

An Evaluation of Cost-Effectiveness of Micro Computerized Documentation System/Integrated Set of Information System (CDS/ISIS) Software of Raw Materials Research and Development Council (RMRDC), Abuja

By
J. K. ALHASSAN* and G. AQU**

Abstract

The cost implication of the use of the micro Computerized Documentation System/Integrated Set of Information System (CDS/ISIS) application software in the library and its effectiveness in performance operations was evaluated to determine the cost-effectiveness. The study population was made up of all the staff involved in the computerization and cataloguing operations of the library. A questionnaire was used to collect data, while percentage and table were used to present the data. The study revealed that the use of CDS/ISIS is more cost effective at the library of Raw Material Research and Development Council, (RMRDC) Abuja because it is given to non-profit making organizations free of charge by UNESCO. When compared with the manual system, the computerized system costs more but it is more effective. In spite of the effectiveness of Computerized (CDS/ISIS) had great potentials as a library application. It is recommended that computer appreciations be included in the curriculum of library schools. Library staff that are using CDS/ISIS should be sent on training and retraining especially at advanced level on how to effectively use CDS/ISIS which will enable them fully understand how to apply (CDS/ISIS) to the functions and management of libraries and its information source, and to serve their clientele better. Since (CDS/ISIS) is not supplied with support services like training and maintenance of the software, users should form a functional user groups in their respective state. The user groups can provide relevant training on the use of CDS/ISIS

Introduction

A computer is a device that receives, processes, and presents data. It is a collection of electronic devices that is able to accept data in a prescribed form process the data and supply the result of the processing in a specified format as information. The computer has a lot to offer to library and librarians in the process of information management and dissemination. A library collects information in all formats, organize the information, store them, retrieve and disseminates the information to people that need them. In order to perform those functions effectively, librarians have already organized information into structured databases. For example, information is grouped according to subject, author, file and so on. Other databases that exist in the library are on circulation, catalogue, acquisition, enquiries/reports, patronage and so on. The existence of such structured databases makes it possible for library operations to be easily automated and one of the areas of application of computer to library operations fall into the area of database management. A database management system is designed to perform functions such as creation of file, adding records, searching through a file for the existence of a record and generating reports using records from different but related files. Computers on their own are useless without programmes (software) that enable users to instruct them on what to do such a computer

instruction is made possible with the software. Software is a programme that is understood by operating system which converts instructions from a programming language to machine language. Software exists for various types of operations include those for library operations. They include X - LIB, and TINLIB and CDS/ISIS which have been developed for bibliographic information.

Literature Review

The Raw Materials Research and Development Council (RMRDC) were established by Decree No. 39 of 1987. It was inaugurated on February 10, 1988. The Council was established to support and expedite industrial development and self-reliance through the utilization of local raw materials. The Federal Ministry of Science and Technology (1990) gives specific mandates of the council as embodied in Decree 39 (1987).

Ubogu (1999) traced the history of COS/ISIS back to 1965 when it was first developed by the International Labour Office (ILO), Geneva and was used for IBM's DOS. It was made available to a variety of interested organizations within the ILO member states. It was referred to (ISIS) it underwent modifications in 1973 and 1978. The final version is known as CDS/ISIS. It was taken over by UNESCO in 1985. UNESCO again modified and produced the mini/micro version of CDS/ISIS. The second version was later released

with some enhancements.

Library automation is the use of mechanical or electronic devices to carry out operations which had been done manually before in the library. Imo (2004) agrees with Shaw and Culkin that automation is "the introduction of mechanized operations to library services to levels that one could identify the status of an item in a collection through a computer query and could generate appropriate notices, reports and statistics regarding the use of that collection". According to Zakari (2005), computerization of library operations has "enormous potentials and capacity to accommodate increasing workload arising from the need to control and access large numbers of documents". He added that operations which have been greatly influenced by the application of computer and other information technologies are acquisitions, cataloguing, circulation, serials management, open access catalogue, and interlibrary loan, management, and community services. Automation facilitates meeting clientele's needs effectively and efficiently with speed and accuracy. Oshabiyi (1990) traced the use of computers in developed countries back to the early 1950s, and concluded that in the United States of America, the computer has virtually taken over most of the traditional routine duties of libraries. They have progressed in their computerization and are into the use of CD-ROM technology, networking and the Internet, World-Wide-Web (WWW) and hypertext.

