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CD-ROM — Introduction, Problems and Evaluation

A PRACTICAL APPROACH TO THEIR INTRODUCTION AND DEVELOPMENT

HELEN FALLON

This article is based on a conference paper delivered to the annual conference of the Assistant Librarians Group of the Library Association. Many of the audience were at the initial stages of developing CD-ROM applications in their libraries. Over the past ten years Dublin City University (hereafter DCU) library has faced many of the issues and challenges public libraries are facing today. This paper provides the background against which decisions as to whether to purchase CD-ROMs are made. It then examines practical issues such as finance, management and promotion of CD-ROM databases. DCU's increasing use of the Internet as a gateway to commercial databases, is also briefly explored.

Background

Dublin City University (DCU) purchased its first CD-ROM title "Global Books in Print" in 1988. Ten years later, a campus wide network, supporting 22 networked CD-ROM titles, is operational. In addition some 53 standalone or non-networked titles are available in the library. These include multimedia products. Recently the library has begun to evaluate and purchase access to databases via the World Wide Web. A suite of approximately 40 pc's supporting CD-ROM and/or Internet access is now available within the library.

Why CD-ROM?

Among the advantages over printed copy which CD-ROM offered, the following were perceived as the most important, taking into account the needs of our user community:

Benefits

- (1) Access to Global holdings
- (2) Multiple Users
- (3) Multiple Access Points/Enhanced Search Features
- (4) Remote Access

- (5) Speed of Retrieval
- (6) Technological Infrastructure
- (7) Space
- (8) Innovative Approach to Learning

(1) Access to Global Holdings

As a new university, Dublin City University does not have the large collections of journals, books, indexing and abstracting sources and other resources which older universities would generally have acquired in print format over many years. Therefore a policy of holding core journal and book titles necessary for the various courses on offer, while providing access to other information users require, regardless of where it is located, is in operation.

(2) Multiple Users

In the case of networked CD-ROMs, a number of users can access the same database simultaneously. On occasion lecturers design reading lists which incorporate references to journal articles which the library holds on CD-ROM. A number of students can simultaneously access and download/print the same journal article. Problems such as students tearing pages from the single issue of a journal which may be in heavy demand, do not occur in an electronic environment.

(3) Multiple Access Points/Enhanced Search Features Information can be retrieved from a variety of access points. For example by journal name, author's name, date of publication, keyword, title word, subject, country code, company name and combinations of these. Electronic encyclopaedias such as "Encyclopaedia Britannica" have features such as search engines, which allow a multiplicity of search and retrieval combinations. A printed publication could never offer such flexibility.

(4) Remote Access Members of the university community perceive being able to access information from their office PCs as a distinct advantage.

(5) Speed of Retrieval A large volume of information can be retrieved rapidly and printed or downloaded to disc.

(6) Technological Infrastructure The technological infrastructure campus wide was developing simultaneously with library developments. The Library, as a member of the *Information Technology Strategy Committee* had a very active role in driving developments.

(7) Space

Limited by space constraints, the library can now hold much longer backruns of newspapers in electronic form, than were previously held. In the case of printed newspapers, depending on the title, the policy has been to hold between three months and one year of back issues. On seven networked CD-ROM discs, seven years back issues of the "Financial Times", are available. In the case of "Encyclopaedia Britannica" two CD-ROM'S store the information that required two to three shelves previously. Of course they now also required a machine which takes up some space.

(8) Innovative Approach to Learning

While an innovative approach to learning might not have been the dominating factor in DCU Library's decision to commit to developing electronic resources it is certainly worth bearing in mind. Some full text CD-ROM products offer interesting possibilities for teaching and learning. An interactive product such as Macbeth on CD-ROM can provide a range of information including the text, critical commentary, linguistic analysis and historical contextualisation.

