term, more encompassing process that aims to move the entire organisation to a higher level of functioning, while greatly improving its members' performance and satisfaction. So, the emphasis is still on developing people, but within the context of the whole business. OD would therefore include activities like team building (Chapter 9), creative problem-solving(Chapter 11) and process consultation. Process consultation uses consultants to help team members understand and improve the ways they work together, tackling issues like group cohesiveness, goal-setting, team problem-solving and intergroup relations.

What is especially important for OD, and especially for activities that foster innovation and creativity, is a permissive organisational climate that encourages experimentation with new ideas and new ways of doing things.

Continuing professional development (CPD)

All employees need to regularly update their knowledge and skills and learn new things. But the need is perhaps greatest in the professions, whose members are affected by numerous and substantial developments in technology, legislation, contracts and many other areas. These developments can be highly complex and take time to assimilate. This has led the major professional institutions in the construction industry to collaborate in finding more reliable ways to provide continuing professional development for their members. *The CPD in Construction Group* has worked hard to encourage, rationalise and evaluate CPD provision, so that by the early 1990s, most of

the main professional institutions had introduced formal CPD requirements for their members.

The focus of CPD must include both the short-term and long-range development needs of employees. Development activities can take many forms, ranging from one-day courses to job rotation at work, from distance learning to working party membership. The main concerns are about the effectiveness of these CPD activities and their costs. There has still been rather heavy reliance on short, updating courses, delivered in conventional ways; and employers have to ask themselves whether a one-day conference costing £180 per delegate and comprising a dozen specialists giving a series of short lectures, has really led to any significant behaviour change or skill learning among their staff. CPD needs to shift more of its focus towards action-centred and work-based learning, or at least the kinds of learning intervention which actively involve people and don't have them passively listening to others.

Construction Industry Training Board (CITB)

The CITB advises firms on training, assists with the cost of training by providing grants and operates its own training centres, with courses aimed mainly at craft workers and operatives. Firms above a certain size and registered with CITB make a mandatory contribution to the industry's training costs through a levy system – sharing between them the cost of CITB's training support and grant aid. This helps maintain training standards in an industry whose labour force moves around, not only from project to project but between companies and in and out of self-employment.

In the early 1990s, the recession and changes in government financing via the Training and Enterprise Councils (TECs) and Local Enterprise Companies in Scotland (LECs) significantly reduced CITB's income and it had to review its strategy. It has developed a fresh approach to craft and operative new entrant training and secured major funding from the TECs and LECs, with smaller amounts from the European Social Fund, Department of Employment and other sources.

There were over 65000 firms registered with the board in 1996, but turnover is fast. In a typical year, 20% or more of firms are lost from the register, mostly due to the recession, whilst as many or more new firms join. Members include building and civil engineering contractors, building services contractors and a wide range of specialist trades, including demolition and scaffolding. CITB is aware of the difficulties faced by smaller firms and specialist contractors and has been trying to improve its provision for those companies. One such provision is the network of national Group Training Associations and regional and local training groups. The local groups enable

over 2000 small firms to share the cost of training advice and support, with access to specialist staff whom they couldn't afford to employ on their own.

The board has made a significant contribution to the development of the National Vocational Qualifications at craft and operative levels and has, through its representation on the Construction Industry Standing Conference (CISC), helped to maintain continuity between these and the NVQs for technical, professional and managerial occupations. CITB has also taken action to help provide training for self-employed operatives and labour-only sub-contractors.

Summary

Helping employees to achieve their maximum potential is a central activity of the business. Staff development is necessary to maintain existing levels of skills in the business, but it becomes vital when the organisation has to keep pace with change.

Implementing staff development is difficult, costly and hard to evaluate. Benefits are seldom 'visible' in the short-term and are obscured by other changes in the longer term, so long-range planning of development coupled with an act of faith, are essential. Firms differ in the degree of formality with which they tackle staff development. Some, like the farmer, simply encourage their employees to grow; others put them through tightly-structured programmes of instruction.

The development process begins with performance appraisal, in which employees' achievements are reviewed and training needs identified. Development plans are put into action using a wide range of approaches and methods. Increasingly, the methods favoured are those which involve the employee in active, problem-based learning, undertaken at least partly within the realistic setting of the workplace.

New approaches to development concentrate on helping employees to learn appropriate skills and attitudes; they encourage them to take charge of their own development, learn how to identify their own goals, and locate the means for achieving them; they emphasise the need for flexible learning provisions, which can be tailored to the individual's needs and preferences.

If the firm has a personnel department, one of its responsibilities will be to advise on training priorities, help produce development plans and secure the resources for meeting them. Increasingly, staff development activities will be integrated with the broader processes of strategic management and organisational development. They will focus on helping employees to manage change and improve organisational performance in a turbulent environment.

Chapter 16
Health and Safety

Safety

Construction sites are dangerous places. Roughly 80 to 90 people die on them every year (more than in all the manufacturing industries put together). Thousands of construction workers are injured every year, many seriously. In the Health and Safety Executive's reporting period **1994/95,** there were about 2700 major injuries and a further 11 000 'over three-day' reported injuries in construction (HSC, **1995b).** These figures include employees and self-employed persons. The fatalities rate per **100 000** employees in construction fell slightly in the first half of the 1990s and the major injuries rate per 100 000 fell rather more; but any noticeable fall in the actual number of deaths and major injuries was more a reflection of the industry not working to full capacity.

The statistics give no cause for complacency. Falls from a height (often from scaffolds or roofs) are the industry's biggest problem, accounting for almost 50% of fatalities and 40% of serious injuries. Fatalities resulting from being trapped following a collapse or overturn are also a major concern; up to a quarter of construction fatalities are in this category (HSC, **1995b).** Other construction safety problems are people being hit by falling objects and injuries caused by the misuse of site transport, hoists and other mechanical plant (see Fig. 16.1). Interestingly, some of the statistics reflect other changes, such as the industry's workload and employment patterns. In the ten years to 1996, the number of reported 'over three-day' injuries to employees fell disproportionately from over 16000 to under **10 000** a year, whilst annual figures for self-employed construction workers more than doubled, from about 700 to 1500.

Against this background, managers have to take their safety responsibilities very seriously and it was not surprising that the Construction (Design and Management) Regulations 1994 (CDM Regulations) were introduced, in an attempt to bring a more comprehensive and strategic approach to construction health and safety.

Construction managers must take every reasonable step to protect the
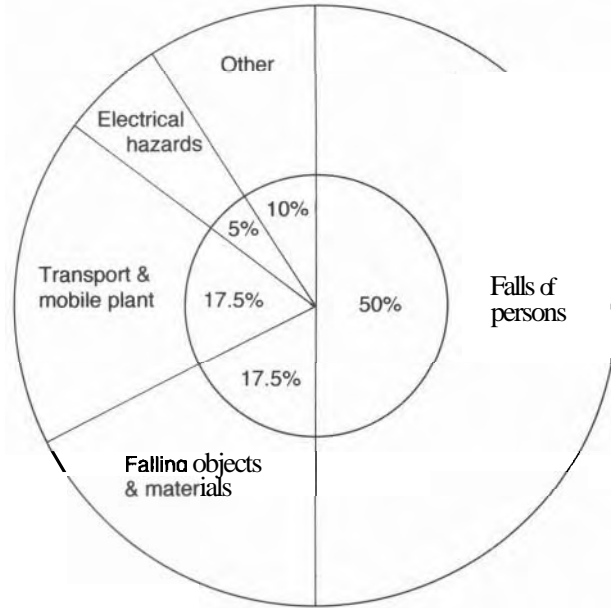
Figure 16.1 Distribution of fatal accidents by type (typical analysis).

health and safety of employees, comply with statutory requirements and improve standards wherever they can. Economic pressures to cut project times and costs militate against this, but managers must make health and safety a high priority. They must encourage responsible attitudes to health and safety and increase people's awareness of the dangers.

This involves the use of many management skills and techniques discussed earlier in this book, including the following.

- Clear communication.
- Good organisation.
- Persuasion and education.
- Rewarding employees for safe practices (operant conditioning).
- Setting realistic targets for employees to achieve, under appropriate working conditions.

Attitudes to safety

The attitudes of construction workers and managers towards safety is undoubtedly a major factor in the poor accident record of the industry. Many managers see construction as a rough job for tough, self-reliant people. Some of them believe that building to tight deadlines at low cost is incompatible with high safety standards.

Construction workers accept that their work is demanding and risky, although they usually underestimate the risk. Group norms may cause individuals to ignore safety measures for fear of appearing cowardly or weak to their workmates.

Some managers and workers try to avoid complying with safety regulations and sometimes make collusive arrangements to avoid them. In one instance, employees were given a bonus to undertake hazardous work without safety equipment, on a Sunday, when it was known that neither the safety officer nor safety representative would be present (Shimmin *et al.* 1980).

