SUMMARY

Information systems and information technology (IT) are assuming an increasingly important strategic and operational role in local government. The convergence of developments in computing and telecommunications now provides a key resource to support the delivery of services and to transform the way local authorities work. The annual expenditure on IT during 1989/90 is conservatively estimated to be around £640m (Exhibit 1).

IT provides vital communication arteries which permit new ways of linking users together over networks. IT can also facilitate the objective of taking services and staff closer to the customer.

The changes in the technology itself are easy to see. However, members and chief officers have found it less easy to recognise the management and organisational implications. As a result the arrangements for managing information technology within all authorities have been under increasing strain.

The trend towards 'end-user' computing, together with the accelerating distribution of computing power in most departments, is changing the way in which computing facilities are managed and provided. It is also changing the responsibilities placed upon, and the skills required of, management, users and computer staff.

To add to these difficulties, local authorities find it increasingly hard to attract and retain skilled IT staff –
though IT itself can be used in innovative ways to help meet the challenge of finding scarce skills.

Lack of staff is not the only obstacle to effective use of IT. A lack of member, management and user knowledge; an inability to change; and an inability to deliver services on time or at the right cost are also contributory factors.

Members and chief officers are certainly right when they point to the difficulties of measuring and realising the benefits of IT. One major reason for such difficulties is that there has not always been a proper recognition that IT changes often imply major organisational change also. IT and user managers are often overwhelmed by the 'politics' of organisational change because the change process is not led and managed from the top.

To manage successfully in the new environment authorities need to take maximum cost-effective advantage of current and future IT developments. Members and chief officers must, therefore, map out policy objectives and political priorities. It is only within the context of a clear service or business plan that IT can be most beneficially employed.

Members and chief officers will therefore need to give IT issues the same attention as capital investment plans, human resource planning and decentralisation. Imaginative and effective deployment of IT will be a fundamental building block of 'the competitive council'.

The key success factors identified in the Commission's Management Paper 'The Competitive Council', which should be applied to achieve the successful day to day management and use of IT, are:
- understanding the IT customer
- setting clear IT objectives
- assigning clear IT management responsibilities
- training and motivating IT & user staff
- communicating effectively about business needs & IT
- monitoring results
- adapting quickly to change.

1. IT PATTERNS IN LOCAL GOVERNMENT

1 The pattern of computing in local government has changed dramatically over the past two decades. Computing was originally introduced to streamline large volume processing systems which demanded a high degree of clerical involvement. The earliest systems to be computerised usually included payroll, creditor payments and housing rent administration. They were all systems based in the finance department.

2 During the 1960s computing could only be afforded by the larger county councils and county boroughs. Some of these authorities offered their services to the smaller authorities. But three factors dramatically changed this early pattern.

3 The first change was the reorganisation of local government and the creation of fewer and larger district councils. The new authorities wanted to provide and support their own computing. Coincident with that demand came the second catalyst for change; the small mainframe or 'minicomputer'. Eagerly adopted by a new market, the smaller mainframe computer appeared to satisfy the wish for independence and also provided a vehicle to support requirements from departments other than Finance.

4 By the early 1980s, however, there were signs that the aspirations of those who saw the computer as the panacea for all administrative problems were not being fulfilled. The reasons for those disappointments are now, with hindsight, obvious:
- promised savings in cost and staff resulting from the investment in computing did not materialise in the manner expected. In fact, staff often found it difficult to demonstrate the value of the benefits of computerisation.
- there were not enough people with the skills needed to design and develop systems to satisfy the impatient user;
- there was an ever-widening gulf between the technician who understood the 'black box' and the manager who merely saw the machine as a means of mechanising a well-established clerical process;
- senior management did not appreciate that their established methods of working needed to be swept aside if the opportunities which the computer offered were to be realised; and
- users found in practice that the processing speed of the computer was not equalled by the speed with which software could be designed and developed.
5 The third development in the mid-1980s was the arrival of the business microcomputer which was seen as the solution to many of the above problems. Users now had on their desktops machines that seemed to have the power of mainframe computers and with which they could develop their own systems in their own timescale.

6 Many computer departments failed to foresee the success of the 'personal computer' and to anticipate the consequences. They were confident that the initial euphoria would die away and that 'defectors' would return to the fold. This was not to be. The arrival of the micro brought with it a vast array of associated technologies which have had, and will continue to have, a profound effect upon all organisations.

7 Throughout this period, spending on computing increased dramatically as computer suppliers capitalised on the valuable opportunities provided by an expanding local government market. Annual expenditure on IT equipment, software and services (but not salaries) has grown by around 700% in the last decade (exhibit 2).

8 Whilst the traditional data processing requirements had largely been satisfied by the late 1970s, new challenges were, and still are, emerging. The problems and difficulties which faced local government computing a decade ago pale into insignificance against those which face it now. The potential benefits of computing for local authorities are many but the revolutionary expansion of computing now taking place in local government is in danger of slipping out of management control (exhibit 3).

