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EQLIPSE

**Evaluation and Quality in Library Performance:
System for Europe**

**Data Tools and Data Collection
(Deliverable Report 4)**

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1.0 Introduction

The EQLIPSE (Evaluation and Quality in Library Performance: System for Europe) project comprises a consortium of ten partners distributed across Europe. Its purpose is to specify, develop and validate an open system to support quality management and performance measurement in libraries of all types. The project's work to date has been more fully introduced and detailed in the previous deliverable "Library Requirements Analysis"¹. Deliverable 1 describes the nature of the project as a whole and also presents the scope and context of the project.

1.1 Purpose of this Deliverable

This report forms Deliverable 4 of the EQLIPSE project. It continues the research detailed in Deliverable 1 "Library Requirements Analysis". The purpose of this deliverable was to examine the data collection methods proposed and also to collect real data using these methods in two test sites, Dublin City University (DCU) Library and the library of the University of Central Lancashire (UCLancs). The data generated from this exercise will be used in the next stage of the project when the prototype EQLIPSE software has been developed. Consequently, this report contains the following sections:

2.0 Data collection methods

In this section a data collection method is described for each dataset. Where applicable there is more than one method of data collection and both these are described.

3.0 Report on the data collection in Dublin City University Library

This will include descriptions (for every indicator) of (where applicable):

- which method was used (if there was a choice)
- what processes had to be put in place for its collection
- what staff were affected and how
- disruption to normal library practice
- copies of any forms designed for data collection
- copies of questions asked of students and staff (in surveys and unobtrusive testing)
- RECALL statements to extract data from Dynix or other systems - any problems noted in collecting data (*RECALL is the term used to retrieve data from the Dynix Library system*)

4.0 Report on the data collection in University of Central Lancashire Library

¹ "Implementing an Open Interactive Quality Management & Performance Measurement System - Library Requirements Analysis (Deliverable Report 1)", CERLIM University of Central Lancashire, Dublin City University. September 1995

As in section 3.0 (above).

5.0 Conclusion.

This section evaluates the data collection exercises in both test sites and details problems common to both. Issues related to the collection exercises such as user participation and staff involvement are described.

6.0 Glossary

Key terms used throughout the report are defined in this section.

7.0 Bibliography

Full references for source documents and others.

2.0 DATA COLLECTION METHODS

2.1 List of Performance Indicators

The project's first deliverable specified a group of performance indicators (and their component datasets) and quality elements which the project team believed should be incorporated into the EQLIPSE system.

This group of performance indicators has been altered slightly for two primary reasons. The EQLIPSE consortium proposed that the current draft of the ISO standard for Performance Measurement provided a suitable core set of performance indicators which would be applicable to all libraries and which have also been proven to be useful to libraries as well as being well documented in the literature. Since the publication of Deliverable 1, the EQLIPSE consortium has maintained contact with members of the ISO committee responsible for the draft standard in order to implement any changes made to the draft standard. These changes have now been incorporated.

Secondly on further analysis of other indicators it was felt that some would not be suitable for inclusion in a core set of indicators applicable to all types of libraries. For example "Titles added per capita" has been removed because the project team considered it did not indicate any level of performance. Similarly, the Information Success Rate (DM G22) has been removed.

Incorporating these amendments the new list of performance indicators to be included in the EQLIPSE system follows in Table 1. These indicators were drawn from several key documents including the ISO draft standard "Information and documentation - Library performance indicators" (herein abbreviated as ISO), the PROLIB report "Library Performance Indicators & Library Management Models" (abbreviated as DM), IFLA's "Measuring Quality: International Guidelines for Performance Measurement in Academic Libraries" (IFLA) and the UK's Joint Funding Council Report "The Effective Academic Library - A Framework for Evaluating the Performance of UK Academic Libraries" (EAL)²

² See bibliography (Section 7.0) for full references.

Table 1 List of indicators

- 1.
1. User Satisfaction (ISO B1)
2. Percentage of target population reached (ISO B21A)
3. Cost per user (ISO B21B)
4. Library visits per capita (ISO B21C)
5. Cost per library visit (ISO B21D)
6. Titles availability (ISO B22A)
7. Required titles availability (ISO B22B)
8. Required titles extended availability (ISO B22C)
9. In-library use per capita (ISO B22D)
10. In-house collection use (IFLA 4b)
11. Document use rate (ISO B22E)
12. Proportion of documents on loan (DM F86)
13. Percentage of required titles in stock (ISO B22F)
14. Title search success rate (ISO B22G)
15. Subject search success rate (ISO B22H)
16. No. of documents in stock per capita
17. Documents added to stock per year per capita (DM F63)
18. No. of documents published after ...(year)... in stock (DM F72)
19. No. of documents acquired after ...(year)... in stock (DM F72)
20. Expert Checklist - A (IFLA 3)
21. Median time of document retrieval from closed stacks (ISO B221A)
22. Median time of document retrieval from open stacks (ISO B221B)
23. Misshelving (DM F93)
24. Collection turnover (ISO B222A)
25. Loans per capita (ISO B222B)
26. Documents on loan per capita (ISO B222C)
27. Cost per loan (ISO B222D)
28. Loans per member of staff (ISO B222E)
29. Active borrowers per capita (DM D12)
30. Lending collection use (IFLA 4a)
31. Percent of stock not used within a certain period of time (IFLA 4c)
32. In-library use per document in stock (DM F85)
33. Documents delivered per capita
34. Proportion of interlibrary loans to total loans (DM H22)
35. Inter-library loans per capita (DM H23)
36. Speed of interlibrary lending (ISO B223A)
37. Speed of document delivery from another site or service point (DM F98)
38. Reference transactions per capita (DM G12)(OMPL p66)
39. Correct answer fill rate (ISO B23A)
40. Information Skills Instruction per capita (EAL P3.3)
41. Remote uses of the library per capita (DM E12)
42. Facilities availability (ISO B261A)
43. Facilities use rate (ISO B261B)
44. Seat Occupancy rate (ISO B262A)

- | | |
|--|---|
| <p>45. Opening hours compared to demand (IFLA 2)</p> <p>46. Library floor area per capita (DM C11)(EAL P5.3)</p> <p>47. Number of items of equipment in the library per capita (DM J22)</p> <p>48. Automated systems availability (ISO B263A)</p> <p>49. Median time of document acquisition (ISO B311A)</p> | <p>50. Median time of document processing (ISO B312A)</p> <p>51. Cost per title catalogued (ISO B313A)</p> <p>52. Program/activity attendances per capita (DM E13)(OMPL p71)</p> <p>53. Number of staff per capita (DM B13)</p> <p>54. Number of professional staff per capita (DM B14)</p> |
|--|---|

2.2 Component Datasets

The performance indicators listed in Table 1 are formed by collecting various datasets. The datasets necessary to form those indicators are listed in Table 2.

Table 2 List of datasets

- | | |
|--|---|
| <p>1.</p> <p>1. No. of members of population served</p> <p>2. No. of active users</p> <p>3. No. of active borrowers</p> <p>4. No. of professional library staff</p> <p>5. No. of non-professional library staff</p> <p>6. No. of seats</p> <p>7. No. of occupied seats</p> <p>8. No. of hours library is open</p> <p>9. Library floor area</p> <p>10. No. of items of equipment in the library</p> <p>11. No. of documents in stock</p> <p>12. No. of documents in lending collection</p> <p>13. No. of un-issued documents in lending collection</p> <p>14. No. of library visits</p> | <p>15. No. of loans</p> <p>16. No. of documents currently on loan</p> <p>17. No. of documents currently used in-house</p> <p>18. No. of in-house collection documents used</p> <p>19. No. of in-library use of documents</p> <p>20. No. of remote uses of the library</p> <p>21. No. of ILL loans</p> <p>22. No. of photocopies made</p> <p>23. No. of users receiving library training</p> <p>24. No. of users attending library programmes</p> <p>25. No. of available facilities</p> |
|--|---|

- | | |
|--|--|
| 26. No. of facilities in use | 50. Publication year of document |
| 27. No. of reference transactions | 51. Actual date of publication of document |
| 28. No. of enquiries handled | 52. Date of ordering document |
| 29. No. of enquiries correctly answered | 53. Date of receiving document |
| 30. Payment for catalogue record acquired | 54. Date of cataloguing document |
| 31. Subscriptions to body providing records | 55. Date of bindery preparation of document |
| 32. Staff salaries | 56. Date of binding of document |
| 33. Staff time spent on original cataloguing | 57. Date document is dispatched |
| 34. Staff time spent on downloading or amending records | 58. No. of recommended titles |
| 35. No. of titles catalogued | 59. No. of recommended titles in library |
| 36. Operating costs | 60. Time taken for document to be retrieved from open stacks |
| 37. Number of required titles in stock | 61. Time taken for document to be retrieved from closed stacks |
| 38. Number of required titles | 62. Date document is requested for ILL |
| 39. No. of titles found for a subject search in catalogue by user | 63. Date document is ordered for ILL |
| 40. No. of titles found for a subject search in catalogue by librarian | 64. Date document is received for ILL |
| 41. No. of titles searched for | 65. Date user is notified for ILL |
| 42. No. of titles found by user | 66. Date document is requested from other sites |
| 43. No. of titles in stock | 67. Date document is ordered from other sites |
| 44. No. of available titles in stock | 68. Date document is received from other sites |
| 45. No. of available required titles in sample | 69. Date user is notified from other sites |
| 46. No. of required titles in sample | 70. No. of hours the automated system is not available during one year |
| 47. No. of required titles made available | 71. Opening hours specified by users |
| 48. No. of documents checked for misshelving | |
| 49. No. of documents misshelved | |

Appendix 1 shows a matrix relating the datasets to the list of performance indicators. It is important that the data collection methods should not be examined without relating them to the indicators to which they refer. The indicators provide the context for the datasets and explain how the datasets are to be combined and evaluated.

2.3 Collection Methods

The following information describes the data collection methods proposed as part of the EQLIPSE research. To a large extent this information has been gathered from previous work done on this area by the ISO TC46 committee (in preparing the draft ISO standard on Performance Measurement), the PROLIB consortium (“Library Performance Indicators

and Library Management Models”) and IFLA (“Measuring Quality: International Guidelines for Performance Measurement in Academic Libraries”). Where necessary the data collection methods have been expanded in order to clarify how the data is collected. The following data collection methods are numbered corresponding to the order in the list of datasets in Table 2. Some datasets are not sequential because, while they are collected as part of the same exercise, they are not consecutive on the above list.

1. NO. OF MEMBERS OF POPULATION SERVED

Obtain these figures from library or institutions records. The library’s automated system, depending on the type of library, may contain this figure.

2. NO. OF ACTIVE USERS

A user is a person who has visited the library or used the services of the library in other ways during the last year. The number of users with registered may be used as an estimate of the number of users in the target population. A user may be an individual or a “legal person” (an organisation, institution or company).

Draw a representative (random) sample from the target population. Ask each person in the sample, whether they have visited the library or used the services of the library in other ways, during the last year.

The Proportion of the Target Population Reached is

$$\frac{A}{B} \times 100\%$$

where

A= Number of persons answering Yes

B= total number of persons answering

Round off to the nearest integer

3. NO. OF ACTIVE BORROWERS

To get a rough measure the records of the library may be used to estimate the number of persons in the sample who has used the library within the last year, depending on the information recorded (e.g. by using registered loans).

Using the records of the computerised issue system count the number of users (belonging to the target population) with registered loans within the last year.

Estimate the number of persons in the target population.

The Proportion of the Target Population Reached is

$$\frac{A}{B} \times 100\%$$

where

A= Number of active borrowers belonging to the target population

B= Total number of persons in the target population

Round off to the nearest integer.

4 & 5. NO. OF PROFESSIONAL LIBRARY STAFF / NO. OF NON-PROFESSIONAL LIBRARY STAFF

Obtain the numbers of library staff from library records. The number of full-time equivalent employees may be calculated based on the hours worked. The number of hours worked is the total number of hours worked for all positions attributed to the library under the budgetary forecast of the previous fiscal year.

6 & 7. NO. OF SEATS / NO. OF OCCUPIED SEATS

Make a survey of the seats provided for reading or studying at the time specified. Count the number of seats in use.

The Seat Occupancy Rate is

$$\frac{A}{B} \times 100\%$$

where

A = The number of seats in use

B = The total number of seats provided

Round off to the nearest integer.

Seats occupied by a user are counted as being in use, even if they are not used actively at the time of investigation.

Due to the inherent variability of the indicator a more accurate indicator may be attained by measuring the Seats Occupancy Rate at random intervals over a period of time and then calculating the mean use rate (using the sum of the items in use, divided by the sum of the items provided, times 100).

Other seats provided by the library may be included: Seats in seminar rooms or group study rooms, informal seats (usually low seating) with no table or workspace, seats at tables or other simple workspaces but without equipment, seats at tables or other workspaces with equipment (OPAC terminals, indexes, computer/terminal workstations, audio-visual equipment, language laboratories etc.). What is included in the indicator should be stated explicitly.

9. LIBRARY FLOOR AREA

The total floor area (in square metres) occupied by library services can be obtained from library or institution records.

10. NO. OF ITEMS OF EQUIPMENT IN THE LIBRARY

Count the number of items of equipment (e.g. CD-ROM access points, OPAC terminals, PCs, photocopiers) available to users in the library

11. NO. OF DOCUMENTS IN STOCK

Use the library's automated system or the library's records to calculate the total number of documents in stock. Electronic documents should be included.

Compare annual totals of documents in stock to calculate the number of documents added to stock (DM F63)

[Note: Use the ISO 2789 definition of document:

Recorded information which can be treated as a unit in a documentation process regardless of its physical form and characteristics.]

12. NO. OF DOCUMENTS IN LENDING COLLECTION

Use the library's automated system to count the total number of items in the collection.

If the total number of items is not available, an estimate may be substituted. Such estimates are the length of the shelf list or the length of occupied shelves in the loan collection divided by the estimated mean number of items per unit length.

If a large number of reference copies are intermixed with copies for loan in the collection, the reference copies should not be included in the calculations.

13. NO. OF UN-ISSUED DOCUMENTS IN LENDING COLLECTION

In order to find out which books have not been borrowed at all within the last one to five years, one has to rely on data from an automated library system. In this case sampling is no solution for the measurement process, since the amount of circulation for each book is of interest. From the circulation record of one book no conclusions can be drawn for another book. Furthermore, the decision to discard a book is a singular one, depending on a number of factors of which circulation is but one.

The period under surveillance will depend on the collection in question. It will be short (for instance 1 year) in the case of a textbook collection for undergraduates and long for a deposit library. The indicator is especially useful for collections where books are discarded despite the depository function, if they are no longer of interest to the user.

14. NO. OF LIBRARY VISITS

1. Use a turnstile or similar device to automatically count the number of people leaving or entering the library.

2. If the count is made manually, use sampling techniques. Count the number of person entering or leaving the library during a period of two weeks. Depending on the fluctuations of user visits during the year, it may be possible to extrapolate to a yearly total. .

15. NO. OF LOANS

Use the library's automated system or library records to count the total number of documents issued in a year.

16. NO. OF DOCUMENTS CURRENTLY ON LOAN

Use the library's automated system or library records to count the total number of documents currently on loan.

18. NO. OF IN-HOUSE COLLECTION DOCUMENTS USED

Several ways to count in-house-use have been suggested, of which the following two seem to be the most reliable:

- 1: Users are asked not to reshelve books reserved for in-house-use. The number of books left on the tables of the reading-room is counted at certain intervals.

2: A slip is inserted into those books which may only be used in the library and the users are asked to put a mark on the slip every time they have used the book.

19. NO. OF IN-LIBRARY USES OF DOCUMENTS PER YEAR

1. Continuously ask users not to reshelve items used in the library.
2. During a sample period, ask users not to reshelve items used in the library. The In-library Use per year is:

$$\frac{\frac{A}{B} * C}{D}$$

where

A= The number of library documents used in the library during the sample period

B= The number of registered loans during the sample period

C= The number of registered loans in a year

It is important that materials which have been issued for loan do not get counted. Further detail may be provided by analysing the documents used by subject.

In closed access libraries the count for in-library-use is straightforward. In open access libraries a number of methods have been proposed for measuring in-library use, and none is 100% accurate. The simplest method is to ask users not to reshelve items they have used in the library, and to count these before they are reshelved by library staff. This can be done over a sample period or continuously. With some library systems, it is possible to read the barcodes of all items before reshelving. The system can then produce detailed counts of in-library use for different subject areas.

The most accurate measurement of in-library use is by random observation study where an observer records details of use at scheduled times and locations. The resultant statistical sample will provide both an accurate count and also valuable data on the types of material being studied. It is, however, expensive to administer.

Probably the least satisfactory method is the questionnaire survey to ask respondents how many items they have used in-house. There are problems of definition to distinguish browsing from positive use as well as memory hazards.

20. NO. OF REMOTE USES

The method depends on the statistics of the network system.

Method 1:

For this method, the network statistics must keep track of all transactions with users and must be able to differentiate between access terminals (PC's, workstations etc.)

