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Controlled Vocabulary and Authority Records for the Management of Bibliographic Data in the New Nigerian Library Environment: Marc 21 Standards

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Abstract

Information architecture seems to be a major challenge to both the information professional and the information user in the new library environment. Information about users' needs is stacked somewhere in the catalogue cabinet or in computer files but the user cannot find it because of distance, language and other socio-cultural barriers. However, much of this problem can be managed through controlled indexing and cataloguing vocabulary such as we have in MARC authority records. Librarians' ability to initiate and maintain a technology based library system depends on how much they control their bibliographic data through the established authority records. As technological innovations continue to advance, librarians must devise newer ways of maintaining library records through computer-based library systems. The library of congress MARC authority file has been based on established principles of consistency, adaptability and flexibility which make it not only comprehensive but also standardized and reliable for any library to follow. It is recommended that all stakeholders must take up the challenge and address the issue of standardization of bibliographic data for information sharing in the new information dispensation.

Introduction

Although the new library environment is very dynamic, cataloguing and classification still remains a major aspect of librarianship as it forms the bedrock of bibliographic control in any library. Libraries cannot be any different from bookstores or mere storehouses unless their contents are professionally arranged and controlled by information professionals. Organization of library materials using certain specific standards is generally referred to as cataloguing. Classification ensures proper coding of items so that each can belong in a group without losing its specific identification in the group. Classification is usually subject-based, thereby making identification easy. All this is technically done using specific parameters

comprising subject tags and other notations. The essence is to avoid confusion, unnecessary duplication and omission in the cataloguing process. Our knowledge of the physical world teaches us that two or more objects can be the same or unlike, related or unrelated, similar or dissimilar, separate or interwoven, and so library items can be described along these categories for easy access by clients. This has been the case for a long time in the traditional library setting.

However, librarians today are daily faced with the realities of information globalization which dictates the trend for modern information management and the best they could do is to discover strategies for meeting the global needs of library users in a global network. Still, J.M. (1993, p.72) averred that online searching and the Internet have gone a long way towards internationalizing the flow of information. The global changes in technology, computers and the internet have left us with the realities of a global information village where distance and time should no longer pose any threat to information access. O'Hagan, M. (1995, p.45) observed that the Internet is worldwide, accessible in over 137 countries and growing at the rate of a million new users every month. This figure should have probably been doubled today.

It is almost impossible to discuss the new library environment and modern library systems without first considering the impact of technology and the development of MARC formats for the bibliographic control of library resources. MARC holdings enable proper records, easy identification, quick importation and direct exportation of library resources in the network environment. A discussion of MARC standards becomes mandatory in the sense of database formation and standardization. Our catalogue records must follow some standardized pattern electronically for easy control. This no doubts calls for a common cataloguing language to be used by information professionals and capable of content delivery for the use of information seekers worldwide. However, finding a common language becomes a serious problem in a multilingual and multicultural setting. But this challenge can be overcome by considering the socio-cultural situations involved and the general interests of users in a global setting. According to Still, J.M. (1993 p.72):

With the introduction of OPACS, however, one can retrieve information from all parts of a record, including title keyword and, in some cases, content notes. European countries, especially those with

more than one accepted language, are now investigating ways of allowing users to search for information in each language. The Royal Library in Brussels, for example, would like to offer subject access in three languages -- English, Dutch, and French.

Each library has a unique catalogue database with the list of its holdings conventionally kept for information users, but in the new library environment the different catalogue databases must be harnessed and synchronized for the benefit of information users who are limited by time, space and funds. Libraries in every nation must participate in the global integration of resources for the benefit of patrons. In this regard, libraries need a lot of initiatives and determination for a successful integrated library system. Mason, M.G. (1993, p.395) asserted that coordination and cooperation among libraries internationally depends on the development of strong library networks, effective communications infrastructures, and common protocols that permit them to interact. The first step toward international cooperation is to achieve participation in library networking within the country. At present, development is uneven both in the progress of national networks and in the participation in them. It is very interesting to note that library software vendors now take cognizance of the various multilingual dimensions of cataloguing records. Thus, according to Rogers, M. (1995, p.119) as software companies expand internationally, they are developing their systems to accommodate various languages including non-Roman scripts. Some of the firms involved in these endeavours include VTLS which has developed an entirely new system called Virtua which can handle assorted scripts from around the world. VTLS' Unicode "...insures that the assorted scripts and technical symbols from different types of systems worldwide can be correctly represented and manipulated".