9 In essence, computing is about replacing paper with electronics. Systems of managing electronic information are, at bottom, sophisticated filing systems. Developments in computing and its application have, however, extended far beyond the simple processes of storage, manipulation and retrieval of bulk data. In fact the use of the term 'computing' has become dated since the need is for the transmission, organisation, distribution and use of data in its widest sense. Hence the use of the term 'Information Technology' (IT) to encompass all the facilities available for managing information electronically and replacing cumbersome paper-based systems.

10 Computing is now used for graphics and voice and text processing. But the most significant development by far is in the field of...
telecommunications. Telecommunications technology will underpin many other developments and be the cornerstone of all future applications of computing.

11 The opportunities for the use of IT in local government are endless; so are the associated problems. Cost effective management of information technology poses many corporate issues which must be addressed and resolved by members and chief officers if authorities are to get real benefit from their investment.

THE PROBLEMS
DECIBEL PLANNING
12 The insatiable appetite for computing by some departments and the apparent indifference by others means that often those who shout loudest get what they want. So investment in IT is not always channelled to those services which most need and deserve its benefits. The service departments most in direct touch with many local government customers – for example, Social Services and Education – have not always attracted investment commensurate with their share of the authority’s budget or the importance and scale of their operations. Much of this is to do with a failure by those leading such departments to realise that IT should be an intrinsic part of their strategies.

DISORGANISED ACQUISITION OF IT FACILITIES
13 User departments’ frustrations with late delivery of systems and long development timescales have inevitably led many to plough their own furrows. Users have invariably been able to demonstrate the short term benefits of providing their own solutions and have only later come to appreciate such disbenefits as the inability to share corporate data and the consequent need for expensive duplication. Meanwhile many IT managers have been reluctant to come to terms with the consequences of personal and departmental computing. This has led to a disorganised and often uncoordinated approach to acquisition.

14 But the market for IT facilities in local government shows no sign of abating. Local government could become, alongside the National Health Service, one of the most significant growth areas in the UK market. The risk is that the equipment may be acquired without sufficient regard to the overall needs of the authority. There is, too, the further risk that users will sign contracts for both hardware and software without ensuring that they have sound commercial and legal advice and that the contract includes provisions to safeguard their interests.

LEGISLATIVE PRESSURE
15 There is ample evidence that legislators believe the power of the computer can be harnessed to any new initiative at a moment’s notice. The reality is quite different. The application of the series of new rules for Housing Benefits which have been promulgated over the past few years demonstrate most visibly how even the private sector software houses, to whom many authorities turned for help, failed to deliver within the tight timescales.

16 Nevertheless, other demands have followed. Community Charge, Compulsory Competitive Tendering and Local Management in Schools have led service managers to look to IT to deliver solutions. There is no likelihood of such pressures weakening.

17 The impact of legislative change on the cost of IT services is also considerable. Figures quoted in the computing press and studies undertaken by the Society of Information Technology Managers in Local Government (SOCITM) give some idea of the possible scale of these costs:

COST IMPLICATIONS OF LEGISLATIVE CHANGE

LOCAL GOVERNMENT
- Community Charge £200m+
- Financial Management in Schools £300m+

NHS
- Resource Management Initiative £250m+
- Computerisation of GPs services £100m+
- Medical Audit Procedures £150m+
- Hospital and Information Support Services £1400m+

DELAYS
18 The most common and long-standing complaint by users about the computing industry and more particularly about central computer departments is their inability to meet deadlines. Each side blames the
other. The user is said to have failed to specify the requirements while the developer is said to have consistently underestimated the resources required. The end result is frustration and an ever-widening gap between the user and the provider.

SKILL SHORTAGES

19 IT is a combination of complex technologies, all of which demand specialist skills. These skills are in short supply - and the skill shortage is growing. Market forces will dictate which organisations are most successful in meeting their skill needs. When the private sector economy is strong the public sector, particularly local and health authorities, will tend to suffer most. The Audit Commission's Management Paper 'People Management: Retaining and Recruiting Professionals' (June 1989) highlighted these problems:

"The effects of shortages are evident both in the provision of inferior services to the public (compared with what had been planned) and in inadequate management and control systems. Some shortages, of computer programmers for example, can have both effects. And some have a direct influence on costs as councils buy, in a seller's market, those services they need but cannot provide for themselves."

20 If local authorities fail to address this issue and fail to look carefully at personnel management and career development issues – and innovative uses of IT to reach those skills – they are unlikely to attract and retain the best.

FAILURE TO APPRECIATE THE POTENTIAL OF IT

21 The most alarming problem, however, is senior management failure to appreciate the potential benefits which IT offers. It is also the one which can, in principle, be solved most easily.

22 The changes that have occurred are deceptive. Changes in the technology itself are easy to see and to measure; it is less easy to recognise the management and organisational implications of such changes and the opportunities that they afford. There are still authorities where members and chief officers remain sceptical about the strategic value of IT and the need to respond and adapt to changing circumstances. There is, therefore, grave danger that key opportunities available to their organisations will be missed and basic procedures remain unchanged and ineffective.

