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## INTRODUCING THE CONCEPT OF THE E-INFORMATION SERVICE

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In this chapter you will find:

- our definition – what do we mean by an e-information service?
- the scope of e-information – what do e-services provide and who are the potential users?
- the pluses and minuses of introducing an e-information service
- how to change attitudes and perceptions from the traditional model to the new e-information model
- what is convergence – and why are universities going this way when corporate libraries increasingly contract out technical support to focus on Knowledge Management (KM) and Information Management (IM) as high profile in-house activities?
- the difference the information specialists/librarians make – their work as intelligent filters, providing added value
- non-work use and 24/7 information centres/ libraries: do they have an impact on the e-information service?

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### **What do we mean by an e-information service?**

Over the past 25 years or so, information services have made increasing use of computers. Electronic services allow the service to:

- enhance the services given to customers
- cut down on repetitive work
- maximize the stock available by holding information and documents in electronic forms.

Digital information technology holds out many tempting possibilities, but to realize the benefits fully information managers should understand the overall context of developing a totally electronic information service (EIS). We define an EIS as one where maximum use is made of electronically held information. Establishing an electronic information service from scratch may be easier than converting from a traditional paper-based service. In Chapters 2 and 4 we explore what kind of information service you may wish to provide, but we now need to look at the component parts of the electronic information service.

Library and information services (LIS – a term that we shall use throughout this book to indicate libraries, information centres or information services in whatever sector they may be, preferring ‘library’ or ‘information centre’ only when we discuss the specific type of service) have a wide range of electronic resources to choose from in order to make up the constituent parts of the EIS. Depending on the main subject area in which the LIS is operating, the following list suggests some of those choices:

- computer software
- standalone and network databases
- CD-ROMs
- electronic journals
- multimedia products
- image collections
- encyclopedias
- reference materials
- daily news
- access to financial information sources
- legislation
- scientific, technical and medical information.

## Scope

To establish a successful EIS, it is essential that you define the scope of the service you are establishing. This will require strategic planning, including an information audit of needs of the customers and management, which will require consultation with customers, both current and potential. But without this foundation work, you will not establish a sound base for the service.

Your objective is to establish and ensure broad access to a wide range of resources. To do this it is essential that you co-ordinate the access given to the various parts of your organization, particularly in terms of licensing, and of the use of the electronic services, agreeing who may or may *not* use the resources. If your LIS is open to the public or to a number of large groups such as students and faculty, similar analysis will be needed. There are likely to be financial implications in your choice, possibly because of the funding arrangements for particular groups, or the licensing concessions available.

## Defining your users

You will need to agree who the users are, so as to be able to cater adequately for their information needs now and in the future. A number of factors may influence the definition of a user of any LIS. This could be affected by agreements between your organization and others, for example agreements between local authorities, colleges or universities or businesses on a bilateral basis or as a consortium. For example in the South Yorkshire area of the UK registered open access ticket holders who live and work in the area can access all the libraries, information centres and learning centres of the local universities, colleges and public libraries. It becomes more difficult to define users, and particularly the rights they acquire through being users, when the definition lies around an organization such as a company or a college rather than a geographic area. As we shall see, licensing rules may make it impossible to provide full services to distance learners because of the rules imposed by the rights owners. So, not only may we find some potential users excluded, but there may be different classes of user within the same organization.

Here, for example, are some of the possible groupings of users for some of the major LIS sectors. Each will have particular requirements for potential components of an EIS, and the conditions of use of the service must cater for those groups.

### Users in the academic sector

- university faculty staff
- students – on campus (undergraduate, postgraduate, doctoral)
- students – off campus (e.g. accessing university network by dial-up from local area)
- distance learning students
- disadvantaged staff and students
- research workers located elsewhere
- consultants
- information seekers who are not affiliated to the university.

### Users of public libraries

- members of the public, including children
- people who work in the area
- businesses
- researchers
- users of specified collections
- distance learning students.

### Users of private sector information services

- own staff, in principal business premises
- own staff, in other business premises (e.g. overseas offices)
- own staff, on business travel (e.g. dial-up from clients' premises or hotel)
- users from other information centres and libraries belonging to a local

co-operative with whom there is a reciprocal agreement may also be granted use – perhaps in a limited way

- consultants or secondees working for the company or organization (i.e. employees of other organizations on the company's premises).