Factors considered in the development of CD-ROM in DCU library

Developments did not take place on an ad hoc basis. Rather, careful planning which took a number of factors into account was necessary. The main factors were:

1. Technological considerations
2. Finance
3. Product considerations - Some questions to ask
4. Identification of what is available
5. Selection
6. Management
7. Training
8. Promotion
9. Quantifying use / MIS (Management Information Systems)

1. Technological considerations Careful planning in this area is crucial to the successful implementation of CD-ROMs, as early mistakes can be expensive and frustrating. CD-ROMs can be used in a standalone or networked environment. If a standalone environment is used then a computer with a CD-ROM drive is required. CD-ROM drives are available in a variety of speeds, for example, 8, 16 or 32. The retrieval and display of information from a CD-ROM is based on the speed of the CD-ROM drive and the performance capacity of the computer. Therefore it is a good idea, when purchasing new equipment, to buy the most powerful computer your organisation can afford. The computer industry estimate that the lifespan of a computer is between 3 and 5 years. Many organisations may not be able to afford to change machines that frequently so it is useful to check out if the machine can be upgraded later. As a minimum a 486 or Pentium machine is required. These numbers refer to the processing speed of the computer and therefore to its performance capacity. In the case of CD-ROMs, which allow the transmission of sound, a multimedia computer with an in-built sound card is required.

Always check the system requirements for each CD-ROM. In the case of CD-ROM titles, which can be purchased off the shelf in bookshops, this information can usually be found on the box the CD-ROM comes in. With more expensive products, system requirements should be checked with the supplier. Some CD-ROM products run on DOS or Windows while others run on both. If a networked environment has been chosen,

it is vital that the product is compatible with that network. DCU has a DOS CD-ROM network, so it cannot network the CD-ROM "Facfinder" (an Irish business database). This is a drawback in that this is one of the most heavily used CD-ROMs. More CD-ROMs are becoming Window based, and of those that come in both formats the Windows version is generally more sophisticated in its structure and organisation.

In a networked environment, a file server is necessary. This is a powerful computer that allows multiple users the facility to access its hard disk simultaneously. The retrieval of information from a hard disk is considerably faster than retrieval from a CD-ROM drive and in the case of DCU the more frequently accessed CD-ROMs are stored on the file server hard disk. Because of space constraints it is not always possible to store the contents of all CD-ROMs on hard disk, therefore CD-ROM towers connected to the file server are also in use in the DCU Library. These towers, which come in units of nine, allow nine CD-ROMs to be stored and accessed. Whether the user is accessing a CD-ROM loaded on the hard disk or in the tower is irrelevant to their search.

A major consideration in relation to the technological infrastructure is technical support. That is technical support within the library, within the larger organisation and from the supplier or manufacturer of the product. When a subscription to a printed journal commences a record is added to our OPAC (on-line public access catalogue). New issues of the journal can be added to this record. In the case of a CD-ROM product, when a subscription to the new product commences, in addition to being catalogued, retrieval software has to be loaded, either locally in the case of standalone titles, or on the network. Each time an updated disk is received, it has to be loaded on the server, if it is networked. Sometimes there are changes to the retrieval software for using particular CD-ROMs. This is because products are frequently enhanced, to offer search and retrieval features. CD-ROM requires a level of technical support and commitment of manpower resources far in excess of traditional sources.

2. Finance In addition to the cost of the file server and network software, other equipment costs include printers, PCs and wiring if a network is installed. Costs vary depending on suppliers and systems and approach used. It is probably a good idea to budget for at least £5,000 for a basic network.

As the DCU network expanded the number of machines has increased. In some cases additional hard disc space has been purchased to cope with the increasing number of networked CD-ROMs. New PCs have also been purchased and the number of towers has increased. Therefore hardware costs have been ongoing.

CD-ROMs vary greatly in price. Over the counter purchases can cost as little as five to ten pounds. The "Guinness Encyclopaedia" at £36 is DCU's least expensive purchase. Our annual subscription to the "Social Science Citation Index" at slightly over £8,000 for the networked version, is the most substantial investment. (Networking costs are covered in Section 3). Some CD-ROM titles are produced by more than one company. "Medline" is an example of this, with Dialog, Ovid and SilverPlatter versions. It is best to check out

the costs and the specifications with the different manufacturers.