- uses by terminals for in-library use (including branch libraries)
- uses from outside the institution's network
- uses by terminals outside the library, but belonging to the institution's network

The remote uses by terminals outside the library, but belonging to the institution's network, are counted as remote uses by members of the institution. This leaves out remote uses by members of the institution coming from private terminals.

Method 2:

An E-mail questionnaire is offered to a sample of remote users asking for -

- status of the user (e.g. member of institution, staff etc.)
- target group (e.g. undergraduate, faculty staff, etc.)
If the target group is asked for, the indicator can be split up into target groups, e.g. remote uses per faculty staff

This method includes remote uses by members of the institution coming from private terminals.

Calculation:

The sample is projected to the total number of remote uses per year by members of the institution. This number is divided by the number of members of the institution.

Both methods could be used to ask for remote use of specific services, e.g.

- OPAC
- CD-ROM databases
- document delivery services

21. NO. OF INTER-LIBRARY LOANS

Use the library's records to calculate the number of Inter-library Loans made to users annually. This takes account only of documents that have been supplied to users, not failed requests. An automated inter-library lending system would also provide this dataset. This would also take account only of documents that have been supplied to users, not failed requests.

22. NO. OF PHOTOCOPIES MADE

Obtain this figure from the photocopier logs and/or from the counter on the machines.

23. NO. OF USERS RECEIVING LIBRARY TRAINING

Count, record and accumulate totals of users receiving training in one year. (This should preferably be a full count, though some sampling could be acceptable as a less precise alternative).

24. NO. OF USERS ATTENDING LIBRARY PROGRAMMES

Count, record and accumulate totals of attendances in one year. (This should preferably be a full count, though some sampling could be acceptable as a less precise alternative).

25 & 26. NO. OF AVAILABLE FACILITIES / NO. OF FACILITIES IN USE

The total number of facilities is the sum of these two datasets.

Methods :

- 1 . Make a survey of the facilities of the specified type at the time specified. Count the number of items available and the number of items in use
2. If only one facility is provided the Facilities Availability may be attained by registering availability and non-availability over a period of time at predetermined intervals.

27. NO. OF REFERENCE TRANSACTIONS

The number of reference transactions are counted by library staff by using worksheets, either for sample periods or on an ongoing basis. Enquiries of a purely directional nature should not be counted.

28 & 29. NO. OF REFERENCE TRANSACTIONS HANDLED / NO. OF REFERENCE TRANSACTIONS ANSWERED CORRECTLY

Of the various methods used, the so-called unobtrusive test has been most extensively applied and described. It involves compiling a representative set of questions with their answers. These are then used by proxy users or surrogates to be put to the staff involved in the information service as genuine questions, without

the staff being aware that they are being tested. This has the advantage of the service being evaluated under normal conditions.

To obtain valid results the questions used should be chosen with great care, the proxy users should be chosen to represent the actual user group, and proxy users have to be properly coached on the way in which they should conduct themselves.

The Correct Answer Fill Rate is

$$\frac{A}{B} * 100$$

where

A= The number of enquiries answered correctly

B= The total number of enquiries handled

30 - F PAYMENT FOR CATALOGUE RECORD ACQUIRED / SUBSCRIPTIONS TO BODY PROVIDING RECORDS / STAFF SALARIES / STAFF TIME SPENT ON ORIGINAL CATALOGUING / STAFF TIME SPENT ON DOWNLOADING OR AMENDING RECORDS / NO. OF TITLES CATALOGUED /

Data should be collected during a defined sample period. The Cost per Title Catalogued is

$$\frac{(A * B) + C}{D}$$

where

A= The total number of hours spent, during the sample period, on producing a bibliographic and authorities description (excluding purely local data) and identifying and retrieving imported bibliographic data.

B= Cost per hour of labour (wages and social taxes during the sample period divided by the regular working time of the relevant staff conventionally considered as present).

C: Cost of acquiring bibliographic records and associated data during the sample period

D: The number of titles catalogued during the sample period

Data for this will come from various sources, library accounts, financial department, cataloguers' worksheets and perhaps the automated the system

Interpretation and factors affecting the indicator: The cost of a catalogue entry could be affected by a number of factors, e.g. a national bibliographic agency would catalogue to a high level, a public library might capture only basic data in order to

buy the document and to acquire bibliographic records from external sources. The costs would be expected to reflect these differences.

The costs would be appraised in relation to the quality of the catalogue:

- effectiveness for users
- effectiveness for staff (stock control and other internal functions)
- conformity to standards for exchange and communication

The result would also be appraised in comparison with previous costs for the same library, or in comparison with other libraries. Costs considered to be high must be judged against the key variables in the organisation:

- management efficiency
- cost of imported bibliographic data
- relative proportions of imported and locally produced data,
- technical aspects, such as software and hardware performance, and
- performance and relevance of bibliographic formats for internal work, co-operation and exchange

36. OPERATING COSTS

Obtain the total operating costs of the library from the institution or from the relevant authority or from library accounts.

The definition of cost headings will differ between institutions and countries. Different accounting procedures can also affect how costs are treated.

Headings such as Total Cost, Direct Cost, Staff Costs etc. would be defined by the institutions themselves. The user must, however, be explicit as to the nature of the costs being included. Table 3 presents a list of possible cost headings and sub-headings.

In “Cost per title catalogued (ISO B313A)” the cost should be only those costs related to the cataloguing activity (e.g. staff costs, costs of acquiring records).

Table 3 Cost Headings

I. STAFFING COSTS

Standard staffing costs

1. Basic salary by type or grade of employee
2. Compulsory health insurance, employers contribution to private health insurance
3. Social insurance
4. Pension contributions,
5. Christmas bonus, vacation bonus
6. Other (severance pay, assistance with removal expenses, overtime pay, expenses for persons acting on an honorary basis)
7. Staffing costs from special funds
8. Advertisements, assessment boards.

II. COSTS OF MATERIALS: COLLECTION DEVELOPMENT AND COLLECTION MAINTENANCE

1. Collection development costs for
 - research literature (monographs, continuations, series)
 - periodicals, journals
 - electronic publications and services (CD-ROM, Software, Multimedia etc.)
 - microforms

- other Non-book-Materials (maps, videos, sheet music, games etc.)

2. Collection maintenance costs disbursed for
 - binding
 - cleaning
 - restoration
 - filming
 - deacidification

3. ILL/Document supply costs

III. ADMINISTRATIVE COSTS

1. Telecommunications
2. Mail
3. Stationery and office supplies
4. Travel expenses
5. Costs for service vehicles (fuel, oil, tyres, servicing, insurance, tax)
6. Public relations (meetings, publications, representation)
7. Training and staff development
8. Consultants and legal advice
9. Membership dues
10. Reimbursement of expenses
11. General and administrative overheads
12. Photocopying expenditure

IV. LIBRARY AUTOMATION COSTS

1. Hardware: costs of repair and maintenance
2. Software maintenance
3. Networking costs

6. Capital expenditure

V. OPERATING COSTS/BUILDING MAINTENANCE

1. Cleaning expenses (external, internal)
2. Water
 - drinking water
 - sewage
3. Heating costs
4. Power/Electricity
5. Building maintenance and upkeep
6. Maintenance expenses: roads, parking areas, lawns
7. Waste disposal
8. Security
9. Buildings insurance
10. Fire, theft, liability, accident etc. insurance
11. Repair and maintenance of equipment
12. Rentals.: copier, reader/printer, garages, room hire
13. Taxes
14. Other

VI. IMPUTED DEPRECIATION ALLOWANCE (Investment costs and construction costs are allocated here)

1. Building depreciation
2. Depreciation of technical equipment and devices
3. Depreciation of library-specific-equipment: shelves, microfiche-readers etc.
4. Depreciation of business machines and office equipment (including computer hardware)
5. Depreciation of service vehicles

37 & 38. NO. OF REQUIRED TITLES IN STOCK / NO. OF REQUIRED TITLES

Draw a representative (random) sample of titles required by at least one user, by asking a sample of users what they are looking for in the library. Only specific titles, not subject searches, are sampled.

Register for each title in the sample, whether the library owns a copy of that title.

39 & 40. NO. OF TITLES FOUND FOR A SUBJECT SEARCH IN CATALOGUE BY USER / NO. OF TITLES FOUND FOR A SUBJECT SEARCH IN CATALOGUE BY LIBRARIAN

Users approaching the catalogue, seeking for a subject, are asked to fill out a form showing:

- the subject heading they are seeking
- the references they found in the catalogue relevant to the subject
- status of the user (optional)

In order to define what the user has been actually seeking, it has proved to be useful to add an interview with the user after the questionnaire has been completed. The search for the subject is then repeated by experienced staff members in order to check the number of references in the catalogue that actually match the subject.

41 & 42. NO. OF TITLES SEARCHED FOR / NO. OF TITLES FOUND BY USER

Users approaching the catalogue, seeking for one or more specific title(s), are asked to fill out a form showing:

- short bibliographic details of the title(s)
- whether they found the title(s) in the catalogue or not
- status of the user (optional)

The titles that have not been found are checked by library staff in order to assess whether they are registered in the catalogue. Fragmentary title data that cannot be proved bibliographically must be left out of the sample.

43 & 44. NO. OF TITLES IN STOCK / NO. OF AVAILABLE TITLES IN STOCK

- 1 Draw a representative (random) sample of titles owned by the library. Register for each title in the sample, whether a copy of that title is available. For a rough measure only the records of the library are checked. For a more accurate measure the actual copies are checked as well.

2. Using the records of the computerised issue system register how many of the titles owned by the library have at least one copy available. In this case only the records are checked, not the actual copies.

45 - ISSUE OF REQUIRED TITLES IN SAMPLE / NO. OF AVAILABLE REQUIRED TITLES IN SAMPLE / NO. OF REQUIRED TITLES MADE AVAILABLE

Draw a representative (random) sample of titles owned by the library and required by at least one user. Register for each title in the sample, whether a copy of that title is available or can be made available within the specified time period. For a rough measure only the records of the library are checked. For a more accurate measure the actual copies on the shelves are checked as well.

A representative sample may be established in two ways:

1. Ask a representative sample of users what they are looking for in the library. Only specific titles, not subject searches, are included in the sample.
2. Draw a representative sample using actual loan transactions, requests for offsite storage retrieval, circulation recalls and in-house use of items.

Note: This method is less obtrusive to the users, but reflects only the demands that have resulted in a loan transaction or a specific request. For most purposes the result is adequate.

The records of the issue system and other relevant records can be used to estimate when titles owned by the library can be expected to become available. Interlibrary loan times can be estimated by asking the relevant library for information about waiting lists etc. It is also possible to use historical records to get factual information. Alternatively the titles in the sample can be monitored for the specified time to register the availability of each title.

48 & 49. NO. OF DOCUMENTS MISHELVED / NO. OF DOCUMENTS CHECKED FOR MISHELIVING

On selected days (randomly) selected sections of the library are checked for misshelving. Consider only the sequence of documents on the shelves. Do not consider absent documents as being misshelved, e.g. a series of volumes 1, 2, 4, 5, 6 is correctly shelved whereas a series of volumes 1,2,3,4,6,5 is incorrectly shelved. Count the number of documents checked and the number of documents misshelved. The shelving sequence should be dictated by the shelving scheme in use in the library.

50 & 53. NO. OF DOCUMENTS PUBLISHED AFTER...(YEAR)... IN STOCK (DM F72) / NO. OF DOCUMENTS ACQUIRED AFTER...(YEAR)... IN STOCK (DM F72)

Count items related to year of acquisition or year of publication (use automated system to calculate these figures, a manual system may dictate that this indicator is impractical). The choice may well be dictated by whatever data is readily available. For this purpose date of acquisition is preferred - since an old book recently acquired in reprint form will clearly be still popular at the date of acquisition.

51. ACTUAL DATE OF PUBLICATION OF DOCUMENT

This date would have to be obtained from the library supplier for each document acquired.

52 & 53. DATE OF ORDERING DOCUMENT / DATE OF RECEIVING DOCUMENT

Methods :

1. For libraries with a computerised acquisition system: All monographs recently bought by the library are checked in the order file as to day of ordering, day of receipt. and supplier's name (if the library uses different suppliers)

For each title, calculate the number of days between ordering and receipt. Rank the titles according to the number of days elapsed. The Document Acquisition Median Time is the number of days that is in the middle of the ranking list. If the number of titles is even, The Document Acquisition Median Time is

$$\frac{A + B}{2}$$

where

A and B= The two values in the middle of the ranking list.

2. For libraries without a computerised acquisition system: Draw a representative (random) sample of monographs in different subjects. If the library use a number of suppliers, make sure that different suppliers are represented in the sample.

Proceed as in Method 1.

The results can be analysed by supplier and by subject.

Interpretation and factors affecting the indicator: The indicator could point to failure in vendor performance (the publisher as well as the vendors) and inefficient library claiming procedures.

Management decisions based on the results could lead to

on-line ordering,
approval plans,
improved claiming of overdue orders. change of vendors, and
improved vendor performance (if they are informed of the results).

Acquisition speed is affected by the time taken by publishers to respond to orders from vendors. It may be difficult to reach a sufficient sample of recently acquired books out of one publisher's production to assess the publisher's reaction to orders.

54 - IS DATE OF CATALOGUING DOCUMENT / DATE OF BINDERY PREPARATION OF DOCUMENT / DATE OF BINDING DOCUMENT / DATE DOCUMENT IS DISPATCHED

Collect data on books arriving to the library during a concentrated time, e.g. one month. Keep a log, either by a computerised library system or by a log sheet accompanying the book through the process.

For each title, the number of days between the arrival at the library and the availability on the shelves are counted. In addition the exact dates of all stages of book processing, e.g.

receipt
cataloguing,
subject cataloguing,
bindery preparation,
binding, and
shelving

can be logged

For each title, calculate the number of days between arrival and availability. Rank the titles according to the number of days elapsed, The Document Processing Median Time is the number of days that is in the middle of the ranking list. If the number of titles is even, The Document Processing Median Time is

$$\frac{A + B}{2}$$

where

A and B= The two values in the middle of ranking list

Special processing procedures for different material (e.g. rush procedures, rare material, gift and exchange material) should be analysed separately.

Interpretation and factors affecting the indicator: Where data for all stages or processing have been collected, the indicator could point to:

- failures in the sequence of procedures,
- delays due to stock-piling (backlogs), and
- delays due to overload.

Possible management decisions based on the results could be

- streamlining the process,
- forwarding documents at shorter intervals to the next department and
- additional assignment of staff.

58 & 59. NO. OF RECOMMENDED TITLES / NO. OF RECOMMENDED TITLES IN LIBRARY

A list of recommended titles for a particular subject is drawn up by an expert. Each title of the list is looked up in the catalogue. This should be done by librarians whose skills in using the catalogue will guarantee that all titles actually in the catalogue will be found.

60. MEDIAN TIME OF DOCUMENT RETRIEVAL FROM OPEN STACKS

Draw a representative (random) sample of titles owned by the library and placed in open stacks. Check that all titles are available and in their proper place on the shelf. Give a number of titles to look for to test persons. The test persons search for the titles in the catalogue and then locate the titles on the shelves.

Each title should be written on a form with columns for noting the exact time the catalogue search is finished and the exact time the item is found on the shelf

For each title, calculate the number of minutes elapsed between finishing the catalogue search and finding the item on the shelf. Rank the titles according to the number of minutes that elapsed for each of them. The Document Retrieval Median Time Open Stacks is the number of minutes that is in the middle of the ranking list. If the number of titles is even, The Document Retrieval Median Time. Open Stacks is

$$\frac{A + B}{2}$$

where

A and B= The two values in the middle of the ranking list.

61. MEDIAN TIME OF DOCUMENT RETRIEVAL FROM CLOSED STACKS

Draw a representative (random) sample of titles owned by the library and placed in closed stacks. Check that all titles are available and in their proper place on the shelf. Fill in the order forms for items in closed stacks, During a sample period, deliver the forms to the circulation desk at randomly chosen weekdays and times.

On a separate sheet, write down the titles and the exact time for leaving the order forms. A copy of this sheet is given to a circulation staff member, who then writes down the exact time the documents can be collected by users.

For each title calculate the number of minutes elapsed between leaving the order form and the arrival of the document to the circulation desk.. Rank the titles according to the number of minutes that elapsed for each of them. The Document Retrieval Median Time, Closed Stacks is the number or minutes that is in the middle of the ranking list. If the number of titles is even, The Document Retrieval Median Time, Closed Stacks is

$$\frac{A + B}{2}$$

where

A and B= The two values in the middle of the ranking list

62 - SED S ATE OF RECEIVING REQUEST FROM A USER / DATE OF RECEIVING DOCUMENT FROM AN EXTERNAL SOURCE / DATE OF ORDERING DOCUMENT FROM AN EXTERNAL SOURCE (OPTIONAL) / DATE OF NOTIFYING THE USER (OPTIONAL)

Collect data for a concentrated time. e.g. one or two weeks. All requests concerning documents not owned by the library should be logged during the survey period. Construct a log sheet with columns showing:

- a) Date of receiving request from a user
- b) Date of receiving document from an external source
- c) Date of ordering document from an external source (optional)
- d) Date of notifying the user (optional)

Note the separate dates on the log sheet.

