



The Electronic Library

CD-MARC bibliographic databases as an alternative to other information sources: cataloguers' evaluation of the use of LC CD-MARC at Kenneth Dike Library, University of Ibadan, Nigeria

Ayoku A. Ojedokun

Article information:

To cite this document:

Ayoku A. Ojedokun, (1996), "CD-MARC bibliographic databases as an alternative to other information sources: cataloguers' evaluation of the use of LC CD-MARC at Kenneth Dike Library, University of Ibadan, Nigeria", The Electronic Library, Vol. 14 Iss 3 pp. 215 - 220

Permanent link to this document:

<http://dx.doi.org/10.1108/eb045470>

Downloaded on: 27 June 2016, At: 07:13 (PT)

References: this document contains references to 0 other documents.

To copy this document: permissions@emeraldinsight.com

The fulltext of this document has been downloaded 13 times since 2006*



Access to this document was granted through an Emerald subscription provided by emerald-srm:108061 []

For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.

CD-MARC bibliographic databases as an alternative to other information sources: cataloguers' evaluation of the use of LC CD-MARC at Kenneth Dike Library, University of Ibadan, Nigeria

Ayoku A. Ojedokun

Kenneth Dike Library, University of Ibadan, Ibadan, Nigeria

Abstract: *The Library of Congress (LC) compact disc machine-readable catalogue (CD-MARC) was recently acquired by the Kenneth Dike Library, University of Ibadan. Its use by the cataloguing librarians was evaluated in terms of efficiency (effect on cataloguing time) and effectiveness (effect on monthly output) when compared with using other information sources such as microfiches, cataloguing-in-publication (CIP) data and printed sources — LC subject headings, LC National Union Catalogue, LC monographic series, etc. The positive influence of the new technology was evident as there were reductions in cataloguing time and increases in monthly output of items catalogued.*

1. Introduction

Cataloguing and classification are systematic ways of organising library collections. They entail the description and arrangement of books such that the books are associated together on library shelves according to the topics and subjects which the cover, and in the manner that is most useful to library users.

Over time, different classification schemes have evolved to cater for a clear and precise arrangement of library collections. These include the Bliss Bibliographical, the Library of Congress, the Universal Decimal and the Dewey Decimal. Each of these schemes has features which make it suitable for use in specific libraries, be

they special, public or research libraries.

Most university libraries in Nigeria have adopted one or the other of the schemes mentioned above in the cataloguing and classification of their collections. The Kenneth Dike Main Library (KDL) of the University of Ibadan, the setting for the present study, arranges most of its books and periodicals (with the exception of certain special collections) according to two classification schemes — the Bliss Bibliographical Classification Scheme (up till December 1974) and the Library of Congress classification scheme (since January 1975). The library itself was established in 1948, at the same time the University of Ibadan

(formerly University College, Ibadan) was established.

2. The library

The library contains approximately 400 000 volumes, and received over 6000 volumes, separate journals and other serials as of 1989 (University of Ibadan 1989).

As well as the LC classification scheme, the library uses other tools for arranging its books and periodicals: these include catalogue cards, LC National Union Catalogue (NUC), LC subject headings, LC monographic series, LC subject catalogues, shelf list catalogue, special location shelf list catalogue (for books, special collections and non-book materials) and LC author number table.

The library's workforce (including branch libraries) comprises 21 librarians with Masters degrees in either Librarianship or Information Science, or a higher qualification; 15 library officers with a Diploma Certificate in Librarianship; and about 123 other non-professionals. Of the 21 librarians, five are full-time cataloguers. They catalogue the collections of KDL and the branch libraries, with the exception of the Medical and Law libraries.

Up till the middle of 1992, the only technology available to the cataloguers in their cataloguing operations was the microfiche. There were four microfiche readers. In June 1992, the library acquired a new technology — the Library of Congress CD-MARC (compact disc machine-readable catalogue) bibliographic databases — as part of an on-going effort at automating the library's cataloguing, acquisitions, circulation and serials control operations. However, its active use only began in 1993.

The LC CD-MARC (or simply LC-MARC) bibliographic databases are CDROM products, the advantages of

which have been widely reported in the literature (BOSTID 1989).

3. Perception of CDROM by users

Quite a number of organisations have seen opportunities in the new technologies that are now available at reasonable cost: microcomputers; modems; CDROM; and the associated software by which electronic information can be edited, stored and manipulated, and transmitted locally and internationally.