For this to be achieved, controlled vocabulary and authority record issues become mandatory. Controlled Vocabulary gives the cataloguer the authority and ability to manage and direct all cataloguing records. According to Wikipedia definitions,
"Controlled vocabularies provide a way to organize knowledge for subsequent retrieval. They are used in subject indexing schemes, subject headings, thesauri and taxonomies. Controlled vocabulary schemes mandate the use of predefined, authorized terms that have been pre-selected by the designer of the vocabulary, in contrast to

natural language vocabularies, where there is no restriction on the vocabulary."

This is a way to overcome the problem of ambiguity which can hinder catalogue searches. Controlled vocabulary ensures that approved lists of relevant words and phrases are used for catalogue searching all the time. In short, controlled vocabularies reduce ambiguity inherent in normal human languages where the same concept can be given different names and consistency is ignored.

This paper is informed by current thinking in integration of library processes for libraries in Nigeria to achieve resource sharing and wider accessibility to their holdings globally. This is the best time for librarians and information professionals around the world to vigorously pursue the integrated library systems agenda.

Controlled Vocabulary

For all this to be achieved, there is the need for cataloguers and indexers to give attention to the language of item records, hence the need for vocabulary control in catalogues, whether manual or online. The cataloguing record is the bibliographic information usually shown on the 7.5 by 12.5 cm catalogue card. It contains two types of information: the descriptive information and the added entries. The descriptive information includes:

- Name of the author
- Title of the work
- Corporate entry
- Statement of responsibility
- Edition statement
- Material specific details for cartographic materials e.g. maps
- Publication information
- Physical description
- Series
- Notes
- Accession number
- Standard number
- Call mark.

Items of information for the added entry part generally include:

- Joint authors

- Editors
- Illustrators
- Translators
- Performers
- Sub-titles and other information sufficiently important or memorable which could be used for searching by a patron (Wynar 1980, p.7).

Controlled vocabulary is often used in librarianship to mean using some carefully selected terms to describe, store and retrieve information records from the catalogue or information records store. It is a way of making the description of information records easy for both the cataloguer and the library users. Many words can be used to refer to one particular idea at different times but every bibliographic record cannot be created using different terms; or else, every word and phrase in a particular language will have to be used and everything will be confused. However, a particular word can be selected to represent other synonyms and related ideas for cataloguing and retrieval of information records. This makes the catalogue compact and unwieldy. Thus, according to wikipedia online encyclopedia:

Controlled vocabularies are often claimed to improve the accuracy of free text searching, such as to reduce irrelevant items in the retrieval list. These irrelevant items (false positives) are often caused by the inherent ambiguity of natural language. Take the English word *football* for example. *Football* is the name given to a number of different team sports. Worldwide the most popular of these team sports is Association Football, which also happens to be called soccer in several countries. The English language word football is also applied to Rugby football (Rugby union and rugby league), American football, Australian rules football, Gaelic football, and Canadian football. A search for *football* therefore will retrieve documents that are about several completely different sports. Controlled vocabulary solves this problem by tagging the documents in such a way that the ambiguities are eliminated.

Obviously the reason for controlled vocabulary is to ensure that everybody in the system uses the same word to mean the same thing most of the time and thereby avoiding confusion, ambiguity and unnecessary duplication. For example, in librarianship, the Library of Congress Subject Headings (LCSH) has become a

standard index for bibliographic records. So also is the Medical Subject Heading (MeSH) developed by the United States National Library of Medicine to describe medical texts, in addition to other subject headings. In controlled indexing language, only approved terms can be used by both the searcher and the indexer, unlike in natural indexing language where any term from the actual text can be used to describe or search the document or in the case of the free text indexing language where any term either from the actual text or outside it can be used to index or search the document. The different types of controlled vocabulary include:

- Flat item list
- Hierarchical item list
- Synonym rings
- Authority files
- Alphanumeric classification schemes
- Faceted controlled vocabularies
- Thesauri
- Onthologies.

Although it is very easy to argue in favour of free text indexing and natural language, the more controlled the language of indexing the better because language is dynamic and can easily be manipulated resulting in ambiguity many times. This is the essence of subject headings like the Sears List or Library of Congress Subject Headings (LOC)

Subject Headings

The Library of Congress Subject Headings is the most popular and most commonly used in large libraries because it is comprehensive and flexible for indexers. The principles are based on the fact that every term in controlled indexing language must be mutually exclusive such that no particular definition can mean two things at the same time; must be exhaustive, taking care of every possible interpretation; as well as distinguished such that a particular term can be differentiated from the other. Also, based on this principle, every term must be exemplified so that the user finds examples of how to use any particular word in the index. The subject headings contain an established list of preferred terms from which a cataloguer or an indexer must select words to describe items when preparing the

catalogue records for library materials. For further direction to the contents of a particular work in the catalogue, *see* and *see also* reference is used.