Because of the recurrent nature of the subscription based products it became necessary to establish a formal budget category for these purchases/subscriptions. Initially this was a CD-ROM budget. More recently this has evolved into an electronic resources budget.

3. Product considerations - Some questions to ask

Is a particular CD-ROM title subscription based? If a CD-ROM database is subscription based, there will be a recurrent annual cost. Clarify with the supplier if the library will retain the product if the subscription is cancelled in the future.

Are there extra charges for networking? Some CD-ROM titles cost the same regardless of whether they are used on a standalone machine or networked. All the United Kingdom newspapers DCU library subscribes to fit into this category. Networking licensing charges may be calculated on the basis of the number of simultaneous users, i.e. there may be a 50% increase in the price for 1-5 simultaneous users, a 75% increase for 6-10 simultaneous users and so forth.

Bear in mind that a CD-ROM product which has a large number of discs e.g. Dialog's "Medline", will require a separate space on the tower for each disc. Networking a CD-ROM which comes in a number of separate discs will be much more expensive in terms of hardware, than a product which is stored on one disc. Networking the most recent disc only might be an option for some organisations. However, if extra charges are levied for networking, it is generally not possible to get a discount for networking the most recent disc only.

How many discs make up the product? In addition to space constraints, it should be noted that if there are seven discs in a CD-ROM database, generally seven separate searches will have to be executed. CD-ROM's manufactured by the company Dialog have a facility to repeat the current search. Therefore when changing discs complete searches do not have to be re-entered.

Most CD-ROM databases do not have substantial back files. Many of our bibliographic databases have records dating back to the early nineties. Few companies appear to be undertaking substantial retrospective conversion.

Is it a rolling file? Two of the CD-ROM products DCU subscribes to, fall into this category - "European Business Disc" and "Business Link". Updated monthly, both of these offer the full text of business journals. However, as a new month of data is added, the earliest month is removed. Therefore at any time the previous 18 months data is available on one disc. While the library retains older discs, these are not networked. Problems have occasionally arisen when lecturers recommended articles from journals on these databases to students, in that there was often a time lag between the recommendation and the student going to the network, to find the article had disappeared!

Can records be printed/downloaded? In the case of most of our CD-ROMs records can be printed and downloaded. However, some encyclopaedias do not allow downloading.

Records can only be printed. This means that for good quality graphics and pictures a laser printer attached to the machine is necessary. A colour laser printer represents a substantial investment. If a printer is not attached to the machine, the user must transcribe the information. When evaluating a product which has images, check if the images can be downloaded. If downloading images is possible, check what software package they can then be viewed/printed in. It may be that specialised software is needed to view/print downloaded records which have been saved to disc. Also check if sound can be captured or recorded in any way. If purchasing encyclopaedias which offer sound it is worth finding out if sound bytes come in MIDI or WAV format. WAV provides better sound quality. With most products the difference will not matter, however in the case of products with substantial music content, the quality of sound would be important.

Are there extra charges for records printed/downloaded? This situation arose in the case of the electronic "Compass Ireland", a directory of Irish Business companies. While the charge DCU paid for the product (£344) allowed access to records and on-screen viewing, to print or download records one had to purchase credits. Each record downloaded or printed cost ten pence. This was practically unworkable in the DCU library situation, in that the facility for printing/downloading could not be deactivated (unless all the credits were used). This meant the CD-ROM could not be on open access. Rather, library staff had to advise students on the cost of using the print credits and check the number of credits before and after use. The advantages of an electronic directory such as *Kompass*, include the ability to customise information, for example to bring together quickly a listing of Wicklow companies that export food products to the United Kingdom. However, students do not want to sit and transcribe large amounts of information from a screen, nor do they want to pay for each company record they retrieve. The product was therefore of little use in the DCU library environment and students continued to use the printed product heavily. In a company environment the credit system might be very effective. However, pay-as-you-use electronic resources did not meet the needs of the DCU community.