CDROM has been identified particularly in several publications as a relatively cheap technology so far as hardware and discs are concerned (BOSTID 1989). It provides a cost-effective means of access to a vast range of databases, requiring only a microcomputer, a CDROM player and a printer. It thus overcomes the constraints of an inadequate telecommunication infrastructure and the high costs of obtaining online information where such an infrastructure is available. It is also possible to create information files locally by downloading records to a computer file from a much larger database held on CDROM. For example, it is possible to create a local library catalogue by selecting the relevant data from one or more CDROM databases and copying it onto a floppy disk. This catalogue can then also be put on CDROM, thus combining the library's catalogue with other bibliographic databases and making access to the local catalogue available to a wide public. In totality, therefore, CDROM offers a form of storage and retrieval which is durable, rapid, accurate, and easy to maintain and use, combined with a high capacity, all at a reasonable cost.

Some of the above advantages of CDROM were confirmed as the reasons for the choice by the Technical Centre for Agricultural and Rural Cooperation (CTA), The Netherlands, of CDROM technology as a medium for disseminating agricultural information. Others are: its ability to hold several databases, with a storage capacity equivalent to more than 1000 computer floppy disks; its advantages over books in the humid tropics, as CDs do not wear out and are not attacked by insects or fungi; its advantages over floppy disks, as there is no risk of information loss through dust, magnetic fields or power cuts; its offer of many possibilities in the forms of data retrieval available; and finally, as a complete package of information, hardware and software can be installed even in the most remote rural areas.

The technology has also been seen as promising by African information specialists. They agreed unanimously that this technology will substantially improve the provision of low cost information in Africa, and it has thus been introduced into

“CDROM offers a form of storage and retrieval which is durable, rapid, accurate, and easy to maintain and use”

a number of countries — Malawi, Senegal, Zimbabwe, Sudan, Cameroon, Kenya, Mali and Zambia (BOSTID 1989). Compton (1993) also confirmed its great potentiality for African scientists and scholars.

Nigerian information professionals are not left out in the realisation of the opportunities which CDROM can offer. Studies have shown an enthusiastic embracing of the use of CDROM. Scientists surveyed commented on how fast and easy the system was to use. They also found no need to speed up searches to cut costs, as is often the case with an online system (Awogbami 1992a, 1992b). In fact, quite a number of institutions in Nigeria today have had CDROM installed and functioning successfully. Aside from the externally funded institutions like the International Institute of Tropical Agriculture (IITA) Library and Documentation Centre, and the British Council Library, CDROM systems have been installed in the following organisations: the E. Latunde Odeku Medical Library at UCH, Ibadan; Ladoke Akintola University of Technology Library in Ogbomoso; and the University of Ibadan, Kenneth Dike Library, among others.

While some of these use CDROM for database searching only, others also use it to create local library catalogues.

4. Objective of the study

The manual cataloguing of the library collections in KDL has not been very easy. The numerous problems encountered range from difficulty in acquiring current issues of microfiches and printed sources, especially the addition of and changes to the LC classification schedules; the need to move around conducting searches in the printed sources available (which is often boring); and the frustrating result of not getting the needed information after a lot of time has been spent on just one item. The latter also usually results in an embarrassingly huge backlog of uncatalogued items. This means that many items remain inaccessible to the users for as long as it takes for original cataloguing to be carried out. Overall, these problems result in a low level of monthly output of catalogued items.

The objective of the study was therefore to find out how effective and efficient is the use of the LC-MARC bibliographic databases in terms of cataloguing time of an item and monthly output, particularly at a time (early 1993) when the library had just taken delivery of a large volume of books under a World Bank Book Project. Many more books are expected over the next five years. Before this time, however, acquisition of materials had been very low due to lack of funding. What came in was usually through gifts and exchanges, and occasional local purchases.

5. Cataloguing workflow

The cataloguing operation usually includes pre-cataloguing searching, preparation and editing of cataloguing records, and the addition and maintenance of bibliographic holdings and authority records.

As sources of cataloguing information, KDL uses microfiches and printed sources — LC subject headings, NUC subject catalogues and so forth; and, recently, locally mounted LC-MARC. As materials are received, they are checked in by the acquisitions section. The materials are then sent to the cataloguing section for processing after a bar-coded accession number label is affixed to each item.