23 The evidence which supports this charge of 'information system myopia' is set out in the findings of a number of major surveys on the subject of information systems technology. The key findings were:
   — many organisations have failed to align their IT strategy with their corporate or business strategy;
   — a disturbing percentage of senior managers do not see IT as making any contribution to organisational performance;
   — the great majority of senior managers relegate IT to providing a reactive service for middle management;
   — only 38% of authorities had defined and documented their strategy; and only 43% of authorities had nominated an individual to co-ordinate aspects of information technology and office automation.

24 The difficulty that senior officers have in comprehending the implications of technological change is understandable. During the 1970's many of the major computing suppliers remained convinced that microcomputers would be uneconomic and unmarketable. The extent and speed of change has astonished even those gurus who monitor the major trends that will transform our lives. As for professional computing staff, the sheer pace of change has left them with little time to consider the broader service goals of their organisations (exhibit 4).
PROBLEMS FOUND AT AUTHORITIES

ORGANISATIONAL CULTURE
• Lack of clear policy direction by members
• Had learned nothing from past mistakes
• Growth of departmentalism and elitism
• Little understanding of what was obstructing success

TOP MANAGEMENT’S ATTITUDE TO IT
• Lack of interest in potential of IT
• Abdicated responsibility to technocrats
• Uneven development across departments
• Failure to tackle glaring track record of poor productivity

IT STRATEGY
• Merely a budgetary and financial planning vehicle
• Failure to agree an IT strategy despite many efforts

IT COSTING/CHARGING
• Included in central establishment charges
• Users given no information – costs simply ‘imposed’ on them

SYSTEMS DEVELOPMENT
• No agreed priorities
• Poor productivity over a number of years
• Single point estimating
• Poor quality systems
• Users abdicating their ‘client’ role
• No post – implementation reviews

PERFORMANCE OF IT RESOURCES
• No performance monitoring
• Less than a third of a machine capacity used
• No capacity planning
• Computer centre in disarray
• Some functions under-resourced, under-managed and isolated

Subsequent research suggests that the position is improving but there are still not enough senior managers and users who fully understand the value of IT and the part it can play in securing their own objectives. Work undertaken by the Commission and its computer auditors has revealed a consistent pattern of management problems which are inhibiting authorities from maximising the potential of IT. The scenario depicted in the box opposite illustrates a number of problems found at many authorities.

THE OPPORTUNITY

IT has no value in itself; it will only give maximum value if it is driven by organisational needs. Those needs will certainly change in the future in ways which are now hard to foresee. The best way to predict that future is to help invent it. That means that the approach in many authorities will have to change from the current focus on the short term. There will need to be acceptance of the fact that creating an effective communications infrastructure requires a long term view. There must also be a conscious recognition that rapid change is now a fact of organisational life. IT is transforming organisations and exhibit 5 illustrates the current problems and how IT can act as a catalyst for change.

Organisational changes will be necessary to cope with rapid environmental change. A key area to be addressed concerns the traditional tension between the centre and individual departments. There will always remain a delicate balance to be struck. When there is a need for
Exhibit 5

IT – TRANSFORMING ORGANISATIONS
How the application of IT can change organisations

<table>
<thead>
<tr>
<th>Current problems</th>
<th>IT as catalyst</th>
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</thead>
<tbody>
<tr>
<td>Vision</td>
<td>Quick fix/short term</td>
</tr>
<tr>
<td>Strategy</td>
<td>Standsill</td>
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<tr>
<td>Structure</td>
<td>Centralised</td>
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<tr>
<td>Staffing</td>
<td>Low productivity</td>
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<tr>
<td></td>
<td>Heavy overheads</td>
</tr>
<tr>
<td>Skills</td>
<td>Technical</td>
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<tr>
<td></td>
<td>Professional</td>
</tr>
<tr>
<td>Style</td>
<td>Bureaucratic</td>
</tr>
<tr>
<td>Systems</td>
<td>Control over inputs</td>
</tr>
<tr>
<td></td>
<td>Tight control of detail</td>
</tr>
</tbody>
</table>

emergency action or drastic change, control normally reverts to the centre. But to release entrepreneurial initiative and develop responsiveness and ‘customer’ focus it is necessary to devolve responsibility to the point of service delivery.

28 The computer is helping this process by flattening the bureaucratic pyramid. When data can be entered anywhere on the communications network as events occur, and called up by pressing a key, managers can spend more time focusing on performance and outputs. New functional relationships and communication channels are forged. Job output is redefined and information is more immediately accessible.

29 Pushing decision-making authority down to the lowest practical level increases employee participation and allows the authority to be more proactive and innovative. By allowing staff to find greater meaning in their activities the authority is also more likely to retain them. Further, each service unit can now focus closely on its key objectives.

30 This, in principle, should allow organisations to peel away cumbersome layers of management and create lean support establishments. The organisational, managerial and cost-saving possibilities that may be opened up by IT are constrained only by the limits of senior management's imagination. There is abundant testimony in management literature that 'excellent' organisations are seizing the new opportunities. There is a realisation that IT not only offers benefits of economy and efficiency but also the potential to help transform organisations. The key to realising that potential lies in the attitudes and approach of management to the task.