Is the product user friendly? When evaluating a CD-ROM try to consider screen display and design from the point of view of the user. Opening screens should be uncluttered and easy to read. Basic functions such as printing, saving, marking and exiting the programme should be easily identified. If the product is very complex to use, a lot of time may have to be spent training the user. Sometimes there is a great contrast between the sophistication of the retrieval features of a database and the way they are presented to the user. User friendly manuals and help screens add to the products value.

Can the product display charts, graphs, images, page numbers and so forth? Most of DCU's CD-ROMs are text based and cannot display charts and so forth. Therefore, while the subscription to "European Business Disc" allows access to over one hundred major business journals, some of these such as "The Journal of Finance" are limited in that they con-

tain a number of financial charts which cannot be displayed. Instead, the words "graph omitted" are inserted in the appropriate part of the article. Another slight disadvantage of fulltext newspapers and journals on CD-ROM is that specific page numbers are not displayed. That is, while the article will generally give page numbers at the top, with the bibliographic details, if a user wishes to cite a particular piece of text within the article, it is not clear what the page number is, as the layout and length of pages on the CD-ROM, bears no connection to that of the printed journal. "Factfinder", the Irish business CD-ROM, produced by "Business & Finance", does not include page numbers in the bibliographic detail of articles.

Is the database available via the Internet? The answer to this provides some possible solutions to the problems raised earlier. The World Wide Web can cope with graphics, charts and so forth. In addition using what is known as a PDF (Portable Document Format) reader, such as Adobe Acrobat, it is possible to reproduce the text as it appears on the printed page in the journal. Adobe Acrobat can be downloaded free of charge from the Internet. Increasingly products, which were available on CD-ROM, are now becoming available via the World Wide Web. DCU library now subscribes to "European Business" and "General Business File" (fulltext of approximately 400 journals), via SearchBank. This service, marketed by the UK Information Access Company, offers an interface to a wide range of databases via the World Wide Web. The cost is the same as that of the CD-ROM product. A backup archive to these two databases is provided on CD-ROM. However, should the library cancel the subscription via the Internet, the sheer volume of discs, which make up the full text "General Business File" would necessitate substantial investment in hardware, if it were to be networked. Some of the databases available on subscription via SearchBank on the Internet are what are termed "third party." Basically this means that a backup archive on CD-ROM is not provided as part of the subscription. In the event of the subscription being cancelled the subscriber would be left with nothing. DCU library has made a decision not to subscribe to any databases that fit into this category. Advantages of the web based product, include the ability to retrieve and display charts, images, page numbers and so forth. When deciding whether to subscribe to a product via the World Wide Web or on CD-ROM, a significant factor to be taken into account, is whether the supplier has his own telecommunications line on the Internet. This is the case with SearchBank. While a searcher in Dublin City University uses HEANET (Higher Education Authority Network) in order to connect to SearchBank, once the connection has been established, the searcher is no longer on HEANET; but on the company's leased line. If the company do not have their own leased line, searching will be quite slow, particularly in the afternoon, when American Internet users come on-line. Telecommunication costs are also a major factor when deciding whether to subscribe to a product on CD-ROM or the Web.

How frequently is it updated? The frequency, with which a CD-ROM database is updated, also has a major impact on the decision as to whether to subscribe to both the printed and

electronic version. Some CD-ROMs are updated monthly, others, bimonthly, quarterly or annually. Newspapers on CD-ROM which are updated quarterly, such as the "Financial Times" and "Guardian," could not possibly meet the needs of DCU's business and journalism students, many of whom would need to consult these papers on a daily basis. However, while the printed version is necessary for currency, the CD-ROM serves as an extremely useful tool for searching back issues. This is borne out by the fact that the "Financial Times" was the most heavily used CD-ROM title at DCU, during the academic year 1996/97, being accessed over 9,000 times. As a product is updated the number of discs may increase. In the case of networked products this will involve finding more space on the computer which acts as server, or in the CD-ROM tower.