Although examples like this may be uncommon, the use of bonus payments to increase productivity encourages workers to take short cuts and skimp on safety measures. For these workers, the benefits of risk-taking seem to outweigh the potential costs.

It will need more than legislation to make construction safer. Attitudes in the industry have to change. This includes clients' and designers' attitudes towards safety. The CDM Regulations 1994 were intended to bring about attitude change as well as compliance. Certainly there is evidence that clients are taking the health and safety performance of contractors more seriously when awarding construction contracts.

The Health and Safety Executive (HSE) has played an important part in attitude change. For instance, it has argued the case that clients should expect to pay a 'safety premium' on construction; that if a rock bottom price means that people will die or be injured, then the price is too low. The HSE has also helped to change attitudes by arguing that safety measures can be cost-effective. This is because the costs resulting from accidents and fatalities can be higher than the cost of preventive measures.

Team approach to health and safety: the CDM Regulations 1994

To persuade the whole construction industry, including its customers, to take site safety and health more seriously, the EC introduced, in 1992, the Temporary or Mobile Sites Directive, which has been implemented in the UK as the CDM Regulations 1994. The regulations require clients and all the members of project teams to work together to maintain health and safety standards on projects.

The regulations place duties on clients, designers, other professionals, contractors and site workers, so that health and safety must be planned and managed through all stages of a project. Specialist contractors and self-employed sub-contractors must co-operate with the main contractor and provide relevant information about the risks created by their work and how they will be controlled. Under the regulations, all employees on sites should

be better informed and have the opportunity to be more involved in health and safety.

Despite efforts by the HSE to promote the new regulations, there has been considerable opposition, not least among the professions. Alexander (1995) has argued that the regulations will add another costly layer of bureaucracy, leading to confrontation and legal battles, rather than making construction sites safer.

The CDM Regulations apply to all notifiable construction work and to non-notifiable work that involves five or more people on site at any one time. They also apply to all design and demolition work.

The regulations identify the role of *planning supervisor,* the person with overall responsibility for co-ordinating the health and safety aspects of the design and planning stages and the early stages of the health and safety plan and the health and safety file. Clearly, all parties to the project need to understand their obligations and the HSE has published an approved code of practice to aid the implementation of CDM Regulations (Health and Safety Executive, 1995).

Health and safety plans and files

CDM requires that a detailed *health and safety plan* be drawn up before site work begins. There must be a pre-tender safety plan, available to contractors tendering for work. This must identify, among other things, the risks to workers as far as these can be predicted at the tendering stage. The main contractor, once appointed, must draw up a health and safety plan for the construction phase. This must include all the arrangements for managing health and safety throughout the construction stage.

The planning supervisor is responsible for ensuring that a *health and safety file* is compiled during the progress of the work. This is a record for the client/ user and identifies the risks that have to be managed during maintenance, repair or renovation. The client must make this file available to anyone who will have to work on any future design, building work, maintenance or demolition of the structure.

Formal enforcement of the CDM Regulations

The Health and Safety Executive said that it would help the industry to cope with the introduction of the CDM Regulations, by giving advice and visiting major clients, professional practices and larger contractors. However, the Executive made it clear that formal enforcement would be used where there was a high risk of accident or ill-health (Nattrass, 1995). Nattrass gives examples of where HSE might issue Improvement Notices – or possibly Prohibition Notices. They include:

- Failure by a client to appoint a planning supervisor in an obviously complex or risky project.
- Failure by a designer to provide adequate information at the design stage.
- Failure by a client to ensure an appropriate construction phase plan has been prepared before construction begins.
- Failure by a principal contractor to cover obviously high risk aspects in a construction phase plan.

These examples clearly demonstrate the HSE's intent to ensure that all parties play their role in maintaining health and safety standards on projects. Interestingly, the growth in project partnering arrangements will complement this process, health and safety being one of the areas of common objectives.

High-risk activities

Some occupations are more risky than others. Not surprisingly, steel erection and demolition account for many fatalities and serious accidents. Collapses of falsework, scaffolds, hoists and cranes also account for many injuries and deaths. But trades like painting and decorating are also hazardous, because of poor workplace access and inadequate working platforms.

Some of the most dangerous activities identified over the years are given below.

Steel erection

Common accidents involve falls from structures and access ladders, collapse of partially-erected structures which are unstable, and materials or tools being dropped from a height. Steel erectors have traditionally resisted wearing safety belts, a problem made worse by lack of anchorage points. Erectors may also be unaware of the extent to which partially-erected structures are stable or unsafe. To prevent accidents from materials falling from structures, barriers and warning notices must be used to limit access beneath steelwork during erection.

Demolition

Accidents include premature collapse of unstable, partially-demolished structures and materials falling from structures (often outside the site boundary, injuring passers-by). Lack of information about the structural character of a building being demolished has been a serious problem, but in 1995, it became compulsory to prepare health and safety files for buildings to comply with the CDM Regulations 1994. This should help to reduce this problem in the future.

Scaffolding

Poor working practices in the erection, maintenance and dismantling of scaffolds have to some extent been overcome by better training. Failure to tie scaffolding and mobile scaffold towers into structures has caused many collapses.

Refurbishment projects can pose special problems, as clients may not wish to have scaffold fixtures penetrating window openings, disrupting user comfort and property security. On multi-contractor sites, the principal contractor must co-ordinate the use of scaffolds and ensure that modifications are carried out competently and inspections performed regularly.

Excavations

Collapse of the sides of unsupported excavations and sudden collapse of structures adjacent to excavations are among the hazards. Uncovering toxic material and striking electric cables are dangers during digging and working in excavations. Unfenced or poorly protected excavations pose risks not only for employees but the public, especially children.

Falsework

Temporary structures aren't always designed as carefully as permanent ones, because they are temporary. This is more of a problem for smaller contractors who lack staff with good engineering expertise. Some of the worst accidents in the industry's history have involved collapses of large, temporary structures to bridges and viaducts.

Maintenance

Because maintenance operations are often short-term, short cuts are taken, like skimping on access equipment. More attention to maintenance at the design stage can reduce such problems, by including proper access ways, cradles and anchorage points for safety equipment in the permanent structure.

Roofwork

Most accidents involve operatives falling from unguarded edges of roofs or falling through roofs that lack loadbearing strength. Roofers often ignore the statutory requirements and work without roof ladders, edge barriers and crawling boards, etc. Injuries commonly involve not only roofers but other trades working on roofs.

Site transport

Many serious accidents are caused by heavy goods vehicles and earth-moving equipment. A lot of incidents happen whilst vehicles are reversing. Other causes are poor site layout, careless unloading, tangling with overhead power lines and people riding on vehicles in insecure positions.

Painting

Painting has a poor safety record. Work proceeds quickly, requiring access equipment to be moved frequently. Safety precautions are neglected to avoid delays. Painters often receive minimal supervision and have little expertise in the use of cradles and access towers. Painting also has its own health risks. Some specialised paints emit toxic and inflammable vapours, causing problems mainly when working in confined, badly ventilated spaces.

Health

Safety hazards have overshadowed the health risks to construction workers. This is partly because employers and employees have not been fully aware of the health risks and partly because of an attitude among some employers that health is the worker's own responsibility. Moreover, health hazards are difficult to control because site conditions are so variable.

There have been relatively few systematic studies of the health of construction workers, but the main hazards are known. They include dusts, toxic substances, radiation, vibration, noise, changes in atmospheric temperature and pressure, and inadequate welfare and hygiene.

Whilst occupational health hazards are becoming more widely understood, many new materials and processes are exposing employees to fresh health risks. Fortunately, employers are beginning to realise that safeguarding workers' health makes economic as well as human sense.

The industry is aware of the established hazards such as working with lead paint and in compressed air, but other risks have remained hidden. Asbestos, especially the blue type, has received a lot of attention in the industries producing it (mining, milling and processing) but the risks to construction workers handling asbestos were neglected for a long time.

It only became widely known in the 1970s that prolonged exposure to dusts from silica and certain hardwoods can cause serious lung disease. Handling wet concrete and mortar can cause skin complaints like dermatitis, whilst welding and oxyacetylene burning can create toxic fumes.

The structure of the industry, fragmented into many small units, has aggravated the problem because health safeguards often rest with small firms

who cannot afford occupational health measures. These firms might, however, be able to agree to share such facilities (Health and Safety Executive, 1983).

Employees have shown little concern for their own health and many new employees are unaware of the risks. Many workers develop rheumatic and arthritic conditions after long exposure to cold and wet weather, because they wear inadequate clothing.

The industry has undoubtedly neglected occupational health issues in the past in comparison with other industries, which have provided much better facilities. This situation is partly a result of the temporary nature of the industry's production base. The position is improving and legislation is helping ensure that at least some of the occupational health problems are tackled. Relevant regulations include the COSHH Regulations 1988, 1994, the Workplace (Health, Safety and Welfare) Regulations 1992 and the Personal Protective Equipment at Work Regulations 1992.