3. KEY SUCCESS FACTORS

31 The need to anticipate and manage the organisational impacts of changes in the environment has led to a greater focus on strategic thinking and planning. A strategy for IT is required because the technologies and disciplines supporting IT are converging at a time when major aspects of computing and office automation are for the most part user-driven. A strategy is also required because the long investment time span for IT has to be reconciled with annual planning cycles. Senior management needs to develop a coherent framework to ensure that the demand for immediate solutions to current problems at the departmental level does not prejudice future requirements and the corporate need for inter-communication. The strategy should encourage departmental initiatives at a healthy pace while ensuring the minimum of future problems of integration. This is easier said than done.

32 The Audit Commission's Management Paper, 'The Competitive Council' (March 1988) focused upon eight key success factors of a well managed authority. Seven of those factors may be applied to achieve the successful day to day management and use of IT, namely:

— understanding the IT customer
— setting clear IT objectives
— assigning clear IT management responsibilities
— training and motivating IT & user staff
— communicating effectively about business needs & IT
— monitoring results
— adapting quickly to change.

UNDERSTANDING THE IT CUSTOMER

33 Although relative newcomers to the local government scene, IT sections have quickly been imbued with the departmentalist spirit of the longer established departments.
Their concerns, users argue, are more to do with technology and the practice of their specialism than with the use of appropriate expertise to provide a service and find business solutions for the users.

34 The 'users' are the customers and should be treated as such; that is, with courtesy and consideration. The users should be assured that proper and informed attention will be given to their needs not just in terms of timely delivery of products but also their quality and suitability. Customers also need to have confidence in the quality and reliability of the subsequent service and support. IT departments, therefore, need to make clear to their customers the standard of service that they are offering and the full costs associated with it. They also need to monitor customer satisfaction.

35 A growing number of authorities now accept that they will be unable to measure the economy and efficiency of their computing services until explicit costs, linked to recognised service performance indicators, are published and compared with the costs of alternative suppliers. This approach will help staff to become more customer oriented.

[A forthcoming Information Paper will deal with the Costing of & Charging for IT Services]

SETTING CLEAR IT OBJECTIVES

36 IT managers need to set and manage key tasks for their departments in a manner which will ensure that:

- users are treated as partners with appropriate responsibilities and facilities
- users' priorities are aligned or reconciled with corporate priorities
- costing and charging arrangements are aligned with strategic objectives and IT customer needs
- there is greater emphasis on the role of the IT section as internal consultants, facilitators and enablers
- there is provision of a reliable and cost-effective service
- regular monitoring of customer satisfaction takes place
- IT staff are effectively led and motivated

ASSIGNING CLEAR IT MANAGEMENT RESPONSIBILITIES

37 Service departments must accept greater responsibility for IT strategy planning, project management, and the specification of requirements. They must be more accountable for ensuring that IT objectives are attained and that benefits sought are realised.

38 There will, however, remain a need for a skilled, central corps of specialists to set and maintain professional standards, implement corporate and strategic information systems, design and build the communications and technical infrastructure, and maintain the security and integrity of data.

39 Each authority obviously needs to determine a structure appropriate to its needs. The status of the head of IT and his or her responsibility to the corporate decision-making body rather than to another chief officer should be considered. Within each department, liaison officers should be appointed to facilitate communication and co-ordination with central IT staff. IT performance during the year should be reviewed with each departmental chief officer.

TRAINING AND MOTIVATING IT AND USER STAFF

40 Changing technology creates a need for IT staff to acquire new skills. In the larger authorities new functions may be created within the central IT department. In the smaller authorities IT staff will need to change their attitudes and expand their conception of their role.

41 The principal needs have been found to be for:
- an 'Information Centre' approach
- a 'Help Desk' orientation
- a 'business analysis' approach
- performance monitoring skills
- network management abilities
- capacity planning skills

42 There is a great and growing need for training and a marked shortage of relevant provision. Yet many local authorities seem still to focus on headcount rather than skill. Unless there is a greater understanding in the future of the need to motivate and develop staff it is certain that some unnecessary waste will continue.

COMMUNICATING EFFECTIVELY ABOUT BUSINESS NEEDS AND IT

43 The IT department is, increasingly, assuming responsibility for the communications infrastructure for both text and voice. Ironically the
head of IT often signal fails to communicate with members, senior managers, users, and IT staff. Many senior managers complain that they are unable to champion the cause of IT because senior IT staff do not communicate with them in a meaningful and effective manner. Many members bemoan the lack of 'political', organisational and diplomatic skills shown by IT technocrats.

44 Complaints by users about lack of communication are even more formidable. They charge that:
— they have often not been informed about major hardware and software changes and the implications of those changes for their services;
— they have little information on the work that is undertaken within the computer department; IT managers seem often to find it impossible to explain what they are doing in terms the layman can understand;
— there is insufficient warning of operational and system changes which will impact on the service provided to them; and
— there is often considerable confusion over who does what within the computer department.