There is usually a lead-in vocabulary with the instruction USE which is the authorized heading. For example, every work about dogs no matter which synonyms are used for it is tagged DOGS—the approved subject. If there are two separate works for example one titled CANINE and the other DOG, both will be given the subject DOGS to avoid ambiguity. Furrie (2003, p.3) averred that the subject heading for all books on cats should be CATS, as such no book should be listed under FELINES, even if a book is titled "All About Felines" which is another name for CATS. Another example from the Library of Congress Subject Headings (2002, p. 1880) is EARTH DAM as the approved subject heading instead of EMBANKMENT DAMS. When books on these subjects are listed in the same place in the catalogue the information searcher can be relieved of having to memorize the different names by which a particular item can be described. Items in the subject headings are usually listed alphabetically.

Authority Records

This phrase is becoming more and more common even in Africa where library automation is relatively new. In synonym rings, there are many terms usually referring to the same or similar ideas. No single word from the string can be regarded as supreme but for easy reference a particular term is identified as the representative of the entire ring. This is what authority record is all about. The preferred term can then be used by the cataloguer to refer to other variant forms of the same idea all the time and the searcher can rely on the preferred form as the reference point. For example, in the Library of Congress Subject Headings we find:

Meteorology
USE FOR:
Weather
Atmospheric Science
OR
Atmospheric Science
USE:
Meteorology

Hence, a cataloguer or indexer does not have the authority to use the subject WEATHER to describe the subject METEOROLOGY but only vice versa. Furrie (2003, p.10) defined authority control as following a recognized or established form in cataloguing. He stated further that a cataloguer chooses subject and name headings from a list of approved headings. For example, if a cataloguer sometimes uses GETTY MUSEUM and at other times uses J. PAUL GETTY MUSEUM as headings in a catalogue the catalogue user would have a difficult time finding all the books on that subject but if a cataloguer follows the Library of Congress's list of established forms for names, he or she will use the heading "J. PAUL GETTY MUSEUM." As long as the cataloguer always uses one established form, all the books on that museum will be found in one place in the catalogue. The Library of Congress Name Authority File seems the best authority for cataloguers on names while the Sears List of Subject Headings or Library of Congress Subject Headings seems the best for subjects.
The three main components of an authority record can be described as follows:

Headings:
The standardized "authoritative" form of a name, subject, or title that is used for access points on bibliographic records. The purpose of using standardized names and subjects on bibliographic records is to help related records to be retrieved together.

Cross references:
References that direct a user from a variant form of a name or subject to the authoritative form (this is called a 'see' reference) or from one authoritative form to another authoritative form because they are related to one another (this is called a 'see also' reference). For

MARC authority records, the references are carried or "traced" on the record for the authoritative heading.

Notes:
Notes that contain general information about standardized headings or more specialized information, such as citations for a consulted source in which information is either found or not found about a heading.

Generally, the principles of selecting authorized terms by indexers and cataloguers are based on the following:
user warrant (what terms users are likely to use), **literary warrant** (what terms are generally used in the literature and documents), **structural warrant** (terms chosen by considering the structure, scope of the controlled vocabulary).

All these are necessary to enhance communication between the indexer and the searcher since the searcher and the indexer are physically separated and the only link remains the bibliographic record in either the physical or the online catalogue.

History of MARC
The word MARC has suddenly become commonplace in library parlance, making it a subject of discussion in any library forum. But what exactly is MARC? Many people ask. It is the acronym from Machine, Readable and Cataloguing where MA stands for machine; R stands for readable; and C for cataloguing (Bryant S, 2008). This means that the computer can now process and read the cataloguing records of a library. The information contained on the catalogue card must be processed and interpreted in the computer language before it can be generated through the computer network. The invention of the computer has revolutionized the way tasks are performed, the way products are packaged as well as the way information is managed. Information packaging and brokerage these days is becoming more and more MARC compatible thereby expanding the scope of information management. Every aspect of librarianship previously done manually has now been automated making the library process more sophisticated and enhanced.

The process of converting catalogue records started around 1960. History has it that computer catalogues first appeared in libraries in the early 1980s. This innovation made the process of searching for bibliographic data in the library catalogues more

sophisticated. Computer catalogues facilitated the process of distribution and updating catalogue records. The new catalogue also made sharing of information easy. The new form of cataloguing enabled libraries to update their records easily and when new materials got to the libraries they were easily tracked. It also gave patrons with access to internet facilities the opportunity to check the catalogues of other libraries online. This innovation was then referred to as *union* catalogues. In 1987, the Library of Congress issued the first edition of the document *MARC 21 Specifications for Record Structure, Character Sets, and Exchange Media* to aid libraries and other organizations which create or acquire MARC 21 records. Subsequent editions were published in 1990, 1994, and 2000. This document provided technical information on the structure of MARC records, the character sets used in MARC records, and the format for distribution media for MARC 21 records. It was intended for the use of personnel involved in the design and maintenance of systems for the exchange and processing of MARC records (Library of Congress, 2007).