Many ailments occur too frequently in construction workers to be explained by non-occupational factors. These include lung cancer, respiratory diseases, stomach cancer, muscle and joint conditions, arthritis and dermatitis. Unfortunately, statistics rarely indicate the causes of these illnesses. Many chronic, slow-developing diseases do not become noticeable for years, by which time they are seldom traced back to their causes.

Many hazards not only affect workers directly involved in risky operations, but others doing harmless jobs nearby. On multi-contractor sites, control is especially difficult.

One of the implications of the Health and Safety at Work Act 1974 is that the industry needs to focus on the general well-being of its workers and not just on preventing accidents. This concern should include the mental and physical welfare of employees and should recognise that many health problems arise from a combination of factors inside and outside the workplace. Changes in work patterns and family life have put more pressure on people. To cope with this, they often eat, drink or smoke too much. This may reduce the effects of stress but exposes them to other health hazards. Many physical and mental illnesses are linked, so a broad approach to health seems essential. In the late 1970s and early 1980s, many medical people were beginning to turn their attention from ways of curing ill-health to strategies for promoting *positive health.*

Control of Substances Hazardous to Health Regulations 1988, 1994

The purpose of the COSHH Regulations is to protect employees from the dangers of hazardous substances, such as solvents, glues, cement, plaster, bitumen, fillers, and brick and silica dust. Lead and asbestos are covered by separate regulations.

The regulations require employers to identify the substances employees may be exposed to, assess the hazards they may cause and eliminate or control the risks. They must provide suitable training and monitor the effectiveness of their control measures. Wherever possible, employers should not rely on the use of personal protective equipment as the foremost method of minimising exposure to a hazardous substance.

Employees must take reasonable steps to safeguard themselves from risk, including the use of protective clothing and equipment, reading instructions and COSHH information sheets, adopting safe working practices and familiarising themselves with emergency procedures.

Physical health hazards

Dusts

Dusts from many sources are a prominent hazard in construction. Particles less than 5 microns in diameter pass through the body's defences into the lungs or stomach, affecting the body in various ways. Silica and asbestos dust can permanently damage lung tissue, whilst lead in dust (from rubbing down lead paintwork, for instance) is absorbed into the lungs and enters the blood stream, causing poisoning.

Silicosis is caused by inhaling small particles of quartz-containing stone. Asbestosis, lung cancer and mesothelioma (tumour of the lining of the chest or abdominal cavity) are potential diseases for de-laggers and demolition workers. Even the hazardous blue asbestos or crocidolite, seldom used in new work, is still encountered in demolition and alteration projects.

Cement dust, especially with chemical additives, is a respiratory hazard, although dust levels are usually low, especially if ready-mixed products are used. The risk of cement burns and dermatitis is greater.

Many other dusts irritate the throat and eyes, damage the lungs or poison the body. They include dusts from some untreated hardwoods, as well as timbers treated against rot and insects. Particles of fibre glass, resin-based and plastic fillers, and bricks and blocks which have been cut, can also be harmful.

Toxic fumes

Lead poisoning has become less common, but can still occur during welding, cutting or burning off old lead-painted structures. The lead in fumes is readily absorbed into the body. This has been a hazard for demolition workers. It is less of a problem in new work, but organic chemicals are creating fresh hazards all the time. Building services operatives are at risk from welding, flame-cutting and lead-burning fumes.

The use of internal combustion engines in confined spaces puts people at risk from carbon monoxide poisoning. Paint solvents and cavity-insulation materials can give off toxic fumes. Stringent precautions are needed when using solvents and other chemicals, especially when working in an enclosed area. A forced ventilation system may be needed.

Vibration and noise

The use of vibratory tools can give rise to numbness of the fingers, commonly known as 'white finger' or 'dead hand', and to general systemic effects, such as weakness. The first sign is usually whiteness in the fingertips and numbness when the hands are cold. Some workers are more susceptible than others, but all employees at risk should be given information about the condition. It can slowly spread to other parts of the circulatory system. Severe numbness and weakness, after long exposure to vibration, can cause accidents as well as health problems.

Noise can cause hearing damage, the risk depending on the noise level and length of exposure. Drivers of heavy machines and operators of drilling equipment powered by air compressors are at serious risk, especially if the work is confined, as in tunnelling. There has been considerable progress in reducing noise problems through the use of acoustic enclosures, **muffles** and ear defenders.

Skin troubles

Individual reactions to substances vary considerably but cement, tar, bitumen, paints and varnishes, some woods (especially hardwoods), epoxy and acrylic resins, solvents, acids and alkalis, are common causes of skin diseases. Tar warts, for instance, are a form of cancer which can become serious if not diagnosed and treated.

Operatives should be made aware of the hazards and encouraged to use protective gloves, barrier creams and skin cleansers. Workers often use solvents and strong detergents to remove chemicals from the skin and unknowingly substitute one source of skin trouble for another.

Dermatitis is quite prevalent among construction workers. Its signs include reddening and blistering of the skin. Early treatment is important.

Radiation

Radiation from lasers and from non-destructive testing and welding is an increasing risk for construction workers. Protection from ionising radiations, such as X-rays, is very important. Although the work should be undertaken

by qualified operatives, the manager must ensure that unauthorised personnel stay away from the restricted area.

Local exposure to radiation results in reddening or blotching of the skin, whilst acute general exposure may cause nausea, vomiting, diarrhoea, collapse and even death. Prolonged exposure to small doses can cause anaemia and leukaemia.

Laser beams can damage the skin and particularly the eye. The lens of the eye focuses the intense light on the retina, causing burning. Since lasers are likely to be used increasingly in surveying and other construction operations, their use must be properly supervised.

The effects of many of these hazards can be reduced if the recommendations of the Personal Protective Equipment Regulations 1992 are followed.

The common law on health and safety

Since the early 1970s, the important changes in the health and safety at work law have been statutory. However, the common law is important too, as it is the foundation of statute law and gives employees recourse to damages if they are injured or contract disease in the course of their work.

Employers have common law liabilities towards both their workers (personal liability) and third parties (vicarious liability).

Personal liability

An employer who fails to take reasonable care to ensure the safety and health of an employee can be sued for damages in the civil courts, but only if the employee has suffered an injury or loss. This contrasts sharply with the system imposed under the Health and Safety at Work Act 1974, where criminal proceedings can be taken if safety standards are breached, even if no-one is hurt.

Injured workers can only claim damages if the injury happened during the normal course of their work. This would include, for instance, injury caused in a motor accident whilst a worker was being driven to site in the firm's minibus. One employee successfully claimed damages when he got frost-bite driving the company's unheated van!

The employer only has to take 'reasonable care' and is not expected to be over-protective to workers or guarantee their safety. In one case, the court refused damages to a worker injured in a rush to get to the works canteen. The employee has to show that the employer's failure to take reasonable care caused the accident and that it would not have happened otherwise.

The responsibility for accidents cannot always be attributed solely to

employer or worker. If both are partly to blame, the damages awarded are reduced by the amount of the worker's contributory negligence. Contributory negligence can apply when a worker is partly to blame for the extent of an injury, even though he or she didn't cause the accident. An example would be an operative working below scaffolding who neglects to wear a hard hat and is struck on the head by a falling object. The courts are, however, generally reluctant to penalise employees for this kind of negligence.

Vicarious liability

An employer is responsible for the negligence of employees if they cause injury or loss to another employee or a third party. The injured person can sue both employer and employee, but has the sometimes difficult problem of proving that the employee caused the injury during the 'normal course of his employment' (Field, 1982). If a mobile crane runs over the architect who is inspecting the site, there will be little difficulty in bringing a claim. But if the crane driver borrows his employer's lorry to fetch his lunch box from home and runs down the architect on a public road, proving the employer's vicarious liability will be more difficult.

In *Conway* v. *George Wimpey* (1951), the employer was not held liable for the injuries received by a hitch-hiker who was given a lift in a company lorry. The giving of the lift was not for the purposes of the employer's business and was in contravention of company rules.

However, it is hard for the employer to guard against such liabilities, even outside working hours. In *Harvey* v. *O'Dell* (1958), an employer was held liable for injuries to an employee who was riding on the back of the storekeeper's motorbike, returning to site from their lunch at a local café. Because the employer had not made proper eating arrangements on this 'outside' job, the trip to the café was held to be 'incidental' to their employment.

Occupiers' liability

Under the Occupiers' Liability Acts 1957,1984, employers have a liability to ensure that all premises on which their business is being conducted are reasonably safe places for employees, visitors and persons other than visitors. This obligation is important for sub-contractors working on a main contractor's premises and for main contractors working on a client's premises.

Employers must be aware that their duty extends, for example, to trespassers and they must take reasonable care that non-one is injured, for instance, by a guard dog. A special concern is the safety of children, and contractors have to take precautions to prevent children entering construc-

tion sites, during or after working hours, where they are at risk. This requirement is underlined in the CDM Regulations 1994.

