An evaluative study of the electronic provision of information in public libraries

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An Evaluative Study of the Electronic Provision of Information in Public Libraries

by

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fulfilment of the requirements for the award of
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Abstract

This study examines and evaluates the development of the electronic provision of information in UK public libraries, with particular reference to online services, CD-ROM, Community Information and the Internet. It assesses the current situation with regard to the Internet, networking and IT, and identifies projects and initiatives that are exploring their integration into public library services, and the new roles that public libraries can play in the expanding 'information society'.

Three libraries are used as case studies to provide a comparative picture of how they have developed their electronic resources, often in response to local needs; their projects and future plans, and their response to the opportunities and potential that the Internet and networking can bring to their services.

Finally, barriers that are preventing libraries from achieving more from the opportunities that are now available through the electronic provision of information are identified, and recommendations made to try and alleviate some of them.

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CHAPTER 1. INTRODUCTION

Public libraries play a vital role in our society providing educational, cultural, social, economic and information resources for the local communities in which they are situated. These resources have traditionally been provided in print format, with the addition of audio-visual materials, and more recently the provision of services in electronic format. Information technology is developing at an increasing speed in terms of software, hardware, networking and more cost effective access to information. This growth of electronic services offers a whole range of new possibilities and opportunities for public libraries. A major challenge for public libraries is to maintain its position as one of the main information providers within the community; they need to take advantage of the opportunities presented by information technology to meet the needs and expectations of the public.

1.1 Aims and objectives

The main aim of this dissertation is to evaluate the different types of electronic information provided in public libraries, examining the impact they have on the service and surveying the current situation. Ideas for the future development of the service will be proposed.

To this end, the objectives are:

- to establish and evaluate the different forms of electronic information provided in public libraries in the UK.

- to establish the problems faced by library authorities in responding to the demands caused by fast changing information technology.

- to assess the current situation regarding the Internet and the networking of an information superhighway throughout public libraries.

- to evaluate and compare how library authorities are dealing with the issue of electronic information provision.

1.2 The author's interest in this area

Public libraries need to keep up with the changes that are taking place in the development of technology and electronic information in order to retain their status as key providers of information within local communities. Although many public libraries are familiar with providing online access to information, CD-ROM databases, community information databases, Training Access Points and teletext services, in 1993 according to Batt there were library authorities in the UK who *"still do without library management systems, CD-ROM, online searching and some or all of the other applications"* (1). Since 1995, a new challenge faced by libraries in this era of electronic provision of information is the Internet, and the current proposals for all public libraries to be linked up to the "information superhighway".

The author believes these electronic developments provide an exciting opportunity for the public library service to provide more efficient and effective services and wider access to information to the community. The issues involved with the growth in information technology in public libraries have stimulated a great deal of debate during the past few years and are now actually bringing the library community to working and co-operating together in a way that has not happened previously. This can be seen, for example, through the EARL project, (Electronic Access to Resources in and through Libraries), which is designed to offer advice, training and co-ordinate activities in response to the Internet in public libraries, and now has a consortium of over 100 members (2).

The author believes it is important to assess how effectively electronic services are being used in the public library service, and to consider the problems of funding implementation.

1.3 Methodology

The methodology will include:

• a literature review into printed and Internet resources.

• analysis of the history and development of the electronic provision of information in UK public libraries

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- using case studies in three different library authorities, to assess the range and use of their electronic information provision.

- structured interviews with the case study librarians regarding their policies and strategies for the development of electronic information provision in their library.

- contacts with some other libraries known to be conducting projects involving information technology.

1.4 Chapter outlines

After a brief introduction to the topic in Chapter 1, the author will then describe in Chapter 2 the literature that is available on the subject, both in printed format and via sites on the Internet. Chapter 3 will go into some detail on the history and development of electronic forms of information used in public libraries, looking at some of the problems that are faced in providing these services, and also assessing the situation as it stands at the present. In relation to this it will also look at some of the initiatives that are currently taking place in libraries. Chapter 4 will discuss the findings from the case studies, drawing conclusions and comparisons. Chapter 5 will conclude with observations and recommendations on the overall study of this dissertation.

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CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

During the last twenty years there has been a steady increase in the development of electronic information services within public libraries, with the trend now moving to the use of electronic over printed sources. Some of these services include online information retrieval, CD-ROM, community information databases, open learning, and the Internet

The use of computers in public libraries goes back to the 1960's with the development of computer based circulation systems and catalogues, but it was not until the late 1970's that "new" forms of technology were introduced. During that time span, information technology was rapidly changing, with computers becoming smaller, cheaper, more user-friendly, and consequently more popular and widely accepted.

The first literature that surveys the use of electronic information services throughout public libraries in the UK, excluding London, is 'New technology in public libraries' conducted by Chris Batt in 1985 (1). The report excluded London, as a similar survey had already been completed in 1985 for the Association of London Chief Librarians (ALCL), also by Batt (2), but should be examined in conjunction with the former work to create a complete picture for the UK.

The interest created by this survey can be attested by the complete response rate from every library authority in the country, not only for this work but for the subsequent bi-annual surveys that Batt has undertaken thereafter (3-6), which all include London. The intention of the first report was to provide a basis for future study, and to hopefully stimulate discussion and an exchange of information between library authorities. In the 1989 edition Batt looked at the impact that information technology had on services and by the 1994 edition electronic resources were developing at an ever increasing speed. Batt stressed the importance that libraries must place in keeping up with technological changes, identifying that *"until now the investment in electronic resources has been at the margins of our expenditure... soon we may have to make some more dramatic choices about the importance we place on these resources"* (7).
'Information technology in public libraries', has become the major source showing the trend in the developments and use of electronic information services throughout UK public libraries over the years, and providing the basis for analysis and discussion on the subject.

In 1993, Batt wrote a paper in support of the Comedia study, *'Borrowed Time? The future of public libraries in the UK'* (8), entitled *'Does IT Matter? Information Technology and Public Libraries'* (9). The aim of this was how *"technology would influence the nature, style and actual delivery of services to customers"* (10), in twenty years time.

A report that looks at how managers are resourcing electronic information services in libraries through surveys and interviews carried out between 1988-90, is by East, *'Balancing the books. Resourcing electronic information services in academic and public libraries'* (11), and this includes information on hard copy, online and CD-ROM.

A report undertaken by a Working Party in 1993, sponsored by the British Library was *'The impact of electronic publishing on library services and resources in the UK'* (12), which aimed to review the development of electronic publishing in the UK, its impact on library services, and to recommend strategies for managing electronic publications. For this report, electronic publishing encompassed online services, magnetic disc products, CD-ROM and electronic journals; it also looked at the issues regarding networking, copyright, education and training and future developments.

These references provide a background into the development and uptake of electronic information services in public libraries. More recently the impact of electronic provision of information on society as a whole has been recognised by the government and well publicized by the House of Lords report *'Information Society: Agenda for action in the UK'* (13). The government responded with a report (14), and by setting up a number of initiatives. These included the *Information Society Initiative (ISI)* (15), aimed at raising awareness and supporting the development of new technologies for businesses and the programme *IT for All* (16), aimed at giving the public an opportunity to experience the new technology, in public places.

2.2 Online Services

The history and development of the online industry has been well documented in books and manuals. Online information retrieval services have been used by academic and special libraries since the 1960's, but were not introduced into public library services until the late 1970's. A number of projects carried out by the British Library Research and Development Department assessed the potential of online searching in public libraries before it became

widely accepted. These are described in *'On-line information in public libraries: a review of recent British Research'* (17). This work identified the projects *BIROS,* Bibliographic Information Retrieval On-line Services carried out by Manchester Polytechnic and Lancashire County Library and *Guidelines,* carried out by a number of libraries in England and Scotland which resulted in the production of a set of guidelines for the introduction of online services in public libraries issued by the BLR&DD in March 1980. Also included in this report were two projects involving the use of Prestel by public libraries as an information source and as a means of publishing local information.

The steady growth in use, the type of hardware used, the range of hosts and charging policies for online services in public libraries can be followed in the bi-annual editions of Batt, *'Information technology in public libraries'* (1, 3-6). A question that has been raised over the last few years was whether the growth in the use of CD-ROM in public libraries has affected the use of online searching, and there has been a number of articles written comparing the services. Sjoerd Vogt (18) from DIALOG Information Services wrote from an online host's point of view on the subject, and came to the conclusion that online and CD-ROM were not competitors as both technologies are needed. Richard Hollis (19), summarizing an independent survey carried out by the publishers Bowker-Saur on CD-ROM versus online, also reached the conclusion that there is a place for both mediums. There are a variety of journals that cover the developments of online services, including *Electronic Library,* and *Online,* with another useful source of information being the *Proceedings of the Annual International Online Information Meeting.*

2.3 CD-ROM

CD-ROMs became available in the mid 1980's, and it was claimed it would revolutionize information storage, and could mean the demise of the online information retrieval industry. Much has been written on CD-ROMs, with different opinions as to its life expectancy. In 1990, McSean and Law (20), described it as *"transient technology"*, with a lifespan of about 5 - 10 years. Since then the number of CD-ROM titles has increased enormously, according to the *'Multimedia and CD-ROM Directory 1997'* (21) from 817 in 1990 to 19,000 in 1997. In fact the 1990's saw some significant developments in CD-ROMs, including multimedia CD-ROMs, growth in full text CD-ROMs and in publishers. Prices have declined and the creation of an international standard has led to a more universal acceptance.

In 1994, Nick Bevan (22) assessed the claims of McSean and Law, and came to the conclusion that CD-ROMs did have a future, but saw them as a replacement for some printed material rather than as a competitor to other forms of electronic information.

In 1995 Lucy Tedd (23) provided a useful overview of the developments of CD-ROMs, explaining how the technology of CD-ROMs has changed, the growth in the market and in use, and the developments in networking, which she concluded would have the most effect with the spread of the Internet.

In an article in 1995, Batterbee and Nicholas (24) summarize the findings of a survey carried out in 1994 which examined how well Public Library Authorities were implementing CD-ROM technology for public use and how well the general public were using CD-ROMs. They found CD-ROMs to be *"an ideal product for libraries"* (25) and believed it would continue to have a significant future. Batt also covered this in his series of *'Information technology in public libraries'* (1, 3 - 6).

Journals covering CD-ROM developments include *CD-ROM Review, CD-ROM Professional, Online,* and *CD-ROM World.* In the March/April 1995 edition of *Online,* Nancy Herther (26), reviewed CD-ROM over ten years, how the industry has matured and developed, and identified how CD-ROM was now *"in the mainstream of the electronics, entertainment and computer industries"* (27), forecasting an extremely positive outlook for the future. A more recent article by S. Subba Rao (28), in *New Library World,* looked at online and CD-ROM technologies, presenting the advantages and disadvantages of both, and discussed particular databases, networking, publishing and the future of optical technology.

Two books which provide collections of articles on CD-ROM are Hanson and Day, 1994, (29) which contains material relevant to management issues of CD-ROMs in libraries, and a very useful select bibliography of 365 references; and Biddiscombe, 1996, (30) which contains reports, articles and case studies on the *"end-user revolution",* and the changes brought about by CD-ROM and the Internet.

Other sources that can provide current information on CD-ROM are mailing lists, such as LIS-LINK (31), which is aimed at librarians and information specialists, and WWW sites such as the CD-ROM publisher SilverPlatter's home page (32).

2.4 The Internet

Access to the Internet has increased in the UK throughout the 1990's, and has become available in some public libraries in the last few years. A survey conducted in 1995 by the Library and Information Commission (33), to assess the provision of Internet access in public libraries, showed that 53% of the public library authorities in the UK had some form of Internet connectivity, although only 0.7% offered public access.

There has been a vast amount written about the Internet, networking and public libraries, in print form and electronically. In print format, a useful book for background information and practical purposes is *The library and information professional's guide to the Internet* (34), and describing the current picture of activity in the UK is a collection of essays put together by Sarah Ormes and Lorcan Dempsey in *The Internet, networking and the public library* (35), which comprises an overview of public library networking in the UK, with current projects and initiatives, some of the more prominent ones discussed in detail.

Journal articles on the subject are numerous, and current issues can often be found in the *Library Association Record* and the *Public Library Journal*. Batt has published extensively, in *The Cutting Edge* in the *Public Library Journal* and with regard to the Croydon Library Internet Project, which will be looked at in more detail later in the dissertation. A useful article written by Lorcan Dempsey of UKOLN, was featured in *Vine* entitled *The public library and the information superhighway* (36). This article looked at the *vision* of the superhighway, and possible scenarios for future networked libraries.

The most up-to-date information, however, is to be found on the Internet itself, with some of the more important sites outlined here. The Project EARL site (37), maintains a list of library and non library partners who are members of the EARL consortium, now reaching over 100. As well as providing links to home sites of these members, the EARL site also includes useful information and links on particular categories of information relevant to libraries, it provides reports and news, support and training, and specialist areas of research.

The UK Public Libraries Page (38), maintained by librarians Sheila and Robert Harden, provides a list of public libraries on the Internet with links, and contains a broad range of information relevant to librarians, including information on networking with very useful links to other organizations and initiatives.

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The UKOLN site has its own Public Library Pages (39), which include information on public library research at UKOLN, with information provided by the Public Library Networking Research Officer, Sarah Ormes. There are also pages which detail and categorize research about public libraries which is available on the WWW. Also provided are links to other useful resources, people and discussion lists.

In the electronic journal ARIADNE (40), Sarah Ormes provides a regular column called the Public Libraries corner, which looks at various issues concerning networking.

Croydon Online (41), the website of Croydon Libraries, provides useful links and information, not only on the experiences of their Internet project CLIP, but also to other European projects.

Mailing lists are now a very useful and popular form of finding and keeping up-to-date with current information and ideas, and there are a number that are library oriented, operating through the Mailbase organisation (42). They are also archived monthly, which allows easy access to previous messages.

2.4 Community Information

Providing community information has been a traditional role of public libraries for many years, as they are uniquely placed to provide this service. It has developed from leaflets, card files, folders, and lists in print format, to electronically published information available via computer terminals in libraries or kiosks located in public places. There have been many books written on the topic over the years, and Batt's surveys (1, 3-6) show its use and how provision has changed in public libraries.

The most common type of system used has been videotext or viewdata, which used low scale networking technology to link a dumb terminal to the community information database over leased lines. The quality of this information compares to that of teletext. Either libraries or councils managed the service.

In the last few years the development of the Internet has lead to a massive expansion of interest in the provision and use of electronic community information networks. The Internet provides a much higher quality of presentation, with easier access, hypertext links

to other areas of the site or to other sites on the Internet, graphics and anyone with an Internet connection can access the information at any time. Again terminals can be located in public places. Many projects have been set up to network community information, create web sites, and to provide access to rural areas. A whole issue of *Vine* (43) was devoted to such projects taking place in libraries and local authorities. There is a web site called *Communities Online,* (44), which provides a list of public, private, and community networks, which can be visited, as well as a great deal of other information regarding community information. Some projects are outlined in Ormes and Dempsey's collection of essays (45), and articles can often be found in *The Library Association record.*

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CHAPTER 3. ELECTRONIC INFORMATION PROVISION IN UK PUBLIC LIBRARIES

3.1 Introduction

Computers have been used in public libraries since the 1960's, initially in the form of the library management system, which involved a great deal of investment and is a tool that is mainly used by the staff for internal operations. Over the last fifteen years there has been a steady increase in other forms of technology which deal with improving existing services, or offering completely new services for staff and library users. This chapter will aim to look at these forms of technology, how they have developed and the impact they have had on the public library service.

3.2 Online services

3.2.1 Background to online information retrieval

The techniques of storing and retrieving bibliographic data on computer systems were developed during the 1960's, but it was not until the early 1970's, when improvements were made in telecommunications networks, that it became feasible to provide dial-up access to databases from remote sites in other parts of the world. The benefits of information retrieval could now be brought to a much wider user group since searches could be conducted by trained staff, usually librarians, at any organization with the necessary equipment to access databases through telecommunications networks. (1)

Online information retrieval has developed to the extent where there is a great range of databases available worldwide, covering a diverse range of topics, including business, medicine, engineering, law, social sciences, technology, and many more. The most common databases are bibliographic, containing citations or abstracts for items of published literature. Other types can deliver the full text of original sources, for example newspapers and journals. Financial, statistical and numerical data can also be retrieved online, which provides essential support for the business and science sectors.

Many organizations are involved with the online database industry, the major organizations being hosts, database producers, telecommunications companies and users. Database

producers compile and own the data in a database, whilst the host provides the computer facilities and retrieval software necessary to make the databases available for searching. Well known hosts include DIALOG and DATA-STAR. Charges are made for searching databases, and this factor, along with the complexities of the search language and variations in retrieval software, have made searching largely the domain of librarians and information specialists.

3.2.2 Online information retrieval services in public libraries

Online information retrieval was only used in academic and special libraries until the early 1980's, when a number of factors encouraged public libraries to adopt the service (2). Hardware became more widely available, and cheaper; the range of subjects and services offered by database hosts had grown, covering all aspects of science, sociology, the humanities and business, and offering data in different formats and overall public awareness of the service had grown. Another favourable factor was that the connect charges had remained static at about £1.00 per minute for many years, through hosts being able to keep costs down due to reducing hardware costs, and even cheap off-peak rates were introduced.

From 1978, the British Library Research and Development Department supported a number of research projects (3) concerned with the use of online information services in public libraries. These projects, involving a range of library authorities, looked at the impact of the service on the library services generally, on the staff and the users, evaluating advantages, use, operation, staff and cost implications. Their general conclusion was that online searching could be a useful support to traditional information services.

In 1985, Batt (4-8) undertook a survey of new technology in public libraries, and subsequently repeated this every two years. Unfortunately for the purposes of this dissertation, the latest figures that are being used are for 1993, as the new edition for 1995 has not been published at the time of writing. It is useful however to look at the findings of these surveys.