45 It falls to the IT manager to address many of these complaints. If there is no effective communication the service delivery will almost certainly be impaired and the IT section will lurch from one fraught development to another.

MONITORING RESULTS
46 Delivering a system on time and within an agreed cost calls for sound and regular monitoring of actual against planned progress. For this to happen, suitable criteria of measurement must be defined. However, few IT departments, and even fewer members and chief officers, institute arrangements which enable IT staff to estimate and track progress with confidence. And few authorities have made arrangements in the past to carry out a detailed review of a newly introduced system to ensure that the application met the original specification or that anticipated benefits were actually achieved.

47 There is little merit in devoting considerable effort to feasibility studies and other evaluation processes if there is no check that the desired objectives have been achieved. There should, therefore, be a review of new systems some 6/12 months after they are implemented. The resulting report should be presented to the IT Steering Group and general management lessons learned should be disseminated to the wider user community.

48 Now that information systems have become fundamental to the cost-effective delivery of services to the public, the head of IT faces the major task of accommodating change with the minimum impact on users. Standards are crucial to successful completion of that task. Many organisations have suffered from:
— difficulty in adapting IT systems to organisational change;
— difficulties in avoiding incompatibilities between IT systems when changing or acquiring hardware and software;
— the difficulty and high cost of maintaining old and poorly documented systems; and
— system duplication because of incompatibility.

49 If local authorities are to have any chance of coping successfully with change and the IT problems that confront them they will need a fresh approach towards the adoption of standards. Now that there is inter-
national recognition of the need for IT standards, it would be timely for IT departments to review their practices in all areas of IT service delivery.

4. DEVELOPING AN IT STRATEGY

50 There are four stages in the development of an IT strategy (Exhibit 6):
— defining the authority's objectives
— providing an IT Briefing for senior management
— defining the Information Strategy
— defining the IT Strategy.

51 The conclusions of the above four stage process should be set out in a formal strategy document. Documentation is important. It helps to ensure that the strategy is comprehensive and internally consistent. Without it, the strategy will be hard to police.

Stage 1: Defining the authority's objectives
52 A local authority will neither reap the full benefits of IT, nor obtain maximum value for money from IT expenditure, unless its strategy for the use of IT forms part of the corporate objectives of the authority.

53 Planning ahead in this way means identifying the key priorities. This will require the authority to identify essential service needs and the resources available or required to meet them, including IT. Such an approach is the essential prerequisite of a successful IT strategy.

54 The end result should be a strategy document and an associated planning and review process; all vital elements in the management of the authority.

[A forthcoming Management Paper will discuss policy planning in more detail].

Stage 2: the IT briefing
55 The key to the preparation of a successful IT strategy is informed discussion and debate by senior management and service departments on how IT can help them achieve their service objectives. The first step for senior management is to recognise and accept that there is a qualitative and significant new strategic capability available in IT that must be integrated into their objectives, organisational plans and daily routine. They are the individuals to whom people look to articulate a vision for their authority. To identify the potential use for IT there must be full understanding of the phenomenon and a grasp and appreciation of what may be possible to achieve with it.

56 Members and chief officers alike should be fully briefed about IT: how it may be used, the management implications and how it may be integrated with the business plan to achieve service objectives.

Stage 3: Defining the Information Strategy

'A successful shift of financial responsibility to line management depends on good, well presented information going to the right people as soon as possible. Out of date information can mislead, cause people to make the wrong decisions, or let a bad situation get out of hand.'

58 Information is the lifeblood of any organisation. It is the cohesive force which binds separate departments and sections together. It provides the raw material for managerial decisions. Any local authority which wishes to improve the quality of its services will find that a prerequisite is adequate information about its current and future needs and its standard of performance.

59 A major difficulty encountered by managers in many authorities is the restricted availability of management information. Often the information needed is either not available or can only be obtained after time consuming laborious effort and analysis of hand written data. Computer produced data often has to be further analysed and adjusted. The next stage in the process therefore is a definition of the information requirements of the authority; what is needed, when and how it should be delivered and presented.

60 An information strategy seeks to facilitate information flows by ensuring that the organisational framework promotes the desired pat-
tern of communication. A strategic approach seeks to achieve this objective by identifying the sources of information; determining where information is needed; and resolving where and how it should best be stored and retrieved. The Audit Commission's paper 'Managing Services effectively – performance review' (December 1989) emphasised the importance of effective information:

'Every manager in the chain needs to review the performance of the activities for which they are responsible. That requires an organisational structure which assigns clear responsibilities, and then a system to provide each manager with the information that they need.'

The paper then highlighted the fact that different managers need different information in terms of its purpose, type and frequency.

61 All authorities will find that they need information at three levels:

Executive: information needed by members and chief officers for forward planning and monitoring performance

Departmental/Coordinating: information required by departmental chief officers and coordinating managers which will not necessarily flow across departmental boundaries

Operational: information required at the 'front line' in order to deliver an effective and continuous service.