The Health and Safety at Work etc. Act 1974

Every employer has a common law duty to take reasonable care of employees and anyone else who may be injured as a result of the employer's activities. However, common law does not require the employer to prevent accidents from happening – it simply establishes liability if they do.

Because of this, many statutes have been passed making the employer take positive action to prevent accidents in the workplace and promote the well-being of workers. An employer who fails to comply with the statute law may be criminally liable for dangerous practices even if no accident has occurred. An example of this would be the persistent use of unguarded machinery. Acts like this have included the Mines and Quarries Act 1954, the Factories Act 1961 and the Offices, Shops and Railways Premises Act 1963. Each dealt with one industry or part of an industry.

In 1972, the Robens Committee reported that there should be one piece of legislation, covering all employees in all industries, providing preventive health and safety policies and involving workers in the making of health and safety policy.

The outcome was the Health and Safety at Work etc. Act 1974 (HSW Act). It brought about some fundamental changes. Unlike previous statutes which applied to places like factories, mines and offices, the 1974 Act emphasises the responsibilities of people – employers and employees. It covers virtually all employees.

The Act also protects other people who may be affected by an employer's activities and imposes obligations on the manufacturers and suppliers of equipment and materials.

The powers of the health and safety inspectors were widened by the Act, which also aims to increase awareness of the need for safe and healthy workplaces.

The employer's duties

Under the HSW Act, employers have a duty to protect workers' health and safety and must, so far as is *reasonably practicable:*

- provide and maintain safe systems of work and plant;
- ensure safety and absence of risks to health in using, handling, storing and transporting materials, tools or components;
- give health and safety information, instruction and supervision as needed;

- provide safe, healthy workplaces and access to them;
- provide employees with a safe, healthy working environment, and adequate welfare facilities.

As well as being responsible for premises over which they have direct control, employers have to provide a safe system of work when employees are working in other people's premises. This is important in the refurbishment or alteration of buildings or structures.

The employee's duties

Employees have a duty to take reasonable care for the health and safety of themselves and of other people who may be affected by what they do or fail to do. They must co-operate with their employers over statutory safety provisions. An employee must not interfere with safety measures or misuse health or safety equipment.

Drake and Wright (1983) point out that if employees neglect their duties under the HSW Act, they could be fairly dismissed under the provisions of the employment legislation.

Safety policy

Every firm must prepare a safety policy, keep it up to date, and bring it to the attention of employees. The policy must be in writing, except for firms employing less than five people. Their safety policy can be oral. The HSW Act does not dictate the content of the policy. Its aim is to encourage firms to work out solutions tailored to their own health and safety problems. However, the Health and Safety Executive publishes guidelines. If a serious accident occurs, the employer's safety policy will often be the starting point of the inspector's investigation. Workers' safety representatives may also take a careful look at the policy.

Most safety policies for construction firms begin with a general statement of intent and then detail the responsibilities of the various levels of management. A policy should set standards and specify how they will be achieved. Companies employing more than 20 workers must appoint a safety officer, who will assess risks and organise the firm's safety measures.

The safety policy should define responsibilities for:

- monitoring the firm's safety activities;
- maintaining contact with sources of advice, such as manufacturers, employers' federations and the Health and Safety Executive;
- organising health and safety training;
- responding to the work of safety representatives and committees.

The policy should explain how these responsibilities will be carried out. This will reflect the scope of the firm's work and should include:

- procedures for dealing with risks, including inspections, plant maintenance and guarding of machinery;
- precautions against special risks created by the firm's work;
- accident reporting and investigation procedures;
- provision and use of protective clothing and equipment;
- safe routines for introducing new equipment, materials and methods;
- emergency procedures for dealing with explosion or fire;
- arrangements for communicating with workers about health and safety matters;
- a system for identifying safety training needs and implementing training;
- inspections, audits and other arrangements for checking health and safety measures.

Administration of health and safety legislation and standards

The HSW Act created the Health and Safety Commission (HSC) and the Health and Safety Executive (HSE). Broadly, HSC formulates policy and HSE implements it. The aims of **HSC/E** include:

- defining a *framework of law and standards,* in particular by proposing reform of existing legislation and participating in standard-setting in the European Community and with other international bodies;
- promoting *compliance with the 1974 Act* and related measures, particularly through inspection, advice and enforcement, thus protecting employees and the public from safety and health risks;
- *investigation of accident and health problems* and related activities, including assessment, research and information services.

A full description of **HSC/E** aims and activities can be found in the Commission's annual reports (see, for instance, HSC, 1995a).

Role of the health and safety inspectors

There are about 20 HSE area offices in the UK, each of which has a construction team. The inspectors give advice as well as enforcing the legislation affecting construction operations. Consultants are employed to advise on specialist problems. Although the inspectors are thinly spread in construction, they have considerable powers and can:

- enter premises (including construction sites) at any reasonable time or, if there is a hazard, at any time;

- take with them a police officer, if obstruction is expected;
- direct that the premises or part of the premises be left undisturbed while investigations are carried out;
- make any examinations and investigations, and take whatever measurements, recordings, photographs or samples they need;
- require any involved person to give information, answer questions and sign a declaration;
- inspect or take copies of any relevant document, such as a record or register, or an entry in such a document;
- require any other person to provide assistance.

In addition, inspectors are given any other powers necessary for exercising their duties. They can give information to employees or their representatives to keep them informed about health and safety matters. This may be information about the employer's premises or activities, or about any action the inspectors have taken or intend to take. The same information must be given to the employer.

If an inspector considers that the statutes have been or are likely to be contravened, he or she can serve an improvement notice on whoever is responsible. This requires that the problem be remedied within a specified time.

If there is a risk of serious personal injury, the inspector can prevent or stop an activity by issuing a prohibition notice. This can take immediate effect or can be deferred if, for example, the hazardous operation is not due to commence straight away. Prohibition notices can stop all work on a site, but more often they apply to specific operations. A notice can be served on an individual if, for instance, he or she is not wearing eye shields whilst using a grinding wheel.

Over 2500 notices were served by construction inspectors in the year 1994/95. About 2200 of these were immediate prohibition notices (HSC, 1995b). Inspectors can prosecute employers and employees and the penalties include fines and imprisonment. In the period above, about 500 convictions were obtained following proceedings by construction inspectors.

The Construction Industry Advisory Committee (CONIAC)

The Health and Safety Commission created advisory committees to look at the particular problems facing the major industries. CONIAC is the committee for construction. Its aim is to give the industry a chance to help identify areas where action is needed and to contribute to practical solutions.

CONIAC working parties have looked at problems like attitudes to safety, the wearing of safety helmets, health and safety in small firms, and the contribution of the design team and client to site safety.

An early concern of the committee was the provision of guidance on safety policies, and it published a guidance leaflet *Safety* Policies, in 1982.

A further CONIAC initiative was Site *Safe* 83, a campaign aimed at bringing about a permanent change in attitudes to safety by creating greater awareness. One of the worries is that, despite campaigns like this, the safety message is not getting through to small firms (Health and Safety Executive, 1983).

In the 1990s, CONIAC has been particularly active in the development of the CDM Regulations and their implementation. The committee has had to tackle fears within the industry and its professions that the new regulations would create unacceptable bureaucracy and extra work.

Construction regulations

Whilst the HSW Act deals with general duties, there are also detailed regulations which apply to construction. In particular, the Construction (Health, Safety and Welfare) Regulations 1996 (CHSW Regulations) have replaced the bulk of the earlier Construction Regulations which came into force in the 1960s. They don't, however, replace the Construction (Lifting Operations) Regulations 1961. These are to be dealt with in a separate consolidation of all the UK lifting legislation, expected around 1998.

The CHSW Regulations consolidate, modernise and simplify the earlier requirements, completing the implementation of the EC Temporary or Mobile Sites Directive 1992 and concluding the updating of health and safety in the construction industry. They apply to most construction work and reflect the particular processes, working practices and hazards of the industry, which are wide ranging and complex. Their scope is broad and they give protection to everyone who carries out construction work, and to people other than employees who may be affected by such work.

Whereas the CDM Regulations provide a framework, within which parties to a project can exercise judgement about what is reasonably required, the CHSW Regulations are prescriptive, targeting specific hazards, systems of work, competencies and so on. They can provide a ready-made agenda for drawing up a Health and Safety Plan under CDM (Joyce, 1995).

The CHSW Regulations 1996 cover, amongst other things:

- Safe places of work and safe access to and from work places.
- Prevention of falls; safety of scaffolding, ladders, harnesses, etc.
- Protection of workers and others against falling objects/materials.
- Avoidance of collapse of structures.
- Safety measures for excavations, cofferdams and caissons.
- Safe arrangements for traffic routes, vehicles, gates and doors.

- Prevention and control of emergencies.
- Provision of welfare facilities for washing, changing, resting, etc.
- Training, inspections and reports, and site-wide issues.