### Users of government information services

- own department or agency staff
- researchers working for the department or agency
- other government departments' or agencies' staff
- consultants
- general public.

Some of these groups will contain users who wish to find information in order to republish it, e.g. in research documents or as journalism. This will also have an impact on the level of service that can be offered.

### Pluses and minuses

What are the positive and negative aspects of building an EIS?

Before you embark on the consultation and information audit stage you must have a clear understanding of the positive and negative issues in establishing an EIS. Unconvinced players are certain to ask you to list the benefits to be gained, and to consider the disbenefits (the issues to be tackled before the benefits can be realized). You must be ready with answers that demonstrate a sound and cost-effective argument for the service. When you list these, you could finish with a chart something like the following.

#### Pluses

- better access to a wider range of information
- potential to provide better value for money, e.g. by entering into

consortium buying agreements for e-services (although overall costs may be higher)

- better use of staff time
- less time spent on housekeeping manual sources
- potential to provide 24/7 access without having to have large numbers of staff present
- total stock access without any risk of losing physical documents, e.g. issues of journals
- equal access to stock – e.g. everyone able to see the current issue of a journal
- potential to reduce or eliminate multiple purchase where electronic access is possible (and multiple use can be licensed).

### Minuses

- costs – investment in technology and other start-up costs, additional licence fees
- savings may not be realized if paper subscriptions have to be kept (e.g. where a paper subscription must be bought to gain access to e-content)
- staff may not have the necessary negotiating skills to get maximum benefits from agreements
- reliance on technologies that may ‘go down’ and disconnect all users – hence the need for reliable and robust systems (and perhaps to store paper copies off-site or have reciprocal back-up agreements!)
- staff may require additional skills (and hence training) to be able to perform their duties
- users also may not have the basic technological skills to be able to get maximum benefits from an electronic information service – using a computer is less intuitive than reading a book!

The chart you compile will reflect the position in your particular organization. Some of these issues are generic and will probably apply wherever you are. There will be other issues that only apply to your

situation, maybe about the technology system or the availability of online information services in your key subject fields. Whatever they are, by having a sound plus and minus list you will be able to present an effective argument, demonstrating the benefits of an EIS, as well as acknowledging possible drawbacks.

### **Auditing the electronic service requirement**

The final shape of the EIS will depend on the requirements that you establish. Although you will probably have a good idea of the subject information requirements – and our checklists on information audit (Pantry and Griffiths, 1998 and 2002) will help if you do not – your users will need some help in identifying how their needs can be met from electronic sources. A checklist of available services drawn from up-to-date monitoring of the e-publishing industry (and here your suppliers will probably support you) will help your users to identify their information requirements, and to assess the services that potentially match them.

A checklist such as the one that follows overleaf will prompt your users to identify their needs from the range of available services that you will offer. Amend it to suit your own situation.

<b>XXX Information Services</b>	Service	Training
The following services may be offered:	requested	needed
1 Computer software <ul style="list-style-type: none"> <li>• [names of specific software available in the EIS, e.g. word-processing software].</li> </ul>		
2 Standalone and networked databases <ul style="list-style-type: none"> <li>• CD-ROMs [e.g. newspapers and financial]</li> <li>• LIS catalogue and bulletins</li> </ul>		
3 Electronic journals		
4 Multimedia products <ul style="list-style-type: none"> <li>• CD-ROMs [e.g. training courses on disc]</li> </ul>		
5 Image collections		
6 Encyclopedias		
7 Other reference materials <ul style="list-style-type: none"> <li>• maps, country, city and towns</li> <li>• postcode finder</li> <li>• address finder</li> </ul>		
8 Daily news <ul style="list-style-type: none"> <li>• BBC</li> <li>• ITN</li> <li>• Ananova</li> <li>• Newswires, e.g. PA News</li> <li>• CNN</li> </ul>		
9 Access to financial information sources		
10 Legislation <ul style="list-style-type: none"> <li>• UK Acts and SIs</li> <li>• European legislation</li> <li>• <i>Hansard, Official Journal, etc.</i></li> </ul>		
11 Scientific, technical and medical information		

## Managing change

You will find in the consultation period that you frequently hear the same debates and arguments repeated – whether to object to or support your proposals. Your own users may well be your biggest helpers in managing change with their ideas and comments. Take note of what they say and share their positive thinking if you need to convince others. What are likely to be the major issues? Some of these may be on your list.