Using any of the sources, a monograph is searched by a cataloguer's preferred access point: for example author, title, series title or subject heading.

Using LC-MARC, if a matching record is found, it is downloaded onto a diskette and then later merged with the library's database maintained in TINLIB. TINLIB is a library management and document retrieval system which consists of the following integrated modules: Catalogue and Retrieval; Circulation Control; Monograph Acquisitions; Serials Management; Interlibrary Loans, Data Formatting, Transfer and Communications; and Report Generator. The system is menu-driven with extensive use of function keys to invoke particular tasks. Editing (where necessary) is later carried out by a data entry clerk in line with information on the Monograph Data Input Form, which is completed by cataloguers. The Form contains holdings and location information, and so forth, that is also added to the record. The item on which the call-mark has been written is then sent for physical processing, where the pasting of the call-mark label and book pockets is carried out. Borrower slips are also generated manually and inserted into the book pockets at this stage. The author/title card is generated online. After marking, the item is forwarded to the circulation control department for shelving.

Items for which no LC-MARC record or cataloguing-in-publication (CIP) data are found, and also for which no record is found in the printed sources or the microfiche, are flagged for original cataloguing. Here the cataloguer prepares the bibliographic description, establishes subject headings and verifies subject analysis and classification.

However, where a record is found for the item either in CIP, the printed sources or the microfiches, the Monograph Data Input Form is completed for such an item: the record is merged with the library's database maintained in TINLIB by the data entry clerks and edited by the cataloguers. The item is then sent for physical processing as described above.

6. Methodology

Measurements, data collection, interviews and assumption approaches were used in determining the efficiency and the

Table 1: *Cataloguing time in minutes.*

<i>Cataloguers</i>	<i>CIP</i>	<i>Microfiche</i>	<i>Printed sources</i>	<i>Printed sources (original cataloguing)</i>	<i>CD-MARC</i>	<i>CD-MARC (original cataloguing)</i>
1st	13	14	24	24	8	21
2nd	10	15	20	123	6	80
3rd	8	17	22	62	10	185
4th	7	10	19	70	8	60
5th	12	9	21	420	9	40
Total	50	65	106	699	41	386
Av. minutes used per item	10	13	21.5	139.8	8	77.2

effectiveness of the use of LC CD-MARC compared to the printed sources, the microfiches and the CIP data.

Five cataloguers were involved: two with backgrounds in the sciences, one in the social sciences, one in the arts and one in education.

The measurements were carried out over a period of one week in a normal relaxed atmosphere. Six different book items on individual subject backgrounds were randomly catalogued by each cataloguer using information from the following tools: the printed sources (comprising the LC subject headings, LC subject catalogue, LC National Union Catalogue, LC monographic series, shelf list catalogue, special location shelf list catalogue and LC author number table), CIP data, microfiches and the CD-MARC bibliographic database. The cataloguers had however earlier been trained in how to navigate the MARC databases, using the menu and the search operators, when conducting searches on the computer.

The cataloguer's operation ends when the monograph data input form is finally submitted for further manual processes (e.g. typing of call-mark or book label, etc.) before which the call-mark must have been written (with pencil) on the item catalogued. The time spent in cataloguing each of these items was taken by each cataloguer. For each tool (specified above) used, the average number of minutes used by all five cataloguers was calculated and is shown in Table 1.

Having calculated the average minutes used, it was assumed that a cataloguer would work for at least five hours out of the eight hours of work per day. Using this parameter, the number of items that can be catalogued with each of the specified tools, one at a time (original cataloguing inclusive), was calculated and is shown in Table 2.

When the measurements were concluded, each cataloguer was interviewed to elicit information on the preferred tool, based on ease of use (technical operation in the case of computer) and ease of access to information. The outcome of this is discussed later in this paper.

In order to study the effectiveness of each of the tools, statistics of monthly output of catalogued items over a period of four academic sessions (1990/91–1993/94) were collated

Table 2: *Expected number of items that could be catalogued per day, assuming five hours of work.*

Information sources	Average minutes used	Expected no. of items per day
CIP	10	30
Microfiche	13	23
Printed sources	21.5	14
Printed sources (original cataloguing)	139.8	2
CD-MARC	8	38
CD-MARC (original cataloguing)	77.2	4

from the monthly cataloguing data file as kept by the library officer in charge. Two of the sessions were before the LC CD-MARC was acquired. This is shown in Table 3.