While products such as newspapers are to a significant degree out of date when they appear in CD-ROM format, electronic encyclopaedias are updated much more frequently than traditional encyclopaedias.

Will these products replace other printed products and will costs be recoverable in this way?
The answer to this varies depending on the product under review.

INDEXES & ABSTRACTING SOURCES

While some printed sources have been cancelled in the changeover to CD-ROM, the pricing structure of CD-ROM operates in such a way as to generally make this a waste of time financially. In the case of most of the more expensive products such as major indexing and abstracting sources, the cost of the CD-ROM is reduced if the subscription to the printed product continues. Cancellation of the printed subscription generally means an increase in the cost of the electronic product, and any savings from the cancellation are generally wiped out. In general the CD-ROM database is substantially more expensive than the printed equivalent.

If space is a major consideration, then cancellation of the printed source can be helpful. In DCU, in the case of subscriptions where both printed and electronic versions are held, the printed products are no longer bound each year. Therefore there is a small saving in the binding area.

ENCYCLOPAEDIAS

In the case of electronic encyclopaedias, however, the purchase cost of the CD-ROM is often substantially lower than that of the printed version. "Compton's Interactive Encyclopedia" came on the market in 1988 at a cost of \$895. By 1996 this cost had been reduced to \$129. "Encyclopaedia Britannica" on CD-ROM costs £125. Three months access to "Britannica Online" (via the web) is included in the purchase price. There are over 15,000 links from the CD-ROM to the relevant Internet sites. To use this facility, the CD-ROM must be loaded on a machine with access to the Internet. Bear in mind that while this works very effectively with a leased line, waiting for a dial-up connection each time a web-link is clicked, might be frustrating for the user. When purchasing the "Encarta" encyclopaedia, a very popular inexpensive product, it is possible to take out a subscription to updates.

Monthly updates from the Internet can then be downloaded to hard disc. Encarta creates a link between downloaded items and related articles in the encyclopaedia.

JOURNAL DATABASES

Occasionally the publishers of journals impose certain limitations on the CD-ROM product. With a limited number of titles on "European Business Disc", there is a condition that the fulltext of articles from a limited number of journals cannot be supplied until a certain time has elapsed from the production of the printed equivalent. This is obviously to stop cancellations of the printed journal. Abstracts only are provided for about a month or two, the fulltext becoming available with a later update of the disc.

As mentioned earlier in this article some of CD-ROM databases such as "BusinessLink" and "European Business Disc" have what are called rolling files. The fact that information is taken off the most recent disc as new information is loaded, is a factor to consider when deciding whether to cancel print subscriptions. While DCU library subscribes to about forty of the journals covered by "European Business Disc" in printed format, the additional sixty titles, are a particularly welcome bonus. To increase the library's printed journal collection by sixty titles in one area, in a year, would be an impossible task. CD-ROM has allowed this in a cost-effective manner. At slightly over £2,000 for one hundred journal titles, each title costs approximately £20. This cost would be halved if a single user subscription were negotiated. The cost of an annual subscription to all of the titles covered by "European Business Disc" would be in excess of £46,000 based on prices quoted in the most recent edition of Ulrich's International Periodicals Directory. Another factor which should be borne in mind when deciding whether to keep a printed journal subscription, is that the companies who produce electronic products frequently do not own the information. Information Access Company, who produces "European Business Disc" negotiate with the publishers of journals for the right to put their titles on a database. A few titles have been removed from this product since DCU library started to subscribe. Some change in coverage is to be expected as more companies get involved in negotiations to sell the same information. The fact that the development of fulltext electronic journal databases is still in a fairly embryonic stage would suggest that decisions on cancellations should be approached with caution. Individual electronic journals are increasingly becoming available via the World Wide Web. Some of these are available before the print copy. This is a rapidly developing area, which DCU library is now actively exploring.