- People may ask what was wrong with the old service. Be prepared to explain that rising costs and growing pressure on space are among the reasons that change simply has to happen in many organizations.
- Many people do not like change and prefer the ‘comfort blanket’ of paper-based information services. You will need to demonstrate the higher quality of service being offered through your improvements.
- In many organizations, delivery of information using electronic services is a distinctly experimental business. There may be some nervousness as well as resistance to change.
- You are certain to find that there is a range of technical abilities among users, some having advanced knowledge of systems and services, and others just the basic skills. Be prepared to help those whose skills need reinforcing to take full advantage, and those who may be experts in building Access databases but discover that their search skills are not as sharp as they thought!
- Timid users of the service may be scared off by the appearance of a large amount of new equipment in the LIS, particularly if much of the familiar paper stock disappears at the same time.

There is an impression that enthusiasm for electronic services declines as the age of the user increases. But this has nothing to do with age: some older people have embraced electronic systems, while many others (of all ages) will avoid using such systems and services at all costs. Often it emerges that potential users have no real idea of their aptitude for using information. The discussions you have with users should uncover their training needs. The

LIS should be more than ready to offer training as part of winning people over, making them competent and efficient in their work.

You should never be surprised by what your enquiries reveal about how people work. The now classic response from a director, when asked by one of us 'Do you use electronic mail?' was 'Yes, most definitely, my secretary prints off the message, I hand write on it the answer, and she sends it off'!

### **How to change attitudes and perceptions from the traditional model to the new e-information model**

So much for the approaches to building an EIS and the elements that might appear in planning for such a service. But why should any organization want to move in this direction when the traditional model seems to continue to meet so many people's needs?

#### **Case studies**

*Digital reference service in the new millennium: planning, management and evaluation* (Lankes, Collins and Kasowitz, 2000) provides examples of what is happening, and indeed of what has happened already in the USA. Digital reference can no longer be considered the future of information services: in fact, it is already here and is likely to become a mainstay of electronic and networked services. Many users believe that 'It is all there on the internet and free', but the attendant cynical reaction to this statement from information professionals is entirely justified.

The authors of the book have been involved in the pioneering Virtual Reference Desk Project ([www.vrd.org](http://www.vrd.org)) and the associated Virtual Reference Desk Digital Conference. Theirs have been among the foremost efforts to better understand and use digital reference tools in a networked environment. They show how the notion of 24/7 (24 hours a day, 7 days a week) digital reference services and electronic information services opens the way for innovative services.

These facilities offer information professionals new opportunities to

provide remote reference services to their users and the general public and to set standards for high-quality information services. Reference specialists will *not* become extinct or an endangered species, but the emergence of digital and distributed information environments have temporarily unhinged a relationship that has been stable for the past hundred years or so. Users are adopting new information-seeking behaviour, so that information managers, reference specialists and knowledge managers must now forge new kinds of relationships with users. Technology is providing the opportunities to create a 'renaissance reference culture' based on these new relationships. Following the example of Amazon.com, whose 'push' technology can identify titles of potential interest to its customers, LIS need to adopt technology that can identify what kind of services, databases, subject categories, etc. are in demand by users.

### **Convergence – giving technical skills to librarians and information skills to technical staff**

What do we mean by convergence? Around 15 years ago, librarians first commented on the growing overlap of library service tasks with the work of other areas of the organization, and that there was a trend towards co-location in organizational or geographic terms. The most frequent partner in this merger was the computer section, and many information staff and librarians have become very competent in the technical field, to such an extent that they have been able to rise to heights in an organization's structure never achieved before by the information professional. But information specialists are now taking on wider knowledge management and information management roles within the framework of the converged service, making them even more central to their organization, and reflecting the continuing move away from marginalization of the LIS.

The trend to convergence is most frequently encountered in the academic sector but it is now happening in many sectors – government, finance, law, private companies, institutions and associations.

The gradual automation of library tasks, followed in the last few years

by the apparent automation of many information retrieval tasks through use of the internet, has led to a gradual blurring of the roles and boundaries of the library professional and the information technology professional. The older relationship between the two functions will no longer do. Library computing is carried out on systems that are effectively under the control of the library itself rather than a central computing service whose task was formerly to maintain a hall full of mainframe computers. The computing function increasingly offers direct access to information sources without playing an intermediary role, or acting as interpreter or quality assessor for that information. Who does what? Whose responsibility lies where?