Another development in information and computer technology is the electronic mail (e-mail). Glausiusz (1990) looked at the impact that it had made an information services. He categorized E-mail services into two: either an in-house system residing in an internal computer system, which is most likely to be used by large organizations, or in the more innovative way for information dissemination and also for the receipt of requests from users. E-mail made an impact on information services as it made communication among people faster and more efficient.

Objectives of the Study

The main objective of the study is to evaluate the cost-effectiveness of the micro CDS/ISIS applications and compare the cost of other library software to see if CDS/ISIS is cheaper to implement using the library of the RMRDC, Abuja as a case study. Other specific objectives

are to:

- a. create awareness about the existence and potentials of the software to libraries which are not able to acquire off the shelf library Application packages.
- b. Determine the cost implications of acquiring hardware and other peripherals for use with the micro CDS/ISIS software.
- c. Find out the effectiveness of the software in carrying out the cataloguing, acquisitions, circulations, serial, indexing and abstracting library operations.

Methodology

This study used the case study research methods since it is concerned with the in depth study of an entity or organizations and the instrument of data collection was questionnaire. The population of the study is the staff of RMRDC Abuja Data collected was analyzed using the simple descriptive statistic which includes frequency table and percentages.

Data Analysis and Discussion

It is evident that CDS/ISIS is being used for some years in the organization because 100% of the workers testified for its existence and use for a long period of time. All the respondents at RMRDC indicated that COS/ISIS can be used for cataloguing, circulation, serials and acquisition operations. The library used COS/ISIS to computerize their cataloguing operations only. The reason given for this RMRDC library is that being a special library the other operations are very small and are handled efficiently manually, so the need to computerize them has not arisen.

CDS/ISIS is a software that the users do not derive support services such as training and maintenance from the producers or distributors. It was discovered the users of the software obtain training form course attendance organized by the Nigerian Library Association or private individuals. The respondent from RMRDC library was trained at the RMRDC by the computer unit which organizes courses on various software packages both for its staff and for members of the public.

Table 1: Attributes of CDS/ISIS

| Option | Frequency | Percent (%) |
|--|-----------|-------------|
| Comprehensive in coverage of cataloguing functions and activities. | 20 | 100.0 |
| Permits quick information retrieval. | 19 | 95.0 |
| Easy to design and create new databases. | 20 | 100.0 |
| Allows for inter - library co-operation. | 15 | 75.0 |
| Easy to edit. | 19 | 95.0 |
| Easy to modify fields. | 20 | 100.0 |
| Easy to search. | 20 | 100.0 |

From table 1 above, all respondents from the library indicated that it is easy to edit and modify fields in the COS/ISIS software. Most (100%) of the respondents at the RMROC library found it easy to design and create new data bases. All the respondents at the RMRDC library indicated that CDS/ISIS does not allow for total inter - library cooperation. This may be because the respondents might not think that inter-library cooperation could come in form of donations, gifts and exchanges and training.

Table 2: Capabilities of CDS/ISIS in Searching, Display and Printing Search Results

| Option | Frequency | Percentage (%) |
|---|-----------|----------------|
| Simple searching by typing in search term | 20 | 100.0 |
| Truncation. | 19 | 95.0 |
| Logical operations. | 19 | 59.0 |
| Availability) of various display print formats. | 20 | 100.0 |
| Saving and recall of search strategy. | 20 | 100.0 |
| Display of index on screen. | 16 | 80.0 |

The ability to retrieve information from a database through the use of various search strategies is one of the objectives and good qualities of a library computerization project. All the respondents from the library indicated that

searches can be made through any of the search strategies listed in the above table. These use of search terms either supplied by the searchers or taken from the terms dictionary, truncations (looking for a number of word or terms starting with the same letters) and logical operators (combination of two or more terms in a search). All the respondents from the library revealed that they can display search results in various formats and can also print them. CDS/ISIS is also capable of displaying the index to a database on the screen.

CDS/ISIS is not a turnkey system. It requires a user to design and create data bases to meet the specific needs of any library. This allows for flexibility in the design of any database. However the design and creation of a database using CDS/ISIS can be difficult and time consuming to users who have not mastered the steps of database creation as contained in the accompanying manual. It is inadequate in providing guidance for database creation to all respondents at the RMROC.