In 1985, the total of library authorities performing online searches was 66, by 1993, the number had risen to 107, which had also been the total for 1991 (9). This static figure involved some authorities ceasing to use the service, whilst other just began. Also looked at were the facilities used to gain access to the data (10). Here there had been a shift from the dedicated 'dumb' terminal being the main means of access, to the use of a PC, with many places using more than one means, including in some places the use of the library

management system. Batt (11) pointed out that there was a 14% fall in the number of actual terminals being used between 1991 and 1993, following 100% increase over the two years before, which he related may be the result of the growth in CD-ROM making libraries more discerning in their use of online searching.

In terms of the main hosts and services being used, the trend that had been apparent through all of the surveys carried out was that the majority of online searches supported business information. A more recent development was the use of Echo and Eurobases (12), which are hosts dealing with European information.

Charging for online searching was another area looked at (13), and is one that has often caused problems with regard to library authorities having different policies and practices for different types of customer. They ranged from not charging, charging with discretion, cost recovery, or 'other' forms. In 1985, 27 library authorities held the policy of no charge; in 1993 it had dropped to 7. Cost recovery became the most popular category by 1993, but even that sometimes involved differences regarding whether it was a business enquiry or not.

The trend in staffing of online services has remained essentially a specialist activity, performed by a small number of staff due to the complexities of the command languages and the connect costs involved.

The impact that online searching has had on the public library service was also addressed in Batt's surveys, but did not receive a great response. The overall findings were that it increased efficiency, and provided a more diverse, wider range of resources, giving more in-depth services (14). These surveys showed that online searching had not been hugely affected by the growth of CD-ROM usage in public libraries, more that they were both being used in conjunction. Online has the advantage of providing current information, and can thus be used more for this purpose only, which consequently makes it a cost effective service.

There has been a great deal of speculation over the years whether the use of CD-ROMs would mean the demise of online searching, but the general conclusion has been that there is a place for both mediums, both having their advantages and disadvantages, indicating the continued use of online services in the future. The advantages of CD-ROM will be looked at in the next section, but some of the advantages of online services are the currency of information, the vast range of databases and subject coverage that can be searched, multiple-file searching, and the fast response time. Some disadvantages are the complex

command language coupled with the telecommunications charges which means only select staff may use it, rather than end-users having access.

More recent developments have seen major online hosts providing their own Windows programs to provide a more up-to-date interface, hiding the command language search syntax from the user. However, the results of this have been mixed, especially in terms of persuading their traditional customers to use them (15). Trained searchers resent the need to learn a new Windows program and prefer to search a familiar host, whilst new or casual users prefer to use the Windows online interfaces. The most successful Windows products have been Reuter Business Briefing, MAID's Corporate Profound and the FT's Discovery (16), where the interface is deliberately designed to reinterpret and simplify the underlying database structure. The online market has therefore split into the customers who want and need access to the complex structure of online files and those who seek a service that provides more generic approaches to commonly-requested information.

The advent of the Internet and the WWW poses threats to the traditional online industry. Publishers can now become hosts in their own rights for relatively modest costs, and provide simple yet flexible search access to information in richly graphical format. ISI, producers of the Citation Indexes hosts its own data on the WWW. There are also new types of host emerging, such as IBM's InfoMarket service (17). The Web interface looks to be more efficient and easier to distribute than a Windows program that is more costly to develop, maintain and learn to use.

The Web has created a huge potential market, a new delivery medium that seems ideally suited to the diverse information sources that hosts such as DIALOG have collated. The online industry is faced with a challenge as to *"how they translate the power and flexibility of sophisticated search functions developed over more than twenty years to the new, dynamic, global information medium"* (18).

3.3 CD-ROM

3.3.1 Background to the development of CD-ROM

CD-ROM stands for Compact Disc-Read Only Memory, and is an optical storage technology whereby the data is recorded and read back using a laser beam. It was first developed in the early 1980's by the companies Philips and Sony. It is 12cm in diameter with a thickness of 1.2mm, and is capable of storing around 600 megabytes of information,

which is roughly about 250,000 pages of text. The first databases became available in 1985, since when the number has grown quite extensively. Many of the CD-ROM databases contain the same data as online databases, with similar search capabilities, but with the great advantage of being more suitable for end-user searching, with no telecommunication charges and more user-friendly interfaces. A standard (ISO 9660) was introduced in 1988 preventing incompatibility between players and discs, which boosted the production and use of CD-ROMs databases, along with a drop in price for CD-ROM drives. 1993 saw a number of developments in CD-ROMs, as listed by Tedd:

- developments in multimedia CD-ROMs
- growth in full text CD-ROMs
- more CD-ROM publishers
- declining hardware and software prices
- increased number of users
- general acceptance of CD-ROM (not just in libraries) (19)

CD-ROM databases cover a wide variety of material, including bibliographic databases and full text reference works, ranging from newspapers and journals to the complete works of Shakespeare, but CD-ROMs have also been produced to support library technical services such as cataloguing, acquisitions, inter-library loans, serials control and classification.

The growth of multimedia CD-ROMs in the 1990's incorporated text, audio, graphics and film on discs, for example the successful National Gallery's *MicroGallery*, and Microsoft's Encarta, a very popular multimedia encyclopedia. CD-ROMs have also become popular in schools and in the home, as a valuable learning aid and a form of entertainment, often termed "edutainment".

As opposed to the complex command language needed for online searching, CD-ROMs were designed to be user-friendly. The original format was menu driven, using function keys and arrow keys, but during the 1990's there have been developments in Windows-based interfaces, for example the Oxford English Dictionary.

As well as a growth in CD-ROM titles there has been a similar growth in organizations publishing CD-ROMs, including traditional academic publishers, (e.g. Chadwyck-Healey, OUP), the computer industry, (e.g. Microsoft), as well as the entertainment industry, (e.g. Disney, Sega). One of the major online hosts, Dialog, has also been producing CD-ROMs

since 1987, which also offer the hybrid facility of linking a CD-ROM database search to a search of current databases in the remote host computer (20).

One of the major problems identified with CD-ROM software has been the variation in CD-ROM interfaces. Some progress has been made towards the standardization of DOS-based user interfaces whereby some search commands are now standard across all databases, but the interface of a database depends very much on the type of data in the database and the ways in which that data can be manipulated. Even databases from the same supplier can be very different, as the search software is designed to exploit the uniqueness of the data.

As the popularity of CD-ROMs has grown there has been a problem with standalone units only being able to hold one disc at a time, especially in the case of multiple disc sets. This has been overcome in a number of ways. There has been the introduction of a tower facility, whereby a number of CD-ROMs can be stacked in the tower allowing multiple access to databases; daisy-chained CD-ROM drives; and now disc-changers are available, holding at least six discs in a cassette. Disc-changers can also be daisy chained to allow up to 36 discs to be available at the workstation. If more storage capacity is needed than that there are jukeboxes available that can hold up to 400 discs (21). This means better security as there is no reason for users to handle discs.

Networking of CD-ROMs is another development to extend access to databases. This has become prevalent in academic libraries where there is a greater need for multiple access to a range of databases for students, although some public libraries have also become networked. One example of this is Croydon Central Library, which will be looked at later in the dissertation. There have been problems with networking, in terms of increased costs for network licences for each database; some databases not compatible for networking; the overall costs of equipment; and the technical difficulties involved in setting up the network. Security improves when discs are loaded on a network CD-ROM tower, disc-changer or jukebox, as they are geographically separate from the user. Networking has been developed over both Local-area networks (LANs) and Wide-area networks (WANs).

According to Morag Watson (22), the *"newest and most exciting development"* in the use of CD-ROMs in libraries is the growing use of UNIX servers. The companies currently involved in that area are Silverplatter (Electronic Reference Library - ERL), and Ovid Technologies (OVID). Both companies use CD-ROM as a distribution mechanism and then

the data is loaded from the CD-ROM onto a UNIX server. ERL is Z39.50 client/server-compliant. Z39.50 is an international standard designed

> *"to allow any one client to access any one database. The standard dictates the*
> *protocols to both client and server so that instructions and responses can be*
> *recognized by both. In theory any client implementing the standard can search*
> *and retrieve from any server that has implemented the standard." (23)*

Watson goes on to say that once all systems are Z39.50 compliant they will be able to provide users with one client that will access all the information resources provided by the library, and that this development may be the solution to the longstanding problem of the user interface.

CD-ROM provision has evolved and become more sophisticated, but the method by which a database is made available depends on many things, such as usage, cost, and users requirements. Standalone workstations may be perfectly adequate for a small group of users in one location, whereas an academic library may need all the different types of delivery mediums available. CD-ROM was one of the most exciting innovations in libraries in the 1980's and 1990's, and as can be seen from the ongoing developments, is a technology that is still at the forefront of new developments in library services.

3.3.2 The development of CD-ROM use in public libraries

Whereas CD-ROMs were first used in academic libraries in the early 1980's, public libraries did not really adopt the service until the end of that decade. Batt (24) showed that CD-ROMs were being used by only two authorities in 1987. This figure had grown to a total of 49 library authorities by 1989 with Whitakers Bookbank being the major CD-ROM database used. By 1993, Batt (25) reports the number of library authorities using CD-ROM had risen to 128; 75 authorities had five CD-ROM databases or fewer; 22 had between six and ten; and 31 had more than ten. He also stated that those with fewer databases had concentrated on bibliographic searching tools and those with more had diversified into resources of direct relevance to their information services. With regards to public access, the results of the 1993 survey (26) showed that 24 authorities provided direct public access to some or all of their CD-ROM databases, with three having established networks, while 93 reported staff use only.

In 1994, a survey was undertaken of open access CD-ROMs in British public libraries, by Batterbee and Nicholas (27). The survey examined how well public library authorities were implementing CD-ROM technology for public use and how well the general public were fairing with CD-ROMs. The principal findings were that in 1992 only 5% of library authorities provided CD-ROMs for public use, with an increase to 12% in 1994. The most common reasons given for setting up the service were to improve access to information. National newspapers accounted for the majority of CD-ROMs in use. All library authorities wanted to update and expand their CD-ROM services, which was also a main demand from the users. There was concern about lack of adequate user training and documentation, and lack of monitoring. The main users were found to be students, who mostly searched newspapers and business titles. On the whole there was a high level of user satisfaction with CD-ROM searching. The results of this survey are discussed in more detail in a chapter looking at the need for end-user training in 'The end-user revolution' (28), where Batterbee states that the figure for use of CD-ROMs in public libraries had grown to 77% in 1995, with 18% providing public access.

From these surveys it can be seen that the uptake of CD-ROM in public libraries has had a steady increase from 1990 onwards with the trend changing from CD-ROMs first being used by staff for bibliographic purposes, then an increase of reference titles for staff use in dealing with enquiries, moving towards intermediary searching for users and finally providing full public access. It would be very interesting to find out how many public library authorities there are now in 1997 who do not have CD-ROMs or provide public access. As will be seen later in chapter 4, out of the three libraries that were used as case studies, two of these provide a large range of databases for public access, including newspapers, business, multimedia and children's titles.

Some overall statistics on electronic publishing for public libraries have been put together by Creaser (29), showing from sources in 1994/1995, that the 167 library authorities

- held 440 subscriptions to online hosts,
- held 664 CD-ROM subscriptions/titles
- spent £814,000 on electronic information

The impact that CD-ROMs have had on public libraries has been great, not least that they have helped to update the image of the library, but also in the advantages they bring to the service. They have become popular with staff and users; they save storage space; the discs

are robust, and there is no wear and tear caused by physical contact; there is the ability to carry out boolean searching on full text sources; they involve known fixed costs, with no telecommunications charges, unlike online and allow unlimited access for that annual subscription; they are intended for the end-user, consequently saving staff time. With the growing market for CD-ROM, libraries now have a huge choice in the range of databases available. There are also the advantages that networking can bring, which allows easier access to a range of CD-ROMs, simultaneous access by several users to the same database, and better security. Where currency of information is vital, CD-ROMs are at a disadvantage compared to online searching, as they are usually only updated on a monthly or quarterly basis. However, this problem can be overcome with some databases, as some suppliers offer a combined online/CD-ROM service where information can be updated by an online search.

An important aspect of CD-ROM for public access that has been outlined in some of the literature (30-33), is the need for more end-user training and documentation. Batterbee (34) states that surveys generally indicate that most end-users were satisfied with their searches, but goes on to say that other surveys looking at how end-users search have proved that they are not actually searching effectively, and not getting the right or as many results as they could. Day explains that:

> *"what end-user interfaces have done is to create the illusion that searching, often complex, databases is easy. What is difficult is getting a quality result, not least by choosing the most appropriate database to search, and understanding the underlying concepts in interactive searching."* (35)

Lancaster points out the fact that library users seem completely uncritical in their evaluation of CD-ROM and that many *"express satisfaction even when they achieve very poor results"* (36). He states that the library should assume responsibility for attempting to improve the results achieved by users through adequate user instruction in some form.
With the growth of electronic publishing there is now a need for librarians to play a supportive role in educating and guiding users through these resources.

CD-ROM has had a vital role to play in giving end-users access to and control of information; it has improved the image of public libraries as a modern information provider; enhanced the skills of library staff and improved reference work. It is a medium that has proven its worth in public libraries, and with the ever increasing market, it appears to have a promising future.

3.4 The Internet

3.4.1 The development of the Internet

The Internet is a global network made up of millions of smaller computer networks providing access to a vast range of information from government, commercial, corporate and academic sectors, as well as the providing the ability to email news, views and advice with other individuals around the world.

The origins of the Internet lie in the US Defense Department's ARPANET, which was a secure communications channel for US military research established in 1969. In 1983 the military use split from ARPANET, but the remaining computer networks were available to other researchers. By 1985, the network had become so overcrowded with internetworking that the National Science Foundation (NSF) organized the funding of five supercomputers centres at sites around the USA to form the NSFnet, which offered much improved transmission speeds. (37)

The network has continued to expand at such a rate that an estimation of current numbers is very difficult, but in 1996 a figure of 30 to 40 million users and between one and two million information server computers was given (38). Intrinsic to its development is the fact that there is no *"strong central management of the Internet"* (39), which means that there is no co-ordination of information sources, or rules as to who can and cannot put information onto the Internet. This leads to the difficulties of finding precisely the information that you are looking for, and what has caused more concern, to the quality of information that can be found on the Internet.

3.4.2 The Internet in UK public libraries

With the network of public libraries well established over the whole country, and its neutral role as a public service to deliver information to all who ask for it, it would seem appropriate for them to provide access to the Internet's vast resources of information. The Library Association believes that *"by enabling public libraries to share resources across public library authority boundaries and to create new national services, the Internet can be harnessed for all our user needs"* (40).

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By 1995, public libraries were beginning to experiment with Internet connections, and to establish what sort of activity was taking place, the first ever survey of Internet usage in UK public libraries was commissioned by the Library and Information Commission (41). This took place in November 1995, with UKOLN (the UK Office for Library and Information Networking) receiving a 100% response rate from questionnaires sent out to all PLA's. The results showed that only 3% of service points in the UK had an Internet connection. Out of the 167 PLA's only 28 (17%) of them offered Internet access to the public, 0.7% of service points. Approximately half of these charged for the service, so only 0.4% of the total service points provided free access to the general public. This showed a low level of use in general, with the heaviest users of the Internet services being reference staff, with some libraries reporting they were making information available on the Internet. However, most of the respondents saw the Internet as an integral part of their service in the future. This survey proved that the majority of libraries with connections were merely exploring and evaluating the Internet at that time.

The need and potential for all public libraries to be connected to the Internet in order to remain effective information providers was recognized within the profession, and to assist public libraries with this vision, a number of projects were born; these projects were the Library Association's Millennium Fund bids, and Project EARL.

Also taking place in public library authorities around the country are other projects involving the Internet, some on a large scale, having received major funding, such as CLIP (Croydon Library Internet Project) and some on a much smaller scale, tending to be 'in-house' and on a lower budget. Most libraries are interested in the Internet but do not have the available resources to dedicate to exploring its usefulness. Sarah Ormes points out that

> *"it is unfortunate that the Internet has become an issue when public libraries and funding bodies are facing budget crises. Many libraries simply cannot afford to investigate the potential of the Internet on a large scale having, instead, to concentrate their resources on maintaining the more traditional services."* (42)

All projects, however, are involved with learning about what the Internet has to offer, and identifying the issues that are involved with Internet access.

These next sections aim to look at just a few of the initiatives that have already taken place or are still taking place in public libraries involving electronic information provision, but begins with two projects specifically aimed at integrating the Internet into public libraries.

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3.4.2.1 The Millennium Fund bids

The vision of the Millennium Project was the networking of all public libraries in the country to the Internet, as part of the 'information superhighway'.

> *"This broadband communications network will connect the smallest and most remote libraries to other libraries in their area and through the Internet to all other libraries and online information sources. Through this network citizens will have access to a wide range of public and commercial information delivered electronically. Through their public library they will have an opportunity to acquire IT skills. This project will ensure that we do not end the Millennium with a nation of information haves and have nots."* (43)

There have now been two bids to the Millennium Commission for capital funding (44), the first was put together by the Library Association, but was turned down in April 1996. A second bid strategy was developed by Information for All, a non profit company established by the Library Association and the Library and Information Commission, with a great deal of support from other bodies and involving research from case study libraries involved with Internet and networking initiatives. The second bid was submitted in November 1996, but again was rejected. A subsequent press release from Information for All stated that *"the company will now be working to achieve that vision through other sources of money..."* and that they believed *"support will not evaporate because the case for putting free Internet access into libraries is so strong"* (45).