The Construction (Lifting Operations) Regulations 1961 will continue to cover the safe use of lifting appliances, including hoists, cranes and excavators; safe workloads, etc., until about 1998.

Other regulations which affect construction include the so-called 'six-pack' regulations, introduced in 1992 to satisfy EC Directives. These are:

- The Management of Health and Safety at Work Regulations 1992
- Work Place (Health, Safety and Welfare) Regulations 1992
- Provision and Use of Work Equipment Regulations 1992
- Personal Protective Equipment at Work Regulations 1992
- Manual Handling Operations Regulations 1992
- The Health and Safety (Display Screen Equipment) Regulations 1992.

Although most of these regulations have wide application, the Work Place (Health, Safety and Welfare) Regulations have only limited relevance to construction (Francis *et al.*, 1995).

There are many other regulations which affect construction and apply to other industries as well. These include regulations dealing with control of pollution, explosives, asbestos, flammable liquids and gases, woodworking machinery, abrasive wheels and noise at work.

Safety representatives and committees

Under the Safety Representatives and Safety Committee Regulations 1977, recognised trade unions can appoint as many safety representatives as they see fit. This flexibility is to allow for the extent of a site, local conditions, the groups of operatives to be covered, the number of unions on the site and any special features, such as shift working. The recognised unions are those which take part in collective bargaining in the industry.

Procedures for appointing safety representatives and safety committees have been agreed through the major national joint councils and are embodied in the national working rule agreements.

Site safety representatives should normally be employed by the main contractor and should have been with the firm, or a similar one, for two years. The employer is required by law to give safety representatives paid time off to carry out their safety duties and undergo safety training. The employer must help safety representatives, by providing equipment like dust and noise meters.

The national joint councils for building and civil engineering have approved a basic training scheme, designed to enable safety representatives to carry out their duties properly.

An employer must set up a safety committee if two or more safety representatives make a written request for one. The employer must consult with the unions party to the national working rules who have members on the site, and make arrangements for the committee, taking account of sub-contract employees on site. Safety committees give representatives a chance to meet management on an equal footing. Committees normally comprise equal numbers of workforce and management representatives.

Functions of safety representatives

The role of the safety representative is to:

- inspect the workplace, or that part of it to which his or her appointment refers, at three-monthly intervals, or more frequently if there have been substantial changes in site conditions;
- investigate potential hazards and look into employees' complaints;
- investigate dangerous occurrences and examine the causes of serious accidents involving deaths, broken limbs, loss of eyesight, and so on, or anything that results in prolonged absence from work or pennanent damage to a worker's health;
- receive information from the Health and Safety Executive and its inspectors, and view relevant documents belonging to the employer, except individual medical records which are confidential; any dispute about disclosure of information can be referred to the industry's joint machinery;
- discuss with the employer issues arising from investigations and general matters of site safety, health and welfare;
- represent employees at safety committee meetings, where applicable.

Safety representatives are not legally responsible for health and safety on sites. They cannot be held liable under'civil or criminal law for anything they do or fail to do whilst acting as safety representatives. They are, however, liable as operatives when carrying on their normal trade.

Functions of safety committees

The main functions of safety committees are to:

- monitor working arrangements on site with regard to health, safety and welfare;

- help develop site safety rules, safe systems of working and guidelines for especially hazardous operations;
- study accident trends and safety reports;
- investigate the causes of serious accidents;
- examine matters raised by safety representatives as a result of their activities.

The work of safety committees must be properly publicised to all workers and copies of the minutes of meetings made available to everyone. The HSE has recommended that on non-union sites, management should take the initiative in setting up safety committees.

Protective equipment

Employers must provide operatives with special clothing and equipment, such as the following:

- Protective clothing for **working** in rain or snow, and for working with asbestos products, when adequate ventilation cannot be provided.
- Respirators for working in dangerous fumes and dusts, where proper ventilation cannot be provided.
- Eye shields or protectors when cutting or drilling concrete, bricks, glass and tiles, shot blasting concrete, welding or using hand-held cartridge tools.
- Ear protectors for any noisy operation, especially when using wood-**working** machinery.

The Personal Protective Equipment at Work Regulations **1992** (known as PPE), part of the series of health and safety regulations which implement EC Directives, were amended in **1993** and **1994** and replace a number of old and excessively detailed laws. PPE covers safety helmets, gloves, eye and ear protection, footwear, safety harnesses and waterproof, weatherproof and insulated clothing. Self-employed operatives also have a duty to obtain and wear suitable PPE where there is a risk. Training is important; employees must know how to use equipment effectively. Equipment must also be properly maintained and properly accommodated when not in use. These regulations do not apply when PPE is provided under certain other regulations, such as the COSHH and Noise at Work Regulations.

   Many of the regulations are difficult to enforce and the manager must be alert. The wearing of safety helmets is covered in the national working rules. Operatives must wear hard hats wherever there is a risk of head injury. Staff not covered by the working rules are usually required by their conditions of employment to wear safety helmets and protective clothing.

Noise should, where possible, be reduced at source using sound-reducing covers, exhaust muffles and screening. Ear defenders should be a last resort. Regular maintenance can help cut down noise. Special care is needed when operatives are exposed to noise for long periods, even a whole day. Workers at risk from adjacent operations may need ear or eye protection too.

Summary

In spite of a modest downward trend in injuries and deaths in the early 1990s, construction work remains very hazardous. The occupational health risks to construction workers also continue to cause concern. An underlying problem is that safety, health and welfare have not been taken seriously enough in the past. This was partly an attitude problem, linked with employees' perceptions of the industry, and partly ignorance of the risks.

Legislation has been necessary to prevent employers and employees skimping on health and safety either for convenience or to cut time and costs. The HSW Act 1974 was a major breakthrough, creating the Health and Safety Executive with its inspectorate and imposing wide-ranging duties on employers and employees. Other legislation has made detailed provision for construction health and safety, reflecting the industry's unique work processes and problems.

The most important development in the 1990s was the implementation of the Construction (Design and Management) Regulations 1994 which aim to tackle the underlying causes of the industry's poor record. They place substantial responsibilities and functions on clients, designers and other professionals involved in construction projects. The role of planning supervisor has been created to ensure that health and safety are considered from inception to completion. The regulations require all those involved in a project to collaborate in planning, co-ordinating and managing health and safety throughout all its stages.

Although many of the industry's health risks are now better understood, there is still a lot of scope for improving occupational health measures. One of the problems is that ill-health resulting from construction work may not show up for years or even decades, making it difficult to link cause and effect.

The HSE and its Construction Industry Advisory Group have tried to tackle the issues of health and safety in smaller firms, where lack of resources, expertise and reduced levels of supervision make it difficult to enforce statutory or even commonsense measures to protect employees, self-employed operatives and the public.

Chapter 17
Industrial Relations

The construction industry has enjoyed a good industrial relations record. Relationships between employers and unions have mainly been quite informal, with few major disputes. Construction firms have operated simple labour policies, with few written rules and procedures. Some people believe that industrial relations have been good because construction work is varied and interesting. Others attribute it to the fragmentation of bargaining power caused by the industry's structure and employment policies.

However, since the 1960s the industry has had to take industrial relations more seriously, because of the employment legislation and, to a lesser extent in the 1990s, union pressure on larger projects. Managers have realised that labour relations means much more than coping with isolated disputes and strikes. It involves a whole range of problems stemming from the relationship between management and the workforce.

Usually there is some conflict of interests between the two, which can become apparent in various ways. Grievances can show up as action by individual employees, such as absenteeism, bad timekeeping, restriction of output and even sabotage. If dissatisfaction is widespread, conflict may become organised. Stoppages, overtime bans and working to rule are forms of organised conflict, although these were less common in the early 1990s.

In UK industries, between the mid-1940s and mid-1960s, power in the unions gradually shifted down the line to the shop stewards. Unofficial strikes became common.

The accent has since shifted and the legal position of individual workers has improved considerably. Employees are now better protected by statute and have less need to turn to their unions to fight for their basic rights. The unions therefore have more time to engage in productive discussions with management.

In 1963, employees were given the right to receive the main terms and conditions of their employment in writing. In 1965, the system of redundancy payments was started and 1968 saw the first legislation covering race relations at work. Job security improved in 1971, when employees were given the right not to be unfairly dismissed and in 1975 laws appeared covering sexual

discrimination at work. Following entry into Europe, Britain has acquired laws on equal pay (1970) and union consultation prior to redundancy (1975). In 1974, the Health and Safety at Work etc. Act brought practically all employees under the same safety code.

There are different opinions about how far the law should intervene in industrial relations, or whether it should intervene at all. Despite the increase in legislation, the backbone of British industrial life is still the system of collective bargaining, which is more flexible and responsive to change than the law. However, the law does provide a framework – a floor of rights – on which bargaining can be based.