So far as many academic organizations are concerned, the obvious answer seems to be to bring the library within a wider body with a title such as 'learning development' or 'academic services'. In corporate organizations the term 'information services' or 'information systems' is widely interpreted to mean 'computer services'. In local government a different kind of convergence seems to have taken place where libraries and other leisure services have been bundled into a leisure services department; but there is less obvious overlap of function here.

One paper on the subject of convergence (Shapiro and Long, 1994) in the academic sector comments simply that the time for turf wars is over. It makes the point that in order to survive, the library and the computer centre need each other, and their skills are complementary. In practice, the issue is how best use can be made of resources and skills in order to meet demand that is ever increasing and ever more complex. Urgency is given to the problem because the available budgets are under increasing pressure. Competition between the library and the computer service for money to do the same job is likely to end with neither being satisfied, and the funds going to a third party.

How does this work in practice?

In one university library in the London area of the UK, long opening hours have created a requirement for basic information services and technical

support to be provided over an extended working day. The service desk has become the focus of this converged service, and a staff training programme has been initiated for all team members who work on this desk. While detailed technical or information enquiries are deferred until core hours on the following working day, desk staff have basic skills in both library and information work and in computer services. Thus they can advise on the range of information sources available in the library and locate basic resources, as well as being able to fix simple technical faults and maintain electronic equipment (such as resetting computers and printers, and restoring failed connections).

There is a clear recommendation in this case that frontline staff need to be competent in both areas of work. There may be some managerial issues to be faced, particularly over the level of enquiry that technical (i.e. non-LIS qualified) staff will be allowed to handle. However there is generally less concern over the technical skills that librarians now require, and the level of expertise required is likely to fall easily within the capabilities of many library and information professionals, particularly new graduates. What both groups may need is training for training – that is, the ability to put across their technical skills in such a way that users can learn what to do on a future occasion rather than calling for help.

Similar solutions have been found to these problems in other countries. In Australia many university libraries now accept this change as a way of life; it has been emerging at least since the mid-1990s (Sayers, 1999). In the USA, the earliest commentators were addressing this problem in the mid-1980s, and using the term ‘converge’ to describe the process (Moholt, 1985).

These requirements are probably true across all kinds of library and information service. In public libraries, staff are often faced with technical problems outside the standard five-day working week. Other areas of work, such as web services, report that if problems occur at the start of a weekend the library may lose several hours of service before technical staff are available to handle a helpdesk call. The ability of staff to fix at least the more simple faults is especially important for branches located in rural areas, as here there is often no acceptable alternative service within easy reach of the library patron (Griffiths, 2000).

Corporate libraries are likely to enjoy the support of a central computer department, but must recognize that their software and other information services are unlikely to be seen as the most important element of the network. Third-party suppliers may well be involved (in the form of library automation suppliers or database providers) and negotiations with these suppliers may have to be through a central helpdesk that is unfamiliar with library services. The corporate intranet may well use the same protocols as information providers used by the corporate information centre, but there may be additional problems with external firewalls and other barriers to easy and seamless communication. The library's technical staff may need to use their skills of negotiation to get their requirements taken seriously by the technical team, particularly where these appear to conflict with the core network.

Convergence is likely to raise a number of management issues that need to be resolved. You may not have an immediate answer to some of the following points, but it would be as well to consider them.

The divide between professional and para-professional staff becomes problematic, and needs to be defined fairly carefully. At what level of complexity does an enquiry need to be referred higher? This can be tricky to decide, because the decision may rely not only on the difficulty of the enquiry but the time of day at which it is put.

It may be easier (and more effective) to create a new team with the required skills mix, rather than trying to re-train existing staff with a broader mix of lower-level skills than they may currently possess. What skills are in fact essential? A core skill set must be defined and published, providing a point of reference for new staff and old and helping to define the higher level of skills needed to tackle advanced library or information technology tasks.

What impression is given to users of your services by your approach to promoting them and even to naming them?

As we noted earlier, many people still do not understand the way that

library and information professionals use the word 'information', and that e-service appears to be delivered by computer with little intervention by 'librarians'. So, how do you want the service to appear?