3.4.2.2 Project EARL

EARL (Electronic Access to Resources in Libraries) (46) is a consortium of public library authorities working together to introduce Internet services into public libraries. It provides a framework for partnerships within the public and private sectors and actively seeks links with other superhighways initiatives. It aims to make the advantages of the Internet available to all library users and other members of the public. A summary of its main aims and objectives are:

(

- *to assist public libraries to connect to the Internet in a variety of ways*
- *to set up an EARL network information pilot/demonstration service and WWW server which will have information on public library services, collections OPACS/library systems and*

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provided routings to associated or related information services, database hosts and other facilities available on the Internet. To provide training and documentation

- *to undertake major development work in order to create network products and application/communications software which will improve networking services available to public libraries*

- *assist public libraries in mounting information on the network and to develop supporting "navigational" tools which will provide efficient, comprehensive retrieval of data*

- *help public libraries in the development of future strategies concerning information and resources sharing services*

- *explore the communications and networking infrastructure which will support networked information and resource sharing services for public libraries in the future. (47)*

EARL was established in 1994, and was originally a project begun by LASER and supported by UKOLN, the Library Association and the British Library. Library authorities were invited to join the project making an initial contribution of £1000, and the consortium was officially launched in November 1995. Until the creation of EARL, there was no co-ordination or sharing of resources and information among public library authorities who were experimenting with implementing the Internet into their services. The number of partners has steadily grown, now reaching over 100; in addition to public library authorities, there are non-library partners including the Business Information Network, Department for Education and Employment, and associate partners such as the Electronic Libraries Programme (eLib), the Department for Culture, Media and Sport and the West Midlands Regional Library System. There are also supporting organizations who are members, such as the Input Output Centres and British Library Research and Innovation Centre.

EARL provides many benefits for its members, including advice on getting connected, support, training, and information on a whole range of Internet related matters, and with the creation of EARLweb, now provides access to key information resources on the Internet. Each subject area contains links to sites and information relevant to public libraries. Some of the areas include, lifelong learning, the online enquiry desk, science and technology, business intelligence. The web site is regularly maintained and continually updated, and contains a wide range of current information, reports, newsletters and information on the task groups. There are currently 17 Task Groups within the EARL consortium, working on projects such as Community Information, Family History, Business Information and European Information.

EARL encourage as many libraries to join as possible, with reductions for smaller libraries who may be able to form a group. EARL is providing an important concentrated, co-ordinated collaboration regarding networking and the Internet that is essential for public libraries to remain ahead of the information society happening all around us.

3.4.2.3 Croydon Libraries Internet Project (CLIP)

CLIP was a British Library Research and Development Department (BLR&DD) funded project, which began in September 1994 and ended in March 1996, and has been one of the major, and most well publicized Internet projects in UK public libraries. The projects' aims were to:

- *to assess the value of the Internet to public libraries by evaluating its potential as a worldwide electronic reference book and identifying the benefits of providing access to the Internet;*
- *to clarify and rank methods of connection by identifying the range of connection options available, establishing cost and suitability;*
- *to comment on possible networking models by preparing a summary of options for public libraries to access the Internet and investigating the feasibility of wide area access to the Croydon connection;*
- *to develop a programme of dissemination for the project by organizing seminars and developing the means to raise awareness in public libraries around the country;*
- *to assist the advancement of a national strategy for public library networking and access to the Internet.*   (48)

The research covered three main areas, namely an exploration of the technical issues involved with providing access, an exploration of how public access could be managed and the Internet as an information tool (49).

Experiments in staff use of the Internet were designed to assess its value as a reference tool, and each member of staff was trained to use search engines and given a subject area to explore. This experiment proved useful, developing staff awareness of the information potential of the Internet, and in building a subject index of useful sites. The staff also became efficient users of Stumpers, an email list for answering difficult reference enquiries, that have 'stumped' librarians.

Public access was explored with a group of twelve library users, from various occupations and with different degrees of computer experience, being invited to sessions in which they

were given training and then encouraged to search for information on a topic of their choice. This group was monitored as to how they adjusted to the Internet and how they used it. It was found that the volunteers quickly took to the Internet, became effective searchers of information and were generally positive towards the service.

The potential of the Internet for children was also explored, with a group of twelve children carefully chosen to 'play' on the Internet for an hour, observed by library staff who had a set of questions to answer. Simple instructions were given and some of the children needed help with typing addresses, but all the children liked the experiment and wanted to use the Internet again.

The CLIP project culminated with the development of Croydon Online, the web site for Croydon Library. The electronic developments within Croydon Central Library will be discussed in the next chapter as one of the case studies.

3.4.2.4 IT POINT

IT POINT began as a British Library Research and Development Department granted project in February 1994, with the aim:

> *"to set up a public library IT demonstrator project, providing access for the general public to a range of electronic information services and disseminating lessons to other public library authorities."* (50)

A summary of the main objectives included:

- *to bring the benefits of IT, increase awareness of the value of IT and remove fear of technology in the people of Chelmsley Wood*
- *to assess the impact of the service on the local community*
- *to test the services and facilities and operational framework as prototypes for use in other UK public library authorities*
- *to seek long term-funding for the service.* (51)

Chelmsley Wood Library in Solihull was chosen as it was seen as an 'information poor' area, in a small community with high unemployment, where the benefits of introducing IT services into the public library could be effectively evaluated. IT POINT opened to the public in August 1994 and ran until March 1996. The project was not solely an Internet

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project, but focused on a wide range of electronic information, including access to the Internet; email accounts; use of computers for word-processing and other software packages; scanning and colour printing facilities; access to a considerable number of CD-ROMs; an IT Open for Learning Centre; and teletext services. For the first year all these services were offered to the public free of charge and the demand for them was very great but, from October 1995 charges were introduced, and the demand did drop at that time. The most popular services were the Internet and word-processing, with the recorded usage of the Internet steadily increasing to a high of 286 hours in September 1995, decreasing to 135 hours in October. Figures did start to pick up again however, with a total of 148 hours in January 1996 (52). Evaluation of the project was undertaken by The Centre for Information Research and Training (CIRT) at the University of Central England between October 1995 and May 1996, which provided an expert and objective view (53). The evaluation showed that there is a heavy demand for public access to IT and network facilities in public libraries; the public recognized this as a natural part of public library provision; it can bring new customers into public libraries; and such a service can significantly enhance the contribution made by public libraries to lifelong learning, community development and economic regeneration.

The project has been much publicized and looked to as an example as to how IT can benefit public libraries. It has provided a valuable information and computing resource for local residents who would otherwise be unlikely ever to have access to such services. The siting of IT POINT in an economically deprived area has demonstrated that the 'information poor' do want public access to IT and networks and will use the facilities heavily if available in the public library, particularly in terms of providing training and open learning skills. Initially IT POINT was an "add on" service to the library, and staffed independently, but the public did not distinguish between the two, and it has now become an integrated part of the library service. Funding has been guaranteed for a further three years. IT POINT has been a very important project for evaluating the impact that electronic resources can have on public libraries, both for accessing greater amounts of information, but also to support lifelong learning skills in the community.

3.4.2.5 South Ayrshire Cybercentre

The Carnegie Library in Ayr (54) launched the first South Ayrshire Cybercentre in June 1996, offering public access to 14 PC's. The aims for providing access to computers in South Ayrshire were to:

- *provide easy access to PC's to support basic computer literacy*
- *provide access to the Internet*
- *provide access to a library of popular computer software and applications*
- *provide access to a library of CD-ROMs, both information based and recreational*
- *support lifelong learning using on-line and off-line learning*
- *to integrate the above with the new library management system, planned in the next two years. (55)*

The Cybercentre runs on a local area network which includes a file server, a web server and the facility for networking CD-ROMs using a tower. It is staffed by one librarian and two library assistants whose role it is to support users. The funding for this development came from diverted library funds. The public have been very enthusiastic about the Cybercentre and the staff have developed a range of new skills.

Findings for who is using the service and what for, showed that 44% of library users were using the Internet, 31% the CD-ROMs, 17% applications and 8% Open Learning.

For the Internet, most of the users used the WWW. Staff provide training sessions to those who need it, with guidance on searching. Access to the Internet is charged for at £3.00 an hour with concessions at £2.00, and this policy has not raised any objections among users.

For CD-ROM usage, the most heavily used are "edutainment" discs, and in response to demand, CD-ROMs are now available for lending. There is no charge for this service.

Software is used by a cross section of people, including students, women returning to work, and the unemployed, with the service charged at £2.00 an hour, with concessions available at £1.00.

Open Learning is seen as having a great future in public libraries, and South Ayshire are putting a great deal of work into this area over the next two years, and are researching the integration of open learning resources on the Internet with open learning resources in the public library.

South Ayrshire see training staff and users as a very important area of providing IT in public libraries and provide training sessions each week.

With regards to staff use, computers are placed at library enquiry desks where most staff have access to them. Staff are encouraged to develop HTML and associated skills for producing information on the WWW, and because they are seen as important skills for librarians to possess.

Future plans for South Ayrshire include developing a new Cybercentre, with six computers for public access, and for dial up access in branch libraries.

3.4.2.6 Edinburgh City Library Internet Project

The Edinburgh City Library Internet Project (56) is probably a more typical example of the type of experimentation taking place in public libraries - that of exploring how the library service can integrate the Internet into the services offered in the reference library. This project was funded by Edinburgh Library Service.

Public access to the Internet was launched in the Central Reference Library on the 27th May 1997. The public have to register to become members of the Internet service, which involves signing a conditions of use form and providing proof of identity. Once registered they are issued with an Internet user card, and can book an hourly slot to use the Internet. Membership and access are free of charge. In order to build up a profile of members and find out how they fared during their session, and to help Edinburgh to improve the service, users were asked to fill out a questionnaire after their session on the Internet.

Edinburgh City Library have named their Internet service "Nettie", and the service has proved a huge success. As of July 1997, they had 489 members and were fully booked until the middle of August. Some members were patient with the wait necessary to use "Nettie", whilst others were very impatient, especially if they needed access to the Internet as soon as possible for homework or job-hunting purposes. Some people decided not to join because of this delay, preferring to use Internet cafés to obtain instant access. Edinburgh City Library realize that more connections and in other locations are necessary if they are not to lose out on the initiative they have successfully started.

Edinburgh Central Reference Library have produced the results for their first month of Internet access from the questionnaires, the findings of which are summarized below.

From May 27th - June 27th, 36% of questionnaires were returned, 18,414 files searched, and 201 bookings used.
The main users were male (65%), and fell into the 22-39 age range. 89% lived in Edinburgh and 35% were in full-time employment.
55% had used the Internet before, mostly at an Internet cafe, or at university. The WWW was the most popular use for the Internet (78%), with 12% using it for job hunting. The

range of sites visited was quite vast, ranging from the Edinburgh Festival to Chocoholics, and from New Scientist to Arthur C. Clarke. The majority of the users found the Internet "fairly easy" to use, while only 3% found it very difficult. The problems causing these difficulties included "very hard to find a specific topic", "disconnecting", "got lost", among others. However, 71% found some of the information they were looking for, 14% finding all the information they were looking for, 7% found too much, with 8% finding nothing.

81% found the help available good. 31% visited "Nettie", the homepage. 94% said that they would use the service again, with 75% saying they would be provided to pay for the service. 46% of members were willing to pay about £1 per hour, 21% £2, with only 3% saying they would pay £5 per hour.

69% found out about the service from the publicity leaflet, 14% read about it in the local paper, with the rest seeing a poster, finding out through friends or elsewhere.

Comments on the service were very varied, with some of them being: the need for more terminals, good introductory folder, unable to locate bookmarks, "think it's great that Internet can be accessed by people who could not normally afford it or are scared of it", and "excellent idea to introduce this service into the library".

This survey has shown the popularity of providing free public access to the Internet, proving the need for offering an Internet service in public libraries. It has also shown the advantages of monitoring and evaluating the service.

3.4.2.7 Input Output Centres

Input Output Centre Ltd. is a private company which works in partnership with public libraries throughout the UK, managing public access computer centres within libraries. These centres offer a range of services including computer hire, computer application training and Internet access. Input Output recognized that although public libraries wanted to offer a whole range of IT facilities, some were unable to do so for reasons such as lack of finance, limited computer experience among staff, limited staff resources available to deal with users and maintain the equipment (57).

The first Input Output Centre opened in Marylebone Public Library in 1994. Input Output Ltd. had recognized the need for computer access and training in the public sector, and decided upon public libraries as being the ideal outlet for their computer centres as they were seen as friendly, unthreatening places, that hold a unique position within the community. The aim of Input Output Centres was to work in partnership with public

libraries, not separately. They believed that the service *"should reflect all the positive images associated with the library service and at the same time to be innovative"* (58).
The charges for services are kept lower than commercial rates to encourage as many users as possible and to match the policies of public libraries. All funding for the project was from the private sector, with public libraries not required to invest anything.

Input Output centres employ at least two full-time local members of staff at each location, fully trained by the company. The training offered to end-users are NVQ vocational training packages, with each student receiving a certificate on completion. Prospective students may initially try packages free of charge.

When the project was launched in 1994, the Internet was only just becoming popular, and the access that Input Output Centres provided became very popular very quickly. Input Output have subsequently joined EARL in order to work with library authorities in developing a coordinated Internet strategy, and offer EARL members low cost training. The company also committed funds to the Millennium bid.
Input Output Centres have also formed an alliance with Reed Recruitment, whereby all their courses have been approved by Reed, and on completion of a course, users are guaranteed a "fast-track" interview at Reed.
One way the company generates income is by designing web pages for businesses in the community. Input Output Centres are also concentrating on a new area of training, exploring the potential of online training available on the Internet.

Input Output Centres have expanded their business around the country with sixteen centres already open, and more on the way. They have proved that the public and private sectors can work together in developing new services which are beneficial to both the partners in providing the latest technology to the public. The author believes however, that it is still necessary for library staff to learn new IT skills and keep abreast of new technological developments, and that these should be a core service provided by the library authorities themselves.

3.5 Community Information

Community information traditionally provided in public libraries includes council information, details of local clubs and societies, news of local events, general information for people living, working or visiting that particular town or city, and is a vital information

service for the local community. It is continually changing data that needs to be easily updated and simple for public access. Originally community information was provided via print format, but over the years has increasingly been stored electronically making it much more accessible to the public and much easier to manage for libraries.

One of the first types of popular electronically published community information was provided through videotext or private viewdata systems. Viewdata was a commercial system delivered to terminals via the telephone. It allowed remote information providers to set up pages of data for the end-user either free or at a charge per page (59).

Over the years the range of options available to libraries to automate community information has grown to include PCs and library management systems. Batt, in his surveys of information technology (4-8), has followed the progress made in this field.

Between 1987 and 1993, there had been a 39% increase in public libraries using IT for managing community information, with the most popular methods being the PC and the library management system. These surveys do not make clear which online systems are for public access.

Terminals or kiosks providing community information are usually placed in prominent public places such as the library itself, council offices or shopping centres.

More recently, community information has found a new electronic medium with the arrival of the Internet and networking. The WWW offers new opportunities for community information as it means that it is available to anyone with Internet access, as opposed to the viewdata systems that could only be accessed from dedicated terminals. The WWW also offers a higher standard of information presentation, and allows links to other useful sites that may be located outside of the service, county or country. The Internet, therefore, has the potential to allow community information to be more accessible to users, more attractive to use, including images and sound, and more comprehensive; using hypertext links users can move quickly from page to page to reach the information they require without having to backtrack through layers of menus. It also means that it is accessible twenty four hours a day to anyone who has access to the Internet.

Many projects have been completed, or are now underway, making community information available over the Internet, including Cambridge Online (60), Croydon Online (61), Leeds City Council Internet Project (62), Manchester Community Information Network (63), Hantsweb (64), Surrey Web (65), and many more. Public terminals are situated in libraries, council offices, Citizen Advice Bureaux, hospitals, etc., and can also be accessed by anyone

with an Internet connection. Cambridge, for example, provides free access to the community information pages as well as other resources on the Internet from the public sites. An unfortunate development of some of the community information projects is that they are not being run by the libraries, the traditional providers of the service, but by other council departments, or even from the private sector.

Some projects have aimed to take community information to rural areas that are "information poor", and possibly the most well known of these projects was the Golden Valley Information Project, whose aim it was to provide a networked information service in a remote and isolated rural area - the Golden Valley area of Hereford and Worcester. The project made available a number of computer terminals in publicly accessible sites, such as village post offices and shops, which connected to databases over leased lines. The terminals could also be used as word processors. This project was a great success and therefore it was decided to make the service available to the whole county. It was given the new name of Library Online Information Service (LOIS), and terminals were placed in many of the main county libraries. All information is run on a high speed Intranet, as well as being available on the LOIS Internet site. LOIS won the 1997 EPI Award for Excellence and Innovation in electronic public information. (66-68)

EARL's Community Information Task Group, has been researching resources for community health information, for plans to produce a Web gateway on health information services, with annotations about the sites and what can be found there (69). Already on EARLweb, there is an information resource called the Citizen in Society (70), which provides links that would be of use to local communities, such as *UK Charities Direct*, and *Women's Health.*

There are many other Internet sites that would be relevant for libraries to provide access to for community information, for example the *CCTA Government Information pages* (71), or the *Voluntary Organisations Internet Server (VOIS)* (72). There is great potential for public libraries to do more to guide people to sources of information which may be useful to them through the WWW.

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CHAPTER 4. THE CASE STUDIES

4.1 Introduction

The libraries used as case studies for this dissertation were chosen to provide a picture of how three public libraries have developed and are currently using the various types of electronic information resources studied in the previous chapter, and to look at how these have enhanced the public library service both for staff purposes and for the end-users. They also provide a view of current projects and future plans concerning the inclusion of electronic information into their services .

The three libraries were chosen with the aims to examine the differences in the range of electronic information provision; attitudes towards IT; and to take into account the different socio-economic backgrounds of each.

Croydon Library service was chosen as it is seen as being the leading public library in the UK in terms of IT, and is situated in a busy London borough. Gateshead Library service was chosen as it is involved with a number of electronic projects that have attracted European funding, and projects that aim to provide services for people with disabilities. Southampton Library was chosen partly because the author has worked there, but also because it provides a view of how a public library is responding to the challenges of IT, with no major funding and with the implications surrounding Local Government Reorganization.

4.2 Gateshead

4.2.1 Background

Gateshead Libraries and Arts Service is a department of Gateshead Metropolitan Borough Council, in the County of Tyne and Wear. The population figure for Gateshead in 1991 was 197,051[*], which showed a decline in population over the preceding ten years, but the figure had risen to 202,900 by 1994, according to the OPCS Monitor, July 1994 (2). Gateshead is a mixture of intensely urban and rural areas, with an industrial history. Information on Gateshead MBC's website states that *"its social, economic and health statistics place it*

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[*] All figures taken from 1991 census data unless itherwise stated. (1)

amongst the poorest and least healthy areas in the UK", but that the response to this is to *"prioritise the creation and retention of employment and work to improve the quality of life of its citizens"* (3). The library service can play an important part in this regeneration, providing cultural, educational, information and leisure services to the community.