7. Data analysis

Table 1 shows rows of minutes used per item per information source for each cataloguing operation carried out by each cataloguer (1st, 2nd, 3rd, 4th, 5th). Average of the minutes used by all the five cataloguers for each cataloguing operation using the specified tools was calculated and appears in the last row of the table. It was found that fewer minutes (eight minutes) were used when the cataloguing information was found in the CD-MARC compared to those used with information from CIP (10 minutes); the microfiches (13 minutes); printed sources (21.5 minutes); CD-MARC during original cataloguing (77.2 minutes); and the printed sources during original cataloguing (139.8 minutes), in that order.

The implication of this is that cataloguing is fastest with the use of the CD-MARC bibliographic databases, when information sought is available in the databases acquired. When the information sought is not available, however, you are

quickly able to decide to fall back on the use of other available sources, such as microfiches or printed sources.

Table 2 shows the expected number of items that can be catalogued per day, assuming five hours of work out of the eight work hours available per day. When a cataloguer is fortunate enough to locate information (consistently in a day) in the CD-MARC databases, he or she will be able to catalogue 38 items. Similarly, if a cataloguer decides to catalogue items having CIP data only in a particular day, he or she will be able to catalogue 30 items. Using the microfiches and the printed sources, it will be 23 and 14 items respectively. However, if the cataloguer decides, for a particular day, to carry out original cataloguing using

either the CD-MARC databases or the printed sources, he or she will be able to catalogue four and two items respectively. The implication here again is that you have an increased output of catalogued items using the CD-MARC bibliographic databases in your cataloguing operations, particularly when you subscribe to the updates of the databases regularly. This will eventually lead to increased monthly output of catalogued items, showing that the use of the CD-MARC bibliographic databases is far more effective when compared to the use of the microfiches and the printed sources.

Table 3 shows the monthly output for four academic sessions (1990/91–1993/94), two of which were before the acquisition of the CD-MARC technology. It was noted that there was increased output right from late 1993, when the active use of the CD-MARC began. The middle part of 1993 and 1994 were interrupted by a strike of the Academic Staff Union of Universities (ASUU) to which the librarians belong. The fluctuations in figures are attributable to either or both of the low item acquisitions (particularly in the 1990/91–1992/93 sessions) and the irregular power supply, which led to an unconducive atmosphere and inability to use the microfiche readers and the computer.

This increased monthly output during the 1993/94 session, also reflected in the graph of monthly output spanning four academic sessions (1990/91–1993/94) (Figure 1), further confirmed the effectiveness of the use of the CD-MARC databases in cataloguing operations.

Table 3: *Monthly output spanning a period of four academic sessions (1990/91–1993/94). Source: monthly cataloguing statistics data file.*

Month/year	1990/91	1991/92	1992/93	1993/94
Sept.	42	57	58	450
Oct.	158	127	188	1137
Nov.	20	81	.*	850
Dec.	31	61	48	483
Jan.	32	202	70	667
Feb.	22	136	.*	537
Mar.	34	181	18	297
Apr.	104	103	171	775
May	135	109	.*	737
Jun.	78	113	.*	1109
Jul.	85	.*	.*	.*
Aug.	80	.*	.*	.*
Total	821	1170	553	7042

*: ASUU strike (local and national).

8. Discussion

8.1. Efficiency

Efficiency in this study relates to the time spent in cataloguing an item.

The printed sources (stated above) used in KDL are in different locations within the library. In cataloguing an item, therefore, the cataloguer sometimes has to use more than two of these, checking and cross-checking

information to ensure correctness. The cataloguer must also make sure that the item is not already in stock in order not to duplicate records. In carrying out these processes, he or she has to move around and by the time the cataloguer finally sits down to edit and copy into the monograph data input form, a lot of time would have been spent. This accounts for the high number of minutes spent when printed sources are being used in cataloguing. Added to this is the amount of mental exercise used during original cataloguing. Original cataloguing requires a thorough understanding of the subject matter of the item, and sometimes the cataloguer has to consult with colleagues of the same background in order to classify correctly.