As we saw above, convergence has now gone beyond the simple union of LIS and its information technology support services. We are also witnessing many corporate organizations contracting out their IT services to the independent sector who provide IT and ASP services remotely and even staff them remotely, with advice provided by helpline services.

Outsourcing, as writers such as Charles Handy (1989) remind us, allows the main organization to concentrate on the core business, and it is reflected in patterns of employment, the shift in demand for cerebral rather than manual skills, and in the virtual disappearance of life-long, full-time jobs. New types of de-structured organizations arise, requiring new skills and new approaches. Handy called this 'the Shamrock organization' where the core people and work are kept within the organization and the rest of the work is contracted out.

In terms of information provision, organizations like this can be difficult to service within the conditions often imposed in contracts and agreements. At the same time these corporate organizations are recognizing the value of keeping Knowledge Management (KM) and Information Management (IM) as increasingly high profile in-house activities. This is because knowledge workers, with their skills of information and IT management, know how to capture, filter, store and retrieve information, while at the time they watch the information industry developments and services and they can identify which offerings are pertinent to the organization.

The growth of Knowledge Manager and Information Manager posts advertised and filled in the past few years shows the success that these managers are having within the organization. In the USA, according to a recent report, the demand for senior level librarians, now often known as chief information officers, is growing rapidly. As the corporate sector grows, there is a brain drain from other sectors such as academic libraries, which are now finding it difficult to keep experienced information professionals.

## **The difference the information professional makes – an intelligent filter, a creator of added value**

Over the years the role and value of having information staff has been heavily debated. But the current view is that there has never been a better time for the information professional. Many attribute this boost to the growth of the internet, which has caused an information explosion, although as we saw above, this is not an entirely accurate view.

There is a huge demand for professionals with a solid management background, internet experience – especially website building – strong research and analytical skills, staff management experience and an understanding of the employing organization's industry sector. All these are to be found in the ranks of information-trained professionals.

The difference which the information professionals make to an organization is that they bring intelligent filters to the job. Information professionals add value to the employing organization.

## **Non-work use and 24/7 information centres/libraries: do they have an impact on the e-information service?**

If your proposed EIS includes the internet, your service has the potential to put a new resource that is open to misuse on the desk of everyone in the organization. The debate continues as to whether use of the information service for non-work activities, such as personal hobbies and interests, is legitimate. In a number of organizations misuse of the internet is a sacking offence, and there have been a number of high-profile cases in recent months. Many commentators strongly advise organizations to devise, publish and maintain a policy on the use of the internet; this should cover use of e-mail as well as the web. The LIS cannot act in isolation, and however altruistic it may be in providing access to electronic information services the organization's own policies and politics must be adhered to. The LIS must incorporate the parent organization's rules into the regulations for use of the EIS.

Because of the ease of ordering from online suppliers, make it publicly clear that you will not accept responsibility for information materials that are ordered from the internet without the agreement of the LIS. This is an extension of the procurement policies that should exist in any soundly run organization, and should not cause outcry. Similarly, make it clear which websites the LIS recommends (if any) and provide warnings about the use of information found on other sites without corroborating evidence.

The LIS could find its policies challenged if there are any awkward cases that involve the use of electronic services within the organization. This can be a difficult situation for the EIS manager. Such incidents should not be used as an excuse for the organization to restrict the use of electronic information services, but the problem must be tackled by technical means (such as blocking access to some websites through software) or managerial means (such as running awareness courses where the severity of the offence is made clear). There is no good reason why information services for the benefit of the majority should be lost through the action of a few people (and, arguably, the inaction of their managers).

## **Summary**

You will now understand our definition for this book of an e-information service and the scope of e-information, including what e-services can be provided and who are the potential users. You will have an understanding of the pluses and minuses of introducing an e-information service, as well as ways to change attitudes and perceptions from the traditional model to the new e-information model.

This introduction also gives an understanding about convergence and why universities are going this way while corporate libraries increasingly contract out technical support to focus on Knowledge Management (KM) and Information Management (IM) as high profile in-house activities. Most of all you will understand the difference information specialists/librarians make in their work as intelligent filters, providing added value. Lastly you will have

## CREATING A SUCCESSFUL E-INFORMATION SERVICE

an appreciation about non-work use and 24/7 information centres/libraries, and the impact an e-information service can make on an organization.