The age distribution in Gateshead shows that 41% of the population are between the age of 30 and pensionable age; 19.5% are pensioners; 18% are between the ages of 18-29; 15.5% are between 5-17; and 6% are under the age of 5.

Of the total population of Gateshead, 65.7% of people are in employment; 9.6% are unemployed; and 24.7% are economically inactive. There is a student population of 4.4%.

The majority of the population is white (99.2%), with 0.2% being Indian, 0.1% Pakistani, 0.1% Bangladeshi, 0.2% Chinese and 0.1% Asian. This shows the lowest percentage of ethnic minorities in Tyne and Wear.

53% of households live in owner occupied housing, 36% in council housing, 6% in rented accommodation and 4% in housing association property.

The implications for the library service are that they need to cater for a higher than average rate of unemployed, and a fairly high percentage of economically inactive people in the community, but a low percentage of ethnic minorities and a fairly average distribution of age ranges. There is a college situated close to the central library, with the result that the library also needs to cater for some student requirements.

4.2.2 Gateshead Libraries and Arts Service

Gateshead Central Library was built in 1926, with a substantial extension completed in 1976. The public area consists of adult and junior lending sections, reference and local studies library, tourist information and reception point, a function hall, an exhibitions gallery and a lounge bar and cafeteria. The tourist information service is run by the library service, with staff rotating duties from the reference library. Another tourist information site is located in the Gateshead Metrocentre. A major refurbishment in 1991 included a new Sound Gallery for music and video loans.

There is a network of 16 branch libraries, a trailer and a mobile library. This network means that no Gateshead resident lives more than two miles from a service point.

4.2.3 Electronic provision of information in Gateshead libraries

The following sections are based on an interview with Ian Hunter, Assistant Director, Gateshead MBC Library and Arts Service, Wednesday 18 June, 1997, on demonstrations of particular electronic projects and on the author's personal observations, unless otherwise referenced (See appendix for an outline of the questions asked).

Computer equipment in Gateshead Libraries is made up of PC's which are bought from the Council's central computer services division, and whose responsibility it is to deal with the maintenance of the equipment. There are also around 70 Apple Macintosh computers around Gateshead Libraries and there are various arrangements with local Apple dealers to provide maintenance services. When problems do occur with equipment, there are usually unfortunate delays incurred whilst waiting for the equipment to be repaired.

There has been a fairly new post created of IT Projects Officer, whose work includes all web editing and advising on all technical matters.

4.2.3.1 Online services

Online services are provided in the central reference library. There is no charge to users if a search is undertaken, only a printing charge of 20p a sheet. All members of the reference team are trained in using the service, so that everyone has the knowledge and the capacity to use the service when necessary, although there are varying levels of expertise.

There is a fairly high level of usage, with 3 - 4 searches undertaken per day. The main database used is FT Profile, for the reason that it has many services attached to it, and it has been regularly used for 6-7 years. Many types of enquiry are answered by online searches, with perhaps the highest use being European information. Usage is monitored in terms of cost, for the purposes of a monthly billing system.

Gateshead also use online services for a number of SDI services for local organizations and council departments. For example, every month they conduct searches through FT Profile using pre-prepared search strategies to provide information for the Local Council of

Disability and the department of Environmental Health. This service is provided free of charge.

4.2.3.2 CD-ROM

The CD-ROM service is for public access and free of charge, except for printing. There are four stand alone terminals in the central reference library and a choice of over 90 CD-ROM titles covering a broad subject range. There are terminals in the lending library and branches for use of the library catalogue only which is on CD-ROM.

The introduction of CD-ROMs to Gateshead has brought benefits to the service, the obvious one for them being space; they have a very small physical space for storage, and CD-ROMs have saved them storing large back runs of newspapers; it has improved their image and their staff skills, with all staff trained in using CD-ROMs; and it has provided a much more powerful means of retrieving information. They have become popular both with staff and users.

Usage is monitored, both in terms of which titles are being used by the public, and whether they have been used to answer enquiries by staff. Usage of CD-ROMs had increased by 20% in 1996/1997 when compared with 1995/1996 (4). The most heavily used CD-ROMs by end-users are the newspapers and Microsoft's Encarta. They support college research for the local students, business information, general interest, and also for reasons of "serendipity", people who are just using the CD-ROM for fun. Many users have not used CD-ROM before, and therefore the library is performing a key role in making facilities available to those who may otherwise never have access to them.

CD-ROMs have become valuable to staff as tools for answering reference enquiries, and for the SDI services, saving staff time by alleviating the laborious task of consulting newspaper indexes.

The growth of CD-ROMs has affected Gatesheads' use of online information retrieval, especially in terms of newspaper searching, whereby non-current information is searched for via CD-ROM, with FT Profile being used for more recent information.

With regard to selecting the CD-ROM version of materials over printed sources, the benefits mentioned previously weigh in the favour of CD-ROM versions, especially with

regards to storage space and the power of electronic information over hard copy. Where possible, the CD-ROM will be evaluated before it is bought, with special regard to the interface and ease of use.

In terms of future developments for the CD-ROM service, networking has been discussed and considered for a number of years, especially with over 90 titles being used on four stand alone terminals, but funds were always insufficient. The development of the Internet has also reduced the likelihood of it happening, as titles are now becoming available on the Internet, and consequently Gateshead have actually reduced their number of CD-ROM subscriptions. An example of this is the Social Sciences Index. Currently, therefore, networking of CD-ROMs is an option being considered, but in light of limited resources, may not happen, particularly because it is seen as being a transient technology.
CD-ROM databases that are invaluable will continue to be bought, and new titles will always be considered. SDI services are also being developed, through the use of CD-ROMs.

4.2.3.3 The Internet

Staff have had use of the Internet at Gateshead for two years now, and the public had access to "Campus World" for just over a year. This was not successful and is no longer available. Campus World is a BT product, offering a protected environment within the Internet, which allows access to sites that have been pre-selected. The problem with this approach is that it is not the Internet, and therefore not what people wanted when they came in to use the WWW, as they kept coming up against barriers. It was a charged for service, and this did nothing to encourage its use. This type of access was chosen because of concern by the local politicians in the public accessing undesirable sites on the Internet. As this approach failed, full public access to the Internet was approved and is due to be launched September 1st 1997.

The reasons for setting up the service were popular demand from the public, and because of the perception that as the biggest ever development in terms of information provision it is only right that it should be offered by the public library.
Gateshead are offering free public access to the Internet, with the feeling that it is just another information source which should not be charged for just because it is expensive. They are funding the service from a reallocation of sources.

What they perceive as being problematic is managing the demand for the service, and therefore, they have decided that the public can book half hourly sessions, up to a maximum of two hours per week, subject to availability. Users must be over 16 years of age, or be accompanied by someone over that age. The adult must hand in their library card.

Training users on the Internet will be informal and minimal, with the view that it is not being run as a Cybercafe; they do not have the staff resources to offer Internet training, nor see it as being a priority. They intend to help people to log on, and maybe give some informal guidelines, but no more than for a CD-ROM. The idea is that the Internet should be used for browsing.

The reference team at Gateshead is made up of 12 staff, and all of them had familiarity training sessions on the Internet, and now most of them use it regularly as a reference tool for answering enquiries. Feedback has shown that the staff feel it to be an invaluable tool, with useful sites bookmarked for future reference.

As for the impact that the Internet has had on the service so far, it has already involved a reduction of the CD-ROM stock; it has improved the quality of the information service, having such a powerful tool available; it has created a better image for the library, in that they are seen to be relevant and in touch because they use the Internet, and has also had an impact on staff awareness. The downside is that the Internet has possibly created a bigger chasm between the information and the lending sides of the service. There is only access to the Internet in the reference library, and that implies a development of staff and improvement of services which is not reflected in the other 17 service points.

Ian Hunter sees the Internet as offering the potential to reach parts of the population who choose not to use the library services, i.e. people who are unwilling, or unable. It effectively provides 24 hour opening, and the more that the Internet becomes enriched with information, the better it is for libraries to become involved with providing the means to that information.

When asked his personal view on the "Information Superhighway", and the networking of all public libraries, Ian explained that the Director of Gateshead MBC Libraries and Arts Service, Bill Macnaught, is one of the two public librarians in the country sitting on the Library and Information Commission's IT Group, and they have currently been working on a proposal to the Department for Culture, Media and Sport which essentially resurrects the Millennium bid through the Public Library Networking Plan. Ian Hunter's personal view is

that all the major utilities of the country are starting to provide 24 hour access to services for their customers, and that is what libraries should be doing also.

> *"Anyone, anywhere in the country should be able to get an answer to an enquiry on any subject 24 hours a day... there are 4000 public libraries in the UK, we should be able to all get together and provide that sort of service... now that would really be a useful purpose for a network."* (5)

Gateshead MBC is developing its own WWW site, for which the Libraries department is managing the content and the design, and includes its own presence. For the public access Internet there are no plans for a library homepage, but useful bookmarks will be provided.

Another web presence that Gateshead have a substantial part to play in is the Regional Information Service, which is a project of the Northern Informatics organisation. Northern Informatics is made up of various organizations, public and private, in the North of England, geographically defined as the Scottish borders down to Yorkshire and Lancashire. The Chief Executive is a secondee from Northumbrian Water, and there are all kinds of organizations involved, from utilities such as Northern Electric and British Gas through to the Libraries. The purpose of Northern Informatics is to try and stimulate the development of telematics across the North of England for all kinds of reasons, not least, economic development. It is also a fundraiser, as it brings money into the region; for example it attracts a lot of money from the European Commission as a partner in various projects, one of which is called SUN Tele-Regions, which comprises of a partnership of six regions across Europe who exchange expertise and knowledge to develop Telematics throughout the regions.

Northern Informatics is divided into sector groups, such as health, education and industry, and one of these groups is Libraries, Information and Media, which is headed by Bill Macnaught, the Director of Gateshead MBC Libraries and Arts Service. The flagship project of this sector group and also of Northern Informatics itself, is the creation of the Regional Information Service.
The Regional Information Service (RIS) is a web site, managed by a secondee from the information staff of Gateshead Library Service, who liaises with all kinds of organizations in the North of England, big and small and encourages them to get a web presence. Gateshead will then provide links through to it and a structured search facility from an indexed home page, so that a user could choose arts, tourism or business etc. There are currently 600

linked web sites within the RIS, and it works as a distributive network. Gateshead Library Service manage the network, but the information ownership remains with the information producer.

The RIS is very clearly identified with the public library network, and of the 30 library authorities in the North of England, 25 are connected to the RIS. Anyone from any point of the RIS can send an email enquiry that will come to Gateshead as the control centre, and it will then be distributed among the library network where it will be answered and sent straight back to the enquirer, with a copy of the answer sent to Gateshead for their information services.

The RIS is a key development in the information society being lead by public libraries. In terms of the Internet having an impact on the library service, the development of the RIS has had a huge impact for Gateshead, especially as the library as a publisher.

4.2.3.4 Community Information

Gateshead have used a Viewdata service since 1985 to deliver community information, but in 1994, they worked with South Tyneside MBC and a local cable TV provider, Telewest, to produce the first teletext community information service on cable TV in the UK. The information was selected, input and managed by Gateshead, and the service was called Tynecable. This service is on channel 7 on the cable television and currently goes out to 35,000 households in North and South Tyneside, providing 1000 pages of information. A more recent innovation for this service is "Tynecable Interactive", which was developed from the European project RE.AC.T.I.V.E. Telecom, which stands for REsidential ACcess To Information Via Everyday Telecommunications. Anyone with a cable subscription can access this larger community information service of 6000 pages through their television and telephone. The service works by dialing a particular number, being given a personal teletext number which is put into the television using a remote control, and provides access to the 6000 pages. Pages can be selected using the buttons on the telephone. Results of a survey showed that *"50% of all cable subscribers regularly use the service"* (6).

The final development of this project was voice recognition, launched in June 1997, which means that the information can be selected by speaking into the phone.

There is a room in the central library for electronic networks, with two machines that are used to edit cable TV channel 7 and a team of teletext editors, made up of the staff that rotate between the reference library and the TICs.

The benefit of this service is that it brings information into the home, and it reaches those people who are perhaps unable to use the library itself. In view of the WWW as a medium for providing community information, Ian Hunter currently has a sceptical view on how effective a delivery medium it is. He sees the cable TV method as much more effective, as most people have a TV, as opposed to a computer, and every time Telewest make a sale, the user base goes up. There is also the fact that not everyone is familiar with using a PC, or the process involved with finding a website on the Internet, as opposed to using the television and the telephone. Ian believes that *"once the Internet is as convenient as cable is, as teletext on your television, and once it is faster than picking up the telephone, then I think it will have a brilliant role for community information."* (7)

The private Viewdata system that Gateshead previously used, can still be accessed by anyone who wishes, and is still updated as it is used as the basis for the cable service. Currently being explored is how the information can be automatically converted to HTML to be put onto the WWW.

4.2.3.5 Other forms of electronic information provision

Open-Learning

There has been a dedicated open-learning terminal at a branch library for 5 years, which was chosen as it is a busy library and fairly new with enough space to accommodate the service. The service is free of charge and offers computer and word processing learning packages. It is used by a range of people, especially women returning to work and the unemployed. The service has proved popular, but there are no plans as yet to develop the service at other sites.

Ian Hunter has the view that one of the key roles of libraries is that they should be seen as being about life-long learning, a university of the people, and that the open-learning facility is just one part of the service that reinforces that role.

Training Access Point

This is a service that has been provided in the reference library for about 10 years, and is managed by the Tyneside Enterprise Council. The TAP is a dedicated terminal providing a fast and efficient means of finding information about training and courses in the area. The

information is currently updated and can be printed out free of charge. The information however will soon be available on the WWW, and will be accessed through the public Internet terminal.

European Information

This subject area was chosen as there is a great deal of European information available electronically, that is becoming increasingly more important for public libraries to provide, especially through being members of the EU Public Information Relay, (PIR).

Gateshead are a Relay Centre, aiming at being a Level 1 Centre, and as such a member of the reference staff has become the European Information officer. There will only be twenty Level 1 PIRs nationally, each offering a considerable depth of European information. It is the European Information officer's responsibility to train staff in EU information sources. Information is provided through CD-ROM, the Internet and Online sources. CD-ROM databases used, include Eurokompass, EC Infodisk, Europe in the Round, and Justis Single Market. Online databases searched include Celex and Justis which can be accessed through FT Profile. Once Gateshead become a Level 1 centre, they will have free access to Eurobase. Internet sites used are Cordis and Europa. Increasingly the most popular format being used is the WWW. A whole range of European enquiries are dealt with, perhaps the most popular one being directives and legislation.

Promotions

Gateshead have quite a unique set up when it comes to promotions and in-house designing, as they have their own Promotions Unit. All posters, leaflets and art gallery promotion guides are produced in-house for the Library and Arts Service using desk top publishing.

4.2.3.6 Projects

ESLI - European Sign Language Interactive

This was a project funded 100% by the European Commission's TIDE (Telematics Initiative for disabled and elderly people) Program. It was a two year project, which ran from October 1994 - 1996. The other partners in the project were the University of Patras in Greece and a publishing company in Milan called Ariete Salute. The overall purpose of the

project was to develop improvements in communication between the sign language using deaf community and public services, in this case the library service. The objective was to produce a compact disc to improve the knowledge of sign language of public librarians. The discs were produced in Compact Disc Interactive (CD-i) format. These are played on a simple device which plugs into an ordinary television set. Essentially the disc is a phrase book of over 100 sign language phrases; users can select everyday phrases by clicking in areas of the screen and then see them signed using sequences of video. The video can be slowed down, rewound, paused and repeated at any time. The discs also contain information on Deaf culture and the Deaf community. Discs were produced, in each language of the partners.

The project has proved successful with links being made with the British Deaf Association and with the deaf community, and many public services, organizations and individuals have purchased discs.

CHILIAS - Children in Libraries Information, Animation and Skills

This is a project of the European Commission within the framework of the Telematics Applications Programme 1994-1998. The partners of the project are from the UK, Stuttgart, Finland, Greece, Spain and Portugal. CHILIAS will explore new WWW/Internet based children and school library services for children aged 9-12 years. The project commenced in April 1996 and will finish in June 1998.

The main objectives of CHILIAS are:

- *to develop new concepts for the children's library of the future as a stimulating environment for innovative learning, autonomous experiences and creative use of multimedia and networked technology with links to traditional library services.*
- *to design new animating ways of access to children's library services based on multimedia and networked technology both in-library and through remote access*
- *to foster children's competence in using interactive multimedia and networked information and communication systems*

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- *to motivate young people to learn navigation through library and other information systems by designing new learning environments and interfaces that respect their needs and interests* (8)

These objectives will be achieved by four integrated modules (9) within the CHILIAS service. The first module is called LIB and aims to design and deliver a children's virtual representative digital library using multimedia technology and the WWW. The second module is called ACT to develop a library service encouraging children's creative skills and developing a wider technological literacy by generating and disseminating their own materials as part of the LIB module. The third module NET, will offer a networked newsgroup for teachers, librarians, and parents, and allow trans-European communication between children accessing the virtual library. The final module SKILLS will develop a multimedia training programme which will be compiled in digital form.

The project will enhance the availability and accessibility of children's library services within Europe and prepare children to be future users of the global information society. It will also encourage the further development of children's library services using new technology.

Gateshead library staff and local children have designed a virtual library called 'InfoPlanet' (10), which aims to reflect the core activities of Gateshead MBC Libraries and Arts Service. These are information services, book and reading promotion and the encouragement of participation in the arts. *"InfoPlanet' is an attempt to effectively respond to the expressed interests of Gateshead's younger population and at the same time to improve access to Library services via telematics"* (11).
Collaboration with schools is a main feature of the CHILIAS work in Gateshead, with the library currently digitizing archive photos for curricular material. There is also the 'Internet Reporter's Club' in which a young editorial team gather materials about a particular issue and create a web-based magazine article. Young Gateshead musicians have prepared their own web pages for CHILIAS with sound and video files, and are forming an Internet band. 'InfoPlanet' will be the children's pages on the Council web site.