Count the number of days between receiving the request and receiving the document (column b-column a). Then calculate the proportions of documents received within specified time periods e.g. 7, 14, 21, 30, or 60 days.

Some ILL systems are automated and enable this data to be automatically calculated.

66 - DATE OF RECEIVING REQUEST FROM A USER / DATE OF RECEIVING DOCUMENT FROM OTHER SITE / DATE OF ORDERING DOCUMENT FROM OTHER SITE (OPTIONAL) / DATE OF NOTIFYING THE USER (OPTIONAL)

Collect data for a concentrated time. e.g. one or two weeks, either by a specially set up sample or through retrospective sampling of documentation available on the clerical or automatic system. Construct a log sheet with columns showing:

- a) Date of receiving request from a user
- b) Date of receiving document from other site
- c) Date of ordering document from other site (optional)
- d) Date of notifying the user (optional)

Note the separate dates on the log sheet.

Count the number of days between receiving the request and receiving the document (column b-column a). Calculate the average time taken where such requests have been satisfied. Take the median and not the arithmetic mean to compute this average.

70. NO. OF HOURS THE AUTOMATED SYSTEM IS NOT AVAILABLE DURING ONE YEAR

Methods

1 . Method 1 takes into account only the availability of the central or host computer.

A reporting period is fixed. The total number of hours of scheduled availability is determined, excluding scheduled downtime. The number of hours when the system is down or functioning below the specified standard is determined, e.g. using a log, again excluding scheduled downtime.

The Automated System Availability is then

$$\frac{U-D}{U} \times 100\%$$

where

U = total number of hours of scheduled uptime

D = total number of hours of unscheduled downtime or performance below the specified standard.

Round off to the nearest integer.

2. Method 2 takes into account all cases of non-functioning user devices (terminals, workstations, printers etc.).

A reporting period is fixed. The total number of hours of scheduled availability is determined, excluding scheduled downtime. The number of hours when the central system is down or functioning below the specified standard is determined, e.g. using a log, again excluding scheduled downtime. At the times when the central system is functioning properly the number of non-functioning user devices is determined, as well as the length of the period of non-functioning. (For practical purposes this may be done by registering the number of hours between the time when the user device is reported as out-of-function, and the time when the problem has been fixed, and excluding any time in between of scheduled or unscheduled downtime of the whole system.)

The Automated System Availability is then

$$\frac{U-(D+d/n)}{U} \times 100\%$$

where

U = total number of hours of scheduled uptime of the total system

D = total number of hours of unscheduled downtime or performance below the specified standard of the central system

n= total number of user devices

d = total number of hours that user devices are reported as being unavailable due to non-functioning. (The number of hours of all reported incidents are added together.)

Round off to the nearest integer.

Interpretation and factors affecting the indicator: The indicator is an integer between 0 and 100. It estimates the probability that the system is fully available to the users at any one time.

In general method 2 will yield a more precise indicator than method 1, but for many purposes Method 1 will be sufficient.

Method 2 is very sensitive to omissions or delays in reporting user devices which are not functioning, giving too high a score.

This will also reduce the difference of the scores produced by method 1 and 2.

71. OPENING HOURS SPECIFIED BY USERS

A random sample of actual users are asked when entering or leaving the library about their opinion of the opening hours as they are and as they should be. The data collection should be spread equally over the day and the week to make sure that people usually coming to the library in the morning are not disproportionately represented in comparison to users preferring the evening or Saturdays.

3.0 DATA COLLECTION AT DUBLIN CITY UNIVERSITY

This section details the data collection exercise in the library of Dublin City University. The purpose of the exercise was to test the data collection methods (described in Section 2.0) for their reliability and practicality. Any problems were to be noted and possible sources of the datasets were to be identified.

This section describes the choice of data collection method where applicable and the issues related to implementing those methods in the library. The sequence will be according to the list of performance indicators described earlier in Table 1. When retrieving data from the library's automated system the statement used to interrogate the database will be included. These statements, called RECALL statements, are the command language used to retrieve data from the automated system.

The results of the data collection are not included in this report but are being made available for the next stage of the project in which the EQLIPSE prototype will be tested in Dublin City University Library and the University of Central Lancashire. The sample sizes used are not always given in the report; the size and profile of samples is decided on several factors all of which will be based on the institution's local circumstances.

3.1 User Satisfaction (ISO B1).

For this indicator a user survey was designed (Appendix 2). Following the ISO guidelines the questionnaire contained only five questions and was on a single sheet. It asked for:

- the users' status,
- their satisfaction (on a scale of one to five) with a range of library services and functions
- the importance which they placed on these same services and functions
- their general satisfaction with the library
- their preference of three options of additional opening hours.

The final question was added in order to eliminate the need for an additional survey needed for the IFLA indicator "Opening Hours Compared to Demand" (No. 45 in

the EQLIPSE list). There was a concern amongst library staff that users might grow impatient with too many surveys over such an intensive period.

The IFLA indicator mentioned above relates the actual number and distribution of opening hours to the number and distribution of opening hours as desired by the users. When designing the questionnaire it was judged more useful to present users with a range of optional additional opening hours rather than a question asking how many hours the users would wish the library to be open.

Various methods of distributing the questionnaire were tried in order to ascertain which method would guarantee the highest response rate. These methods included the following:

- a) approaching users at their reading desks and asking them to complete the questionnaire
- b) approaching users on entering the library
- c) leaving questionnaires on reading desks for users
- d) distributing questionnaires at lectures.

Of these, methods A and D provided the best response rate. Method C proved very unsatisfactory with the majority of questionnaires being pushed to one side and discarded by users. In total 250 questionnaires were distributed using the four methods mentioned and of that figure 152 were returned correctly filled.

Method D also had the advantage of being the only method of ensuring that a representative sample was being obtained. It also had one of the highest response rates. The other methods sample only those users who entered the library. By distributing questionnaires during lectures certain user groups could be targeted.

In order to obtain a representative group of users with different use patterns questionnaires were distributed in the library at sample times. Therefore questionnaires were distributed during mornings, evenings and at weekends during normal library opening hours. It is difficult to estimate the staff time spent in distributing and collecting the questionnaires suffice to say that questionnaires were distributed over a six day period, morning and evening.

A response of 250 questionnaires would represent five per cent of the university's on-campus users (Distance Education students form approximately one fifth of the university's users. At the time of this data collection it was out of term for these students. Questionnaires would have to be mailed to these students but to ensure a good response rate questionnaires will be distributed at tutorials once the academic term for distance education students begins.)

The data generated from this user satisfaction is being collated using Microsoft Access, a relational database system running on a standard PC.

3.2 Percentage of target population reached (ISO B21A)

The datasets for this indicator comprised the number of members of the population served related to either the number of active users or the number of active borrowers. The former involves choosing a sample group of people whereas the latter uses the library's automated system to calculate the number of users to whom documents have been issued in the last twelve month period.

As the EQLIPSE system will be designed to retrieve automatically data from computer systems, for the purpose of this project the second dataset was used. This decision was applied to all those datasets which could be collected by sample or by automatic retrieval from the library's automated system. A disadvantage of doing so is that it sometimes provides a less accurate figure but an advantage is that it reduces staff effort. A very important factor in collecting the data is the amount of staff time and effort required. Any reduction in this effort is valuable.

The number of active borrowers was obtained from the library's automated system (a Dynix Classic system) by interrogating the database using a RECALL statement as follows:

```
COUNT PATRONS WITH LASTUSE GE "01 JAN 1995"
```

The result of this query is expressed as a percentage of the total population. This figure was obtained from the university's records. The library's automated system does provide a figure for the total registered library users but this does not reflect the total user group. Dublin City University's automated library system still contains records of users who are no longer members of the population to be served; in order for the system to be used as a reliable means of calculating the total user group, these records would first have to be removed.

This indicator can also be applied to a target group within the population. In collecting the data for Dublin City University Library we targeted users taking Information Technology (Distance Education) courses, who form one sixth of the total population. The following RECALL (the command language used to retrieve data from the Dynix Library system) statement generated the data:

```
COUNT PATRON WITH PSTAT = "IT" AND LASTUSE GE "01 JAN 1995"
```

3.3 Cost per user (ISO B21B)

As with the previous indicator, the dataset used for this was the number of active borrowers instead of the number of active users. The figure for the total operating costs of the library was obtained from the Director of the library who in turn obtained the figure from library accounts and budget statements.

3.4 Library visits per capita (ISO B21C)

Up to January 1996, Dublin City University Library used a traditional turnstile to count the numbers of people leaving the library. This system was susceptible to the normal margin of error of the system by people holding the gate open for other users and also the fact that more than one person can be standing on the sensor pad at the one time etc. The figures from this turnstile were manually counted every month and entered in the library's regular statistics. It is from these statistics that the figure was obtained. A new access system was installed and is now operational within the library which requires visitors to use an ID card to gain entry. This system will provide a more accurate count of library visitors and will also provide analysis of visitors by user group, frequency etc.

Staff exiting should be subtracted from this figure. It is difficult to prescribe a formula for this but as in other libraries, it was decided to allow two exits per member of staff (for lunch and going home) and to multiply this by the number of working days per year. This will not be an accurate figure but will provide a more precise figure for the number of library visits.

As with indicator 2, (Percentage of target population reached (ISO B21A)) the Per Capita figure was obtained from the university's records.

3.5 Cost per library visit (ISO B21D)

The datasets comprising this indicator have been discussed in

3. Cost per user (ISO B21B)
4. Library visits per capita (ISO B21C)

3.6 Titles availability (ISO B22A)

The method using the automated system to generate the required datasets was employed here. RECALL statements provided the data. The first statement provided how many titles were checked out on the circulation system:

```
COUNT BIB WITH T-STATUS = "O"
```

The number of documents missing also had to be counted, this could be either a separate RECALL statement or could be included in the one above:

```
COUNT BIB WITH T-STATUS = "MISSING"
```

The total number of titles could not be obtained by a simple RECALL statement. The vast majority of titles are maintained on the library's automated system but students' theses and companies' annual reports are not. These, however, are kept in the Reference collection and are not available for loan. A manual count of these is maintained as part of Dublin City University Library's regular statistics. This count was added to the result of the RECALL statement which provided the total number of titles in the library:

COUNT BIB

3.7 Required Titles availability (ISO B22B)

For this indicator a group of users are required to state whether the titles they are seeking are actually available for their use. The indicator states that a representative sample of users be selected but as with earlier indicators this may be difficult to do. Instead, users were approached at different times; mornings, evenings and weekends.

A form was designed (Appendix 2) for this indicator which asked users to state:

- the title of the document they were seeking (Column A),
- whether they found it in the catalogue (Column B) and
- whether it was available for their use (not on loan and/or on the shelf)(Column C).

The results of the forms was checked by the EQLIPSE researcher.

Columns A and C provide the datasets for Required Titles Availability (ISO B22B)

This form was designed in a way that would also provide the datasets for two other indicators:

- Percentage of Required Titles in Stock (ISO B22F) and
- Title Search Success Rate (ISO B22G).

By using Columns A and B the Percentage of Required Titles in Stock can be calculated. The results of Column B should be checked by a librarian to ensure that the document was or was not in the catalogue. Columns A and B also provide data for the Title Search Success Rate. These two indicators will be further discussed in their own sections.

Completing these forms presented no apparent problems but was time consuming on the part of the staff. Thirty users completed the forms. A response from the user was best guaranteed if the EQLIPSE researcher stayed with the users while

completing the form but as one stage involved the user actually checking the shelf for availability this could not be maintained throughout the whole process. On the whole however, the response rate was good. Users who refused to complete the form explained that they had not enough time to do so.

Several users first searched by the Author field on the catalogue, even if they knew the exact title they were seeking.. The indicator is not clear whether these could be a valid inclusion in the sample so for this collection exercise they were not included. Other than that, this indicator presented no problems.

3.8 Required titles extended availability (ISO B22C)

The titles specified as being required by users in the previous indicator were also used in this indicator. Those titles which were not immediately available were checked on the catalogue by the EQLIPSE researcher as to when they would next be available. The period chosen was one week.

The indicator specifies that titles may be made available through inter-library loans but it is impossible to state how long this will take. The only means of including this data would be to track the document from its request to its receipt.

See also the previous indicator 7. Required Titles availability (ISO B22B).

3.9 In-library use per capita (ISO B22D)

This proved to be a problematic indicator for which to collect the datasets. To explain how it was difficult it is first necessary to describe how documents are returned to the shelves in Dublin City University Library.

Dublin City University Library users are continually asked not to return documents to the shelves but instead to place them on trolleys located around the library once they have finished with the document. This provides a convenient means of counting documents used within the library. Any items left on the reading tables are placed on the trolleys last thing at night for reshelving the following day. Of course, this does not take account of users using material at the shelves and returning the documents to the shelf. The alternative of placing slips in the documents was considered impractical and too time consuming by library staff.

It was possible therefore, to count the documents on the trolleys every morning before the shelving staff began their work. The main difficulty was with material from the Main Lending section. As material is returned from loan to the Issue desk it is returned on a continuous basis to the Main Lending area. This material is left on the

same trolleys to which library users return documents they have taken from the shelves but have not had issued to them. It is not useful to count documents on these trolleys as it contains material which has been issued and returned and also material used within the library.

The possibility of devising a system of counting in-library usage of Main Lending material, even for a sample period, was discussed with library staff but was not used as it would have taken too much of the shelve's time to implement it. Library staff believed that other indicators related to the lending collection (30. Lending collection use (IFLA 4a), 31. Percent of stock not used within a certain period of time (IFLA 4c)) provided adequate information on the use of that area of the collection.

Counting documents on trolleys in the other library areas was without any problems. This count could be used as the dataset needed for the indicator but it would have to be remembered that the figure did not include material from Main Lending.

3.10 In-house collection use (IFLA 4b)

As discussed in the previous indicator (9. In-library use per capita (ISO B22D)) it was possible to count the numbers of documents reserved for In-House Use actually used within a certain period. For a one week period the numbers of documents left on trolleys in the Reference and Periodicals areas of the library were counted before the library's shelve's began their work.

Using this method does not take account of users replacing a book on the shelf after scanning it at the shelf. The alternative method suggested (placing slips of paper in all documents which would be ticked by users when using it) was dismissed by library staff as being impractical and too time consuming.

For this indicator the total of these counts is related to the total number of documents in the In-House Collection (material reserved for use within the library). This figure is obtained from the library's automated system with the following RECALL statement:

```
COUNT HOLDINGS WITH ITYPE = "NL" AND WITH ITYPE = "LUO"
```

3.11 Document use rate (ISO B22E)

The following indicator (12. Proportion of documents on loan (DM F86)) could be a substitute for this indicator but it deals only with the lending collection.

For this indicator a number of documents was selected from each of the collections within the library (Periodicals, Reference, Main Lending, Restricted Loan etc.). The Lending documents were first checked against the library's catalogue to determine if

they were on loan. Those that were not on loan (and the documents selected in the other collection areas) were then checked on the shelves to determine if they were available. Those that were not on the available were assumed to be in use or missing, as the ISO draft standard states.

This indicator did not present any major problems except that of determining what was a representative sample. In the Dublin City University Library collection exercise the number of documents in each sample area was in relation to the size of that collection to the overall stock. Therefore, if the Periodicals collection formed one third of the overall stock the number of periodicals in the sample would form one third of the sample size.

This was also a time consuming indicator for which to gather the datasets, it took the EQLIPSE researcher a day to prepare the sample and to check the documents on the catalogue and on the shelves.

3.12 Proportion of documents on loan (DM F86)

This indicator requires two datasets (number of documents available for loan and number of documents on loan), both of which were obtained from the library's automated system by a RECALL statement.

```
COUNT HOLDINGS WITH ITYPE = "O" OR WITH ITYPE = "EXAM" OR  
WITH ITYPE = "ML1" OR WITH ITYPE = "RFT" OR WITH ITYPE = "RL3"  
OR WITH ITYPE = "RPT"
```

```
COUNT CIRC.OUT
```

3.13 Percentage of required titles in stock (ISO B22F)

For this indicator, the titles specified by users in the form generated for "7. Required Titles availability (ISO B22B)" were used as the list of required titles and once again they were checked by a librarian to determine if they were contained in stock. The two datasets obtained from this sample were:

- 37. Number of required titles in stock
- 38. Number of required titles

3.14 Title search success rate (ISO B22G)

As with the previous indicator, the titles specified by users in the form generated for "7. Required Titles availability (ISO B22B)" were used for this indicator. Once

again they were checked by the librarian. This time, however, any titles which were not found by the user were rechecked in order to see if the title was actually registered in the catalogue.

Several users first searched by the Author field on the catalogue, even if they knew the exact title they were seeking. The indicator is not clear whether these could be a valid inclusion in the sample so for this collection exercise they were not included. Other than that, this indicator presented no problems.