Experience suggests that in general CD-ROM products do not replace a sufficient number of journals or indexing/abstracting sources to allow for savings, or indeed to match costs. DCU library has cancelled very little; therefore additional funding has had to be made available for these products. What CD-ROM does, is provide substantial added value to our service. Academic staff and researchers, frequently remark that with the acquisition of a number of particular CD-ROM titles

and other electronic resources, it is now possible to carry out research from their offices, that previously would have necessitated travel, both within the country and indeed in other countries. There can often be a substantial saving in time also. Turnaround time for an article from the British Library is typically one week. Fulltext electronic journals available on the researchers' office computer, via the library network, can therefore have a substantial impact on the time taken to complete a research paper.

4. Identifying what is available Once the needs of your library user community have been identified, the task of identifying what products exist to meet those needs has to be undertaken. A very good way of identifying what is available is to ask other librarians. This can be done through traditional communications methods, i.e. phone, letters and so forth. In addition to this, very useful information can be gained from subscribing to electronic discussion lists via electronic mail. It is possible to send messages to lists such as Lib-Ref and Lis-Link and to get feedback regarding other libraries experience with various products. More information on how to join these lists, and indeed a wealth of useful information about the Internet can be found at <http://www.aber.ac.uk/~rplwv/e> the Pick website.

A variety of printed sources give information on CD-ROM products. These include "CD-ROM's in Print" and the "CD-ROM Directory". In addition the major manufacturers of CD-ROM produce their own catalogues, which are free of charge. These include Silver Platter, Dialog, Ovid, Proquest and ISI (Institute for Scientific Information). Lendaic, located in the IDA Enterprise Centre in Pearse St. Dublin, acts as an agent for a number of these companies. Bear in mind that a number of suppliers market the same database. However, in addition to possible difference in cost, there will be differences in the product interface, i.e. searching will be different, and possibly a difference in the number of discs that make up the database. Many library journals review CD-ROM, including the American "Library Journal", "ASLIB Information" and "Reference Quarterly".

5. Evaluation/Selection Selecting electronic products is a more complex matter than selecting printed materials. Factors such as the format of an item, the equipment needs, licensing agreements, access methods and support - both technical support and user support - have to be taken into consideration. In DCU library subject librarians liaise with members of the academic community in book and journal selection. However, decisions as to whether to purchase an electronic product, also require substantial input from the Technical Services Department and DCU Computer Services Department. Generally, if a member of the university community expresses interest in a particular database, a one-month trial is arranged. Many suppliers will allow a month's free trial. At the least the supplier of a product which costs in excess of a few hundred pounds, should give an on site demonstration. It can be useful to ask the demonstrator to demonstrate the CD-ROM on the library machine. On completion of the trial the relevant subject librarian completes a CD-ROM evaluation sheet. (Appendix 1.) This was later developed into an electronic resource evaluation sheet (Appendix 2). Factors considered in the evaluation include the

interface, retrieval features, content and so forth. A proliferation of interfaces exists, with most producers having radically different search and retrieval options, indexes and so forth. Introducing a new interface involves staff investment in training users how to use the product and involves technical support in terms of loading the new search retrieval software. Trying to maintain a limited number of interfaces e.g. buying Dialog and SilverPlatter databases would reduce this problem somewhat. However, frequently pricing structures dictate which manufacturer the library opts for.

The most important factor in the evaluation of any electronic source is the content. This must reflect users needs and must be accurate, timely and appropriate. The library notifies academic staff (generally by e-mail) when a product is received on trial. Their feedback is extremely important to our decision making.

6. Management (Cataloguing, storage, issuing, updating, location of equipment, printing/downloading). CD-ROM's are given an entry in DCU library OPAC (on-line public access catalogue) in the same way as books and journals. They are given a separate category code. In the same way as a book would have the code "REF" before the classification number, the classification number of a CD-ROM is preceded by the code "CD". According to AACR2, CD-ROMs ought to be catalogued as computer data files. However, in DCU library they are catalogued in the same way as books and serials. Details are taken from disc, the box accompanying the disc or anywhere they can be found. The CD-ROM itself cannot be triggered. The box or caddy that accompanies it can be.