ELVIS - Electronic Library Visual Information Service

The ELVIS project is a collaboration between Gateshead MBC Libraries and Arts Service, The British Deaf Association, the London Deaf Access Project, and BT. At the moment it is a current proposal to the European Commission for funding. There was a pilot project in

October 1996, to demonstrate how it would work. ELVIS will enable deaf people to access the full range of public library services through the use of video telephony and trained sign language interpreters. If successful, ELVIS could be adopted nationwide. The project will establish enquiry points with video phones at strategic sites around the Northern region, for example in branch libraries, shops and deaf clubs so that, for the price of a phone call, users can dial up Gateshead Central Library and sign an enquiry to librarians trained in sign language who will research the request and verify the information required online with the user before downloading it to them at the other end.

Bill Macnaught, Director of Gateshead's Libraries and Arts Service stated that

> *"Not only will ELVIS enable public libraries to provide a complete service, but once in place, this technology will mean that anyone, regardless of impairment or location, will be able to use the full range of library services from their own home of from one of the drop-in centres which will be established around the region. This service will be a vital part of the Regional Information Service that we are currently developing at Gateshead Council's Libraries and Arts Service which provides information for anyone in the region or to anyone in the world about the region through email, the Internet and video telephony."* (12)

Compact Disc Interactive developments (CD-I)

Gateshead MBC's Libraries and Arts Service engaged in a partnership with Gateshead Council on Disability as part of the National Disability Information Project (NDIP), a three year initiative funded by the Department of Health which ended in September 1994 (13). Part of the work involved the publication of information in CD-I format. At that time CD-I was essentially aimed at the domestic market, with games and feature films available. CD-I players plug into the back of a television and provide a type of interactive video. The first title that Gateshead produced was *Into Work - Employment opportunities for disabled people*, published in 1993. The second title was *A Guide to Gateshead Hospitals* with information transcribed on disc in Bengali, British Sign Language, Cantonese, English, Hindi, Urdu and Punjabi. It is a permanent public access system in the Outpatients' Department of the Queen Elizabeth Hospital, Gateshead.

In 1994 Gateshead were awarded funding through the Department of National Heritage's Public Library Development Incentive Scheme, managed by the British Library, to develop a title on local heritage entitled *Gateshead 1900*. This disc is an interactive multimedia tour

of Tyneside's social, industrial and cultural history, using family life as the basic theme. All of the 100 schools in Gateshead have got a CD-I player, which was part of the project, so they could all use Gateshead 1900. It is also used for rehabilitation purposes for the elderly, because of the music and digitized old footage played throughout.

The production of these CD-I publications stresses an important development for libraries as that of publisher.

AIRS - Access to Information and Reading Services

AIRS is an important branch of Gateshead Libraries and Arts Service that was set up around ten years ago. Its aim is to provide information of all kinds in an accessible form to people who have difficulty reading print. The service is provided in a number of ways:

AIRS Newspaper Service produces the Daily Talking Newspaper and Weekend Magazine which are sent to people throughout the country, providing national and international news coverage as well as features, interviews and information. Each tape is 60 minutes in length. Also produced is a 90 minute weekly regional newspaper covering news, features and a What's On section. This is a free service and the only service of its kind in Europe. Tapes are sent out daily, returned and re-used.

AIRS Information Service means that everyone who receives the AIRS newspaper will be kept informed of any new or updated information available in Braille, large print or audio tape. All requests for information are responded to as quickly as possible, usually within 24 hours.

AIRS Children's Story Collection is a range of children's stories held in all of the Gateshead Libraries.

AIRS Transcription Service includes conversion to Braille, large print, audio tape and computer disc. All kinds of information can be transcribed from birthday cards to company literature. AIRS has provided transcription services for Newcastle International Airport, and companies such as Northern Electric and BT. This is the business side of the service and funds the talking newspapers. The newspaper is also broadcast over the cable TV channel four times a day.

Hypertour

Hypertour is a multimedia tourist information database produced by the Libraries and Arts Service and run on Apple Macintosh computers. It is installed in the TICs in the central

library and in Gateshead Metrocentre and has proved very popular with hotel owners, as it provides a booking system for accommodation.

4.2.3.7 Closing comments

Gateshead Central Library is not a city centre library, and is situated some way from the shopping centre. The reference library, incorporating a local studies section is fairly small and therefore the electronic provision of information has been beneficial in helping to reduce the ever increasing space needed by shelves of books and storage space for newspapers.

Gateshead Library service holds the policy of reaching as many people in the community as it can. This has meant that they have developed services that enable them to provide services outside of the library building, and reach people who are perhaps, to coin Ian Hunter's phrase, "unwilling or unable" to use the services otherwise. This can be seen in the projects that have been developed to provide services for people with hearing or visual impairments, for example, the European funded ESLI and ELVIS; AIRS and the CD-I projects for the NDIP.
Ian Hunter stated that he does not *"think there is another public library in the country that has been involved in as many European projects as we have, and we have used that funding to do all sorts of new and exciting things which we would certainly not even have considered"* (14). This goes to show the potential of what else public libraries could do for the community if only they had more funding.

Gateshead Library have been innovative in their use of cable for providing community information into the home. The user-friendliness of using the telephone and voice recognition has beneficial implications for those who cannot get to the library, for example, the elderly and the housebound. The limitation of this type of community information is that not everyone subscribes to cable, and therefore not every part of the community is benefiting from this service.

Gateshead Library Services' role in co-ordinating and managing the Regional Information Service on the Internet, and Bill Macnaught's position with Northern Informatics, show that public libraries can lead the way in developing information services through the Internet not just in their own community but in this case across a whole region. Through CHILIAS Gateshead Library Service is providing an innovative service involving schools and developing children's awareness and skills of the Internet and web publishing. This again

promotes the image and position of the library in the community and encourages children to explore and appreciate what the library can offer them.

Gateshead Library Services' policy of not charging for any information service is beneficial for the community as it encourages everyone to use the services available, closing the gap between the 'information rich' and 'information poor'.

The central library has a broad range and high number of CD-ROMs which are used in four stand alone terminals, and which have become significantly more popular with users over the last year. Networking is being considered, but as an interim measurement, it would seem beneficial to implement a tower or jukebox to allow more titles to be looked at during one session and to save staff time changing discs.

First impressions of the central library can be quite deceptive, being fairly small and with the reference library awaiting refurbishment; but once behind the scenes and aware of all the projects and additional services that Gateshead are developing and offering, the vision that the library service has with regards to using electronic methods to respond to the needs of everyone in the community is quite unique. The electronic resources and projects have substantially raised the libraries' position within the community, establishing new roles, skills and links with outside organizations and businesses.

4.3 Croydon

4.3.1 Background

Croydon Library Service is part of the Libraries, Museums and Arts Department within the London Borough of Croydon and reports to the Leisure Services Committee. Croydon has the largest population of the London boroughs, and from the 1991 census, this figure stands at 317,200*. During the mid - 1980's there was a relatively high net out-migration of older households and their partial replacement by younger economically active households. The 18-44 age group increased from 39% in 1981 to 43.1% in 1991, and the 45-74 group declined from 30.7% to 28.3%. There was a small increase of the population aged under 5, and an increase in the proportion of the more dependent retirement age group over 75. Croydon's population structure was relatively younger than the Outer London average in 1991, particularly in the economically active age groups and younger retirement age groups.

Croydon is a multicultural community with ethnic minority groups representing 17.6% of the resident population in 1991. This is slightly higher than the Outer London average which is 16.9%. Of this population 6.1% are South Asian, 4.9% Black Caribbean, 1.6% Black African and 1.1% Black other. This has implications for the library service in that they need to provide a high level of services in mother-tongue languages to provide for the multi-cultural community.

The total of dwellings in Croydon is 130,543 which is the largest in London, and the percentage of owner occupied households at 72.8% is higher than the Outer London average of 69.4%.

The economic position of Croydon showed that 89.3% of men and 71.1% of women were economically active. Of these, 65.4% of men were employed and 14.1% were in self-employment. For women the figures were 62.7% and 3.3% respectively. The male and female unemployment rates were 9.2% and 4.5%, which is below the national figures of 9.8% and 4.7% respectively (16). Croydon's high population, relatively high employment rate and prosperous community sets particularly high standards and needs for the library service to meet.

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* All figures taken from the 1991 census data unless otherwise stated. (15)

4.3.2 Croydon Library Service

The first Croydon Central Library opened in 1890, and much more recently the new Central Library opened in November 1993, part of a large cultural complex which incorporates a listed Victorian building, a museum, arts facilities, including exhibition galleries, workshops and a cinema, a café and a Tourist Information Centre.

The integrated reference and lending stock of half a million items (17), is arranged over three of the four public floors. Information for Business in Croydon (IBC) is the largest resource in Croydon for business reference material, in print and electronic formats, offering information on all aspects of business. It is a member of the National Business Information Network, the information partner in Croydon Business Link and a European Public Information Relay Centre (18).

There is a network of 12 branch libraries and one mobile library to serve the wards of Croydon.

4.3.3 Electronic provision of information in Croydon libraries

Croydon have been a forerunner among public libraries in information technology and the new Croydon Central Library was built with future IT developments in mind, with raised floors throughout the building, allowing flexibility to move power and data cables to where they are needed. They had the first CD-ROM network in a UK public library, and now have an open learning service networked between three floors. The third floor of the library houses a whole area devoted to computer terminals providing access to electronic information, and PC's for hire.

In March 1995 an IT Officer was appointed to keep all public access IT services running efficiently, and Heather Kirby describes the creation of this post as *"the best investment ever made"* (19), as the benefits of having someone on site to deal with problems and help with IT developments are invaluable.

Croydon Libraries Internet Project was a project funded by the British Library Research and Innovation Centre, which investigated the value of connecting public libraries to the Internet. This project is outlined in section 3.4.2.3 of this dissertation. Croydon has become known internationally as taking the lead in IT in UK public libraries, with Chris Batt, the Borough Librarian, equally well known as a guru in this field.

4.3.3.1 Online services

Online services are offered on level 3 of the central library via a dedicated terminal. There is a charge of £30 per hour, £7.50 per 1/4 hour, plus connect charges. A preliminary search is charged at £10. There are no concessions, with everyone charged alike.

The main reasons online searching is used are for business purposes, which require data that is not on CD-ROM. On average, ten searches a week are performed. The most frequently used databases tend to be ICC, Dun and Bradstreet and FT Profile for business, finance and company information; scientific information is also searched for but to a lesser extent.

The service is monitored through reviewing the search record forms which are used for invoicing. It is evaluated through customer response and through infrequent mini-surveys to customers who have ordered services.

The service is not advertised, but is promoted as part of the Information for Business in Croydon (IBC) service, through leaflets, newsletters and an IBC information pack.

Only two business information staff are trained in performing online searches, as there has not been enough call for the service to justify training more staff. This policy is taken as members of staff attend training courses to learn to use online services, followed by update sessions, which involve a great deal of expense. Also, as more online opportunities arise on the Internet, staff will be able to practice free of charge.

The overall benefits that online searching has brought to the library service include currency of information, accuracy and speed.

4.3.3.2 CD-ROM

In 1991 Croydon Library service began the process of introducing and networking CD-ROMs in the Reference and Information service (20). This took about one year to set up,

and by autumn 1991 it was operational, staff were trained and the first demonstrations were given to other branch libraries and departments.

In October 1993 the network was moved to level 3 of the new library with five public access PC's on the network plus one stand alone for use with Extel Financial. Early 1994, the network server was upgraded, and then again in early 1995 to a new NT server with Ultranet software and 35 gigabytes of hard disk, which proved very user-friendly, operated in Windows and provided extensive statistics on usage. There were teething problems with the network and problematic issues of licensing, with different publishers having different rules, higher costs for running CD-ROMs on a network, and some discs that do not work well on a network.

There are now 25 networked terminals for CD-ROM, 8 being for public access in the central library. Access has just been extended to two branch libraries, but not all the titles are being offered yet. There are over 100 CD-ROM databases arranged in subject groups on a menu, such as company, legal and market research information; there are newspapers, official publications, European databases and multi-media CD-ROMs for the children's library. Charges are made for printing only, at 20p per page, unless the staff carry out a search on the users behalf, when it is £30 per hour. Printing is done centrally allowing staff to control copyright and take fees.

The CD-ROMs are very heavily used, both by staff for enquiry and bibliographical work, and by end-users for a whole spectrum of uses. The most frequently used databases are McCarthy on CD-ROM, Mintel and newspapers.

The service is monitored through the management facilities of the NT server software, and evaluated from records of usage, comment forms and users asking for other titles.

The service has been promoted through displays, demonstrations and talks in the library, and also as part of the IBC. All staff are trained in using the CD-ROMs as they are an information tool and are used by end-users. End-user education is a high priority in the library because of the amount of investment put into the service. Training can vary from informal, one to one sessions of 15 minutes, to formal group sessions involving demonstrations. These sessions have included school groups, job clubs and Croydon Small Business Club.

CD-ROMs have brought benefits of open access, new IT skills for staff and a sophisticated search facility creating better results for information retrieval. The introduction of CD-ROMs has affected Croydon's use of online searching in that CD-ROMs can now be searched when information does not have to be of extreme currency.

With regards to selecting CD-ROM format over print sources, the process involves everything being looked at and compared, such as additional facilities they offer, one to many advantage, superior search facilities, economy of data storage, speed of access, and security. Where appropriate materials are still provided in both formats.

When asked whether CD-ROM has a key role to play in the future, the answer was a definite yes, because it is such a good medium for giving end users access, and the interfaces are improving all the time. Many users have not used CD-ROM before they come to the library, but quickly become competent users and do not usually require much assistance in finding what they want or in using databases.

Towards the end of 1995, the CD-ROM network was opened to some council departments (21), which has proved popular among a number of council members.

Also in 1995, CD-ROMs became available for loan (22), through Ramesis, a company which offers public libraries discs which can be borrowed for home use. Users may borrow a CD-ROM for one week at a charge of £1.50. The discs cover subjects such as cookery, art, music, encyclopedias, children's programs, games and history. Ramesis provide a freephone Help Desk, so customers can telephone for assistance. The library service purchased an initial collection of 400 CD-ROMs for loan from Ramesis. It also has to pay for the Help Desk support and updates and maintenance. It was anticipated that income generated from the loan charges on the CD-ROMs would offset the initial costs and fund the expansion of the service.

Future developments to the service include more titles, more terminals and more sites with more terminals. Plans are underway to provide access over a WAN to the rest of the branch libraries and to schools, colleges and other organizations. The funding for CD-ROMs comes out of a CD-ROM budget which pays for both hardware and subscriptions.

4.3.3.3 The Internet

The Croydon Library Internet Project (CLIP) outlined in the last chapter was the pilot project before full public access to the Internet was made available in Croydon Central Library. CLIP helped to create public demand for the service, but to a greater extent provided staff with new skills, both in using the Internet for information retrieval and in publishing information on the Internet. Croydon has developed a high profile as a result of the project, with many demonstrations and talks being given about it within the public library field, and among the local community. A major result of CLIP is Croydon Online, which will be looked at in more detail within this section.

Staff have had access to the Internet now for two and a half years, with full public access being launched in March 1996. There are six terminals providing access to the Internet within the Central Library and access has just been made available to two branch libraries. Bookings can be made to use the Internet, or if available can be used on the spot. Charges are £5 per hour, with concessions at £2.50. Fees are taken at time of booking.

Staff training of the Internet took the form of group demonstrations, with some after work sessions for staff from branch libraries to attend, and have hands on practice. Group demonstrations were given to members of other departments to introduce the new website - Croydon Online.
The Internet has now become an invaluable information tool and heavily used by reference staff dealing with enquiries, with knowledge being built up all the time as to sites of relevance; also regularly used is the Stumpers List.

Training for end users can take the form of special courses, such as well publicized "Internet for beginners" tutorials that can be booked every other Saturday with extra sessions on week days. Training demonstrations can be organized for special groups, such as Local Health Information Providers or Croydon Antique Collectors, where searches can be focused on their specialist needs.

Leaflets advertise the Internet for hire, which include booking and charging details, and a brief explanation of how to use and find information. A cross section of the community use the Internet facilities for general information on hobbies, research material, and business material, and generally searches are successful, with positive feedback from users, and terminals often fully booked.

Croydon Online (23) is both the web site for Croydon and the name of its community computing network. Its objectives are to provide information about all aspects of living and working in Croydon to the local community and beyond, and to increase access to the Internet for the community, and enable local people to use email and the Internet.

Croydon Online is arranged in seven main categories which are

- *New on Croydon Online*
- *Guide to Croydon*
- *Living in Croydon*
- *Working in Croydon*
- *Leisure in Croydon*
- *Libraries and Information*
- *About Croydon Online*

Information within these categories includes Croydon Council: its members, services and departments; Education and learning opportunities, e.g. schools, private tutors, adult education courses, etc.; Health and welfare, e.g. self help and support groups, alternative medicine practitioners, etc.; Business and employment, e.g. Electronic Business Register, job vacancies, etc.; Sport, leisure and entertainment, e.g. What's on, cinemas, theatres and concerts; Transport, travel and tourism, e.g. public transport, accommodation, etc.; Library and information resources, e.g. special events, online enquiry service.

Croydon Online has its own search engine which means the whole site can be searched quickly by name, subject or place, and with various combinations.

Other facilities that Croydon Online offers are email accounts and publishing your own web pages, to advertise your business or organisation locally and worldwide, and linking them into Croydon Online. The pages can be designed either by the company or organisation itself, or by Croydon Online staff, who will also offer advice and assistance. These services are charged for at differing rates.

The Electronic Business Register is a database of Croydon businesses, giving brief details on each company, with a link to their home page if they have one. This is free to join, free to search and updated daily on Croydon Online. The extra service of designing web pages for the business are the same as mentioned above.

The potential that the Internet has for the local community is great in terms of organizations connecting and promoting their services. There are about 100,000 visitors to the site per month.