It became more convenient for the cataloguers where the microfiches are used, however, because the four microfiche readers are located in the cataloguing section, with the microfiches kept in containers and placed beside the microfiche readers, though the cataloguers still have to check the shelf list catalogue (not located in the section) in order not to duplicate records. Since the tools are closer to the cataloguers, with the exception of the shelf list catalogue, a smaller number of minutes is used compared to using the printed sources.

When the item being catalogued has CIP data, a different scenario comes into play. Here all the cataloguer does, having checked that the item does not already exist in the library, is to edit and copy into the monograph data input form the information on the item being catalogued. The number of minutes spent here is therefore less compared to using either the microfiches or the printed sources.

For all the sources (CD-MARC databases inclusive), apart from having to check the shelf list catalogue to avoid duplication of records, for the above tools (except CD-MARC databases) the cataloguer also needs to write all information about the book on the monograph data input form. However, when using the CD-MARC, having retrieved the information on the computer screen or monitor, all the cataloguer does next is to download onto a diskette for uploading into the library's own database, and write only the information to be modified in the monograph data input form. The activities here accounted for the far smaller number of minutes used compared to using the other sources.

The implication therefore is that the smaller the number of activities to be carried out using a particular information source during the cataloguing operation, the more reduced the cataloguing time of an item and by extension the more effi-

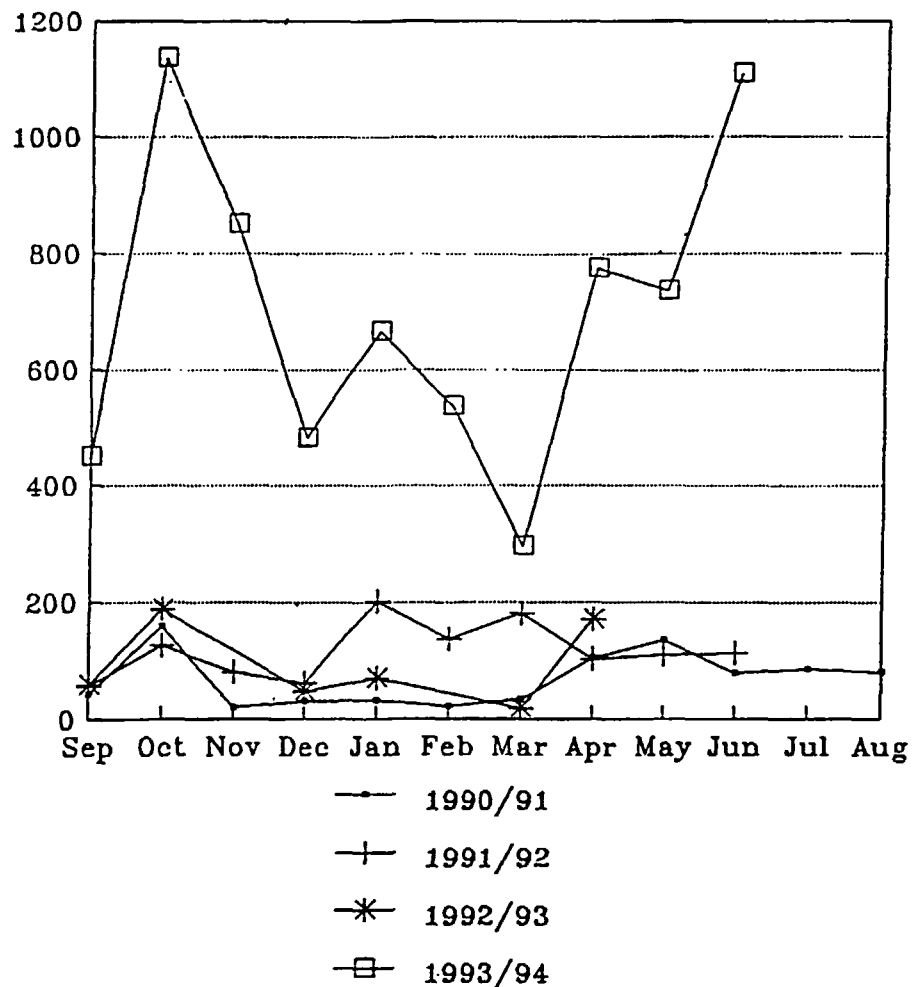


Figure 1: Graph of monthly output spanning four academic sessions (1990/91–1993/94).

cient is the source. Invariably, therefore, the use of CD-MARC became the most efficient of the sources considered in this study.