See also indicator 7. Required Titles availability (ISO B22B).

3.15 Subject search success rate (ISO B22H)

This proved to be a time consuming and problematic indicator for which to collect the datasets. When the users were first approached an initial problem would be that they were themselves unclear about the material they were seeking.

Secondly, some users used the catalogue's Subject search facility as a means of locating a particular title which they already knew would appear under that search. For this indicator those users' searches were not included. When users were asked for their subject the majority gave the actual title of an assignment or project they had been give by academic staff.

This was a time-consuming indicator for which to collect the datasets. The EQLIPSE researcher first had to explain the purpose of the questions. Many users, when asked if they were doing a subject search, would answer no even if they had the subject search facility on screen. While this could have been a genuine misunderstanding of the search terms on the catalogue the EQLIPSE researcher believed that it also demonstrated a reluctance to answer the questions.

In order to fully establish the Subject Search Success rate the librarian would need to spend several minutes with each user but in the collection exercise in Dublin City University the EQLIPSE researcher found that most users were reluctant to stand by the OPAC terminal to answer questions.

A further problem arose depending at what stage in their search process the user was approached. Many users would first enter a very broad search term, scan the records that were retrieved and then enter narrower terms. If the users were approached early in this process the number of relevant documents will always be low, because when asked what subject they are seeking they will give fuller details of what they were seeking.

Some users never entered narrower terms and instead would go through the retrieved documents (from the broad subject search) one by one until they found those they believed were relevant.

The method proposed in the ISO draft did serve to gather the necessary data for this indicator. The method should, however, be more explicit as to how this method should be conducted. For example, the method states that “all titles grouped under a subject heading and/or notation found by the user to be relevant are counted” but it does not state if this search by the librarian should be conducted while the user is still present or if the user should be consulted at a later stage. If the latter is the case more data on each user would need to be gathered. It would also make the collection method more time consuming.

3.16 No. of documents in stock per capita

As already mentioned in a previous indicator not all of Dublin City University Library’s stock is registered on the computerised catalogue. The following RECALL statement counted those which are:

COUNT HOLDINGS

Students’ theses and companies’ annual reports are not registered, nor are all periodical documents. A manual count of these is maintained as part of Dublin City University Library’s regular statistics. This figure was added to the result of the RECALL statement which provided the total number of documents in the library.

That sum was then related to the “per capita” dataset which was obtained from the university’s records.

3.17 Documents added to stock per year per capita (DM F63)

The datasets for this indicator could be collected in different ways from the library’s automated system. Firstly a RECALL statement counting those documents received after a certain date:

COUNT ACQS WITH DATE.RECD.CONV GE “01 JAN 1995”

and secondly (if the previous year’s Number of documents in stock was available) by counting the total number of documents registered on the system, adding those which are not and subtracting the previous year’s figure.

3.18 No. of documents published after ...(year)... in stock (DM F72)

3.19 No. of documents acquired after ...(year)... in stock (DM F72)

These two indicators are from the PROLIB report which recommends that the Number of Documents acquired after a certain year is a more useful indicator since documents published several years ago can still have relevance. This figure was obtained from the library's automated system by a RECALL statement:

```
COUNT ACQS WITH DATE.RECD.CONV GE '01 JAN 1992'
```

The result of the RECALL statement plus the additional documents not registered on the system was then related to the total number of documents in stock to determine what percentage of documents had been acquired within the past three years.

3.20 Expert Checklist - A (IFLA 3)

This indicator presented no problems. Academic staff in the university were asked to supply lists of recommended titles for their specialist subject areas. These titles were then checked by librarians to see if they were registered in the system. Some staff were able to supply close to one hundred titles for their specialist area. The number of titles registered in the catalogue were expressed as a percentage of the number of recommended titles on the list.

3.21 Median time of document retrieval from closed stacks (ISO B221A)

Dublin City University Library does not have closed stacks so datasets were not available for this indicator.

3.22 Median time of document retrieval from open stacks (ISO B221B)

A form was designed for this indicator (Appendix 2), comprising five columns, Title, Author, Time Found on Catalogue, Time Found on Shelf and Time Lag. Volunteers were supplied with the titles and the authors. They were then asked to search the library catalogue for those titles, note the exact time the titles were found and then note the exact time the titles were found on the shelves.

It is important that each title is searched for and located individually. All the volunteers first thought they could search all the titles on the library catalogue

consecutively (during the one search session) and then go to the shelves. This should be explained to all volunteers. The forms were then returned to the EQLIPSE researcher who calculated the Time Lag (the difference between the times the titles were found on the catalogue and found on the shelves) for each title. These time lags were then sorted in ascending order to determine the median value.

3.23 Misshelving (DM F93)

The method proposed for collecting the datasets for this indicator proved feasible but was more time consuming than expected (taking approximately thirty minutes to check five hundred books). A qualitative note, however, would have to be added to the results of the data collection. The figures could be misleading unless the extent of the misshelving was noted.

3.24 Collection turnover (ISO B222A)

For this indicator a particular section of the catalogue was chosen, lending documents in the 340 - 350 range according to the DDC scheme. These documents were selected on the library's automated system with the following RECALL statement:

```
SELECT HOLDINGS WITH CALL GE "340]" AND LE "349]"
```

and on this subset the following statement was entered:

```
COUNT HOLDINGS WITH ITYPE = "O" OR WITH ITYPE = "EXAM" OR  
WITH ITYPE = "ML1" OR WITH ITYPE = "RFT" OR WITH ITYPE = "RL3"  
OR WITH ITYPE = "RPT"
```

This counted the total number of documents within the 340-350 range which could be lent to users.

The total number of uses of the documents in this range was then calculated with the following statement:

```
STAT HOLDINGS USE
```

3.25 Loans per capita (ISO B222B)

The “per capita” figure was already available from other indicators. The number of inter-library loans is maintained as part of the Library’s regular statistics. It is produced as part of a monthly report generated by the ILL automated system. The number of normal loans is counted on the library’s automated system. Both these figures are maintained as part of the Library’s regular statistics. These are summed to give the total number of loans.

3.26 Documents on loan per capita (ISO B222C)

The “per capita” figure was already available from other indicators. The other datasets for this indicator was collected from the library’s automated system. The following RECALL statement retrieved the number of documents on loan:

```
COUNT CIRC.OUT
```

The number of ILL documents on loan at the same time was retrieved from the library’s automated system with the following statement:

```
COUNT REQUESTS
```

The results of the statements were summed.

3.27 Cost per loan (ISO B222D)

The total cost of the library in one year was obtained from the Director of the Library Services. The number of inter-library loans is maintained as part of the Library’s regular statistics. It is produced as part of a monthly report generated by the ILL automated system. The number of normal loans is counted on the library’s automated system. Both these figures are maintained as part of the Library’s regular statistics. These are summed to give the total number of loans.

3.28 Loans per member of staff (ISO B222E)

The number of inter-library loans is maintained as part of the Library’s regular statistics. It is produced as part of a monthly report generated by the ILL automated system. The number of normal loans is counted on the library’s automated system. Both these figures are maintained as part of the Library’s regular statistics. These are summed to give the total number of loans.

The number of Full Time Equivalent staff was obtained from the Director of the Library.

3.29 Active borrowers per capita (DM D12)

The “per capita” figure was already available from other indicators. The number of active borrowers was discussed in “3.2 Percentage of target population reached (ISO B21A)”. This is very similar to that indicator but is the figure for the total number of active borrowers in one year.

3.30 Lending collection use (IFLA 4a)

This indicator, though included in the list of indicators proposed, is duplicated by the ISO indicator “Collection Turnover (ISO B222A)”. It differs only in that it excludes renewals from the loan statistics. The recommendation would be that this indicator be dropped from the proposed list.

3.31 Percent of stock not used within a certain period of time (IFLA 4c)

The datasets for this indicator were retrieved from the library’s automated system. Both datasets were retrieved from the automated system. The indicator presented no problems.

This statement selects lending material:

```
SELECT HOLDINGS WITH ITYPE = “O” OR WITH ITYPE = “EXAM” OR  
WITH ITYPE = “ML1” OR WITH ITYPE = “RFT” OR WITH ITYPE = “RL3”  
OR WITH ITYPE = “RPT”
```

which can then be manipulated to count the number of documents never issued:

```
COUNT HOLDINGS WITH USE = “0”
```

3.32 In-library use per document in stock (DM F85)

The problems of determining in-library use has already been discussed in “9. In-library use per capita (ISO B22D)”. The total number of documents in stock was discussed in “16. No. of documents in stock per capita”. Other than the problems discussed in collecting the data for the number of in-library uses of documents this indicator presented no unique problems.

3.33 Documents delivered per capita

The number of documents delivered is defined as:

Loans + In-library consultations + Inter-library loans + Photocopies made (/10)

The number of inter-library loans is maintained as part of the Library's regular statistics. It is produced as part of a monthly report generated by the ILL automated system. The number of normal loans is counted on the library's automated system.

In-library consultations, and the problems associated with collecting the data, has been discussed in

3.9 In-library use per capita (ISO B22D)

The number of annual in-library consultations is determined by establishing a ratio of in-library consultations to normal loans during the same period. In the case of Dublin City University Library's collection exercise the data for in-library use was collected over a one week period; the number of normal loans during the same period was obtained from the library's automated system by the following RECALL statement run at the beginning and end of the one week sample period, the difference in the two is the number of loans for that period:

STAT HOLDINGS USE

This provided a ratio for in-library consultations to normal loans. This ratio was then applied to the number of annual loans (already mentioned in "3.25 Loans per capita (ISO B222B)") in order to determine the number of annual in-library consultations.

The number of photocopies was obtained from the machines counter which is logged weekly and maintained as part of Dublin City University Library's regular statistics.

This indicator presented no major problems but those problems described in "3.9 In-library use per capita (ISO B22D)" should be noted.

3.34 Proportion of interlibrary loans to total loans (DM H22)

The number of inter-library loans is maintained as part of the Library's regular statistics. It is produced as part of a monthly report generated by the ILL automated system. The number of normal loans is counted on the library's automated system. The data collection for this indicator presented no problems.

3.35 Inter-library loans per capita (DM H23)

The “per capita” figure was already available from other indicators. The number of inter-library loans is maintained as part of the Library’s regular statistics. It is produced as part of monthly report generated by the ILL automated system.

3.36 Speed of interlibrary lending (ISO B223A)

The datasets necessary for this indicator were retrieved from the library’s automated inter-library lending (ILL) system, the Lancaster system. The indicator lists four datasets:

- a) Date of receiving request from a user
- b) Date of receiving document from an external source
- c) Date of ordering document from an external source (optional)
- d) Date of notifying the user (optional)

In the case of Dublin City University Library datasets a) and c) would be the same with perhaps a maximum of one day in the difference. The form the users complete when ordering a document through inter-library lending contains the date on which they completed the form but this is not necessarily the date that they submit the request form to the ILL department. Many users complete several forms and do not return them to the library for several weeks.

When the document is logged as being received a notification slip is automatically printed and these slips are posted to the users.

Two datasets (for each document) needed to be retrieved from the system, the date the document was ordered and the date the document was received. The former is the closest that can be got to the date the user made the request.

A sample week was chosen from the middle of the academic term in 1995. Documents ordered through ILL during that week had to be retrieved from the system. The Lancaster ILL system has two files into which the order records are placed according to their status. The first, called REQUESTS, contains order records and the second, called ARCHIV, contains records which are complete.

If the document ordered is delivered as a photocopy that record is automatically placed into the ARCHIV file because the photocopy does not have to be returned to the supplier. If the document ordered is delivered as the original text it will remain in the REQUESTS file until it has been returned by the user to the ILL department who in turn will return it to the supplier. Therefore documents ordered in the one week could be in either file, depending on their status.

The following are the commands used to retrieve the records from the automated ILL system:

1. SELECT REQUESTS WITH DATE.APPL GE "13 NOV 1995" AND LE "17 NOV 1995"

This selects all records in the REQUESTS file ordered in the sample period.

2. SAVE-LIST REQ.APPL

This saves the records selected in step 1 into a file called REQ.APPL

3. SELECT ARCHIV WITH DATE.APPL GE "13 NOV 1995" AND LE "17 NOV 1995"

This selects all records in the ARCHIV file ordered in the sample period.

4. SAVE-LIST ARC.APPL

This saves the records selected in step 3 into a file called ARC.APPL

5. CLEAR-FILE DATA ARCREQ

This clears the ARCREQ (a temporary file) of any previous records stored there.

The following set of commands obtains the two files created in steps 2 and 4 and copies them to the ARCREQ file where these combined records can then be manipulated and searched simultaneously:

6. GET-LIST REQ.APPL

7. COPY REQUESTS (*to*) (ARCREQ

8. GET-LIST ARC.APPL

9. COPY ARCHIV (*to*) (ARCREQ

All the documents ordered in the sample week were stored in the ARCREQ which could be used to be interrogated using the standard ACCESS commands. The Lancaster provides a standard function called TIME.SUPPL which is the difference in days between the days of ordering and the days of receiving the documents. Commands such as the following counted the number of documents received within certain periods:

COUNT ARCREQ WITH TIME.SUPPL LE "7"

This command, for example, counted the number of documents received within a one week period of ordering.

This indicator presented no major problems, once the correct commands to enter had been determined. The commands could be run to determine the speed of delivery over the whole year rather than just a sample week but it could be a slow process to retrieve the information. Selecting and copying the sample records to the ARCREQ file took twenty-five minutes, excluding actually interrogating the created file; a faster computer, however, would doubtless speed up the process, the computer in Dublin City University library was running at 33Mhz.

3.37 Speed of document delivery from another site or service point (DM F98)

Dublin City University Library does not have branch sites so datasets were not available for this indicator.

3.38 Reference transactions per capita (DM G12)(OMPL p66)

The “ per capita” was available from previous indicators. The number of reference transactions is maintained as part of the library’s regular statistics. The nature (directional, in-depth or had to refer to subject specialist) and type (business, science or humanities related) of the transaction is also maintained. The data collection presented no problems.

3.39 Correct answer fill rate (ISO B23A)

The unobtrusive testing method was tested as part of Dublin City University Library’s collection exercise. This is a particularly sensitive indicator and the library Director was aware that it had to be well prepared and planned.

A list of questions was prepared (Appendix 2) by one the Library’s subject librarians who believed that the list of questions was representative of the variety of questions asked at the enquiry desk. The librarian, who also serves on the library’s enquiry desk, also supplied possible answers to the questions but wished to point out that there can be more than one answer to some questions.

These questions were divided by the EQLIPSE researcher into groups, sometimes of more than one question. For example the following questions could be asked separately by different people or could be divided between two people, one who would ask questions 1 and 2 and the other who would ask questions 3 and 4:

1. Where can I find exam papers?
2. Where can I find the autumn 1995 Physics with French Year 1 exam papers?
3. Where can I find a bus timetable?
4. Where can I find a map of Dublin.

These questions were then given, with guidelines and instructions, to volunteer users.

In order to choose proxy users the EQLIPSE researcher approached the President of the Students Union within the university who represents the majority of the university's users. The Union President suggested that the matter be raised at a council meeting and as a result of this the questions were distributed to members of the council which comprises representatives of the many schools and faculties within the university.

The proxy users were then instructed to ask the questions at specific times within the sample period (two weeks). When the users had asked the questions they wrote down the responses they were given at the enquiry desk and then they returned the questions and responses to the EQLIPSE researcher.

The EQLIPSE researcher was never aware of the identity of the member of staff on the enquiry desk when proxy users asked questions.

This indicator presented no major problems but it has to be well organised. The effort involved in selecting a group of proxy users should not be under-estimated. In order to select users the EQLIPSE researcher had first to approach the Library's Director, the Sub-Librarian for Readers Services (responsible for the enquiry desk) and the President of the Students Union. It also called on a not inconsiderable amount of other staff's time as the subject librarian had to prepare a list of questions. In Dublin City University's collection exercise forty questions were prepared and distributed amongst twenty-nine users.

3.40 Information Skills Instruction per capita (EAL P3.3)

The "per capita" was available from previous indicators. The figure for the numbers of users receiving training has been maintained in Dublin City University Library only since the beginning of this academic year. The figure is now maintained as part of the library's regular statistics, it does not include users receiving induction at the start of each academic year.

3.41 Remote uses of the library per capita (DM E12)

Dublin City University Library has recently installed network monitoring software (Softrack) which monitors which sections of the network are accessing the library's

networked CD-ROMs. It does not keep track of individual users but instead can log which of the other campus networks (Schools of Business, Physics, Computer Applications etc.) are using the Library's CD-ROMs. Not all users in these Schools have access to networked facilities.

The institution's logs do not maintain records of remote accesses (either on or off campus) to the library's catalogue which is available through TELNET or the World Wide Web.

3.42 Facilities availability (ISO B261A)

The datasets for this indicator were collected by sampling. All facilities were checked by the researcher at sample times (morning and evening) over a one week period to see which facilities were available. The facilities availability was determined as the average of these results. The data collection method presented no problems.