Many techniques are used to regulate industrial relations, ranging from joint consultation and site bargaining to job enrichment and human relations training. Some activities are aimed at settling disputes, whilst others are intended to prevent them arising.

The downward trend in industrial action since the early 1970s seems to reflect not only developments in employment law, but a number of other changes, including government measures to restrict union power, rising levels of unemployment and changes in union tactics (Langford et al., 1995).

Employers' associations

Most employers' associations have several functions, of which industrial relations is usually an important one. They may also act as trade associations and provide their member companies with a wide range of legal and commercial advice. They also represent the interests of employers in dealings with government committees.

In the construction industry, these associations are usually known as employers'federations. There are a large number of federations representing specialist trades within construction. Over the years, some have merged, thus strengthening their resources and their bargaining power.

The Building Employers Confederation (BEC)

The Building Employers Confederation has represented the interests of building contractors for over a century, mainly under its former name, the National Federation of Building Trades Employers (NFBTE). As well as providing services to member firms, it deals with major issues beyond the scope of individual companies, such as political and economic pressures on the industry. Industrial relations is a key part of the confederation's work, but its other functions as a trade association are important too.

In 1995, BEC changed its constitution. Member companies no longer

belong directly to BEC but to one of its five member organisations – the National Federation of Builders, the National Contractors Group, the House Builders Federation, the Federation of Building Specialist Contractors and the British Woodworking Federation.

The confederation identifies its role in the following way:

- To represent the common interests of members to the government, the European Commission and other decision-taking bodies.
- To negotiate the industry-wide agreements which affect members.
- To provide advisory services to companies belonging to the member organisations.
- To supply common support services to member organisations.

The regional and local association structure, representing regional contractors and local builders, is maintained through the National Federation of Builders.

One of **BEC's** most important functions is collective bargaining. Through its representation on the National Joint Council for the Building Industry and the Building and Civil Engineering Joint Board, it negotiates wage rates and conditions of employment with the unions. By helping to maintain parity among workers, the confederation saves its members from many disputes and disagreements, and helps avoid breaches of employment law.

The Federation of Civil Engineering Contractors (FCEC)

The FCEC performs a similar role to BEC. It is an influential body, representing the interests of large and medium-sized civil engineering contractors. It takes part in collective bargaining with the unions through the Civil Engineering Construction Conciliation Board for Great Britain and the Building and Civil Engineering Joint Board. It is party to the national working rules for operatives on civil engineering projects.

Trade unions

The role of a trade union is to promote the interests of its members, mainly by negotiating better terms and conditions of employment. Some unions are *craft* or *general* unions, representing one or more groups of craft workers or labourers. Others are (or attempt to be) *industrial* unions, representing the interests of all workers in a particular industry. Over the years, there have been many mergers between unions as they have struggled with difficult problems and attempted to strengthen their bargaining power.

Union of Construction, Allied Trades and Technicians (UCATT)

The general aim of the union is to promote the social and economic well-being of its members and of construction workers generally. It is strongly committed to strengthening free collective bargaining and has tried to achieve the position of industrial union for construction workers. Whilst many now recognise UCATT as the principal building union, others are yet to be convinced.

UCATT was formed when several building trades unions, going through a crisis of survival, decided to amalgamate. A merger in 1970 brought together the Amalgamated Society of Woodworkers, the Amalgamated Society of Painters and Decorators, and the Association of Building Technicians. UCATT was completed in 1971 by a merger with the Amalgamated Union of Building Trades Workers.

UCATT had a difficult time at first, but it did prevent the disintegration of trade unionism in the industry caused in large measure by the growth of labour-only sub-contracting (the lump).

UCATT is the principal union represented on the National Joint Council for the Building Industry. Its membership in 1996 was about 100 000 and had stabilised after falling in the late 1980s. At that time the union started to take in self-employed members, in response to the growth of this practice in the industry. It now provides a raft of services for genuine self-employed members and has fought for their rights. In 1996, the union initiated discussions with the major contractors, aimed at moving self-employed operatives back to direct employment. This coincided with the Inland Revenue clampdown on the employment status of the estimated 800 000 holders of 714 and SC60 tax certificates.

Transport and General Workers Union (TGWU)

The TGWU came into being in 1922 with the amalgamation of 11 unions. This general union has grown at an astonishing rate, more than 70 unions having joined it, making it the largest union in Britain. Since the early 1960s, its influence has spread across nearly all occupational interests, including building and civil engineering.

The union has seats on the National Joint Council for the Building Industry but has less influence than UCATT in the building sector. But in civil engineering, the TGWU tends to dominate the bargaining scene on the union side.

The TGWU is primarily a labourers' union and has strong support among unskilled and semi-skilled construction workers. It has made some progress in expanding its representation of craft trades.

General, Municipal, Boilermakers and Allied Trades Union (GMB)

A signatory to both the building and civil engineering working rule agreements, the GMB has about 20000 civil engineering and building-related members, mostly public sector employees. They represent about 2.5% of the union's total membership.

The union has received media praise for 'its enlightened approach to industrial relations' and its expertise on health, safety, recruitment and their EC regulatory backdrop. In 1994, the union was involved in an innovative 'partnership deal', in which four unions were invited to join a European-style consortium, led by Hochtief, Siemens and Costain, in a bid to build and operate the high speed Channel Tunnel Rail Link.

In 1995, the GMB launched a recruitment campaign aimed at the half a million plus directly employed and self-employed construction workers who are not currently in a union; and it negotiated with major contractors bidding for design-build-finance-operate contracts to discuss drawing up new working agreements covering both construction and operation.

Collective bargaining

The Trade Union and Labour Relations (Consolidation) Act 1992 describes collective bargaining as negotiation between one or more trade unions and employers associations, relating to one or more of the following:

- Terms and conditions of employment.
- Engagement, non-engagement, termination of employment or suspension.
- Allocation of work or duties of employment.
- Matters of discipline.
- Workers' membership or non-membership of a trade union.
- Facilities for trade union officials.
- Machinery for negotiation or consultation.

In the building sector, collective bargaining between the employers and unions takes place through the National Joint Council for the Building Industry (NJCBI) (Fig. 17.1). This body evolved from earlier negotiating councils in 1926 and gives equal representation to employers and unions.

Bargaining usually centres around two types of agreement, which can be made at national, regional, local or site levels:

- *Substantive agreements* relate to wages, conditions, allowances and holiday entitlements.
- *Procedure agreements* relate to methods for resolving disputes and differences, and cover other matters like redundancies, dismissals and union representation.
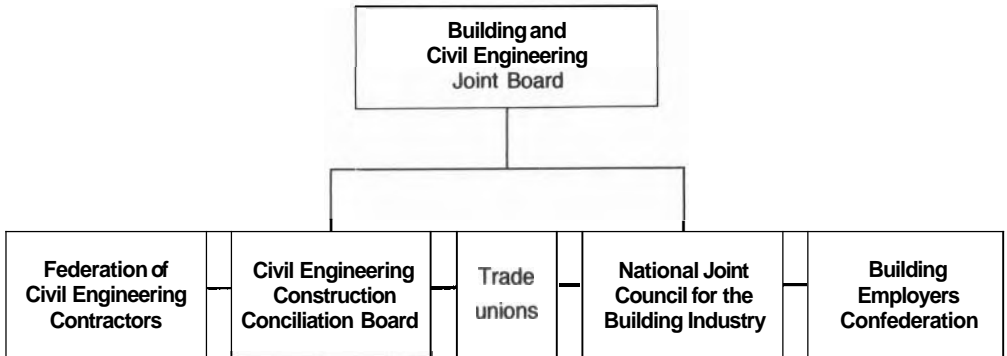
Figure 17.1 Collective bargaining in building and civil engineering.

Agreements can sometimes include elements of both. For instance, site stewards may negotiate a bonus scheme (substantive) in which arrangements for agreeing revised bonus targets are laid down (procedural).

Substantive agreements also deal with such matters as overtime rates, special rates, pension schemes, apprenticeships and paid leave of absence. Because employees have to travel to sites or work away from home, travelling, subsistence and lodging allowances are also an important part of the wage.

The two main building employers' associations – the Building Employers Confederation and the Federation of Master Builders (FMB) – have been competing with each other in the labour relations field. BEC represents employers' interests on the NJCBI and is the more influential association in industrial relations. The FMB has tried to represent smaller builders in labour relations but has had difficulty in gaining suitable representation on the NJCBI.

Lack of unity on the employers' side is largely caused by the wide range in size among building firms, from the small, local maintenance and jobbing builders to the large, international contractors.

When its attempts failed in the late 1970s to gain representation on the NJCBI, the Federation of Master Builders reached an agreement with the Transport and General Workers Union to set up an alternative joint negotiating body, the Building and Allied Trades Joint Industrial Council (BATJIC). This fragmknted the industrial relations system of the industry still further. BATJIC's first national agreement was published in 1980.