8.2. Effectiveness

Effectiveness in this study implies a measure of output using a particular information source.

The cataloguers are supposed to catalogue for eight hours a day. However, considering other activities performed such as supervision, answering enquiries and so on, it is assumed that they will only be able to catalogue for at least five hours of the eight available work hours a day.

From the study, the use of the LC CD-MARC appeared to be the most efficient source of information as it affords the cataloguer a smaller number of minutes (eight minutes) in cataloguing an item, and thus affords the highest number of items (38) catalogued in five hours compared to using the printed sources, the microfiches and the CIP data. This again led to increases in the monthly output since the active use of the technology began in 1993, barring a few fluctuations aris-

“The advantages that CD-MARC has over the microfiches and the printed sources make it ideal for use in Nigerian libraries”

ing from intermittent power failure and the lack of a power generator to sustain use. The monthly output for the period September 1993 to January 1994 would have been even greater than reflected but for the fact that only one computer system and a CDROM tower of four drives is currently actively available for use by the five cataloguers, which thus led to time sharing between cataloguers. Despite this, however, the CD-MARC remains the most effective of all the sources considered.

9. Recommendations

Based on the outcome of this study, the following points are recommended:

- that libraries (especially university libraries having a great volume of collections) introduce the use of CD-MARC (not necessarily LC CD-MARC) technology in their cataloguing operation;
- that libraries, on acquisition of the technology, should always make funds available for subscription to updates of the CD-MARC bibliographic databases and maintenance of the equipment, as and when due. They must in fact place orders for updates in advance and also enter into maintenance agreements with the supplier of the equipment;
- that libraries make available to each cataloguer a computer system and a CDROM tower of seven drives (a set of the bibliographic databases is contained in seven compact discs) to speed up the cataloguing operation, or alternatively;
- that libraries put the databases on network and only make a computer system available to each cataloguer, having acquired an appropriate library management software that will permit uploading of information from CD-MARC to the library's own database directly, or through the use of diskette;
- that libraries in locations where the power supply may fluctuate acquire a power generator to sustain continuous use of the CD-MARC, and finally (again where relevant);

The author

Ayoku A. Ojedokun

Ayoku A. Ojedokun works in the Kenneth Dike Library, University of Ibadan, Ibadan, Nigeria.

- that libraries acquire an uninterruptible power supply to fill the gap between the period of power failure and setting up the power generator, and to prevent damage to the computer system.

10. Conclusion

From the evaluation carried out, the efficiency and the effectiveness of the LC CD-MARC compared to the printed sources, the microfiches and the CIP data was established.

The interview conducted also revealed the cataloguers' preference for LC CD-MARC technology because of the ease of use, ease of locating information and the currency of information obtained due to its regular update. Though no proper records of backlog of uncatalogued items needing original cataloguing were kept, cataloguers confessed that the use of LC CD-MARC afforded them the opportunity of reducing the number of backlogs before the World Bank loan books were received. However, the cataloguers would want the CD-MARC databases put on a network and a computer system provided to each of them, to speed up the operation further. The library uses Novell Netware version 3.11 for its local area network and, as well as having computerised the cataloguing operations, it is currently test-running the now computerised circulation control.

The advantages that CD-MARC has over the microfiches and the printed sources, such as durability, immunity from attack by insects and fungi, ease of information retrieval, scratch resistance, non-susceptibility to erasure from electric currents or magnetic fields, and the non-dependency on telecommunication facilities, make it ideal for use in Nigerian libraries.

References

- AWOGBANJ P.A. (1992a) The diffusion of CD-ROM into Nigerian libraries, *CD-ROM Librarian*, 7(5), 30-33.
- AWOGBANJ P.A. (1992b) The Kenneth Dike Library surveys end user's reaction to CD-ROM, *IAALD Quarterly Bulletin*, XXXVII(3), 172.
- BOSTID, National Research Council (1989) Information technologies and their application in Africa, in *Science and Technology Information and Systems in Africa*, report of a workshop held in Nairobi, 19-22 April 1989, revised ed. pp. 19-33.
- COMPTON A. (1993) CD-ROM technology: hardware and software, in *CD-ROM for African Research Needs: Some Basic Guide by the American Association for the Advancement of Science*, AAAS, Washington DC, 9.
- UNIVERSITY OF IBADAN (1989) *University of Ibadan Libraries: A Guide*, revised ed.