3.43 Facilities use rate (ISO B261B)

The datasets for this indicator were collected by sampling. All facilities were checked by the researcher at sample times (morning and evening) over a one week period to see which facilities were in use. The facilities use rate was determined as the average of these results. The data collection method presented no problems.

3.44 Seat Occupancy rate (ISO B262A)

The datasets comprising this indicator presented no problems when collecting. The total numbers of seats were first counted. Then those seats occupied were counted at different times in order to obtain an average for the seat occupancy rate, as the ISO draft states.

3.45 Opening hours compared to demand (IFLA 2)

As mentioned in indicator 1. User Satisfaction, a question was added to the user survey which asked users to state their preference of three options which specified possible additional opening hours of the library.

When designing this question the EQLIPSE researcher and other library staff consulted believed it would not be useful to ask users a question such as "At present

the library is open (on average) 70 hours per week. How many hours do you think the library should be open?"

Three choices were therefore presented to users which asked for their preference of:

- Sunday opening
- Later Saturday opening
- Later weekday opening

Once the users' responses are collated and analysed the preferred opening hours could be determined. Some users commented that present opening hours were satisfactory. In this light the survey's question should have stated that if users were satisfied they should leave the question blank, or better still, another option box stating that the user is satisfied with present arrangements:

- Sunday opening
- Later Saturday opening
- Later weekday opening
- Satisfied with present opening hours

3.46 Library floor area per capita (DM C11)(EAL P5.3)

The "per capita" indicator was already available from other indicators. The figure for the library floor area was obtained from the Director of Library Services. The definition used was that according to the PROLIB study, i.e. the floor area occupied (in square metres). The data collection presented no problems.

3.47 Number of items of equipment in the library per capita (DM J22)

The "per capita" indicator was already available from other indicators. The number of items of equipment in the library was obtained by the EQLIPSE researcher doing a manual count. The data collection presented no problems.

3.48 Automated systems availability (ISO B263A)

The datasets necessary to form this indicator are not maintained as part of the Library's regular statistics. It was not possible, therefore, to determine the availability of the automated systems over the past year. The systems librarian does, however, keep a log of problems reported with the automated system. The number of hours of unscheduled downtime therefore could be determined from this log. A

specific reporting period has been fixed during which the systems librarians will maintain a record of scheduled and unscheduled downtime.

3.49 Median time of document acquisition (ISO B311A)

A possible dataset for this indicator is the Actual Date of Document Publication. This dataset is not necessary to form the indicator. Library staff consulted believed that if any sizeable sample was to be used for this indicator it would prohibit the collection of this dataset since the dataset would probably have to be collected by contacting document suppliers.

The datasets which are necessary were obtained from the library's automated system by the following RECALL statement:

```
SORT ACQ WITH DATE.ADDED.CONV = "[OCT 1995" AND WITH  
DATE.RECD DATE.ADDED.CONV DATE.RECD.CONV FILL.TIME BY  
FILL.TIME
```

When the result of this query was printed it produced a list of every document ordered during October. The median fill time (difference between the date the document was ordered and the date the document was received) had to be obtained manually by going through the list. If this could be automated a median fill time could be obtained for all document ordered in one year rather than just one month. The process of obtaining a median manually can be tedious and going through a whole year's orders would be prohibitive.

3.50 Median time of document processing (ISO B312A)

Although retrieval from the automated system was attempted, the datasets necessary to form this indicator were not available to collect from the library's automated system. The only method of collecting data for this indicator in Dublin City University Library (unless the automated system was customised) would be by a manual method; that is to design a form containing date fields for each step in the process and then to trace the progress of each document in the sample week. This method would lose the advantage of collecting the data retrospectively.

As part of the Dublin City University Library collection exercise the method used is described here. On completion of the exercise the method was neither satisfactory nor completely successful. As the procedure for processing a document could take

several weeks (depending on the priority status assigned to it) there was not time to test this method. This will, however, take place in order to gather reliable data over a fixed period.

Two dates were therefore necessary; the first was obtained from the Acquisitions module of the automated system. This date was the date that the documents entered the processing procedure.

All documents entering the cataloguing section during a specific week were selected from the system. This was done with a RECALL statement:

```
SELECT ACQS WITH DATE.RECD.CONV GE "06 NOV 1995" and LE "10 NOV 1995" DATE.RECD.CONV
```

The second dataset necessary was the date the document is dispatched for use but this was not available, partly due to the library system and also due to procedures in the Library. The last date available for each document is not the date the document is available for dispatch. The documents first have to be checked by subject librarians before being dispatched.

A manual method of gathering the data would be more suitable for Dublin City University Library unless the automated system could be developed to provide significant data. The manual method will be implemented in order to gather test data for use in testing the EQLIPSE prototype.

3.51 Cost per title catalogued (ISO B313A)

This indicator involved the cataloguing staff of Dublin City University Library. The sample period was one week (including Saturday). The latest draft of the ISO draft states that "Subject analysis, indexing and classification are included" whilst previously these activities had been excluded. Cataloguing staff believed that this was a more realistic definition.

Cataloguing staff believed that it was unrealistic to expect a minute-by-minute explanation of their activities while at work. These members of staff also have duties outside the cataloguing department (reference desk work, organising loan collections). It was agreed that the staff would keep worksheets designed for the sample period on which they would estimate what percentage of each hour they had spent cataloguing. This provided the data for the "Number of hours spent cataloguing" dataset.

The standard worksheets maintained by all cataloguing staff provided the datasets for the numbers and types of documents catalogued (whether original or copy (downloaded) cataloguing).

There is a monthly charge for subscription to the bibliographic service. A weekly charge was obtained from this. There is a flat standard rate for records downloaded from the bibliographic service. This rate was multiplied by the number of records downloaded (obtained from cataloguers' worksheets).

The cost per hour of labour was obtained from the Director of Library Services.

The datasets for this indicator proved problem-free to collect. The worksheets integrated well into the normal processes of the cataloguing department. Cataloguing staff felt it should be noted that they had other duties outside of cataloguing, even though the worksheets would take into account that only a certain percentage of their total time was spent cataloguing and this would be reflected in the number of documents catalogued. The disadvantage of the worksheet designed is that it may not provide sufficiently accurate results. In that case it would therefore be necessary to request that cataloguing staff provide a more detailed analysis of how much of their time is spent cataloguing.

3.52 Program/activity attendances per capita (DM E13)

Dublin City University Library does not hold specific public programmes or activities so datasets were not collected or available.

3.53 Number of staff per capita (DM B13)

The datasets forming this indicator were problem-free to collect. The "per capita" indicator was already available from previous indicators. The figure for the number of Full Time Equivalent staff was obtained from the Director of the Library Services.

3.54 Number of professional staff per capita (DM B14)

The datasets forming this indicator were problem-free to collect. The "per capita" indicator was already available from previous indicators. The figure for the number of Full Time Equivalent professional staff was obtained from the Director of the Library Services. The category of "professional staff" is easier to define in Irish universities than in some other European institutions; certain library positions require

staff to possess a qualification in library studies (be it at diploma or masters level. These positions are termed “professional positions”.

4.0 DATA COLLECTION AT UNIVERSITY OF CENTRAL LANCASHIRE

This section details the data collection exercise in the library of the University of Central Lancashire. The purpose of the exercise was to test the data collection methods (described in Section 2.0) for their reliability and practicality. Any problems were to be noted and possible sources of the datasets were to be identified.

This section describes the choice of data collection method where applicable and the issues related to implementing those methods in the library. When retrieving data from the library's automated system the statement used to interrogate the database will be included. The sequence will be according to the list of performance indicators described earlier in Table 1.

4.1 User satisfaction (ISO B1)

The dataset for this indicator was collected in accordance with the method prescribed in the draft ISO standard. A questionnaire was designed, based on the model given by the standard but also including details of form, layout and administration suggested by Nancy A. Van House *et al.* (*Measuring academic library performance: a practical approach*, Chicago; American Library Association, 1990, pp. 26 *et seq.*). A reproduction of the questionnaire appears as Appendix 3 to this report.

The questionnaire was distributed by Project staff positioned near the entrance gate of the library. Distribution sessions were deliberately undertaken at various times of day in order that representative levels of library use be included, and in an attempt to minimise the number of patrons surveyed more than once. Once the attention of the patron had been engaged, the distributor briefly described how to complete the questionnaire and encouraged the patron to place the completed form in a labelled box positioned for this purpose adjacent to the library exit gate. The exit gate attendants were asked to ensure that the response box was not mislaid or misappropriated, but there was no other disruption to normal library practice in the collection of this data.

In all, 350 questionnaires were distributed in batches of 50 during 7 sessions which took place from 9 to 15 January 1996, and 164 correctly completed forms were returned. It was decided that "correctly completed" should, for the purpose of this survey, mean the correct completion of at least question 1, as this question contained the elements required by the standard. Full answers to subsequent questions were held to be desirable, but not essential to the indicator. In fact almost all respondents submitting correctly completed forms answered questions 3 and 4 as well as 1, but a significant number of patrons addressed question 2 only sketchily or not at all.

It was found that the distribution of 50 forms took from 15 to 40 minutes, depending on the rate of incoming library users. The majority of patrons approached agreed to take a questionnaire, but many were initially reluctant. Where they expressed an opinion, those at first unwilling to participate predominantly admitted to suspicion as to how long the questionnaire would take to complete. Those who absolutely refused to participate did so without exception on the grounds that they had insufficient time.

The results of the questionnaire were calculated using the software application SPSS for Windows on the university's computing network. As Project staff were

previously unfamiliar with this application, this process took approximately 6 hours; of which 2 were accounted for by setting up the skeleton record and the remaining four by keyboarding the data.

4.2 Percentage of target population reached (ISO B21A)

The data for this indicator were collected by means of the second method prescribed by the draft ISO standard, which allows for the number of active borrowers to be utilised as the measure of active library users. The datasets required were:

Total number of active borrowers belonging to the target population
Total number of persons in the target population

The dataset for the total target population was compiled from information supplied by the university planning office. This department was able to supply accurate and up-to-date figures for total current student registrations in all modes of attendance, and total number of members of staff in all categories of employment. These statistics were then summed. Project staff were careful to ascertain that all these figures were actuals and not full-time equivalents (FTEs), as the latter data type would have misrepresented the target population as smaller than it actually is.

The dataset for active borrowers was compiled from information taken from the library's Dynix 142 automated system using the Dynix query language RECALL; a 4GL language used to interrogate the relational database which allows the preparation of natural language query expressions. The sample year examined was the most recent 12-month period available, January to December 1995. Using the command SELECT, a set was created of all patrons excluding those whose registration expired before January 1995, in order to eliminate from the calculation any patrons whose registration was inactive in the sample year. The RECALL query

```
SELECT PATRON WITH LASTUSE GREATER THAN "01 JAN 95"
```

was run against the resultant set to create a sub-set of all the unexpired borrowers who had used their registration during 1995. Caution was necessary here, as with the Dynix 142 system a patron whose last recorded use falls within the target period may not have made any loan transactions. A "last use" may merely be an examination of the patron's loan record, or the placing of a hold on a library item. Although these transactions update the last use field of a patron's record, only a loan transaction changes the use count field from 0 to a positive value. Hence, in order to obtain genuine active borrowers, another sub-set was created which satisfied the further condition that the use count for each patron must be at least 1. A transcript of the search strategy appears as Appendix 3 to this report.

This interrogation of the Dynix system was undertaken by the library's IT Systems Administrator in the absence of the Support Services Librarian and took 1 hour in total. No other encroachment on staff time was necessary.

4.3 Cost per user (ISO B21B)

The data for this indicator were collected by means of the second method prescribed by the draft ISO standard, which allows for the number of active borrowers to be utilised as the measure of active library users. The datasets required were:

Total number of active borrowers belonging to the target population
Total recurrent expenditure of the library in full financial year, expressed in the relevant currency

The dataset for the total target population was compiled as described in 4.2 above.

The dataset for the library expenditure was taken from the information supplied by the library on the statistical return for 1 August 1994 to 31 July 1995 completed annually for the Standing Conference of National and University Libraries (SCONUL). All appropriate elements of financial data were included in the total, comprising:

- Total staff expenditure
- Books and non-book material, including special collections
- Serials subscriptions
- Total expenditure on binding
- Net expenditure on interlibrary borrowing
- End-user searching
- Equipment purchase
- Equipment maintenance
- Other automated systems expenditure
- Equipment (other than automation) and furniture: purchased
- Equipment (other than automation) and furniture: leased
- Equipment (other than automation) and furniture: repair and maintenance
- Staff development
- All other, including consumables

The compilation of this dataset took approximately 30 minutes. The Quality Coordinator (Central Services) made the SCONUL document available, and no further encroachment on to staff time or disruption to normal library practice was necessary.

4.4 Library visits per capita (ISO B 21C)

The data for this indicator were collected by means of the first method prescribed by the draft ISO standard. The datasets required were:

Total number of library visits in a full year

The number of persons in the population to be served

The dataset for the total number of library visits was compiled from the records of the library exit gate count. The library exit gate has a digital counter which is activated by means of a photoelectric device. A patron leaving the library by the gate breaks a narrow light beam, which advances the counter. Daily totals are taken from the counter and entered in a register by the exit gate attendants. In preparing this dataset, Project personnel decided to take the academic year 29 September 1993 to 23 September 1994 as the sample period as, during the academic year 1994/1995, extension and refurbishment of the library building led to periods of closure at the beginning and end of the works. The rebuilding also necessitated the operation of library services from temporary accommodation which was much less attractive to users and this circumstance, combined with the periods of closure, resulted in atypically low visit statistics. The total number of visits for the sample year was calculated in approximately 30 minutes by Project staff, and no encroachment on to staff time or disruption to normal library practice was necessary.

The dataset for the number of people in the population to be served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above.

4.5 Cost per library visit (ISO B21D)

The data for this indicator were collected by means of the first method prescribed by the draft ISO standard. The datasets required were:

Total recurrent expenditure of the library in a full financial year, expressed in the relevant currency

Total number of library visits in a full year

The compilation of these datasets has already been described in 4.3 and 4.4 above, respectively.

4.6 Titles availability (ISO B22A)

The data for this indicator were collected by means of the second method prescribed by the draft ISO standard. The datasets required were:

Number of titles in stock (lending collection)
Number of available titles in stock (lending collection)

The dataset for the number of titles in stock (lending) was compiled using the Dynix 142 library management system. A RECALL query was run against the bibliographic file having the form:

```
COUNT BIB WITH T-ITYPE = "NL" OR WITH T-ITYPE = "SL"
```

This expression had the effect of combining holdings file data (ITYPES or loan categories) with bibliographic file data (titles) in order that only the number of titles would be counted and that no duplicate copies of any titles would be included in the total. NL and SL are abbreviations for normal loan and short loan; the two loan categories representing the overwhelming majority of lending stock. The query was input by the Support Services Librarian. The transaction took 3 hours to complete but required no personnel input after the initialisation.

The dataset for the number of available items in stock was made by refining the original recall query by the inclusion of status at the beginning of the expression. The second query took the form:

```
COUNT BIB WITH NO T-STATUS AND WITH T-ITYPE = "NL" OR WITH  
T-ITYPE = "SL"
```

The status field in a Dynix bibliographic record is a measure of a document's availability. A document in the library has a default value of "no status"; only when its availability is compromised does it acquire a status identifier. Hence titles of which all copies were on loan, and therefore unavailable, were excluded from this second count. The query was again input by the Support Services Librarian and allowed to be processed overnight.

4.7 Required titles availability (ISO B22B)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Number of required titles in sample
Number of available required titles in sample

The dataset for number of required titles in sample was compiled by re-using those titles gathered from users in the survey in "title search success rate" (see 4.14 below) and supplementing these with titles obtained by asking users what they were

searching for. Any titles which the library did not contain at all were disregarded. The resulting sample contained 25 titles.

The dataset for number of available required titles in sample was compiled by checking the sample titles against the catalogue to ascertain whether at least one copy of each title was available for loan.

The compilation of the sample list and checking it against the catalogue took Project staff approximately 1.25 hours. There was no encroachment on to library staff time or disruption to normal library practice.

4.8 Required titles extended availability (ISO B22C)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Number of required titles in sample

Number of required titles in sample made available

The dataset for number of titles in sample was compiled by re-using those titles gathered from users in the survey in "title search success rate" (see 4.14 below) and supplementing these with titles obtained by asking users what they were searching for. In this instance, any titles which the library did not contain at all were not disregarded. The resulting sample contained 30 titles.

The dataset for number of required titles in sample made available was compiled by checking the sample titles against the catalogue to ascertain whether at least one copy of each title was available for loan. Where a title was unavailable through loan to another user the scheduled return date was logged against the title in columns, indicating the length of time yet to elapse, headed "1 week, "2 weeks" and "1 month". Where a title was unavailable through not being in stock, the likely date of obtaining it was established in discussion with the Interloans Librarian, and similarly logged.