62 Experience has shown, however, that members, senior managers and users often fail to give considered attention to their current and future information needs. They assume that new, and often complex, requirements can be instantly satisfied. It should now be apparent, however, that corporate information systems are like ocean-going liners. The course is set for the immediate future and even in an emergency it requires time and effort to change direction. It is imperative, therefore, that there should be on-going monitoring and forward planning in order to minimise the occasions on which there is a need to demand a drastic change of course. It is only by such forward planning that information needs are likely to be met in a timely and effective manner.

Stage 4: Defining the IT Strategy

63 Once senior management has identified and accepted the need for a strategy, it is in a position to set out the terms of reference of a review which must culminate in a defined IT Strategy statement.

64 The review should seek to answer these questions:

- where are we now?
- where do we want to be?
- how do we get there?

65 The process of answering those seemingly innocuous questions can, as many authorities have found, raise concerns that seem to threaten personal and departmental relationships and highlight management problems that have lain dormant for some time.

WHERE ARE WE NOW?

66 Few authorities, if any, will be in the fortunate position of starting with a 'clean slate'. Even those who may be breaking away from a consortium and setting up their own in-house facilities will have a history of computer use. It is important, therefore, to understand fully the fund of experience, understanding (or misunderstanding), skills, problems and opportunities that currently exist.

67 The review team will need to document the authority's portfolio of information systems, inventory its hardware and communications network, and evaluate key problems. The review will focus on two key topics: how IT is being used (or not being used) throughout the authority; and how IT is being managed and delivered to users.

68 The review should highlight such issues for senior management's attention as:

APPROACH TO IT

- whether IT is seen as a necessary evil, a scarce resource or a transforming aid;
- whether the authority seeks to lead the field, follow the flock or float with the tide;

USE OF IT

- the number of systems which are of poor quality or not easy to use and those which are batch rather than online;
- the proportion of systems which are of an administrative or 'head office' nature rather than assisting the delivery of services at the 'sharp end';

GROWTH OF IT

- the annual growth of demand for memory, disk and tape storage, and processing power;
— the degree to which growth has impacted on response times;
— the present size of the terminal and communications network;

**DELIVERY OF IT**
— the proportion of resources tied up in maintenance;
— the extent to which the current approach towards planning new systems is technology-driven rather than information-need driven;
— the role of users and departments;
— the use of fourth generation tools;
— the use of modern system development techniques;

**DATA MANAGEMENT**
— the degree of redundancy and disaggregation of data;
— use of database management systems;
— the approach to the modelling and design of data;

**TECHNICAL SKILLS**
— the technical support available and the growth in demand;
— the responsibilities for voice communication, office systems and performance monitoring;

69 The review process may reveal that the authority is well placed to cope with further change. It may equally conclude that the authority has not positioned itself to take full advantage of IT and that a fundamental reappraisal of management attitudes, communication processes and organisational arrangements is necessary. The objective of the exercise is to help prepare the ground for the change management process that will be necessary to get from the current state of affairs to a desired end point.

**WHERE DO WE WANT TO BE?**

70 Once an authority has determined where it is and what the problems are, it then has to decide where it would like to be. The direction it will wish to take will be determined by:
— the aims and objectives of the organisation
— information needs, application strategy and role of packages
— opportunities provided by developments in telecommunications
— the identification of the key success factors to facilitate change, and
— the resources and skills in terms of finance and people

**AIMS AND OBJECTIVES OF THE ORGANISATION**

71 Members and chief officers must map out policy objectives and political priorities. It is only within this context that IT can be most beneficially employed.

**APPLICATION STRATEGY**

72 Defining the Information Strategy will lead authorities to consider their approach to the provision of systems. There is a multiplicity of products and potential information solutions available to meet information needs. The problem of this 'embarrassment of riches' is that users may assume that immediate solutions are available. They often forget, in their haste, that solutions need to be robust, flexible, easily learned and understood by newcomers, and capable of being supported and maintained by their own staff or by computer staff.

73 Users are, however, sometimes right to complain that IT staff can be unduly narrow in their approach to IT solutions. Their main charge is that IT staff are often 'mainframe' oriented. Some IT staff have become so accustomed to their role as 'providers' that they narrow solution possibilities to what they alone can provide.

74 The challenge for users and IT staff is to conceive and build a coherent application strategy. This should map particular generic solutions (such as spreadsheets, database packages, office automation, computer aided design) onto a flexible communications infrastructure. The aim is to meet the often conflicting demands of securing an immediate local solution which does not undermine long-term corporate compatibility.

75 Over the past few years there has been a trend towards the acquisition of packaged software and away from in-house development. The main reasons are:
— an increasing recognition that individual local authorities are not unique and that common systems can be beneficially used;
— the major investment in time and money necessary to develop new 'bespoke' or 'handcrafted' systems; and
— difficulty in recruiting and retaining experienced IT staff.

76 Flexibility is essential when evaluating a package as an alternative to an in-house development. The authority seeking a package which will exactly fulfil its needs is likely to be disappointed. But software which
satisfies, say, 80% of the users' needs can often be found and made available within an acceptable timescale. It may also be sensible to invite users to question whether it would be more cost effective for them to alter existing work practices to fit around the package than to expect the package to fit their long standing day to day procedures.