When asked about the future of the Internet in public libraries, Heather Kirby sees it as a very important resource providing 24 hour service with more and more valuable resources being added all the time. There is also the communication value with the email facilities available. With regards to the "Information superhighway" and the Millennium bids, Heather's view is that she is in favour of it, but that it will not happen straight away, and libraries should concentrate on what they can do on a smaller scale now, so that data is immediately accessible.

Developments for the future include more valuable information being put onto Croydon Online and getting other places in the borough connected.
In order to fund the Internet provision, small cuts often have to be made elsewhere, with a small council budget available to assist with Croydon Online.

4.3.3.4 Community Information

Community information is provided through an in-house database with a Community Information Librarian and assistants responsible for inputting information This database is made available through Croydon Online, described above.

4.3.3.5 Other forms of electronic information provision

Open Learning

Croydon launched its Open Learning service in March 1995, which is run as a membership club. The annual subscription is £20, with concessions at £10. Open Learning PC's are available on each level of the Central Library. Each PC is loaded with training packages, including WordPerfect, Word for Windows, Lotus 123 and Excel, which members can work through at their own pace. Other facilities such as video and audio equipment are also available, and packs can be loaned for home use.

The Open Learning facilities are usually fully booked and users are frequently asking for more. The service is used by the unemployed, people returning to work, students who want

to learn computer skills, and older people who just want to learn. It has attracted new users to the library who come in to use the Open Learning, and then use other facilities while they are there.

Before the launch of the Open Learning service, all the machines were available in one room for staff to teach themselves and explore the packages. Front line staff underwent formal training on spreadsheets and word processing at a half-day course, in order to assist users when necessary.

Heather Kirby describes the Open Learning service as having *"met a very definite need in the community"*, which has enhanced the image of the public library as *"more helpful and hospitable to people who need to learn at a basic level"*, and providing the *"opportunity to make a start in a world that requires IT literacy"* (24).

PC's for hire

There are five PC's for hire at Croydon Central Library with software for WordPerfect, Microsoft Word for Windows, Lotus 123 and Microsoft Excel for Windows. Manuals for these services are provided for reference. The PC's can be booked for hourly sessions and are available on levels 1 - 3. The hire charge of £5, or £2.50 at concessionary rate, must be paid at the time of booking. Disks can be bought at £1.

The service is supposed to be used by people who know what they are doing, and staff are not supposed to offer training or support. However, staff do help, but try not to spend too much of their time doing so.

European information

Croydon Library is a Relay Centre and provides European information through CD-ROM, Online and Internet format. They do not find that there is a great demand for European information at the moment, most provision being for students' projects and business needs. CD-ROM databases that are regularly used are EC Infodisk and Justis Single Market; online databases are Datastar and FT Profile; and Internet sites Europa, Cordis, I'm Europe and ISPO. There is no particular member of staff whose responsibility is European information and there are no plans to add particular European information pages to their web site at the moment, apart from the link that is currently available to the PubliCA site.

4.3.3.6 Projects

Croydon's aims are to get the whole of the borough connected; develop the public email service, build up the content of Croydon Online; make the OPAC available on Croydon Online (this is about to happen); get all the other 10 branch libraries connected; and try to get sponsorship through local businesses to further these plans.

A new research project is to evaluate the benefits of Croydon Online to the community. Specific areas that will be looked at are the benefits that being connected to the Internet and having access to email could bring to new businesses and to a user-group of housebound readers.

The Telewest Croydon Learning Project (25)

This project is a partnership between Telewest Communication, Croydon Libraries and Croydon Education Department, that aims to connect six schools and two branch libraries to Croydon Central Library via state of the art fibre-optic cable. This will allow the schools and the branch libraries to remotely access the electronic information services at the Central Library, namely the Internet, the CD-ROM network and the library catalogue.
Access to the Internet will allow information gathering from all the sources available on the WWW as well as the advantages of email. As the project progresses web publishing, graphics scanning and video conferencing will also become available. From the CD-ROM network the schools will be able to choose their own titles to mount on the system.
This project was launched on 20th June 1997.

4.3.3.7 Closing comments

The provision of electronic information services within Croydon Central Library are probably more advanced than any other public library in the country, especially in the number of terminals available for public access, the network of CD-ROMs and the design of the library to accommodate them.

Croydon Library Service does have to serve a very large community and the central library is situated in a busy town centre. The IBC is evidence of the role the library plays to the local business community.

Croydon's advantages lie in that their electronic resources are well established, being the first UK public library to have a CD-ROM network, and one of the first to have the opportunity to experiment with the Internet and to assess its value through the CLIP project. They are fortunate to have had the funding to provide so many terminals and the new building to house them. These factors have given Croydon a head start in IT developments that perhaps many other libraries have still got nowhere near to. The developments that they are currently implementing are also advanced, in that they have already extended the CD-ROM network to other council departments and are in the process of doing the same to the branch libraries, schools, and other organizations, which includes connecting them to the Internet.

Marketing their electronic services, through demonstrations and training sessions for sectors of the community, is beneficial in promoting the image and importance of the library service. Croydon Online proves what an effective medium the Internet is for providing community information and for promoting local businesses and organizations by publishing their information on the web site. The library service has also benefited commercially, from charging businesses for designing and publishing their information.

A noticeable fact about Croydon library service is their high level of charges for their services, especially for online searching, which it would be thought only the business community would be able to afford. The Internet charges are similar to that of Input Output Centres, and even training sessions are full price. This will certainly discourage some people using the facilities, although it is obviously heavily used. Open Learning membership charges are also relatively high, compared to other libraries who do not charge for this service, similarly the PC's for hire, but again are heavily used.

An interesting point to note was that of the two times the author visited Croydon Central Library, the Internet and then the CD-ROM network were not available for use, which shows that even a library at the "cutting edge" of IT have their maintenance problems that effect usage. Having said this the open learning and PC's for hire were in use, and a promotion for Croydon Online was taking place at the entrance to the library with terminals available for public to try out the website and documentation explaining all about the service.

4.4 Southampton

4.4.1 Background

Southampton City Library, Archives and Information Services is part of the Leisure and City Services Directorate of Southampton City Council, and lies within the county of Hampshire. In 1991 the population of Southampton was 196,864.* This figure showed a decrease of 5.3% since 1981. This is accounted for by population movements to other areas, but was the largest decrease to have occurred among the Hampshire districts.

The age structure of Southampton showed that 22.3% were under 16 years old, 20.1% were 18-29, which was above the county average of 18.4%; the middle age groups (30 to retirement age) comprised a lower proportion of the population in Southampton (38%) than in Hampshire (41%) and Southampton had a higher population of pensionable age (19%) than the County average, (18%). These relatively high figures for the younger population and the pensionable age group, have implications for the range of services that need to be offered by the libraries to meet the needs of these target groups.

The ethnicity of Southampton showed that 95.1% of the population was white, with black and ethnic minority groups comprising 4.9% of the population. The largest ethnic minority group in Southampton is of Indian origin (2%). This showed that Southampton had the highest proportion of black and ethnic minorities of all the Hampshire districts, which means Southampton library service needs to provide a range of mother-tongue services throughout the community.

At the time of the census there were 81,140 households in Southampton. 60.9% of those were owner-occupied, which was the lowest figure for the county, 23.8% were rented from the local authority, which was the highest proportion for the county and 15.4% were privately rented.

Almost one in three households in Southampton was a single person household, the highest percentage of such households among the districts. Of these just over half were lone pensioner households. Southampton also had the highest percentage of lone parent families (4.2%), and the highest proportion of young (16-24 year olds) single parent families

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* All figures taken from the 1991 census data unless otherwise stated. (26)

(2.8%). This could have implications for the role the library service plays in catering for the needs of the housebound and children and young single parent families.

87.1% of males in Southampton and 67% of females of working age were economically active at the time of the census. 77.9% of these were employees, 9.6% self-employed, 1.1% were on a government scheme and 11.4% were unemployed and seeking work, (a higher than County average of 7% unemployment). With a higher than average unemployment figure the library service can play an important role in providing services to help the unemployed to learn new skills in order to find work.

4.4.2 Southampton City Library, Archives & Information Services

Southampton library service had been a division of Hampshire County Library Service since 1974, but in April 1997 became part of Southampton City Council due to Local Government Reorganization. The former divisional librarian has become the City Librarian and new posts have been created, especially with acquisitions and cataloguing now being undertaken locally. The Library now also has responsibility for other services, which include the European Information Centre, the City Archives, and the new City Information Service. These are all housed in the Civic Centre building which is the home of the Central Lending and Reference Library, which include a business library, special collections, community services and children's services.
There are ten branch libraries within Southampton, a mobile library, a book bus and a school library service.

There has been a library service in Southampton from 1889, with the Central Library first opening in its Civic Centre site in 1939. The library underwent a major refurbishment in 1992 - 1993, and its new look has been designed in the style of a cruise ship, which reflects the maritime theme of the city. Amenities within the Civic Centre also include an art gallery and shop, alongside a stylish café.

4.4.3 Electronic provision of information in Southampton libraries

It is only four months since Southampton library service became part of Southampton City Council, so they are still in a period of transition with regards to new policies and plans for the future. For the customers benefit they have tried to make the transition appear as seamless as possible and to keep the quality of service the same. As part of the Local

Government Reorganization (LGR) plans, an IT Strategy for Southampton Libraries was drawn up in April 1996, with contains priorities for implementation. some of which will be looked at in the following sections.

Following LGR, a new post of IT Librarian has been created whose role is to develop and maintain the IT services within the library service.

A major new development which was launched in April at the same time as the new unitary authority, was the City Information Service which comes under the responsibility of the library, to deal with all information and enquiries about Council services and other local or community data.

One of the services which Southampton offer, which was developed through Hampshire County Libraries, is HATRICS. This is a business and technical information network offering its subscribers fast access to information held by libraries and member organizations. There are over 400 member organizations, 80% of which are businesses operating in the area of Hampshire (27). Southampton is one of the Hatrics centres, with specific staff trained in dealing with Hatrics requests, and electronic sources of information prove invaluable in providing a fast and efficient service for Hatrics members.

N.B. The following sections are based on an interview with Frances Stocker, Assistant Head of Libraries, Archives & Information, and Liz Kotlarz, IT Librarian, Southampton Central Library, on Thursday 26th June, on personal observations and discussions with other members of staff, unless otherwise referenced. (See appendix for an outline of the questions asked).

4.4.3.1 Online services

Online searching is done via a dedicated terminal in the workroom of the reference library. Businesses are charged for specific searches, but searches undertaken for users where the information cannot be found elsewhere are not usually charged for.

Online searches are mainly performed for business information, followed by technical and scientific. The service is only used about twice a week, with the most frequently used databases being Kompass UK, Inspec and Compendex. The service is monitored through a log book kept next to the terminal, stating the enquiry, database used, cost and customer.

Only two members of staff are trained in using the service because of the search techniques and costs involved.

The service is only promoted through Hatrics, rather than being advertised generally, so that it does not lead to people wanting to use it ineffectively.

When asked about online services becoming more user-friendly, Southampton is still using old software, but have even noticed improvements there. They have had the Windows software demonstrated, but have not changed to using it. Liz Kotlarz made the point that she had compared traditional online searching with using online services on the Web and that generally those that were experienced in online searching preferred that way, but those who had never used this medium preferred the Web interface.

Overall benefits that online brings to the library service are space saving when sources are only searched infrequently, and a greater access to information.

4.4.3.2 CD-ROM

There are two terminals for public access CD-ROM in the reference library, one used in conjunction with a tower which holds four CD-ROMs, and one that is stand alone. There are a further two terminals for staff use. There are around 20 different titles available for public access, including newspapers, indexes, phone directories, market research and Extel; other discs are for staff use only, which include Standards Infodisk, EU Infodisk, Statutory Instruments. There is a booking system of half hour or hourly sessions, and printing is charged at 10p a page. Users have to sign out the discs that they use, with staff installing and taking them out. In this way use can be monitored and security kept fairly tight.

When asked whether Southampton were considering networking CD-ROMs, the answer was that it was an area that they were looking at, not just networking CD-ROMs, but also the library catalogue and other city services across a city network. At the moment it is part of what they see as a three year plan.

Staff use of CD-ROMs is mainly for business and European enquiries, with the most heavily used databases being Eurolaw, Standards Infodisk, EC Infodisk and UKOP. All reference staff are trained on using CD-ROMs, usually through group demonstrations and then individual staff practice.

The main end-users of CD-ROM are students, with the most heavily used CD-ROMs being newspapers and Keynote. It is a very popular service, with some days fully booked, especially in college term time. Training of end-users is provided through informal sessions when necessary, with basic documentation provided next to the terminals. Many student users have used CD-ROMs before.

The benefits that CD-ROM have brought to the library are time saving, efficiency in answering enquiries and attracting more users, especially students.

Currently there is no budget for CD-ROMs and equipment, as matters have not been finalized within the City yet. There is a bid proposal to the Council for money to network services throughout the City, and this will have an effect on the purchasing policy for CD-ROMs, i.e. more CD-ROMs will be bought.

Future developments are basically towards networking, as already mentioned, but the immediate problems lie in disaggregating from Hampshire County and then producing a solid strategy for the future. An area that is being looked at by the Children's Librarian is providing CD-ROMs for children for educational and leisure purposes, with the intention of starting a homework club.

4.4.3.3 The Internet

Staff have had access to the Internet for around 19 months now; public access was supposed to have been launched in June 1997, but there were problems with the sponsors of the hardware. This meant that Southampton had to fund the provision of the hardware themselves, thus putting back the launch date. The public launch finally took place in the first week in August. There is one terminal in the reference library for staff use, and one for public use. The service is charged at £5 per hour, £2.50 for half hour, bookable and paid for in advance. Registration declaration forms must be signed, with proof of name and address; under 18's must be signed by a parent, and under 14's must be accompanied by an adult when using the Internet. Disks can be purchased for downloading at £1. A free half hour training session is offered to new users, after which staff help will be limited.

Initially public access will be promoted at a very low level, until staff are familiar with procedures and problems that may arise. The results of the first week of public access, with

very little promotion, were 18 bookings, including training sessions. This figure is expected to rise when full scale promotion takes place and students return.

Guides to using and searching the Internet and how to download to disk are available next to the terminal.

The reasons the service is being made available are due to the demand from the public, the necessity and the opportunity. Unfortunately the opportunity of the sponsor did not work and caused a time delay.

It is thought that the Internet will be heavily used, hopefully by a broad spectrum of people.

All staff have been trained to some extent on the Internet, in group sessions, with some staff becoming more proficient users than others. The main staff uses are for European information, government information and generally current information; or information that cannot be found elsewhere. It is also used for professional information, i.e. library development or management information.

When asked about whether they are thinking about providing their own homepage or publishing community information over the web, Liz Kotlarz answered that these are definitely areas that they are interested in pursuing. They are looking at either following the example of Hantsweb (Hampshire County Council's web site), or allowing people in the community to add their own information too. It is still in an ideas stage at the moment. Frances Stocker added that there is *"a lot that we can do for ourselves and the community and for the city by having a good quality, useful, relevant library site; and that if we do not do that we will not get our role in the city council right"* (28).

Personal views of the Millennium bid and all public libraries being hooked up to the 'Information Superhighway', included a feeling of scepticism about whether it will ever happen as a national initiative. It was felt it may happen through EARL, or with each authority working towards the same goal, on a smaller scale.

4.4.3.4 Community Information

Southampton libraries provide electronic community information through 'Hantsnet', which is Hampshire County Council's information and communication network. Hantsnet has been used for nearly a decade now by County Council employees and people who work in other

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public service organizations in Hampshire. Hantsnet contains thousands of pages of information, ranging from details of the Council's services and statistics, to directories of useful addresses, local clubs and societies. Hantsnet also offers full email facilities. Hantsnet can be accessed in libraries and other information points across the county and is now available via the WWW, through Hantsweb (29), the web site for Hampshire County Council. Many of the pages on Hantsweb have been taken from Hantsnet, while others are unique to the website itself.

Southampton does not provide public access to Hantsnet but has a terminal situated on the enquiry desk in the reference library which can be used by members of staff on behalf of the public, with printouts free of charge. Other terminals for staff use are situated throughout different departments and some branches. There are also terminals located in the new City Information Service.

When Southampton became a unitary authority, the City Information Service was set up to answer city information enquiries. This service came under the wing of the library so involves community information and city council information. The service is located in the foyer of the Civic Centre next to the entrance to the library. Community information is still provided in the reference library as well, through the CI files and the Hantsnet database.

The City Information Service (CIS) is run by a team of six staff, which is a largely separate team to the library staff, but managed by the Community Information Librarian. It is the responsibility of this team to update and input community information for Southampton onto Hantsnet. A new intranet and a web site for the city is being developed between the Marketing and the Computing and Printing Services within the City Council, and the CIS will be responsible for developing and maintaining the information about council services and other local services and community activity. The Library is a little concerned that they are not more involved with this project and hope to remedy this.

The CIS also offers a video link and access to interpreters for deaf and hearing impaired people, facilities for Braille translation, audio taping for sight impaired people and translation and interpretation facilities for non-English speakers, to ensure that everyone has access to information.

Currently in the CIS there are five PC's with Hantsnet, Southampton City Council system and word processing software; one PC with just word processing; and one PC with a

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Personal Communication System offering video conferencing which links to the system based at Hampshire County Council.

4.4.3.5 Other forms of electronic information provision

Open Learning

Open learning services are provided at one of the branch libraries in Southampton, funded initially by Hampshire Open Learning. Membership is free of charge, and allows use of PC's, video and audio facilities. The software packages on offer include WordPerfect, Lotus 123, and desktop publishing.

The service has become very popular, with high membership numbers. The service is monitored through a diary and monitoring forms, and has attracted new users to the library. There were no additional staff to support the development of the open learning facility, and staff in the branch have had training on using packages to support the users, but it was very much a case of teaching themselves. When the service first became available, it was a difficult period for staff trying to run the open learning facilities as well the library service. There is support form the local college once a week, where someone will run through the various packages that are on the PC's, and members can book a session if they want extra help.

The open learning facilities are seen as providing an essential service to the community and an important element of life-long learning. It is the City Librarian's plan to develop open learning in the city, especially in the central library, as he sees it as being part of what the library should aspire to offer as a core service.