The unions have problems too because of the wide spectrum of skills and tasks they represent. The principal craft union, UCATT, is comparatively weak compared with the labourers' main union, the TGWU, and this has made it difficult to agree a sound wages structure in the industry. National negotiations take place against a backcloth of conflicting interests within and between the unions.

National working rule agreements

Some contractors have direct collective agreements covering wages and conditions, but most follow one of the national working rule agreements. These are formulated through collective bargaining at national level. A few contractors operate outside any agreement and offer a 'catch rate' based on local supply and demand for labour.

In construction, there are two main agreements, but neither covers specialist trades, whose work often represents half or more of the contract value. These main agreements are:

- *The National Working Rule Agreement for the Building Industry.* These rules are the outcome of many years of negotiation. They establish minimum rates of pay, conditions and hours of work for the building trades and for unskilled and semi-skilled operatives. There are regional variations for some rules.
- *The Civil Engineering Construction Conciliation Board Working Rule Agreement.* This applies to specific forms of construction work, notably roads, bridges, power stations and the civil work on off-shore drilling rigs.

The existence of the two agreements, coupled with the BATJIC agreement and others for specialist trades, has hindered unity in the industry. The main difference between the major agreements is that the working rules for building recognise two distinct groups – craft workers and labourers – whereas the civil engineering agreement contains one basic pay rate for 'general operatives' (or labourers), with plus rates for skill.

Since the early 1970s, the Building and Civil Engineering Joint Board has co-ordinated the building and civil engineering sector agreements, but changes in the industry meant that by 1989 the agreements covered less than half the workforce.

Furthermore, this body could not represent the interests of all the specialist trades, such as plumbing, electrical and asphalt work, which have separate agreements. It is unlikely that the electricians, for instance, whose members work in many industries, would see any advantage in aligning themselves with the construction industry's bargaining system.

Negotiation in bargaining and conciliation

Effective negotiation depends on a mix of toughness and friendliness, formality and informality. Appeals for reasonableness and co-operation are among the approaches used in bargaining. Negotiators who have reasonable goals often do better than those with extravagant goals. Some understanding

of the other party's problems and viewpoint is essential if satisfactory agreements are to be reached.

Maddox (1988) identifies six steps in a negotiation:

- The parties take some time to get to know each other.
- Each party states its goals and objectives in general terms.
- Negotiations are started; specific issues are presented and discussed.
- Conflicts emerge; each side tests how far the other will give way.
- Issues are reassessed and there is a move towards compromise.
- Agreement is reached and affirmed.

Experienced negotiators often rely heavily on friendly, behind-the-scenes talks and sometimes the final agreement is carefully stage-managed, so that neither side loses credibility with its members.

Employee participation and industrial democracy

Employee participation and industrial democracy are approaches to the empowerment of people, a concept outlined in earlier chapters. The potential gains include greater employee commitment and satisfaction; and enhanced decision-making – leading to higher productivity and improved competitiveness. The underlying issue is raised *expectations.* The general rise in education standards, coupled with other social changes, have led many employees to expect closer involvement in the decisions which affect their working lives.

There are several approaches to employee participation. Employers generally favour methods which involve employees at an individual or small group level and with issues close to the work face. Most EC member states have some statutory provision or agreed systems for employee participation at the workplace. Thus, employees participate in quality circles, joint committees on work processes, TQM initiatives and so on (Farnham, 1993). Germany has the most institutionalised system of workplace participation, embodied in the process of *co-determination.*

But, as Farnham points out, unions prefer the more global approach of collective bargaining, promoting a concept closer to industrial democracy. UK employers are generally not keen on the idea of collective bargaining which shifts its focus towards corporate decision-making. True industrial democracy goes beyond collective bargaining and involves employees in the corporate management of their organisations, as in the appointment of worker directors.

These concepts can be difficult to apply in construction because of its employment practices – employee mobility, casual employment, use of self-

employed labour and labour-only sub-contractors. These practices mean that many employees are not sufficiently committed to one employer to have any sustained interest in participation.

One technique which can work in such situations is joint consultation. A committee is usually set up by the employer and unions as a forum to bring representatives of management and the workforce together, usually in equal numbers. Membership can change as people move on. Mostly, joint consultation focuses on workplace issues like methods of working and work flow, standards of work, targets and incentives, and job restructuring. It rarely deals with strategic issues like marketing decisions, investment plans and capital financing.

Effective consultation can create enough employee involvement to satisfy the needs of most construction workers and also be valuable for exchanging information, feedback and ideas about a wide range of issues. For professional and managerial staff, who may have a greater sense of being stakeholders in the business, other approaches to participation are needed.

Employment and workplace relations

Contracts of employment

A contract of employment can be oral or in writing, but most contracts these days are in writing and the Employment Protection (Consolidation) Act 1978 requires that, within 13 weeks from the commencement of employment, an employer must give an employee a written contract of employment, stating:

- the names of the employer and employee and the date on which employment began; and, if any previous employment counts towards continuous service, the date on which the continuous period of employment began, must be given;
- the title of the job;
- the wage rate or pay scale, or method of calculating pay;
- the intervals at which the employee is to be paid (e.g. monthly, weekly);
- details of hours of work;
- holiday entitlements, including public holidays and holiday pay;
- details of any sick pay and pension rights;
- the length of notice the employee is entitled to receive and obliged to give, to end the contract;
- whether there is a contracting out certificate for the State Pension Scheme.

Instead of supplying a written statement, the employer can refer to a document containing these details, but it must be accessible. Usually, this

document will be an agreement arrived at by collective bargaining and this is the case for construction workers covered by national working rules.

The contract of employment should outline the relevant disciplinary rules or refer to a document containing them. It should also specify a person to whom the employee can appeal if he or she has a grievance. Written particulars need not be given to employees who work less than 16 hours a week.

A contract of employment states the *terms* and *conditions* of an individual's employment. The terms are bilateral – part of the agreement between the employer and the worker. The conditions are unilateral. They are rules or instructions imposed by the employer. The firm can change a condition at any time, but a term can only be changed if both parties agree.

Terms are usually stated in agreements (including collective agreements) and in certain statutory provisions. Conditions are usually found in the firm's procedures, rules and job descriptions.

Terms and conditions can easily be confused, because they often relate to the same aspect of employment. For instance, a term of contract is that the worker is entitled to, say, four weeks' annual holiday. It is a condition of contract that he or she has to take one or more of those weeks in the winter. A term will specify that employees work **37** hours a week, but it is a condition that they start work at 8 a.m. and finish at **4.30** p.m.

Express and implied terms

Express terms are those stated in the agreement between employer and employees. They cover pay, bonus payments, working hours and overtime, etc. However, such terms have to be interpreted realistically.

An *implied* term is one which is not expressly stated, often because it is so obvious that the parties did not think it necessary to mention it. Terms may be implied from accepted practices in an industry or by the terms contained in national agreements.

Discrimination and equal opportunities

Legislation has helped remove *some* of the discriminatory behaviour and inequalities of opportunity, reward and treatment which have been prevalent in many industries, including construction. But it has not achieved enough; a fundamental change of *attitudes* within the industry and society is needed. This has begun to happen, but there is a long way to go. Attitudes towards men's and women's roles and about issues like race and disability are deeply rooted in the patriarchal systems of Western society and influence the *culture* of construction. Attitudes and norms of behaviour are passed on from generation to generation through the complex processes of socialisation and

education, by parents, teachers, the media and so on (Srivastava and Fryer, 1991).

So, even in the mid-1990s, many male construction personnel continue to have very traditional views of men's and women's roles and some still view women predominantly in the roles of homemaking and child rearing. This is very disturbing when one considers that the education system should have embraced discrimination and equal opportunities issues a generation ago when important legislation on discrimination came into force in the 1970s (see below).

Discrimination based on inappropriate attitudes has been responsible for the so-called 'glass ceiling' which has prevented many women, black people and people with disabilities from being promoted to senior positions in most industries, not just construction. Women, black people and disabled people are also under-represented on construction courses. For instance, scarcely an eighth of construction students are female. Architecture fares better; about a third of its students are women.

It is more difficult to comment on the effects of sexual orientation on employment opportunities, since gay, lesbian and bi-sexual people don't necessarily disclose their sexual orientation. But it is clear that some employers and co-workers are prejudiced towards this group and that dis-crimination may occur if a person's sexual orientation is known to his or her manager.

For a host of reasons, women and other under-represented groups often don't find construction careers appealing, except for certain professions like architecture and landscape architecture. So, fewer members of these groups enter the industry and, when faced with discrimination in the workplace, very few reach the most senior positions.

The cost of this problem is that the construction industry is deprived of a huge number of talented people who could be attracted to it. The problem is now well defined, particularly in the area of women in construction, but is still a long way from being resolved.

Legislation has attempted to eliminate discrimination and promote equality of treatment but with limited success. Statutes include:

● The Disabled Persons (Employment) Acts 1944 and 1958
● The Equal Pay Act 1970
● The Rehabilitation of Offenders Act 1974
● The Sex Discrimination Act 1975
● The Race Relations Act 1976
● The Disability Discrimination Act 1995.