OPPORTUNITIES OFFERED BY ADVANCES IN TELECOMMUNICATIONS

77 Many authorities have a sizable investment in voice communications. The application of the microchip has revitalised many of the components that are integral to such a network. Telephone handsets and switchboards have been enhanced and new services (such as electronic messaging, facsimile transfer, and desktop conferencing) are being provided.

78 Telecommunication facilities now provide a major enabling mechanism for linking diverse organisations together. Telecommunications can help conquer difficulties created by time constraints and geographical dispersion. Many large authorities have established gateways to other networks and are beginning to access external databases and information services. Some authorities are exploring the possibility of sharing data from their viewdata and careers systems. Members can now contemplate accessing key information for their casework and council-wide duties from home. These developments have encouraged an expansion of 'Telecommuting' - with more and more staff working from home. Few authorities will wish, or be able, to ignore the opportunities now available.

79 'Networking' – linking computers together to share data and software – can satisfy both the centralist and departmentalist. The organisation committed to a centralist strategy can utilise the networking technology to allow remote users a degree of independence whilst retaining control over corporate data. Networks can also provide the means of distributing data and software such that local processing centres can replace the central mainframe but still provide shared data and software.

80 The opportunities for making best use of communications will be dependent upon authorities pressing for adoption by suppliers of international standards for Open System Interconnection which are designed to provide a means of interconnection and interworking between dissimilar data systems. They also provide a framework for supporting a multi-vendor environment and allow authorities to avoid being locked in to any one supplier. Authorities will therefore need to focus clearly on the possible needs for, and benefits of, telecommunication facilities.

AVAILABLE RESOURCES

81 One question which authorities will need to address in determining the direction to be taken, and indeed the pace at which progress is to be made, is whether they have the capability, in terms of resources and skills, to get to the desired destination. The following factors:

— staffing levels necessary, in IT and user departments, to support, implement and manage such developments; and
— provision of the appropriate technical and managerial skills

will all be important in deciding whether the desired end point is achievable.

HOW DO WE GET THERE?
SUCCESSFUL CHANGE MANAGEMENT

82 Senior managers must recognise that a key management challenge confronts them. IT is in demand - but delivery always seems to be too little and too late. There is often conflict between unhappy and vociferous users who want to do their own thing and IT staff who issue dire warnings of anarchy and chaos. Existing systems are continually accused of failure to deliver the goods. The problems of attracting and retaining experienced IT staff are driving authorities to resort to all kinds of fringe benefits which only seem to increase their costs without resolving their problems. New product policies by the computer supplier can create major and expensive upheavals with seemingly little immediate and perceptible benefit.

83 In order to create a climate in which these problems are fully understood and management processes are evolved to address them it will be imperative to recognise the need to manage the key success factors. It is as important to create a climate where managers are committed to making IT happen as it is to engage in the more glamorous activity of strategy formulation.
SERVICE DELIVERY OPTIONS

84 Few authorities seem to give conscious attention to the service delivery options available to them. There is often an unvoiced assumption that, despite the difficulties of recruiting and retaining IT staff, an ‘in–house’ service is best.

85 Many IT managers seem unwilling to accept that service departments should seek advice, let alone service delivery, from anyone other than themselves. Even fewer have been prepared to encourage debate about the merits of facilities management, consortium arrangements, or the use of contract or outside assistance. But if the clamorous demand for IT solutions is to be met, IT staff will need to be prepared to debate the advantages and disadvantages of various service delivery options.

86 Such decisions may well be forced upon authorities if the IT service is included in the services subject to compulsory competitive tendering. However, it must be remembered that the identification of service needs comes before a decision as to how those needs are to be met – hence the importance of the IT strategy.

OPTIONS FOR PROVIDING AN IT SERVICE

87 In–house computing facilities have traditionally been the usual means of providing an IT service for local authorities and this may well be the approach adopted unless compulsory competitive tendering is extended to the IT service.

88 Facilities Management essentially means that an organisation hands over its computing service – and many of the associated problems – to a third party. One approach could involve the service company taking over the computer systems and running them from the company’s own site, giving the authority access to systems through on-line terminal links. Alternatively the facilities manager could run the existing systems on site with the authority’s staff becoming employees of the firm.

‘...Few authorities give conscious attention to the service delivery options available...’

89 There may also be occasions where an authority wants to make a major transition – say from one supplier to another – and requires some short term assistance. In such cases a facilities manager might be needed to run the old systems while in–house resources were devoted to implementing the new arrangements.

90 The most important point to note is that the authority and its users would actually need to define their requirements and the level of service they required – something they are often reluctant to do when there is an ‘in–house’ service. Users would also be obliged to approach computing matters in a more considered manner than they have displayed to date. Contract negotiation skills, in particular, will be vital.

91 Consortium arrangements – there are many chief officers in small to medium size authorities who recognise the strategic importance of IT but despair of ever being able to resolve their IT problems with the money and staff available to them.