The compilation of the sample list and checking it against the catalogue took Project staff approximately 1.25 hours. Consultation with the Interloans Librarian took approximately 15 minutes. There was no other encroachment on to library staff time or disruption to normal library practice.

After the completion of the data collection it was the opinion of Project Staff that an indicator to measure extended availability requires a larger sample size to be valid. Consequently, the collection was repeated and was still in progress at the time of writing.

4.9 In-library use per capita (ISO B22D)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard, with one derogation (see below). The datasets required were:

- The number of in-library use of documents (during the sample period)
- The number of loans in the sample period
- The number of registered loans in a year
- The number of members of the population served

The sample period was taken to be 8 to 21 January 1996.

As regards the dataset for the number of in-library use of documents, operational difficulties hampered data collection. The library was in the process of installing an upgrade to the library management system, and backlogs of undischarged returns were creating a large shelving backlog. As a consequence, it would have added significantly to disruption to normal library practice to compile the dataset by asking users not to reshelve documents they had consulted during the sample period. Instead, Project staff decided to generate an artificial dataset by calculating 2X the number of loans per day for the same period.

The dataset for the number of loans for the sample period was compiled from the Dynix 142 library management system circulation module by means of the Report Manager utility in the circulation module. This utility contains a number of template reports, one of which prepares total loans for any given date. The first date of the sample period was input and the report executed. A "roll-over" facility in the user interface allows the system to default to the next consecutive day, and thus the second report and subsequent reports can be obtained without the necessity to input each date. The daily loan totals for the entire sample period were then summed. This dataset was compiled by the Assistant User Services Librarian, and required approximately 45 minutes to complete.

The dataset for the total number of loans was compiled from the information supplied by the library on the SCONUL annual statistical return for 1 August 1994 to 31 July 1995. The time taken to obtain this dataset was negligible.

The dataset for the number of people in the population to be served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above.

The compilation of these datasets required no other encroachment on to staff time or disruption to normal library practice.

4.10 In-house collection use (IFLA 4b)

The data for this indicator were collected by means of the method prescribed by the IFLA list of performance indicators. The datasets required were:

The datasets required were:

Number of in-house collection documents

Number of in-house collection documents used in sample period

The dataset for number of in-house collection documents was compiled by subtracting the total number of lending documents from the total number of documents in stock. The total number of lending documents was obtained from the Dynix 142 library management system; i.e. the various loanable item type counts were totalled. This took approximately 10 minutes to complete and was carried out for Project staff by the Support Services Librarian. The total number of documents in stock was obtained from the SCONUL annual statistical return as described in 4.16 below.

The dataset of the number of in-house collection documents used in sample period proved somewhat problematic. The library has two main collections of in-house documents: the reference centre and the periodicals collection. Both these collections are housed close to each other, but with few study spaces nearby. Observation in the library indicates that students tend not to take general reference sources to a study space, but to consult them at the shelf before replacing them. Indeed, the IFLA document warns of this very difficulty. Furthermore, observation also indicates that students tend to take journals away to all parts of the library, and do not necessarily consult them at the closest study spaces. On the assumption that, were sampling to be carried out, counts would be taken at regular intervals, Project staff decided to synthesise a table of plausible data which could be used for test purposes.

4.11 Document use rate (ISO B22E)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Number of documents in the sample

Number of documents in the sample in use

The dataset for the number of documents in the sample was compiled by extracting from the expert checklists described in 4.10 below a representative sample of those items which were known to be in stock in the library. This amounted to 310 documents.

The number of documents in the sample in use was compiled by checking the above list against the catalogue and logging those on loan. Any document in the sample which was held by the library in multiple copies, with at least one available, was deemed to be not in use.

The compilation of these datasets took Project staff one full working day (7.25 hours) on 12 January 1996 but resulted in no encroachment on to library staff time or disruption to normal library practice.

4.12 Proportion of documents on loan (DM F86)

The data for this indicator were prepared by means of the method prescribed in the De Montfort University *Library performance indicators and library management models* toolkit document. The datasets required were:

Number of documents currently on loan
Number of documents in loan collection

The dataset for the number of documents currently on loan was compiled by means of the Dynix 142 library management system. The circulation module contains a snapshot statistics facility which provides for statistical reports on circulation at any given instant using a predetermined template called CIRC.OUT. The snapshot report was initialised by the Assistant User Services Librarian and allowed to run overnight.

The dataset for the total number of documents in loan collection was compiled from the Dynix 142 library management system: the various loanable item type counts were totalled. This dataset took approximately 10 minutes to complete and was prepared for Project staff by the Support Services Librarian.

4.13 Percentage of required titles in stock (ISO B22F)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Total number of required titles in the sample
Number of required titles owned by the library (in the sample)

The dataset for number of required titles in sample was compiled by re-using those titles gathered from users in the survey in "title search success rate" (see 4.14 below) and supplementing these with titles obtained by asking users what they were searching for. Any titles which the library did not contain at all were disregarded. The resulting sample contained 25 titles.

The dataset for the number of required titles owned by the library (in the sample) was compiled by checking the sample titles against the catalogue to ascertain whether the title was owned by the library.

The compilation of the sample list and checking it against the catalogue took Project staff approximately 1.25 hours. There was no encroachment on to library staff time or disruption to normal library practice.

4.14 Title search success rate (ISO B22G)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

The number of titles found by the users in the catalogue

The number of titles searched for by the users that are actually registered in the catalogue

Users at the catalogue terminals were asked if they intended to search for known titles. Those so intending were asked to participate in the data collection and most agreed to participate. Each user was then handed an A5 questionnaire slip which asked them to give brief bibliographical details of the titles they were searching for and to indicate which of these they found in the catalogue. A reproduction of the questionnaire slip use for this data collection appears as Appendix 3 to this report.

In collecting this data, it was originally intended to allow users to complete the slips unassisted, and to ask them to place the completed slips in a box near the library exit gate. However, the response rate was so low after the first distribution session that it was decided that project staff should remain with the users during their search and complete the slips on their behalf from the information they supplied.

In total, 18 completed slips were collected from users during three 15 minute distribution sessions on 19 and 22 January 1996. This data collection resulted in no encroachment on to staff time, but did necessitate in certain amount of disruption to library practice, as users had to be asked to participate and to have the procedure explained to them at catalogue terminals which were frequently busy and in heavy demand.

Although this observation has no bearing on the data collection, project staff were interested to note that users interviewed for this and for 4.15 below were often not able to distinguish between the terms "title search" and "subject search". Unobtrusive observation of their behaviour at the catalogue terminal prior to approach often showed the choice of the title option from the main screen for the input of subject terms, and the choice of the subject option for the input of known titles. Consequently, Project staff were frequently able to begin data collection

interviews by offering assistance in the correct use of the catalogue, and as a result found users more willing to participate thereafter.

4.15 Subject search success rate (ISO B22H)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

The number of titles matching the user's subjects found by the user

The number of titles matching the user's subject that are actually indexed in the catalogue

Users at the catalogue terminals were asked if they were conducting subject searches. Those so intending were asked to participate in the data collection. Most users thus approached agreed to participate. Each user was then handed an A5 questionnaire slip which asked them to give brief details of the subjects they were searching for, the subject terms they had input, which of these had yielded relevant hits and how many relevant hits were obtained. A reproduction of the questionnaire slip use for this data collection appears as Appendix 3 to this report.

In collecting this data, it was originally intended to allow users to complete the slips unassisted, and to ask them to place the completed slips in a box near the library exit gate. However, the response rate was so low after the first distribution session that it was decided that project staff should remain with the users during their search and complete the slips on their behalf from the information they supplied.

In total, 18 completed slips were collected from users during three 15 minute distribution sessions on 19 and 22 January 1996. This data collection resulted in no encroachment on to staff time, but did necessitate in certain amount of disruption to library practice, as users had to be asked to participate and to have the procedure explained to them, at catalogue terminals which were frequently busy and in heavy demand.

As noted in 4.14 above, Project staff observed that users were often not able to distinguish between the terms "title search" and "subject search". Consequently, Project staff were frequently able to begin data collection interviews by offering assistance in the correct use of the catalogue, and as a result found users more willing to participate thereafter.

4.16 Number of documents in stock per capita

This indicator was compiled from the following datasets:

Number of members of the population served
Number of documents in stock

The dataset for the number of people in the population to be served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above.

The dataset for the number of documents in stock was compiled from the information supplied by the library on the SCONUL annual statistical return for 1 August 1994 to 31 July 1995. All appropriate elements of collection data were included in the total, comprising:

- Special collections, specialist interest, catalogued
- Special collections, general interest uncatalogued
- Total catalogued book stock except special collections
- Number of cine films, tapes, etc. in stock

The compilation of this dataset took approximately 5 minutes.

4.17 Documents added to stock per year per capita (DM F61)

This indicator was compiled from the following datasets:

Number of members of population served
Number of documents added to stock

The dataset for the number of people in the population to be served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above.

The dataset for the number of documents in stock was compiled from the information supplied by the library on the SCONUL annual statistical return for 1 August 1994 to 31 July 1995. All appropriate elements of acquisition data were included in the total, comprising:

- Number of books and pamphlets added to stock
- Number of periodical volumes (bound or unbound) added to stock
- Number of cine films, tapes, etc. added to stock
- Number of slides and illustrations added to stock

The compilation of this dataset took approximately 5 minutes.

4.18 No. of documents published after ... (year) ... in stock (DM F72)

The data for this indicator were collected by means of the method prescribed by the IFLA list of performance indicators. The datasets required were:

Total number of documents in stock

Publication year of documents (in bands e.g. 0-5 years old, 6-10, 11-15 etc.)

The dataset for the total number of documents in stock was compiled as described in 4.16 above.

The dataset for the publication year of documents was compiled by means of a RECALL query on the Dynix 142 library management system. The following query was run against the bibliographic file:

```
COUNT HOLDINGS WITH BARCODE = "3010700]" AND WITH T-  
PUB.DATE > "1996" AND WITH T-PUB.DATE <"1987"
```

In the above expression, the element "barcode = 3010700" represents the barcode prefix common to all documents added to stock.

The same query was then run four further times, with the date ranges:

>1982 and <1986

>1977 and < 1981

>1971 and < 1976

<1970

This data collection was carried out by the Support Services Librarian, and took approximately 40 minutes. There was no other encroachment on to library staff time or disruption to normal library practice.

4.19 No. of documents acquired after ... (year) ... in stock (DM F72)

The data for this indicator were collected by means of the method prescribed by the IFLA list of performance indicators. The datasets required were:

Total number of documents in stock

Acquisition year of documents (in bands e.g. 0-5 years old, 6-10, 11-15 etc.)

The dataset for the total number of documents in stock was compiled as described in 4.16 above.

The dataset for the acquisition year of documents proved very problematic. The Support Services Librarian was unable to determine what attribute of the acquisitions record in the Dynix 142 library management system contains the "date received information", and so it became apparent that this dataset could not be compiled from the Dynix system. This situation was further complicated by the circumstance that the University of Central Lancashire has only been running Dynix since December 1992, and no "date received" information had been mapped across from the previous system for stock acquired prior to that date. As a consequence it was decided to take acquisition statistics from the Support Services worksheets. These show documents added to stock for each calendar month, and appropriate statistics can be acquired by summing the monthly totals for a year. However, it should be noted that, even by this method, the dataset will remain incomplete as the worksheets are only available back to February 1991.

4.20 Expert checklist - A (IFLA 3)

The data for this indicator were collected by means of the method prescribed by the IFLA list of performance indicators. The datasets required were:

Number of recommended titles

Number of recommended titles in the library

The dataset for number of recommended titles was compiled by the gathering of a selection of course reading lists, prepared by tutors, from the Subject Librarians. The disciplines covered by the lists were:

- hospitality management accounting
- the meaning and nature of history
- Britain in the 1930s
- computing studies
- organisational studies

The dataset for the number of recommended titles in the library was obtained by checking each of the items on the lists against the catalogue by Project staff. This process took approximately 10 hours, but resulted in no other encroachment on to staff time or disruption to normal library practice.

4.21 Median time of document retrieval from closed stacks (ISO B221A)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The dataset required was:

Time taken for document to be retrieved from closed stacks

A list was prepared by Project staff of 7 documents contained in the restricted loan collection. This is the only significant closed stack in the library and is situated immediately adjacent to the issue desk. The documents contained in the list were chosen for their known presence on the shelf at the time of testing, and for their even physical distribution throughout the collection. Project staff requested these items from counter assistants in 7 separate tests during 19 and 30 January 1996, and each retrieval was carefully timed. All documents were retrieved very quickly because of the physical proximity of the collection to the personnel retrieving the requests, and their familiarity with its arrangement.

The counter staff realised they were being timed, but did not express any objection. The collection of the dataset did represent a small disruption to normal library practice, in that some of the tests were deliberately conducted at busy times and this occupied a measure of staff resource during periods of peak demand.

4.22 Median time of document retrieval from open stacks (ISO B221B)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The dataset required was:

Time taken for document to be retrieved from open stacks

A list was prepared by Project staff of 25 documents in the various open-access collection of the library. The documents in the list were chosen to represent all physical areas of the library, and contained a small number of deliberately chosen items, such as journals shelved out of normal sequence and obscure oversize documents, which, it was thought, would prove difficult to retrieve quickly. Prior to the data collection it was established that all the selected documents were in place on the shelves.

A library school placement student kindly agreed to act as tester for this dataset. This was of benefit to the Project, such a tester knew the collection well enough for this purpose (but not too well for statistical accuracy) and could be expected to conduct reliable timings.

Testing was carried out in two sessions during the afternoons of 18 and 19 February. All documents except one were retrieved in timings which reflected the relative difficulty of their location. The single unretrieved document was the most poorly signed of all, and the tester failed to find it altogether. There was no disruption to normal library practice.

4.23 Misshelving (DM F93)

The data for this indicator were prepared by means of the method prescribed in the De Montfort University *Library performance indicators and library management models* toolkit document. The datasets required were:

Number of documents checked for misshelving
Number of documents misshelved

Three areas of open access stock were chosen for data collection: sections of management, English literature and bound periodicals. Established patterns of library use showed that these areas were heavily used, lightly used and moderately used respectively. The sample sizes varied according to how much material had been borrowed or returned between sessions but was approximately:

Management	660
English literature	740
Bound periodicals	1830

Data collection took place in 6 sessions totalling 1.5 hours during 10 and 11 January 1996, immediately after shelving had been completed. All areas showed a very low incidence of misshelving, except in one instance where the management sample was checked immediately following a period of heavy use. Even in this single case it was clearly obvious from the nature of the misshelving that it had been caused by users rather than staff: stock remaining undisturbed showed virtually no misshelving.

This data collection resulted in no disturbance to normal library practice or encroachment on to staff time.

4.24 Collection turnover (ISO B222A)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Number of loans in the specified collection (in the sample period e.g. 1 year)
Total number of documents in the specified collection (i.e. loanable documents)

The dataset for the total number of loans in one year was compiled as described in 4.9 above.

The dataset for the total number of loanable documents was compiled as described in 4.12 above.

4.25 Loans per capita (ISO B222B)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

The total number of loans in a year
The number of members of population served

The dataset for the number of loans in a year was compiled as described in 4.9 above.

The dataset for the number of members of population served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above.

4.26 Documents on loan per capita (ISO B222C)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Number of documents currently on loan
Number of persons (i.e. number of members of population served)

The dataset for the number of current loans was compiled as described in 4.12 above.

The dataset for the number of members of population served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above.

4.27 Cost per loan (ISO B222D)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Total recurrent expenditure of the library in full financial year, expressed in the relevant currency

The total number of loans in a year

The compilation of these datasets has already been described in 4.3 and 4.9 above, respectively.

4.28 Loans per member of staff (ISO B222E)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

The total number of loans in a year

Number of professional library staff

Number of non professional library staff

The dataset for the number of loans in a year was compiled as described in 4.9 above.

The datasets for staff numbers were also compiled from the SCONUL annual statistical return for 31 August 1994 to 1 July 1995. All appropriate elements of staffing data were included in the total, comprising:

Number of academic related posts

Number of other professional posts

Number of library assistants

Number of secretarial staff

The datasets took approximately 15 minutes to collect and necessitate no disruption to normal library practice or encroachment on to staff time.

4.29 Active borrowers per capita (DM D12)

The data for this indicator were prepared by means of the method prescribed in the De Montfort University *Library performance indicators and library management models* toolkit document. The datasets required were:

Number of active borrowers

Number of members of population served

The datasets were collected as described in 4.2 above (percentage of target population reached), and as the second ISO method was used for this earlier indicator the outcomes of this and the current indicators are identical.

4.30 Lending collection use (IFLA 4a)

The data for this indicator were collected by means of the method prescribed by the IFLA list of performance indicators. The datasets required were:

Number of documents in lending collection
Number of loans in one year

As these datasets, and the expression of their relation to each other, are identical to those used in 4.24 (*collection turnover*) the outcome of both these indicators are identical.