Currently there are two IT Centres in the city, managed by City Training, an initiative by the City Council and City College. They provide a relaxed, non-academic atmosphere where people can gain skills to help them get jobs, by working through a ten week course. A crèche is also provided on site.

The open learning PC facilities in the branch library are also used by people just wanting to word process CV's and letters, etc., and there are hopes to be able to provide more terminals for this type of use in the future, as a community resource.

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Training Access Point

The TAP has been in the library since at least 1990, and is provided and maintained by Hampshire Training and Enterprise Council. The TAP is a database of local training courses and has proved a useful resource which is simple to use and provides free print outs to users. The TAP's are promoted through leaflets and are available at strategic points throughout the County.

Southampton are currently involved with the TEC in leading a bid to the DfEE for a Local Information Network for Hampshire and the Isle of Wight, which will be a local implementation of the National Learning Line being established to offer a free, confidential and impartial service offering adults information on learning opportunities and sign posting them to related services. This will involve people telephoning a national line that will automatically direct them to their local helpline where their enquiry will be answered through local sources of information. The central library and two branches have been put forward to be involved in this initiative, which will be supported by a national database of learning opportunities and a more sophisticated terminal than is available at the moment.

European Information

Southampton Central Library is a Relay centre, aiming at being Level 1, and currently provides a comprehensive range of European information. They have a member of staff who is a designated officer of European information, and a dedicated telephone line for European enquiries.

All forms of electronic information sources are used for European enquiries, with the Internet and CD-ROM being used the most. Eurolaw and EC Infodisk are the most heavily used CD-ROMs for European enquiries and Europa, CORDIS and I'm Europe are the most used sites on the Internet. For current information Celex is used via online searching. Once Southampton become Level 1, they will take advantage of free access to the EU's online hosts ECHO and Eurobases.
The majority of European enquiries sought are directives and how they are implemented in this country.

There are future plans to add a European page onto the library web site, with email facilities for enquiries.

Southampton are fortunate that they have access to the European Information Centre which has just come under the wing of the library service through LGR, but has always been situated in the same building and worked closely with the reference library. The EIC is a funded service and will answer core questions from the public, but their main purpose is to assist small businesses to get into the European market. The EIC have access to CD-ROM and online databases, such as Celex and TED.

4.4.3.6 Projects

The library service is involved in a life-long learning project to develop a database directory of adult learning opportunities in Southampton, which would be based in City Information and the reference library.

Frances Stocker as Assistant Head of Libraries, Archives & Information is involved with the Information Management Group of Southampton City developing the city web site, and is also part of the Information Society Strategic Assignments Committee of the City Council. This means forecasting where the city is going to be in one, five and twenty years time, and reporting ideas to the Information Management Group. This involves the areas of IT, leisure and education.

4.4.3.7 The effects of Local Government Reorganization

LGR has had immediate positive effects in terms of IT in that Southampton have purchased 12 new PC's for housekeeping and other purposes throughout the library. It also means that all the libraries will be online and have OPACs in the future.

More generally it is felt that becoming a unitary authority will provide greater opportunities for the library service to respond to more local needs, than was possible when part of Hampshire County Library. Southampton City Council has provided a great deal of support and wants to see Southampton Libraries succeed as a part of their integrated service.
Disadvantages of becoming part of the unitary authority are that the library is having to fight hard to make sure that they continue to provide the level of service and level of access they had as part of Hampshire. There is also the feeling that the close co-operation that Southampton had built up with Hampshire has been lost to a certain degree, which could be quite damaging. At the moment Hantsnet is still being bought in by the City, but a high priority is to get their new network up and running as quickly as possible.

4.4.3.8 Closing comments

Southampton Central Library is situated in a busy city centre, close to shops, colleges and local businesses and is heavily used by a wide range of the community. From the interview it was evident that LGR has had and will continue to have for next couple of years an impact on the services that are provided for the community of Southampton. As already mentioned it is hoped to be able to respond much more to local needs. Initial indications of that are the City Information Service which aims to provide an efficient service for city council enquiries and community information and the plans for developing a city council database to provide council and local information through a city wide network.

The Internet for public access has been launched during a quiet period for the reference library, while all the students are still away on vacation, and promotion of the service has been low profile, while the staff become familiar with the procedures. During this quiet period, the Internet is being used approximately two hours a day, but this is hoped to pick up.

The high level of usage of the CD-ROM facilities indicates that more terminals would be beneficial, especially as one terminal is used in conjunction with the CD-ROM tower, while the other one is only used for Extel, Keynote and staff use. Southampton currently does not have a very broad spectrum of CD-ROM titles compared to Croydon and Gateshead, and developing this area of stock to include multimedia and 'edutainment' discs would possibly encourage a more diverse range of users other than students.

Staff have use of the Internet in a work room behind the main enquiry desk for reference purposes with useful sites continuously being bookmarked. Unfortunately however, not many of the reference team actually use the Internet as a reference tool, perhaps only three or four members of staff. This lies in the fact that not much training has been given in using the Internet or not enough encouragement given to use it for reference purposes, therefore making staff hesitant to use it.

At the moment Southampton Library Service is concentrating on disaggregating from Hampshire County Library Service and once this has fully taken place they will be able to build a solid IT strategy, and sort out budgets for electronic resources. For example the CD-ROM budget is non existent at the moment. The IT strategy that was drawn up between the library and SCC before the change over to unitary authority shows that

priorities include a LAN and a WAN to the branches with the result that an OPAC, Internet, CD-ROMs, Community Information, and other library catalogues are networked throughout the city. Another key objective includes the development of lifelong learning services, including integrated open learning facilities and tools necessary to develop and practice new skills. These are all hoped to be in place by April 1998, and show that SCC and the library service are committed to developing the electronic provision of information.

4.5 Concluding remarks and comparisons

The three libraries show differences in the populations they serve, with Croydon's community being a great deal larger than Southampton or Gateshead. Croydon also has a higher employment rate, a higher proportion of ethnicity, and a higher number of owner occupied households. Southampton has the highest unemployment rate, and Gateshead has the lowest number of owner occupied households. This indicates that Croydon is the richer borough of the three, but with more people to serve.

Croydon has invested a great deal of money in developing its electronic resources, money that has not been available in the other two libraries, with Gateshead's projects being funded through European funding. All three libraries do provide the same essential services that will be found in most UK libraries now, namely online services, CD-ROM, community information, open learning facilities and more recently the Internet. The differences lie in the scale of what is offered. Croydon has more public access terminals with plans to extend resources to the whole of the borough in the near future. Gateshead has a large range of CD-ROM databases with four stand alone terminals, but no plans yet to network or introduce the services to any of the branch libraries. They do however, have the benefits of other electronic projects that enhance their services, particularly TyneCable Interactive. Southampton currently provides a more basic level of services, but have plans for the future which have the support of the City Council.

It is interesting to note that all three libraries have created a new post of an IT Projects Officer/IT Officer/Librarian fairly recently, Croydon being the first to do this. Their role ranges from web editing, to maintaining and developing IT services and projects, and has proved a major benefit to the library service in all three cases.

Online services

Online services are used in all three central libraries, with Gateshead being the most frequent users of the service. The most interesting factor here is that Gateshead do not charge for the service, and in 1993 there were only seven library authorities who held a policy of not charging (30). As well as general enquiries, Gateshead also provide online searches for SDI purposes for local organizations and council departments, which again are free of charge. This is very different from the policies of Southampton who charge mainly business clients, but do not use it more than about twice a week, and more particularly Croydon who charge at a rate of £30 per hour, with a preliminary search costing £10. Croydon conduct, on average, ten searches a week, used wholly for business purposes, as they are probably the only users who would pay such costs.

Staff training in online searching shows a similar theme, with Gateshead training all reference staff to use the service, whilst Croydon and Southampton have only two staff who use the service. A problem that may arise of having only two members of staff trained in using the service is that if an online search is urgently required, and neither of the two staff are available the service will not appear efficient.
All three libraries show that the growth of CD-ROM has made them more discerning in their use of online information retrieval.

CD-ROM

The three libraries show differences in provision of CD-ROMs that are most likely common in public libraries throughout the country. Whereas Croydon have benefited from the networking of their CD-ROMs, the call for this level of service may not be required in every library. In 1993, only 3 library authorities were networked (31), and by 1995, 77% of library authorities were using CD-ROM, with 18% providing public access (32). That is not a great number providing public access, and it would be thought that the number has increased somewhat by now.

Opinions on the future of CD-ROMs are as follows. Ian Hunter from Gateshead feels that CD-ROMs have had such an impact on public libraries, that they will continue to be used, as they are robust, relatively cheap, offer powerful search capabilities and a safe enviroment. Although some of the same resources are becoming available on the Internet, and Gateshead Library have stopped subscribing to a number of titles because of this, Ian feels

that the web does not offer the optimized search facilities that are available with CD-ROM, and until that changes, CD-ROM has a future.

Heather Kirby's view from Croydon is that they have a key role to play in the future as they are such a good medium for giving end-users access, with interfaces improving all the time. Croydon have shown the benefits that networking can bring in that it provides access to more people in more places.

Frances Stocker from Southampton similarly believes that CD-ROM have a future, but is not sure what timescale. Again, the points about being relatively cheap, known costs, and good search facilities are mentioned, as too are the benefits of providing access via a network. Similar to Ian's view, Frances feels that until the Internet becomes better, then CD-ROMs have a future.

Gateshead is the only library known to the author that has made use of CD-I as an information resource in the library, and published its own 'in-house' discs. The author saw *Gateshead 1900* and *ESLI* demonstrated and was impressed with the quality and the interactiveness that is available. *Gateshead 1900* was also made on a small budget and has proved very popular in the community and shows that potential that the library can have as publisher. CD-I has not taken off in the way that CD-ROM has, but these projects clearly display the potential they have, especially as they can be used in conjunction with a television.

Internet

Staff at all three libraries use the Internet as a reference tool, with more staff at Croydon and Gateshead using it than at Southampton. Public access is now well established at Croydon, but has only just been launched at Southampton, and will soon be launched at Gateshead. Both Croydon and Southampton charge the same rates for use, with Gateshead following its policy of not charging for information services. The charges have not stopped people using the service at Croydon, and it looks like that will be the case at Southampton too, although it is maybe too soon to make any judgment on that yet. Gateshead charged for the restricted access to the Internet offered by Campus World but withdrew the service due to lack of interest. It will be interesting to see the response rate Gateshead have to free access to the Internet and compare it to the results shown by Edinburgh, whose service is booked up a month in advance. The case of Edinburgh proves the popularity and interest in

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the Internet and perhaps it should be asked just who is being deprived of this service by not being able to afford charges like £5.00 or £2.50, and is charging really helping to close the gap between the 'information rich' and the 'information poor', a role that public libraries try to fulfill. All three libraries provided the service due to public demand, a demand that has probably not been seen before in public libraries for any other service.

Questions asked to each were what their views were on the Millennium bid and the networking of all public libraries, and what potential did they think the Internet had for the future in public libraries.

Both Croydon and Southampton answered that they could not see it happening straight away, and the important fact was for everyone to do what they can on a smaller scale, so that they would be ready to hook up if and when it happens through the Public Library Networking Plan or some other means. As far as the potential for the future, they all see it as a powerful resource with more and more relevant information being added all the time, and more reason for libraries to become involved with providing the means to that information. There is also the value of the email facilities for communication, and enquiries, but an interesting point that all three of them made was the potential of the Internet for providing 24 hour service. Important uses are certainly being able to find community information perhaps when the library is closed or to email an enquiry, and having it responded to the next day, which is what the author supposes is meant by 24 hour service.

Community Information

This is an interesting area as all three libraries provide community information through different mediums. Croydon through the Internet, Gateshead through Cable TV, and Southampton through a council database. Southampton are likely to follow Croydon's web example in the future, but at the moment are concentrating on building a city database to be networked throughout the city. Gateshead have found using cable a very successful means of providing access to a vast amount of community information pages, and believe that using a telephone in conjunction with a television is more user-friendly and can reach more people than using the Internet through a PC, and will remain so until everyone has a computer terminal in their home with access to the Internet. This argument certainly seems to be valid in so far as providing community information directly into the home. However, community information provided on the Internet can be of a very high standard, as already

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described in Chapter 3.5, and can be accessed at any time, by anyone anywhere with an Internet connection, with terminals being placed at useful locations within the community. Heather Kirby's view on cable and the teletext format is that it is not compatible with anything that is being done at Croydon, and would entail a great deal of extra work if they were to implement it.

Both Croydon and Gateshead are involved in publishing on the web, with their own web sites and in the case of Gateshead, for the Regional Information Service. This has created an important role for the library in establishing itself in the community, and proves that they can take a leading role in the 'Information Society'. Where possible, libraries should take the initiative and not be left behind in developing these skills as they are necessary for the library to remain at the forefront of providing information. It will not be beneficial to libraries if other organizations, including Input Output centres take over the role that should belong to the library'.

Open Learning

Open learning is an area that is certainly becoming more important in public libraries, and is meeting a definite need in the community. All facilities are heavily used within the three libraries, with Southampton having plans to extend the service to the central library, and the demand can be seen by the development and success of Input Output centres mentioned in the last chapter. Whereas the service is provided free of charge in Southampton and Gateshead, Croydon again charge for this service, with a membership fee of £20. The charges imposed by Croydon Library service are probably one of the reasons they are able to provide the range of resources they do.

European Information

Gateshead and Southampton are both aiming to be Level 1 Relay centres and both are heavy users of electronic resources to answer the growing number of European enquiries, perhaps more so than Croydon. CD-ROMs and sites on the Internet have provided a faster and more effective means of finding European information than was previously possible using print resources, and provide a cheaper option than online although discounted access is provided with some databases. The provision of European information to the public is gaining more of a high priority and profile now and the potential that the public library has in providing that information through being a Relay centre should be emphasized. A way of

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doing this has been to make European pages available through the libraries' homepage on the Internet, such as can be found on Surrey Libraries' pages (33). This is an area that Southampton are planning to develop.

All three libraries answered that the overall benefits that the development of electronic services have brought to public libraries over the years have been immense, in that they have improved the quality of the information service, promoted the image of the public library, provided much more powerful search facilities, greater access to information sources that otherwise would not be available, new IT skills for staff, space saving and popularity with users.

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CHAPTER 5. CONCLUSIONS

5.1 Introduction

This study has provided an overview of the development of different types of electronic provision of information within public libraries, and used three libraries as case studies to assess levels of implementation and evaluate the impact they have had on their particular services. The case studies have provided a valuable insight into how different library authorities have developed their electronic services with regard to their local needs, and more recently in response to the challenges posed by networking and the Internet and the new age of the 'information society'.

This final chapter aims to analyze some of the key issues that the provision of electronic information in public libraries raises, including barriers faced by library authorities, and to examine the public libraries' place within the 'Information Society', and the role that they can play.

5.2 Analyses of developments

This dissertation has shown that the growth of IT over the last decade has had a huge impact on the public library service, providing ever increasing opportunities to access a wider range of information.

5.2.1 Online services

Online information retrieval was the first electronic information service to be adopted by public libraries in the 1980's, and has not undergone great changes, apart from recent developments into a Windows environment. It is still a medium that due to the costs involved and the complicated search language is usually only used by specific, trained staff, mainly for business, technical, or scientific information purposes, where currency of information is important. The growth in CD-ROM posed the first threat to online services, as described in Chapter 3, but there proved to be a market for both mediums, although the case studies show that the introduction of CD-ROM databases has affected the use of online searching to a certain extent.

The Internet poses a greater threat to traditional online services, with its user friendly interface and possibilities for access to current information sources. Some hosts are making services available via the Web, such as DIALOG, but it is not clear yet what this will mean for traditional online information retrieval or what the benefits could be for public libraries. If it offers a more user-friendly way of accessing the information and can still provide the depth and range of information available via traditional sophisticated search functions, it may be beneficial for public libraries to adopt this method and have the opportunity of more staff using the service. It will be interesting to see how online hosts and subsequently public libraries respond to this new medium.

5.2.2 CD-ROM

The benefits that CD-ROM have brought to public libraries have been described in some detail throughout the dissertation, including the debate about the future of CD-ROM with the advent of the Internet. With CD-ROM being suited to and well established in most public libraries and with the ever growing market extending the range and quality of titles, it does appear to have a promising future. Inevitably the Internet is going to have an affect on the service to some extent, with a duplication of some information already being made available on the Web, but until the Internet becomes more established and can provide the safe environment that is offered by CD-ROM, it will not usurp its position.

A useful development that is taking place in public libraries with regard to CD-ROM is that of homework clubs, whereby multimedia and educational CD-ROMs can be used in conjunction with traditional sources to help students with their homework. This encourages use and an appreciation of the library and its stock by school children, whilst also developing their learning and IT skills.

The way forward for CD-ROM, is for it to be extended via a network beyond just the central library, with access being made available to branch libraries, schools, and council departments, for example, as can be seen happening in the case of Croydon Library Service.

5.2.3 The Internet

This dissertation has outlined the growing interest that the Internet has caused in public libraries over the last few years, beginning with experiments in staff use for enquiry purposes and now with many library authorities making it available for public access. These

developments have been greatly helped by Project EARL, as detailed in Chapter 3.4.2.2, in providing advice and assistance for many libraries setting up the service, and in co-ordinating a sharing of resources and expertise. With more and more library authorities and other non-library bodies joining EARL and providing funding, the greater the networked resources become. There is great potential here for a UK public library network, similar to that of the academic community. The essential factor here is for all library authorities to be involved, regardless of size and EARL do offer a reduced joining fee for libraries who can form a group membership. The other initiative that is taking place after the failure of the Millennium bids, is the Public Library Networking Plan, being put together by a working group of the Library and Information Commission. This report is supposed to have been put to the Government by the end of July 1997, but as yet there has been no news on the subject. This report will be addressing the important issues of:

- *what services and content a public libraries network might deliver to the end-user;*
- *how the network might contribute to the more efficient management of the nation's library resources, by improving communications between libraries;*
- *the value of electronic data links for the exchange of information between public libraries and other networked information resources in the public, academic and commercial sectors;*
- *the possible role of a public libraries network as a gateway for remote users to a whole range of electronic information sources;*
- *funding of the network and the potential role of the private sector and the Lottery;*
- *charging policies;*
- *training and development.* (1)

The three case study libraries show different levels of Internet implementation which may reflect the overall scene within UK public libraries at the moment, with some libraries probably having no Internet connections yet. Both Croydon and Gateshead Library Services show the potential of web publishing, with Croydon Online and the Regional Information Service, and the important role libraries can play developing such services. It is also a medium for promoting the library service to a wider range of people than has ever been possible before. This reinforces the need for all libraries to be involved with an electronic information medium with so much potential, so that they do not get left behind. The use of the Internet for reference enquiry purposes has been shown through the case studies and in examples within Chapter 3.4.2, and there is also the opportunity of emailing enquiries to libraries now.