92 One approach which can help is membership of a computing consortium. Many consortia have been strained to breaking point in recent years because the strategies of the constituent members have begun to diverge. The result has been that success stories have been rare. Nevertheless, successful consortia can be cost effective ventures. The problems that they have to overcome are no different from those encountered by in–house operations:
— different priorities
— clashing personalities
— difficulties in agreeing on common systems
— different levels of available funding

93 Establishment of commercial arrangements – Many authorities have begun to grapple successfully with the problems of restructuring services which have, or will have, to compete against private firms. Many have also seen the value of anticipating the likely extension of legislation on competition and are actively preparing now to meet it. IT is one of the key services which, it is acknowledged, could become more business–like and cost-effective.

94 Taking jobs to people – There is a severe, and growing, shortage of IT skills in particular regions of the country. That skill scarcity will grow in the coming years because of the prospective large reduction in the number of new entrants to the workforce. And yet there are parts of the country where skills could be
available. Telecommunications now offers the possibility of taking jobs to them. Positive consideration, too, should be given to examining the practicability of using the skills of women with young children, or disabled people, who may be able to work from home. Innovative initiatives of this kind are urgently needed to alleviate the growing difficulty of finding staff with the required skills.

95 Use of consultants and contract staff
– Where users’ needs cannot be met by IT staff because the section is under-resourced and has difficulty coping with its current workload then they should be able to employ consultancy assistance or seek short-term help by recruiting contract staff.

C O N C L U S I O N

96 In the IT area, local authorities face problems very similar to those encountered by other parts of the public sector, and by commercial undertakings. Their success rate in resolving them is probably little worse than that of the private sector, but certainly no better. It is vital, however, given the magnitude of the challenge they face in the next decade, and the overriding need to achieve improvements in productivity that authorities step up their performance significantly. Increasingly, different levels of IT performance will have a noticeable impact on service quality. Authorities who come close to matching best practice in ten key areas will be well placed to deliver effective service to their chargepayers and customers. Those who fall well short will struggle to stay afloat.

Best practice
1. Awareness of potential of IT to transform the organisation
2. An emphasis upon cultural and organisational preparedness
3. The cultivation of implementation skills
4. Exploiting IT to improve service delivery
5. Requirements determined by chief officer team with clear success measures
6. Detailed and realistic cost/benefit analysis available and monitored
7. Little need for investment on basic operational and support systems
8. Few barriers to success perceived
9. Annual reports on performance to members and chief officer team
10. IT literate managers

PLANNING FOR SUCCESS –
questions for management

1. Have chief officers instituted procedures that allow informed discussion and debate about IT issues amongst key managers? Do those managers feel a sense of ownership of, and commitment to, the IT strategy?
2. Are chief officers sufficiently acquainted with IT management issues that they actually make IT happen? Are they simply allowing IT to happen?
3. Do chief officers have a vision of what IT could and should do for them? Do they have a viable strategy for realising that vision?
4. Is the Chief Executive playing an active and appropriate role in the integration of service and IT issues? Who is involved in setting the overall direction of IT effort?
5. Have chief officers set corporate and service objectives that will provide clear guidance for IT effort? Have requirements been prioritised? Have senior user managers been nominated as ‘owners’ of each specific project?
6. Do chief officers see information systems as an essential means of supporting the delivery of services?
7. How many of the barriers to reaping the benefits of IT are due to poor top management understanding and commitment rather than poor operational application systems?
8. Have members and the chief officer team participated in IT Awareness seminars?
9. Do members and chief officers accept that if they are to meet their own performance targets they will need to ensure that they can obtain speedy access to relevant and up to date management information?

Continued overleaf
10. Is the authority aware that imaginative and innovative uses of IT can meet information needs while releasing resources and energies to help the key task of improving the effectiveness of services?

11. Are chief officers aware that all their operations should be seen as largely ’information' activities?

12. Has the authority formulated an Information Strategy?

13. Is the authority investing in old technology and creaking systems or investing in the future?

14. Does the authority recognise the merits of package acquisition whenever possible? Is the choice of hardware influenced by the availability of package software to run on the machine?

15. Do users need to revise their approach to package implementation – are packages heavily modified to suit the user's demands? Is the authority paying more on in-house changes that it paid for the original package?

16. Are all Chief Officers aware of the transforming potential of Telecommunications? Have they a vision of how services can be delivered by means of the communications network?

17. Who is to design the communications network so that it will allow services to be decentralised and ‘jobs taken to people'? What range of services should be anticipated by, and included in, the policy on the communications design?

18. Has the authority recognised the importance of Open System Interconnection (OSI) standards? Has it debated whether it should have a single supplier or multi-vendor policy?

19. Has the authority developed an acquisition policy that gives maximum freedom to users, where required, while ensuring technical compatibility is maintained where important? Does the policy allow maximum use of purchasing potential in order to gain maximum discounts and supplier support for interconnection?

20. Has the authority debated the merits of the service delivery options available to it?

21. Has the authority identified the key success factors which need to be managed if IT is to be successful?