4.31 Percent of stock not used within a certain period of time (IFLA 4c)

The data for this indicator were collected by means of the method prescribed by the IFLA list of performance indicators. The datasets required were:

Number of documents in lending collection
Number of lending documents unissued in the last five years

The dataset for number of documents in lending collection was compiled as described in 4.12 above.

The dataset for number of lending documents unissued in the last five years. Was compiled by means of the Dynix 142 library management system. The Report Manager in the circulation module contains a template called LASTCIRC which examines the last date at which a document was circulated. This template was used in the RECALL query:

```
COUNT HOLDINGS WITH ITYPE ="NL" OR WITH ITYPE = "SL" AND  
WITH LASTCIRC < 01 JAN 91
```

NL and SL in the above expression are abbreviations for normal loan and short loan; the two loan categories representing the overwhelming majority of lending stock

4.32 In-library use per document in stock (DM F85)

The data for this indicator were prepared by means of the method prescribed in the De Montfort University *Library performance indicators and library management models* toolkit document. The datasets required were:

Number of documents in stock

Number of in-library use of documents (during the sample period)

The dataset for the total number of documents in stock was compiled as described in 4.16 above.

The dataset for the number of in-library use of documents (during the sample period) and the difficulties attendant on its compilation is described in 4.9 above.

The datasets can only be used to formulate the indicator with some caution. Number of documents in stock is a global dataset, while in-library use is only a sample. It is necessary to extrapolate an annual total from the sample before the indicator can be formulated.

4.33 Documents delivered per capita (EAL P3.3)

The data for this indicator were collected by means of the "basket formula" prescribed by *The effective academic library* with one derogation (see below). The data sets required were:

Number of members of population served

Number of loans (in one year)

Number of in-library use of documents

Number of interlibrary loans (in one year)

Number of photocopies made (divided by 10)

The division of the total number of photocopies by 10 is suggested by the formula as a rough method of calculating the number of complete documents represented by a given number of single sheets of photocopy. There was one derogation from the formula: the Project team determined to omit the dataset 'number of electronic documents delivered' as there is currently no method by which the use of the appropriate library resources (such as CD-ROMs) can be measured. However, it

is recognised that a complete corpus of data will be necessary fully to test the EQLIPSE system prototype, and so consideration will be given to the compilation of these data during the next phase of the Project from an appropriate partner which did not take part in this initial data collection exercise.

The dataset for the number of members of the population served was compiled as described in 4.2 above.

The dataset for the number of loans in one year was compiled as described in 4.9 above.

The dataset for the number of in-library use of documents and the difficulties attendant on its compilation are described in 4.9 above. As with 4.32, this dataset is only a sample: an annual total must be extrapolated from it before the indicator can be formulated.

The dataset for the number of inter-library loans was compiled from the SCONUL annual statistical return for 31 August 1994 to 1 July 1995.

The dataset for the number of photocopies made was compiled from the records kept by the User Services Librarian of the weekly photocopy counts for the period 1 August 1994 to 31 July 1995. All the public access photocopiers in the library have display the running total of copies made. Readings are taken from each machine at the end of each week, and the net figures for copies made by each machine are summed and recorded.

The compilation of these datasets resulted in no other disruption to normal library practice or encroachment on staff time.

4.34 Proportion of interlibrary loans to total loans (DM H22)

The data for this indicator were prepared by means of the method prescribed in the De Montfort University *Library performance indicators and library management models* toolkit document. The datasets required were:

Total number of loans (in one year)

Total number of interlibrary loans (in one year)

These datasets were compiled as described in 4.9 and 4.33 above, respectively. The compilation of these datasets resulted in no other disruption to normal library practice or encroachment on staff time.

4.35 Interlibrary loans per capita (DM H23)

The data for this indicator were prepared by means of the method prescribed in the De Montfort University *Library performance indicators and library management models* toolkit document. The datasets required were:

Number of members of population served
Number of interlibrary loans (in one year)

The dataset for the number of people in the population to be served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above. The dataset for the number of interlibrary loans was compiled as described in 4.33 above.

4.36 Speed of interlibrary lending (ISO B223A)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Date of receiving request from a user
Date of receiving document from an internal source
Date of ordering document from an external source (optional)
Date of notifying the user (optional)

These datasets were compiled by analysing the record of the library's computerised Lancaster interlibrary loan system for all the requests submitted in a specimen period of a week. The week chosen was 6 to 10 November in which there were a total of 446 requests. Of these, full data were available for 407; and all but the last dataset could be compiled from the system's records. The optional dataset of date of notifying the user was collected from manual records, as this date is stamped on the original loan request form when the user is notified.

The data were collected in 4 sessions together totalling 4 hours during 8 to 10 January 1996. The collection of the data did represent considerable encroachment on to staff time and disruption to normal library practice. The exercise necessitated a detailed consultation with the Interloans Librarian at the start of the data collection, and also occupied, for research rather than operational purposes, a heavily-used Lancaster terminal for the duration of the data collection.

4.37 Speed of document delivery from another site or service point (DM F98)

The data sets required for this indicator are:

Date document is requested from other sites
Date document is ordered from other sites

Date document is received from other sites

Date user is notified from other sites

The definition of this indicator in the De Montfort University toolkit document makes it clear that it relates to "...material belonging to the organisation but not immediately available at the site where the request is made". In academic library terms this may be taken to relate to either split site libraries, or those having physically separate reserve stacks or special collections. The University of Central Lancashire does not meet any of these criteria, and so Project staff determined that the constituent datasets could not be collected by this partner. However, it is recognised that a complete corpus of data will be necessary fully to test the EQLIPSE system prototype, and so consideration will be given to the compilation of these data during the next phase of the Project from an appropriate partner which did not take part in this initial data collection exercise.

4.38 Reference transactions per capita (DM G12, OMPL p66)

The data for this indicator were prepared by means of the method prescribed in the De Montfort University *Library performance indicators and library management models* toolkit document. The datasets required were:

Number of members of population served

Number of reference transactions (in one year)

The dataset for the number of members of population to be served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above.

The dataset for the number of reference transactions in one year proved somewhat difficult to compile. The library calculates reference transactions by means of six sampling weeks, distributed throughout the academic year, in which statistics are recorded. An average of these samples is taken, and entered in the SCONUL statistical return. In order to obtain a representative annual figure, the two appropriate SCONUL statistics:

Number of short enquiries handled in sample week

Number of long enquiries handled in sample week

were summed and multiplied by 35 (the number of semester weeks in one academic year). For the remaining 16 vacation weeks (the library is closed completely in the Christmas week) when both users and enquiry desk availability are severely reduced, it was decided to take a nominal figure of 25% of the original sample week figure. This was multiplied by 16 and added to the semester week total. Finally, the annual number of mediated on-line searches (recorded in the SCONUL return) was also added.

The manipulation of the reference enquiry statistics took approximately 20 minutes of Project staff time, but otherwise this indicator required no further encroachment on to library staff time or disruption to normal library practice.

4.39 Correct answer fill rate (ISO B23A)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Number of enquiries handled

Number of enquiries correctly answered

The dataset for number of enquiries handled was compiled by means of a set of 30 reference questions, combining generally applicable queries (e.g. "What is Bill Clinton's email address") and enquiries specific to the library being assessed (e.g. "Where are the past exam papers"). A complete list of the questions used appears as Appendix 3 to this report.

These questions were put to enquiry staff, unobtrusively, by a library school placement student who kindly agreed to act as a surrogate for Project staff in the collection of the data for "number of enquiries correctly answered". The enquiries were made in 9 sessions from 19 to 25 January 1996.

Care was taken that all three enquiry desks be used evenly, and queries put to all personnel staffing them. It should be noted that enquiry desks are staffed by a combination of Academic Services personnel, for whom enquiry work is a major part of their duties, and by personnel from other library departments. As each query was completed, records were made by the surrogate of the date and time of the enquiry, the time taken to complete it, the sources used and the answer given.

Encroachment on to library staff time was limited to the diversion of professional expertise to test enquiries at times of high user demand, but this data collection proved time-consuming for project staff. The data collection surrogate was limited to placing 3 enquiries in any one session, in order that each desk be evenly covered and that all desk personnel be involved in the exercise. If a test session was conducted immediately following an enquiry desk change of shift, a delay of up to two hours resulted before it could continue.

4.40 Information skills instruction per capita (EAL P3.5)

The data for this indicator were collected by means of the rubric in *The effective academic library*. The datasets required were:

Number of members of population served
Number of users receiving library training

The dataset for the number of members of population to be served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above.

The dataset for the number of users receiving library training was compiled from the SCONUL annual statistical return for 31 August 1994 to 1 July 1995, as is recommended by the source document. Care was taken to include only statistics relating to post-induction instruction in information handling skills.

Data collection for this indicator resulted in no encroachment on to library staff time or disruption to normal library practice.

4.41 Remote uses of the library per capita (DM E12)

The datasets required for this indicator are:

Number of members of population served
Number of remote uses of the library

As regards the second dataset, it was recognised by Project staff that the University of Central Lancashire currently has no method of measuring remote uses of the library such as, for example, remote uses of the OPAC from networked PCs other than those in the library. Project staff therefore determined that this constituent dataset could not be collected and that University of Central Lancashire could not contribute data for this indicator. However, it is recognised that a complete corpus of data will be necessary fully to test the EQLIPSE system prototype, and so consideration will be given to the compilation of these data during the next phase of the Project from an appropriate partner which did not take part in this initial data collection exercise.

4.42 Facilities availability (ISO B261A)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Number of facilities provided in the library
Number of available facilities

The dataset set for the number of facilities provided in the library was compiled by listing all categories of equipment and the numbers of each. The complete list of facilities examined in this data collection took one hour to compile and comprises:

- OPAC terminals
- Networked PCs
- Video players
- TV monitors
- Overhead projectors
- Slide projectors
- Photocopiers
- Fiche readers
- Fiche reader/printers
- Microfilm reader/printers
- On-line terminals with printer
- Drawing boards
- Light tables
- CD-ROM terminals
- Talking newspaper terminals
- Teletext monitor

The dataset for the available facilities was compiled by 5 sessions conducted at various times of the day between 11 to 15 January 1996. Each piece of equipment was examined to establish that it was functioning correctly, and was therefore available in accordance with the definition laid down in the standard.

The initial list took Project staff approximately 45 minutes to prepare, and each subsequent count took 20 minutes. There was no disruption to normal library practice or encroachment on to library staff time.

4.43 Facilities use rate (ISO B261B)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

- Number of available facilities
- Number of facilities in use

The dataset for the number of available facilities was compiled as described in 4.42 above.

The dataset for the number of facilities in use was compiled by five use counts conducted simultaneously with the availability counts.

4.44 Seat occupancy rate (ISO B262A)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Number of seats in library
Number of occupied seats

The dataset for the number of seats in library was compiled by a seat count conducted on 4 January 1996. Care was taken to exclude those seats intended specifically for users of library equipment, and to include all those intended for reading or study.

The dataset for the number of occupied seats was compiled by an occupancy count conducted on four occasions at various times of day during 18 and 19 January 1996. In keeping with the method laid down by the standard, a seat was counted as occupied if the books or personal effects of the occupant were visible in the occupant's absence. Each count took Project staff approximately 20 minutes. There was no disruption of normal library practice or encroachment on to library staff time.

4.45 Opening hours compared to demand (IFLA 2)

The data for this indicator were collected by means of the method prescribed by the IFLA list of performance indicators. The datasets required were:

Number of hours the library is open
Opening hours specified by users

The dataset for the number of hours the library is open was compiled from the published library guide.

The dataset for the opening hours specified by users was compiled by a survey of library users. The specimen questionnaire provided by the IFLA list was taken as a model, and Project staff surveyed 200 library users in survey sessions conducted from morning to evening during 25 January 1996. In order to obtain usable data quickly it was decided to survey library users in person, and record their responses at once, rather than ask them to return a questionnaire. A reproduction of the questionnaire used appears as Appendix 3 to this report. It should be noted that this survey related to users' satisfaction with semester hours only, although some respondents (many of them part-time students) did request extensions to vacation opening hours.

Respondents were approached as they entered the library, in bookstacks, at study tables, at the OPAC terminals, and on the staircases. Very few refused to participate in the survey.

4.46 Library floor area per capita (DM C11, EAL P5.3)

The data for this indicator were prepared by means of the method prescribed in the De Montfort University *Library performance indicators and library management models* toolkit document. The datasets required were:

Number of members of population served
Library floor area

The dataset for the number of people in the population to be served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above.

The dataset for the library floor area was compiled from the SCONUL annual statistical return for 31 August 1994 to 1 July 1995.

4.47 Number of items of equipment in the library per capita (DM J22)

The data for this indicator were prepared by means of the method prescribed in the De Montfort University *Library performance indicators and library management models* toolkit document. The datasets required were:

Number of members of population served
Number of items of equipment in the library

The dataset for the number of people in the population to be served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above. The dataset for the number of items of equipment on the library was compiled as described in 4.42 above, as it was held to be synonymous with "number of facilities provided in the library".

4.48 Automated systems availability (ISO B263A)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Number of hours of scheduled uptime (library opening hours)
Number of hours the automated system is not available in one year

The dataset for the number of hours of scheduled uptime was compiled by ascertaining a complete set of library opening times for one year and calculating the total number of hours open.

The dataset for the number of hours the automated system is not available proved slightly problematic. Exact records are not kept by Support Services of unscheduled downtime. Instead the library has set the target that down time shall be no more than 1% of total hours open in any one year, and the library is at least known to meet this target. the dataset was therefore compiled as a value less or equal to 1% of the above dataset.

4.49 Median time of document acquisition (ISO B311A)

The data for this indicator were collected by means of the second method prescribed by the draft ISO standard. The datasets required were:

Actual date of publication of document
Date of ordering document
Date of receiving document

The compilation of these datasets proved problematic, as the acquisitions department did not hold all the information required in a single set of records. The method eventually adopted was that the Acquisitions Librarian took a record of all items paid for during the sample month of March 1995. From this list all payments for non-book items such as periodical subscriptions, non-title invoices etc. were eliminated, leaving a total sample of 282 named book purchases. (The actual date of publication was not available to Project staff and will have to be added subsequently from other sources). For each purchase the date ordered and the date received were compiled from an examination of the original Request For Purchase (RFP) forms and the annotations made to them on receipt of the books.

This data collection took the Acquisitions Librarians one entire working day of 7.25 hours.

4.50 Median time of document processing (ISO B312A)

It was attempted to collect the data for this indicator by means of the method prescribed by the draft ISO standard, although not all datasets were either appropriate to the library or available. The datasets required were:

Date of receiving document
Date of cataloguing document
Date of subject cataloguing of document
Date of bindery preparation of document
Date of binding of document
Date of shelving of document

The compilation of these datasets proved very problematic. It should be noted at the outset that the library does not ordinarily bind incoming new material, and so for this site the two binding datasets were disregarded. The compilation of the dataset for the date of receipt is discussed in 4.49 above, and it was originally intended to use the Dynix system to draw a sample of documents by date of cataloguing (as cataloguing and subject cataloguing are done simultaneously) and add the remaining datasets (both before and after this date) for each item. However, it was discovered that the Dynix system maintains no date of cataloguing, and the manual records kept by Support Services include only the date received. As a document moves through the various process, no updating is made to this date received until the document is finally checked for shelving; and this final check results only in a month/year date in the title page verso process stamp. After this position had become clear, Project staff had insufficient time to log the dates of the various processes on slips, as recommended in the standard, for a large enough sample before the completion of this report.

The data collection will now be conducted by the "slip" method described above, in time for inclusion in the EQLIPSE prototype.

4.51 Cost per title catalogued (ISO B313A)

The data for this indicator were collected by means of the method prescribed by the draft ISO standard. The datasets required were:

Payment for catalogue record required
Subscription to body providing records
Salaries of appropriate staff
Staff time spent on original cataloguing
Staff time spent on downloading or amending records
Number of titles catalogued

The dataset for payment for catalogued record required was not compiled as the library is not charged by its supplier for each record imported (see next dataset).

The dataset for subscription to body providing records was compiled from the annual fee paid to British Library for the *British National Bibliography* on CD-ROM. This is a one-off annual subscription which carries no extra cost for records downloaded.

The dataset for salaries of appropriate staff was compiled from the current pay scales of the University.

The datasets for staff time spent on original cataloguing and on downloading or amending records were compiled as there is no differentiation between these activities in the Support Services section. The combined dataset was compiled from the hours in a full working week, minus the appropriate deductions for leave, staff development, duties in other departments etc. and multiplied by the three available staff.

The dataset for number of titles catalogued was compiled from the Support Services worksheets.

An advantage was discovered in compiling the datasets as described above in that these methods allowed for great flexibility in the sample period. The total hours represented by the combined staff time dataset was converted to a number of staff FTE figure, and this constant could be applied to any period covered by the worksheets (providing the salaries dataset was similarly divided).

The datasets were compiled by Project staff in consultation with the Support Services Librarian. This consultation represented an encroachment on to staff time of approximately 1 hour, but there was no other disruption to normal library practice.