Public access to the Internet is at different stages and has been implemented in different ways. Some libraries have just made one PC available in the reference library, some a number of terminals, while others have opened up Cybercentres (South Ayrshire) and Cybershacks (Hounslow), or use a commercial set up in the library building, e.g. Input Output Centres. The 'Cybercentres' have the effect of promoting a new image for libraries, and if the resources and space are available, is a very good idea as long as they are run by library staff. They usually offer a range of IT facilities, including CD-ROMs, PC's for hire and open learning. A fine example of this is South Ayrshire, where 14 computers are available, with the Internet and CD-ROMs proving the most popular facilities (2). A forward thinking attitude is shown by the library service in encouraging staff to develop HTML and associated skills for producing information on the WWW.

Making a terminal available in the reference library for public access to the Internet is probably a more common set up in libraries which cannot afford to create 'Cybercentres'. This is shown by Edinburgh Library Service described in Chapter 3.4.2.6, who provide free public access. The value of monitoring the service is clearly shown by the results of the questionnaires, which enabled them to evaluate the first month of use. Being booked up a month in advance shows an obvious need for more terminals, as some users will become frustrated with the wait. The question of charging brought up an interesting view, whereby only 3% of users would be willing to pay £5 an hour; the majority willing to pay only £1. This would seem to prove that Croydon and Southampton Library services, among others charging £5, are discouraging a lot of potential users. A view of one of the users verifies this *"think its great that the Internet can be accessed by people who could not normally afford it or are scared of it"* (3).

The use of the Internet in public libraries is really still in an experimental stage, with libraries exploring its potential in different ways. It is such a powerful tool, and constantly becoming more enriched with information, public libraries need to include it in their range of information services and manipulate it to their own advantage as a means for publishing information to a wider community, for communication purposes and for a networked sharing of information resources with other libraries and sectors.

5.2.4 Community Information

As already outlined, information technology has been used for many years by public libraries as an efficient and effective means of managing and disseminating community information,

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usually through teletext or PC databases. Now, however, with the globalisation of the WWW, public libraries are experimenting with the provision of community information in new formats and with accessibility previously not imagined. It is important for libraries in the UK to take advantage of such a powerful tool for disseminating community information to a much wider audience. The possibility of networking community information resources across the country holds huge potential for enriching the lives and opportunities for everyone, and making a valuable contribution to the 'information society'.

5.2.5 Other forms of electronic provision of information

The other main areas that are developing within public libraries are open learning and PC's for hire, with terminals for the Internet and CD-ROMs providing a full compliment of IT facilities. This is what is increasingly needed within a community, where IT skills are becoming a necessary requirement for employment and everyday life. Public libraries can meet this need, fulfilling their role as information providers and as promoters of life-long learning.

A good example of this was the IT Point Project described in Chapter 3.4.2.4, where the library provided the whole range of IT facilities for a community in an economically deprived area. This project stimulated an overall awareness, removing fear of IT; it proved that the community did want access to IT and networks; did want the opportunity to learn new skills; and that the public library is a natural provider of these services.

All the libraries that have been mentioned or studied in this dissertation provide open learning facilities, show a heavy usage of these services and prove that the demand is there for them. It is an area that libraries should be aiming to develop, and as seen in Southampton, Croydon and in South Ayrshire, they believe that these facilities should be a core part of the public library service, bringing new customers into public libraries.

Input Output Centres recognized this need in society and also recognized the library service as being the obvious providers of such services. This is why they chose to set up their business in partnership with libraries, and use their buildings and 'place' within the community to attract customers. Input Output Centres have helped public libraries in providing the IT facilities that they perhaps could not otherwise afford, and in promoting their image, and public libraries have reciprocated by providing such a suitable location and clientele. However, as already mentioned earlier, the danger of allowing a commercial company to provide the IT services, is that the public library is losing out in developing new

services and staff skills that are becoming increasingly important for the survival of the public library. There is also the danger that if this company, which is only owned by two people, went out of business or decided to separate from the library service, the library service would then be left without anything. It is essential for public libraries to incorporate IT facilities as a core part of their service.

5.3 Barriers

5.3.1 Lack of training

Training in the use of IT is an essential aspect of understanding and achieving the most from electronic information services. This is true for both staff and end-users alike. Intensive and extensive training programmes for the staff and the public leads to the familiarity and an understanding of the technology that improves the service and makes it successful. The need for staff and end-user training of CD-ROM has been stressed throughout the dissertation and now it is similarly necessary with the introduction of such a powerful tool as the Internet. It has been seen in both Southampton and Croydon Libraries that training sessions are offered end-users, whereas Gateshead do not. For new users to the Internet who have no concept of what it offers, training sessions can be extremely beneficial in teaching users how to search and the range of possibilities the Internet holds. This will mean the user can then use the service effectively in the future and not waste money or staff time.

Another area where training and demonstrations are beneficial is in the case of making local politicians and council members aware of the potential of IT, which helps in getting support and funding. Croydon Library service have shown that this is a strategy they used, getting as many influential bodies involved as possible.

5.3.2 Buildings

Lack of adequate physical space for PC terminals is often a problem for libraries, and one that must planned for in advance. Obviously not every library can afford to have 'Cybercentres' added onto their buildings, so room needs to made available somewhere in the library.

There is also the problem of old buildings not being conducive to developing electronic networks. This can then become a very costly exercise and has security implications. This problem is expressed by Heather Kirby (4) in the PubliCA case study of Croydon Library Service.

5.3.3 Unchanging attitudes

This can be a problem with both staff and users who are sceptical or fearful of IT and the changes it imposes. What is called for in these cases is providing overall awareness of what IT can offer. This means training, demonstrations and explanations of the services, encouraging people to use the services to see for themselves.
Electronic services should be well marketed and promoted with informative publicity, that stress the additional benefits they are bringing to the service.

5.3.4 Inadequate funding

Lack of resources is a major barrier for the majority of public libraries in the UK in developing their IT facilities. There are ongoing cuts to the library budget which do not help with the development of any area of the library stock. Ian Hunter from Gateshead mentioned that their library service had experienced their first budget cut in the previous year; Southampton do not know what their budget is for any IT developments yet due to LGR; and even Croydon states that *"financial barriers have been the most significant brake on development"* (5). Cuts often have to be made in other areas of stock to finance electronic services. Areas of funding need to be explored by every library authority and increasingly partnerships with the commercial sector are being looked at to provide resources.

5.4 The future, and the 'Information Society'

Mentioned at the beginning of this study was the need for all public libraries to adopt electronic provision of information in this era of the 'information society', or their role of being information providers would be usurped by other commercial bodies. The expansion of IT over the years in public libraries has been followed throughout this dissertation, but it is now more than ever before that libraries need to build solid IT strategies for the future.

It is absolutely vital for the government to realize the potential that public libraries can offer in developing public information services through the 'superhighway', and to support them. The public libraries' existing function is providing a service to meet the public's needs for information of all kinds, and already has close links with other areas of the community, including schools, local organizations and businesses, which proves their suitability to provide a leading role in the 'information society'.

Within the DNH's public libraries review document, *Reading the Future* (6), was the proposal to create a plan for public library networking in the UK, which has cumulated in the Public Library Networking Plan of the Library and Information Commission's Task Group. This plan is eagerly awaited to see what the recommendations are for the future role of public libraries in the 'information society', in terms of communications, access to and exchange of information, learning and knowledge and funding.

5.5 Recommendations

5.5.1 IT Strategy

It is imperative for library authorities to give priority to information technology in order to remain a serious information provider within the community. Therefore it is essential for public libraries to produce an IT strategy with obtainable targets for the short-term and long-term future, encompassing all areas of IT developments.

5.5.2 A National policy

The government should produce a national policy recognizing the role of public libraries in the 'information society' and provide funding so that all libraries can begin to achieve adequate levels of IT, especially the smaller libraries.

5.5.3 Funding for research

Funding should be made available for research and projects to look into different areas that electronic information can benefit the library service.

A recent example of this sort of research is the current British Library Research and Innovation Centre funded project being undertaken by the Department of Information and Library Studies at Loughborough University looking into the potential use of electronic serials in public libraries. This project is examining which journals relevant to public libraries are available electronically, to evaluate and compare them with print formats, and to set guidelines for the management and use of them. Electronic journals are becoming increasingly available in academic libraries, and this project will help to assess what value their integration could have for public libraries, in terms of offering a wider service than was previously possible, and the economic implications involved.

5.5.4 Co-operation

Co-operation between authorities is vital, with the lack of a national networking infrastructure, in terms of sharing of resources, ideas and technical support. This will alleviate any duplication or errors, and will especially assist smaller authorities to develop their electronic information provision. EARL has already been beneficial in this area, but it still needs to develop further.

Co-operation would also be beneficial between public and academic libraries, as academic libraries are always ahead in electronic developments, and could provide advice, training and technical expertise, but also a sharing of some resources again would assist public libraries in extending their range of services. All UK libraries should work for each others mutual benefits, which could be achieved through networking.

5.5.5 Training

The importance and value of high quality and continuous training for all staff in all areas of electronic provision of information is essential. This ensures that members of the public are in turn getting a high standard of advice and training and consequently getting the most out of the services.

5.5.6 Partnerships between the public and private sectors

There is a need for increased partnership between public libraries and the private sector, for the mutual benefit of both. Public libraries can gain important links with businesses, as well

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as financial investment for particular projects or services, whilst companies can gain from the publicity.

5.5.7 A National network

The already established network of public libraries over the country provides an obvious basis for a national networked information infrastructure, and as such should be supported by the government in achieving this. The potential of providing networked access to information to every community, is too great an opportunity for public libraries to miss, and all libraries should be aiming towards this with every possibility being explored to attain this vision.

5.5.8 Free services

All information services provided by public libraries should be free at the point of access for the public, including the Internet. The Internet is the most powerful and unique information resource to have emerged and as such public libraries must provide access to it. However, they should not restrict access to only those who can afford to pay, making the library service undemocratic in their policies.

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CHAPTER 6. END NOTE

The study of the electronic provision of information in public libraries has been an interesting, informative and enjoyable project. It has provided the author with the new experience of interviewing and the chance to examine an area that it is becoming crucially more important for public libraries to be involved in. All three libraries used as case studies provide the essential electronic services, and have reasonably clear plans for future developments. On hindsight, it would perhaps have been interesting to include a smaller library with less resources to find out their views and plans for the development of electronic information within their services.

What has become clear is that this is an exciting time for public libraries with important new skills and roles for them to embrace, especially with regard to networking and the Internet, and in taking a leading role in the 'information society'.

It is frustrating that there is such a lack of financial resources at such a crucial time, and it is my hope that the Library and Information Commission will produce heartening news in their Public Library Networking Plan, and that more resources can be found to ensure that the electronic provision of information becomes a core service in every library authority.

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Appendix

CASE STUDY FACTS AND INTERVIEW QUESTIONS

Types of electronic information services available

Online	yes ☐	no ☐
CD-ROMs	yes ☐	no ☐
Internet	yes ☐	no ☐
Community Information	yes ☐	no ☐
Open Learning	yes ☐	no ☐
Teletext	yes ☐	no ☐
Library Management System Which system?	yes ☐	no ☐
Training Access Point	yes ☐	no ☐
PC's	yes ☐	no ☐
Other		

Electronic Information Provision

Which Services Are For Public Access

Online	yes ☐	no ☐
CD-ROM	yes ☐	no ☐
Internet	yes ☐	no ☐
Community Information	yes ☐	no ☐
Open learning	yes ☐	no ☐
TAP	yes ☐	no ☐

Facilities provided for each service

Online:	Dedicated terminal	☐	Number:
	PC	☐	Number:
	Library Management System	☐	Number:
	Other:		
CD-ROM:	Stand alone	☐	Number:
	Single drive	☐	Number:
	Tower	☐	Number:
	Networked	☐	Number:

Internet:	Number of terminals provided:		
Community Information:	Dedicated terminal	☐	Number:
	PC	☐	Number:
	Other:		
Open learning:	PC's	☐	Number:
TAP:	Dedicated terminal	☐	Number:
	Other:		

Are any of the services available in the branch libraries?
Is there a booking facility for the services? (explain)
Are these services charged for? (specify what is charged for and how much)

Questions on Particular Services

Online

What purposes are this service mainly used for?
How often is it used?
Which databases are most frequently used?
Are the searches usually successful (in terms of providing the information that was sought)?
Is this service monitored? (If yes, how is the service monitored)
Do you think this service is cost effective?
How do you evaluate this service (if at all)?
Is this service promoted? (If yes, how?)
Are only select staff trained in this service? (If yes, who, and why?)
Do you believe online services have become more user-friendly?
Overall benefits of the service

CD-ROM

Are you considering networking? (Give reasons)
Have you experienced any problems with networking? (If yes, please specify)
What purposes are this service mainly used for? (Staff and end users)
Which databases are most frequently used?
Is this service heavily used?
Are the searches usually successful (do users usually find information that they are searching for)?
Is this service monitored?
If yes, how is the service monitored?
How do you evaluate this service (if at all)?
Is this service promoted? (If yes, how)
Is it your policy to train all staff to use this service? (Reasons)

What benefits do you think CD-ROMs have brought to public libraries?

Has the growth of CD-ROM affected your use of online searching? (Reasons)

Can you specify any advantages or disadvantages of CD-ROM over online

Are you providing a lending service for CD-ROMS - (RAMESIS)?

If so, is this popular/successful?

What impact has CD-ROM had on the service for both users and staff?

What do you think are the advantages of CD-ROM compared to traditional printed sources?

Policies on selection of CD-ROMs over printed sources?

Costs involved - both the products and the equipment needed - maintenance - is this a problem?

Do you still provide materials in both formats - will this continue?

Do you have any evaluation methods of the CD-ROMs?

Does this include user involvement? (comments)

Do you think that CD-ROM has a key role to play in the future, and is not just 'transient technology'?

Who are the main users of this service?

What are your policies on end-user training - do you have any?

Do you find end-users have often used CD-ROMs before/elsewhere?

Is documentation provided for end-users, to assist their use of the service?

Do users frequently require assistance, if so what are their main needs?

Are they searching effectively (that you can gather) - do they usually find the information they are seeking

Future developments for the service?

Any problems encountered? - e.g. security

Internet

How long have staff had use of the Internet?

How long have the public had access?

Is the service promoted?   (How?)

What were your reasons for setting up the service?

Does the library have a homepage or plans for providing one?

How did you fund the service?

Is the service popular with users?

Who is using the service?

Has it attracted new users to the library?

What are the main reasons for use (staff and end-users)

Are searches successful?

How is the service evaluated (if at all)?

How often is the service used?

Is the service monitored? (If yes, how?)

What are your policies on staff training?

Are all staff trained on using the Internet? (give reasons)

How much time is spent on staff training?

What format does the training take?
End-users - what training is offered to users?
Is any documentation provided to assist users?
Is a lot of staff time taken up assisting users with problems?
What are the main reasons users need assistance?
What impact / benefits has the Internet had so far on the service?
Has it affected the usage of any other sources?
Do staff use it regularly as a reference tool - if so, what is their evaluation of it for this purpose?
What role do you see the Internet playing in the future of public libraries - what potential / value does the Internet have as an information resource in public libraries?
What potential does it have for the local community?
Have any problems been encountered - effects on the service?
What are your personal views on the networking of all public libraries to the 'Information Superhighway' (Millennium Bid)?
Do you have any future plans / developments for this service?

Community Information

How is the service provided?
Who inputs / updates the information?
Staffing
Training
Future plans for the service?

Open Learning

What learning opportunities are offered (leaflet available?)
How long has this service been offered?
Reasons for providing this service?
Is it popular / successful?
Can open learning material be borrowed from the library for home use?
Is the service monitored? (If yes, how)
How is the service evaluated, if at all?
Who is using this service?
Has this attracted new users into the library?
Is the service promoted? (If yes, how?)
Are staff trained in use of the various open-learning packages in order to teach end-users how to use them?
What training do staff undergo to this end?
What type of training does the end-user receive?
Do end-users often need assistance when using open-learning materials?
If so, what are their main needs?
Do you think the provision of open-learning facilities has enhanced the public library service and met some of the important needs of the community?

Training Access Point

How long has the service been provided?
What information does it contain?
Who provides and maintains the information?
Is it up-to-date?
Is it user-friendly?
Is it well used?
Is it promoted?
Is it monitored? (If yes, how?)
What benefits has it brought to the service?

European Information

Are you members of the EU Public Information Relay?
Do you provide access to electronic forms of European information? (which?)
Which CD-ROM databases?
Which Online databases?
Which Internet sites?
Which format do you currently use the most? (reasons)
The EU's two online host services - ECHO and Eurobases provide free or discounted access to their databases. Do you take advantage of any of these?
Reasons for using or not using these databases?
Are staff trained specifically on accessing European hosts?
What are the main types of European information usually sought?
Have you any plans to add your own European information pages to the Internet?

Questions on electronic information services as a whole and particular projects

What are your views on the overall impact that electronic provision of information has on the public library service?
How do you allocate funding for electronic information provision out of the library budget?
What support do you have for the maintenance of equipment?
Do you have a specific member of staff whose role it is to develop IT in the library?
What benefits have electronic services brought to your particular library service?

Please could you outline any electronic projects that your library is implementing or investigating?