Obtaining search results from a database in CDS/ISIS does not take a long time. The respondents from RMRDC library obtain results after typing in their search queries. The respondents 50% specified that results are displayed in less than twenty (20) seconds. CDS/ISIS has been programmed in such a way that a user can gain access only after giving the correct database name. The respondents accepted that, it has been discovered that CDS/ISIS can be accessed by different users at different offices/terminals that are connected under network regime. The library received its current version of CDS/ISIS from the distributing agent in Nigeria, the IITA Ibadan.

It has been discovered that using CDS/ISIS software, 65% of input error messages were generated and logic was not experienced. The CDS/ISIS software automatically back up on the hard disk.

Table 3: Kind of Storage Media Used For the Back up

| Options | Frequency | Percent (%) |
|-------------|-----------|-------------|
| Diskettes | 8 | 40 |
| CD - ROMS | 20 | 100 |
| Flash Disks | 20 | 100 |
| Hard disk | 20 | 100 |

From the table 3 above the number of respondents that uses diskettes was 40%, CD – ROM users war 100%, flask Disks were 100% and hard 100%

Table 4: Decision to Either Change or Retain CDS/ISIS and the Software Preferred

| Options | Frequency | Percent(%) |
|-----------|-----------|------------|
| X-LIB | 8 | 40 |
| TINLIB | 20 | 100 |
| No change | 20 | 100 |
| Total | 20 | 100 |

From table 16 above, respondents were requested to indicate their preferences by writing down the names of the software they prefer. Half of the respondent (50%) at the RMRDC library prefer either the x-LIB or TINLIB library application software package while the other 50% did not want any change but would prefer to continue using the CDS/ISIS

Findings

By and large, it has been discovered that:

1. CDS/ISIS was chosen because it is distributed - of -charge on request and libraries can update the
2. the CDS/ISIS has great potentials as a library application software for Raw Material Research and Development Council library; some users however still face difficulty in database creation.
3. The Raw Material Research and Development Council library has found CIJS/ISIS effective in the management of their information
4. The CDS/ISIS provides variety of strategies through which users can search.
5. The Raw Material Research and Development Council library library was able to establish inter-library cooperation with other libraries through the use of CDS/ISIS.

Suggestions

It is suggested that libraries that cannot afford to acquire software that are expensive can request for CDS/ISIS once they can afford to acquire the hardware that are required for using it. Libraries which are already using CDS/ISIS and those intending to use it could request for the new versions so as to update their software and enable them benefit from the new developments.

The study revealed that training and experience are very important to the effective use of CD/ISIS. It is thus suggested that computer appreciation be included in the curriculum of library schools. Library Staff using CDS/ISIS should be sent on training and retraining especially at advance level of CDS/ISIS to enable them to fully understand how to apply CDS/ISIS to the functions and management of their library. Since CDS/ISIS is not supplied with support services like training and maintenance of the software, users should form a functional user groups to provide relevant training on the use of CDS/ISIS amongst them. In addition, users should maintain close relationship with other users of CDS/ISIS so as to help each other when they face any problem on the application software to library operations.

References

- Awogbami, P.A. (1995). CD - ROM Technology: Hardware, software and its application in libraries: paper presented at the NUC workshop on CD-ROM Technology held at University of Ibadan, Ibadan on 22-27 October.
- Fitton, R. (1999). CD - ROM into the 21st century. *Information Management and Technology: The Journal of CIMTECH*, Vol.30 (4) July PP 172
- Glausiusz, J.A (1990). Some Aspect of electronic Mail on Information Services. *Journal of Information Science*, V 01. 6 (4) December PP 172-173.
- Imo, N.T. (2004): Problems and prospects of the Application of Information Technology in University Libraries in Nigeria PPI0.
- Oshabiyi, M.B. (1990). An Evaluation Study of the Automation project.
- Ubogu, F.N. (1999). Development of a computer - based Library and Information System *Nigerian library and Information Science Review*, Vol. 7 (2) November, PP. 50-53.
- Zakari, M. (2005). Automating Nigerian University Libraries: System Expectations papers presented at the NUC workshop on the use and Application of CD-ROM and TINLIB Automation Software of University Libraries at University of Ibadan, Ibadan, 22-27 October.