European law is increasingly subordinating UK legislation and the EC has adopted a number of Directives on equal opportunity matters, including

equality of treatment and equal pay. The Equal Treatment Directive, for example, outlaws discrimination on the grounds of sex in recruitment and selection for jobs, working conditions, and training and promotion opportunities.

In 1994, the Employment Department published Equal Opportunities: Ten Point Plan for Employers, which offered advice on how to provide equality of opportunity to ethnic minorities, women and people with disabilities. The ideas also have relevance to ex-offenders and other groups. It is important to recognise that there is more at stake than equal opportunities – there is a real need for equal treatment in every aspect of employment relationships.

Women in construction

Andrew Gale has carried out some pioneering work since about 1987 and has made a thorough analysis of the factors influencing the employment of women in construction. Valuable work has also been done by several other researchers, notably, Clara Greed (who carried out an important study of women in surveying) and, more recently, Angela Srivastava and Susanne Wilkinson.

Gale (1995) points out that discrimination against minority groups can occur in several ways – for instance as earnings differentials or occupational segregation. An example of the latter is the presence of many more women in clerical jobs than in engineering or management. He also reminds us of J. F. Madden's concept of cumulative discrimination, whereby current discriminatory behaviour is caused and sustained by the impact of previous discrimination (whereby, for instance, men occupy nearly all the top management jobs).

Discrimination against women embodies a number of stereotypical views about them – that they cannot do heavy work, that they won't like the rough conditions on site, and so on. There is little foundation to these beliefs, yet it prevents many women from enjoying successful careers in both construction management and the trades. Gale cites evidence that this is an international problem, not unique to the UK – and he refers to a study by a female construction company director who found that even employers who claimed to favour employing women did not employ any women at all in trade or manual jobs.

Srivastava (1996) found that even though individuals and organisations claimed to be encouraging women to enter construction, there remained many obstacles to women's full participation – including being in a minority, the behaviour of co-workers and the attitudes and behaviour of managers. **'Being** in a minority' is more important than it sounds. Somehow the absence of a 'critical mass' of women in a work group can make it very hard for the few who are there to achieve equal treatment and have their input to the team

taken seriously. This critical mass may often be quite small, perhaps a fifth or a quarter of the group's membership. The notion of critical mass needs more investigation, but it almost certainly applies to any minority in a group and therefore has relevance for other forms of discrimination.

Unless there is a significant change of attitudes towards women and other groups who are under-represented in the industry, no real change in behaviour and organisational culture within construction will take place. The industry will continue to waste valuable human assets and perpetuate, often unwittingly, unlawful discrimination. Change in provision of facilities is important too. For instance, under the Disability Discrimination Act 1995, employers are expected to take any reasonable measures to remove barriers to equal opportunity in their recruitment and employment practices. So, for example, an employer would find it difficult to reject a disabled job applicant on the grounds that there was no suitable access to the workplace, if the problem was the absence of a ramp which could reasonably be constructed adjacent to the steps.

Disciplinary procedures

Guidelines for a sound disciplinary procedure are given in an ACAS code of practice. The code is not legally binding but describes the kind of employment practice which an industrial tribunal would look for if considering a claim for unfair dismissal.

A disciplinary procedure should normally:

- be in writing;
- state the categories of employees it applies to;
- provide for matters to be dealt with quickly;
- describe what actions may be taken;
- state the level of management which has the power to use particular penalties;
- make sure the employee knows a complaint has been made and is able to state his or her case in the presence of a union representative or colleague;
- provide that no employee is dismissed for a first breach of discipline, except for gross misconduct;
- ensure that disciplinary action is not taken until the circumstances have been fully investigated;
- give the employee a full explanation of any penalty imposed and a right of appeal, specifying the procedure.

Disciplinary procedures vary from firm to firm. They usually allow for two spoken warnings before the offender is finally warned in writing. The accent should be on helping the individual to improve, rather than on punishment.

Gross misconduct should be defined in the rule book and contract of employment. Usually it includes theft, drunkenness and insubordination, although it can be difficult to decide how dishonest, drunk or disobedient an employee must be, before his or her misconduct becomes gross.

The manager should always have a witness who can testify that a warning has been given. The employer should keep a full record of disciplinary actions and warnings, because the firm may later have to contest a claim of unfair dismissal.

Grievance and disputes procedures

A system also has to be provided for employees' complaints. Without this, minor irritations can grow into major disputes.

A *grievance procedure* normally deals with individual complaints, whereas a *disputes procedure* applies to group complaints. In both cases, the procedure should be in writing, stating where complaints should be directed and a point of appeal if conciliation fails. It should allow aggrieved employees to be accompanied by union representatives or colleagues when complaining to management and should set time limits for resolving the complaint. Full details should be recorded.

Difficult disputes involving a group of workers may be referred to an outside body if agreement cannot be reached. ACAS will help, and the Building Employers Confederation has its own conciliation service which its members may try first.

Dismissal

A dismissal can take place in three ways:

- The employer terminates an employee's contract of employment, with or without notice. If the employee resigns, this is not normally a dismissal. In *Elliott* v. *Waldair (Construction) Ltd* (1975), an employee drove a heavy lorry. It was thought that this work was too hard for him, so he was told to drive a smaller van. He resigned because his overtime earnings would have fallen. It was held that the order to drive a different vehicle did not constitute a dismissal.
- The employee terminates the contract, with or without notice, because of the employer's conduct. This is sometimes called a 'constructive dismissal'.
- The employee is employed for a fixed term. Dismissal takes place if the term expires without being renewed, although certain fixed-term contracts are excluded.

Fair *and unfair dismissal*

When a genuine dismissal has taken place, it is often necessary to establish whether or not it was fair. The Employment Protection (Consolidation) Act 1978 identified five grounds for fair dismissal:

- *Lack of ability or qualifications for the work.* The employer must act reasonably and may be expected to give the employee the opportunity to make good the deficiency in skills or qualifications.
- *Misconduct.* This would include theft, unreasonable lateness or prolonged absence from work. The employee's conduct outside work may also give grounds for fair dismissal if it could harm the employer's business.
- *Redundancy.* Employers must, however, show that they have acted fairly in deciding who to make redundant, have considered providing alternative employment, and have consulted the unions if applicable.
- *The employee would be breaking the law if he or she continued working.* If, for instance, a lorry driver has had his or her driving licence taken away and the employer cannot find other work for the driver, the dismissal would be fair.
- *Any other substantial reason.* This usually involves commercial reasons. In *Farr* v. *Hoveringham Gravels Ltd* (1972), it was a company rule that employees must live within reasonable distance of the works. They dismissed a manager who had moved to live 44 miles away. It was held that the dismissal was fair because someone in his position might be called out in an emergency.

Termination of contract

Selwyn (1980) identified five ways in which a contract of employment may end, without it amounting to a dismissal:

- *Resignation.* The employee clearly and unambiguously gives notice of his or her intention to resign.
- *Constructive resignation.* The employee acts in a way which shows that he/she no longer intends to be bound by his/her contract.
- *Frustration of contract.* It becomes impossible for the employee to continue working. This would include, for instance, the employee being sent to prison.
- *Consensual termination.* The parties agree that the contract will end if certain events happen. A civil engineer was given a year's unpaid leave of absence to attend a course. It was agreed that if he did not return at the end of the period, his contract would be ended.

● *Project termination. A* person is employed only for the duration of a project.

Summary

In its broader sense, industrial relations covers every aspect of the relationship between employer and employee. This relationship has always been an uneasy one, although construction has had better employee relations than most industries.

Since the 1960s, employers have been under pressure to take labour relations more seriously, partly because of quite a rapid shift in attitudes to work and towards employers, and partly because of a string of new employment laws aimed at improving employees' basic rights. Amongst other things, employees have the right not to be unfairly dismissed and not to be discriminated against on grounds of married status, race, sex and trade union membership. They are entitled to safe, healthy working conditions, time off for public duties, and financial and other help if made redundant.

Since the management of people is central to business success, managers must handle industrial relations skilfully. The techniques used range from collective bargaining at industry level, to local bargaining and grievance handling on site.

In construction, collective bargaining is quite fragmented, because there are many employers' federations and unions, representing numerous occupational skills. This creates many anomalies in wage rates and conditions and there is a need for rationalisation.

Individual employers have to comply with substantial statutory requirements on employment, including provisions relating to employment contracts, discrimination, disputes, disciplinary rules, redundancies and dismissals.

The 1990s have seen a wider acceptance of the need for equality of treatment of employees and job applicants, and the stamping out of discriminatory practices. Many organisations have tried to implement an equal opportunities policy, although there are still many obstacles to overcome. One of these is the attitudes of people, in particular of some senior managers whose positions themselves resulted from discriminatory selection procedures in the past.

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