CD-ROM titles, which are networked, are located on the network server. All others are filed in an alphabetical sequence, in a drawer at the Information Desk. From there they are issued manually. The name of the student, ID number and the course they are undertaking is recorded. This is extremely labour intensive. However, to successfully manage and monitor the usage of stand-alone CD-ROM titles, the library has concluded that it is necessary to use a manual issue system. Stand-alone titles are issued for a one hour period. One hour is generally sufficient time for a user to familiarise him/herself with the system, find the information needed and print or download it. Demand for particular titles would also make longer periods problematic. The library offers four PCs, which are designed for use with stand-alone or non-networked CDs. Advanced booking at the Information Desk for these is usually necessary during term time. On the network a self-booking systems is in operation. As new issues of CD-ROMs appear regularly, installing updated software can be very time consuming. Again this has implications for staffing.

The location of equipment to facilitate the use of CD-ROM titles in the library is a major factor, which needs careful consideration. DCU library has designated two specific rooms or suites where Internet and CD-ROM access are provided. The advantage of this system is that noise tends to be contained. The suites are located close to the Information Desk, therefore help, which is frequently needed, is at hand. A slight drawback is that neither room is actually visible from the Information desk. The file server should be ideally located in an area where the public cannot gain access.

um of information delivery is explored. One thing is certain - change is a constant, which will need to be borne in mind when planning a quality service geared to the needs of a diverse user community.

Helen Fallon, is Sub-Librarian, Readers' Services, Dublin City University.

Appendix 1

CD-ROM Evaluation Sheet

Name: _____

Title of CD: _____

Supplier: _____ Publisher: _____

Cost: 1) Single Version: _____ 2) Networked: _____

Time Span Covered: _____

Frequency: Monthly? _____ Quarterly? _____ Other? _____

Annual Cumulations: Yes? _____ No? _____

Available On-Line: Yes? _____ No? _____

Print Equivalent: Yes? _____ No? _____

Search / Retrieval

1. Search Levels: _____

Easy Level? _____

Middle Level? _____

Command Level? _____

Menu Level? _____

2. Boolean Logic? _____

3. Specific Field Searches? _____

4. Searchable Indices? _____

5. Inbuilt Thesaurus? _____

6. Inbuilt Dictionary? _____

7. Truncation possible? _____

8. Searching for plurals? _____

9. Help Screens? _____

(Rate 1 - 10).....

10. General Ease of Use? _____

Useful for Which User Groups? _____

Time held by Library _____

General Comments? _____

Evaluated By: _____

Appendix 2

Electronic Resources Evaluation

Please complete a separate form each test session you run. Return to Caroline when completed.

1. Test Session report sheet completed by: _____

2. Date and time of test: _____

Section 1 : Host Service

3. Name of Host Service (URL, Firstsearch)? _____

4. How did you connect to the service (e.g. telnet, via Vax 1, Netscape)? _____

Please circle one number

	Very Bad	Bad	OK	Good	Very Good
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Section 2 : Communication

5. How easy was it to connect?	1	2	3	4	5
6. How reliable was the connection?	1	2	3	4	5
7. Was the speed of communications acceptable?	1	2	3	4	5

Section 3 : Database/Service

8. If appropriate, please state which specific database or service you are testing
e.g. Medline, ContentsFirst etc.: _____

9. How do you rate the quality of information available?	1	2	3	4	5
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10. How do you rate the search facilities (Help, Commands, menus etc.)? _____

	1	2	3	4	5
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11. How easy is it to manoeuvre around the database? _____

	1	2	3	4	5
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12. How easy is it to extract results by

a) Printing?	1	2	3	4	5
b) Downloading?	1	2	3	4	5

13. Any General Comments? _____

14. To whom should this service be available (academics/PG's/UC's)? _____

15. How do you think this service would help us improve our range of services? _____