4.52 Program/activity attendances per capita (DM E13, OMPL p71)

The datasets required for this indicator are:

Number of members of population served
Number of users attending library programs

As regards the second dataset, it was recognised by Project staff that the University of Central Lancashire does not have library programs of the appropriate type. *Output measure for public libraries* (Nancy A. Van House *et al.* *Output measures for public libraries: a manual of standardized procedures*, 2nd. ed.

Chicago; American Library Association, 1987) makes it clear that the indicator as a whole is aimed at public libraries and indicates that "Book talks, tours and film programs at the library are all examples of library programs" (p. 72). Project staff therefore determined that this constituent dataset could not be collected and that University of Central Lancashire could not contribute data for this indicator. However, it is recognised that a complete corpus of data will be necessary fully to test the EQLIPSE system prototype, and so consideration will be given to the compilation of these data during the next phase of the Project from an appropriate partner which did not take part in this initial data collection exercise.

4.53 Number of staff per capita (DM B13)

The data for this indicator were prepared by means of the method prescribed in the De Montfort University *Library performance indicators and library management models* toolkit document. The datasets required were:

Number of members of population served
Number of professional staff
Number of non-professional staff

The dataset for the number of people in the population to be served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above. The datasets for the numbers of staff were compiled as described in 4.28 above.

4.54 Number of professional staff per capita (DM B14)

The data for this indicator were prepared by means of the method prescribed in the De Montfort University *Library performance indicators and library management models* toolkit document. The datasets required were:

Number of members of population served
Number of professional staff

The dataset for the number of people in the population to be served was calculated in the same way as that for the dataset for the total target population as described in 4.2 above. The dataset for the number of professional staff was compiled as described in 4.28 above.

5.0 CONCLUSION

5.1 Test sites Dublin City University Library and the University of Central Lancashire Library

As a result of testing the data collection methods in the two libraries, several points have emerged and these are described here.

5.1.1 Redundant Indicators

The original list of indicators proposed numbered fifty-four indicators for which EQLIPSE researchers in Dublin City University and University of Central Lancashire attempted to collect the necessary datasets. As a result of the exercise two indicators can now be removed from the list:

- 29. Active Borrowers per Capita (DM D12)
- 30. Lending Collection Use (IFLA 4A)

29. Active Borrowers per Capita (DM D12) is already covered by “ 2. Percentage of target population reached (ISO B21A)” except it relates to a whole year. The ISO indicator serves the same purpose for which only the time scale needs to be adjusted to give the same result.

30. Lending Collection Use (IFLA 4A) differs from Collection Turnover (ISO B222A) only in that it excludes renewals. The ISO indicator serves the same purpose.

5.1.2 Additional datasets

Two additional indicators need to be added to the original list of 71. These datasets comprise “24. Collection Turnover (ISO B222A):

- 72. Number of registered loans in specified collection
- 73. Number of documents in specified collection

5.1.3 Optional datasets

Several datasets comprising the list of indicators are not essential to the formation of those indicators. For example, “50. Median time of Document Processing” could contain several datasets if the library concerned wished to collect data for each stage of the process. The crucial datasets, however, are the first and last of the entire process.

Similarly, the first dataset of “49. Median time of Document Acquisition” could be the Actual Date of Publication of Document if that dataset would provide useful information to the indicator. It is not compulsory, therefore, to collect data for all those datasets in Table 2 in order to form the indicators listed in Table 1.

5.1.4 Timescale

For many indicators the datasets are collected over a sample period. This period of sampling is the decision of the librarian or those responsible for the collection. It is not possible to list all of those datasets. For example, the dataset “15. No of loans” which appears in indicators 25, 27, 28, 30, 33 and 34 could be

No. of loans (for the past year)

No. of loans (over the sample period, e.g. two weeks).

5.2 Sampling

As with the time period the size of the sample for the indicators will be the decision of those responsible for the data collection. There is no golden rule for choosing the size of a sample; to a large extent the size of the sample will depend on the margin of variance which the data collectors are prepared to accept.

To obtain a representative sample of the user population it would first be necessary to decide what level of detail would be needed in the responses. This “stratification” of the user groups (or any target group of data) is explained in most textbooks on sampling. Two of the most common types of sampling are briefly described here:

Simple random sampling.

With this method, every unit of the population is identified by a number. The sample is chosen from this group of numbers by using random number selection. Choosing these random numbers could be by selecting numbers from a hat but more common is the use of random number tables. These tables are often included in statistical textbooks. Using these tables properly guarantees a random selection of the population.

Systematic sampling

As before every unit of the population is identified by a number. The sample size is related to the population size (the sample interval). This ratio is rounded to the nearest integer. A random number is chosen between one and the sample interval. For example, if the sample interval is thirty and the random number is seven, then the numbers chosen are 7, 37, 67, 97 etc. until the sample size is reached.

If the entire user group is to be sampled it follows that if one user group represents twenty per cent of the total group, then that group should also form twenty per cent of the sample.

Actual library users might not of course reflect the total population and if a sample is to be done in house it is possible to carry out the exercise at sample times. This will at least help to target those users who can only use the library at specific times, perhaps in the evening or at weekends.

5.3 Unavailable datasets

Dublin City University Library was unavailable to collect some or all of the datasets for the following indicators, with explanations as to why:

- 9. In-library use per capita / 32. In-library use per document in stock
This has been fully explained in section 3.9. It was not possible or practical to get a reliable measure for the in-library use of lending material.
- 21. Median time of document delivery from closed stacks
Dublin City University Library does not have any closed stacks.
- 37. Speed of document delivery from another site or service point
Dublin City University does not have any branch libraries or separate service points.
- 41. Remote uses of the library per capita
The current system setup of Dublin City University Library does not provide the access or use logs necessary to form this indicator. This has been further explained in section 3.41.
- 52. Program/activity attendances per capita
Dublin City University Library does not host specific programs or activities which could be included in this indicator.

University of Central Lancashire Library was unable to collect the datasets for two indicators as they were not appropriate to the library (these are further explained in sections 4.37 and 4.41):

- 37. Speed of document delivery from another site or service point

41. Remote uses of the library per capita

Like Dublin City University Library, University of Central Lancashire library was also unable to retrieve datasets for “50. Median time of document processing” from the automated system and would therefore have to gather the data manually. At the time of writing this is being implemented.

5.4 Problematic indicators

The measure of the in-library use of documents proved problematic in both test sites but for different reasons. Operational difficulties at the University of Central Lancashire Library at the time of data collection would have made the process too disruptive to normal library practice. At Dublin City University Library it was considered too time consuming to devise and especially to implement a mechanism for collecting a measure of the in-library use of lending material.

Other indicators proved problematic but for different reasons such as the time necessary to collect the necessary datasets or that the automated system did not generate the required data.

5.5 Retrieval from the automated system

In the Dublin City University Library collection exercise the automated system was used to retrieve at least one of the datasets comprising twenty-nine of the indicators. In the University of Central Lancashire the system was used for seventeen indicators. In both sites, however, it was the use of the system’s catalogue which provided the data by a manual search (as in indicators 7, 8, 14, 15).

In both sites the indicator “50. Median Time of Document Processing” proved impossible to retrieve from the automated system. This is one of the indicators which would most benefit the staff collecting the data if it were available from the system. Each document has at least two datasets and the possibility of many more, if this dataset were automated it would enable the data collectors to collect data for a far longer period than by a manual method. It would also enable to a greater extent the ability to “drill down” through the indicator, that is to examine each stage in the processing department to see where, if any, delays are occurring in the procedure.

Disappointingly, one of the potentially most interesting indicators was not possible to form in both test sites. “41. Remote uses of the library” requires functions of the library servers which at present neither site’s server possesses. Future stages of the project involves testing the EQLIPSE prototype at six test sites and the possibility of gathering data in those sites for this indicator will be investigated.

5.6 Volunteers and Users

In a large scale exercise such as those carried out in the two test sites many users will be approached by library staff. The extent of this contact could range from a single answer to a data collector's question to asking the user to participate in testing the effectiveness of the library's reference service which will require a considerable amount of their time.

In Dublin City University Library's collection exercise 350 users were asked to contribute to some extent to the data collection (the majority of these were involved in completing the user survey). Of these approximately 75 users had to spend more than the estimated five minutes needed to answer the questionnaire.

The University of Central Lancashire data collection exercise involved the participation of approximately 600 users, from among full-time students, part-time students and staff. The vast majority of these users were approached in the course of the two major surveys conducted during data collection; those for the user satisfaction survey and the opening hours survey. However, of all the users approached personally for contribution to the data collection, no single participation lasted longer than 10 minutes.

The effort expended in getting users to contribute more than just a few minutes of their time should not be under-estimated. If the users perceive the time needed as being lengthy (whether the data collectors consider it to be is irrelevant) they will be reluctant to contribute. Neither should users be badgered into participating.

5.7 Staff involvement

The EQLIPSE researchers in both test sites carried out most of the work involved in collecting the data.

In Dublin City University Library staff which were consulted or actually contributed to the data collection included the Director, sub-librarians, subject librarians, cataloguing staff, acquisitions staff, issue desk staff, inter-library lending staff and periodicals staff. Management Information Systems personnel had to be continually consulted throughout the process and her expertise on the regular statistics gathering in the library and knowledge of the Dynix library system was essential. Other university staff also contributed to the data collection. Some completed the user surveys while others submitted expert checklists.

In UCLan's library the Project Co-ordinator and (from January 1996) the Project Research Assistant carried out the data collection in close liaison with library staff. It was necessary to consult with library personnel in all sections and at all levels, but involvement with some key postholders predominated. Project staff found it necessary to work closely with the Support Services Librarian for any datasets which required interrogation of the Dynix system cataloguing modules, or the IT Systems Administrator in his absence. Interrogation of the circulation module was carried out largely by the Assistant User Services Librarian.

The Acquisitions Librarian (Support Services) was required to make a heavy and time-consuming contribution to 4.49, and the Quality Co-ordinator (Central Services) provided much essential guidance in the use of the data contained in the SCONUL annual statistical return.

Other University staff involved in the data collection outside the library include the University's planning office who contributed data on the numbers of students and staff. It was unnecessary to approach teaching staff directly for reading lists for the expert checklist indicator (4.20), as Subject Librarians (Academic Services) already had a number of suitable lists. These were supplemented by the co-opting of lists into EQLIPSE which had already been supplied to CERLIM for another ongoing Libraries Programme project (SESAM).

5.8 Overall time in collecting data

It is very difficult to estimate the amount of time spent in collecting the datasets described in this report. For both test sites this was the first collecting exercise for many of the data described. Work began on integrating the necessary procedures in both test sites in November and the data was collected in January. The amount of staff time in total is also difficult to estimate as several members of staff were affected. Suffice to say that Dublin City University Library had the EQLIPSE researcher working full time on the collection exercise. University of Central Lancashire Library had the EQLIPSE researcher full time and also a research assistant during the latter part of the collecting period which reflects the fact that it is a larger institution which would normally entail larger sample sizes and consequently more time needed for data collection, collation and analysis.

Much of the preparation work involved determining the statements needed to interrogate each sites' automated systems. It was also during the preparation that unforeseen circumstances arose, for example that not all documents were registered on the system and therefore had to be counted manually and also that the automated system did not generate the data it was assumed it did generate (as in the Speed of Processing Documents).

If the exercises were to be carried out on a regular basis much of the necessary preparation would already be implemented; the survey and sampling forms would already have been designed, the RECALL statements would have been determined, some datasets may not change at all (library floor area, number of seats etc.) and many staff would already be aware of the processes they would be asked to follow. It is probably impossible to state how long the collection exercise would take if it were run regularly but a very rough approximation could be a three week period. This would allow for the necessary sampling periods and for the data collation. This figure could differ dramatically, however, in institutions of different sizes which would require larger sample sizes.

Experience of Project staff at the University of Central Lancashire suggests that a regular collection period would not be less than one month - and this estimate assumes the immediate and full co-operation of all required library staff, and the freedom to conduct whatever collection procedures are necessary without notice. It is unlikely that Project staff

will eventually have spent less than two months on data collection only. It should also be considered that this length of time represents two months in total spread out over a much longer period.

5.9 Summary

The data collection exercises in the libraries of Dublin City University and the University of Central Lancashire were carried out over a two/three week period in January 1996. Both test sites collected data for all those indicators (applicable to those libraries) which are proposed as a core set of indicator for inclusion in the EQLIPSE system. Descriptions of the data collection in each test site are included and any problems are detailed. The data generated by the collection exercise will be made available for the next stage of the project in which the prototype EQLIPSE software will be tested in two live environments.

6.0 Glossary

This section contain definitions of the key terms which are used throughout this report.

Accessibility: The ease of reaching and using a service or facility.

Active borrowers: The number of people who have had an item issued to them by the library during the last year.

Availability: The degree to which materials, facilities or services are actually provided by the library at the time required by users.

Capital expenditure: Money spent on the purchase of equipment and furniture, and the construction or refurbishment of buildings.

Document: Recorded information which can be treated as a unit in a documentation process regardless of its physical form and characteristics. (*from ISO 2789*).

Documents delivered: Loans + In-library consultations + Inter-library loans + Photocopies made (/10) during a sample period.

Effectiveness: A measure of the degree to which given objectives are realised. An activity is effective if it maximises the results it was set up to produce.

Efficiency: A measure of the utilisation of resources to realise a given objective. An activity is efficient if it minimises the use of resources, or produces better performance with the same resources.

Employee: Use Staff (preferred term).

Equipment: OPAC terminals, PCs, photocopiers, audio-visual equipment, language laboratories.

Evaluation: The process of estimating the value, importance, or benefit of a service or facility.

Facilities: Equipment, study places etc. provided for library users. Examples of facilities are photocopiers, on-line terminals, CD-ROM, workstations, seats for reading and study carrels.

Goal: A desired state of affairs to be achieved by the implementation of agreed policies.

Indicator: An expression (which may be numeric, symbolic or verbal) used to characterise activities (events, objects, persons) both in quantitative and qualitative terms in order to assess the value of the items characterised.

In-house collection: Stock reserved for in-house use only.

In-library use: Usage of documents within the library.

Item: use Document.

Library: Organisation, or part of an organisation, the main aim of which is to maintain a collection of documents and to facilitate, by the services of a staff, the use of such documents as are required to meet the informational, research, educational or recreational needs of its users. [adapted from ISO 2789] Note 3: These are only minimum requirements for a library and do not exclude any additional documents and services. [ISO 2789] Note 4: The documents (materials) may be of the traditional type, i.e. available as physical objects, or accessible in their electronic forms. Libraries may also extend their services to include making available materials outside their own collection.

Library floor area: The floor area occupied by library services (DM) Includes balance space.

Loan: Delivery of a document to be used for a defined period of time (ISO 2789)

Note: All registered loans for use, interlibrary loans, renewals included.

Material: Use Document.

Mission: Statement of an organisation's choices for the provision and development of services and products.

Objective: A specific target for an activity to be attained as a contribution to achieving the goal of an organisation.

Opening hours: The average number of hours a library is open to the public from Monday to Sunday.

Performance: The effectiveness of the provision of services by the library and the efficiency of the allocation and use of resources in providing services.

Performance indicator: A numerical or verbal expression (derived from library statistics and other data) used to characterise the performance of a library.

Population: The total of entities from which a sample is drawn (statistical term).

Population to be served: The individuals for whom the library is set up to provide its services and materials.

Professional staff: ISO: Full-time equivalent positions filled by professional librarians (under the budgetary forecast of the last fiscal year).

Quality: The totality of features and characteristics of a product or service that bear on the library's ability to satisfy stated or implied needs (ISO 8402).

Recurrent expenditure: Money spent on staff, and on resources which are used and replaced regularly. Note 6: Value added and other local taxes should be included.

Reference transactions: "An information contact that involves the knowledge, use, recommendations, interpretation or instruction in the use of one or more information sources by a member of the library staff" (*from the PROLIB study citing a definition by the Integrated Postsecondary Education Data System in the USA*).

Reliability: The degree to which a measure repeatedly and consistently produces the same result.

Resources: Assets of the library including staff, materials, equipment, space, etc.

Seats: May include: Seats in seminar rooms or group study rooms, informal seats with no table or workspace, seats at tables, but without equipment.

Staff: The number of full-time equivalent employees, calculated based on the hours worked. The number of hours worked is the total number of hours worked for all positions attributed to the library under the budgetary forecast of the previous fiscal year.

Stock: The total number of documents within the library.

Target population: Groups of actual and potential users appropriate to an individual library as the object of a specific service or as the primary users of specific materials.

Title: Word or phrase, usually appearing on a document, by which it is convenient to refer to it, which may be used to identify it, and which often (although not invariably) distinguishes it from another document (ISO 2789). Note 7: For measuring purposes "title" describes a document which forms a separate item with a distinctive title, whether issued in one or

several physical units, and disregarding the number of copies of the document held by the library.

User: Recipient of library services.

Validity: The degree to which an indicator actually measures what it is intended to measure.

Visit: A visit is the act of entering the library premises in order to use one of the services provided by the library.

7.0 Bibliography

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PROLIB/PI

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December 1994

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