It is unfortunate to note that these facilities which were not only available but also widely used in some advanced countries in the eighties are still alien to many developing countries in Africa till today. While some advanced world libraries are battling with which records are actually worth uploading to the automated catalogue and trying to control available records on the internet, most libraries in Africa are still grappling with how to start using computers in the library.

The Machine Readable Catalogue (MARC) project actually established its electronic version of the card catalogue in 1966. The revised version of MARC called MARC 11 became widely used in 1972. This later developed to bigger catalogues containing every available library record with a massive online access capability originally called MELVYL in 1981. This system of online public access catalogue is today generally referred to as OPAC. This system must be developed and made to cover many hidden catalogues for the librarians' dream of globalization of information to be achieved.

MARC 21 Formats

MARC 21 is a result of the combination of the United States and Canadian MARC formats (USMARC and CAN/MARC). MARC 21 is based on the ANSI standard Z39.2, which allows users of

different software products to communicate with each other and to exchange data. MARC 21 was designed to redefine the original MARC record format for the 21st century and to make it more accessible to the international community. MARC 21 has formats for the following five types of data:

- Bibliographic Format,
- Authority Format,
- Holdings Format,
- Community Format, and
- Classification Data Format.

Currently MARC 21 has been implemented successfully by the British Library, the European Institutions, and the major library institutions in the United States and Canada. Some of the MARC 21 format variants developed around the world include:

- MARC 21: the "harmonization" of USMARC and CAN/MARC; it is maintained by the Network Development and MARC Standards Office of the Library of Congress
- AUSMARC: national MARC of Australia, published by the National Library of Australia in 1973; USMARC adopted in 1991
- BIBSYS-MARC: used by all Norwegian University Libraries, the National Library, all college libraries, and a number of research libraries.
- NORMARC: national MARC of Norway, based on MARC21
- DANMARC2: national MARC of Denmark, based on MARC21
- FINMARC: national MARC of Finland
- SWEMARC: national MARC of Sweden
- INTERMARC: MARC used by Bibliothèque nationale de France
- UNIMARC: created by IFLA in 1977, it is the official MARC in France, Italy, Russia, Portugal, Greece and other countries.
- CMARC: national MARC of the Republic of China(Taiwan), based on UNIMARC
- KORMARC: national MARC of South Korea, KS X 6006
- MARCBN: national MARC of Poland, based on MARC21

IDSMARC: (inter)national MARC of Swiss German University Libraries, Luxembourg, Liechtenstein, based on MARC21

The computer needs a means of interpreting the information found on the cataloguing record, hence the need for the MARC record format. MARC records contain a set of guides to its data. This set of guides is referred to as "Signposts" usually placed before each piece of bibliographic information. The place specified for each piece of bibliographic information in cataloguing such as author, title, call mark, etc. is tagged "Field". Records in the simpler computer files sometimes have a fixed number of fields and each field contains a fixed number of characters. However, Eyitayo, et.al. (1999, p.73) described a record as a set of data relating to one subject or thing, and which consists of fields of information. Therefore proper cataloguing of books and other library items requires a file structure that allows for records with a large number of characters and flexible field lengths. Experienced cataloguers are quite familiar with this flexibility because not all titles have the same lengths. For example, a book may be titled: "Management Techniques"
and another titled: "Decision Making and Information Systems Management in a Business Organization."

Obviously, the second title is longer and so the title lengths differ. Or in the case of audio-visual materials which have much longer physical descriptions (e.g. 9 film strips: sd, col; 35min; teaching manual) than most books. Therefore, the computer cannot always expect a certain type of information to begin and end at the same position in every bibliographic record. Even the statement of responsibility differs in length. For this reason, the MARC computer record provides a table of contents for the records according to a pre-defined standard. This usually consists of two columns: one for the 'signposts', containing bibliographic items, and the other tagged 'data', containing the actual interpretation of the signpost information. Below is an illustration of records with textual signposts:

Records with Textual Signposts

"SIGNPOSTS"	DATA
Main entry, personal name with a single surname: The name:	Arnosky, Jim.
Title and Statement of responsibility area, pick up title for a title added entry, file under "Ra..." Title proper: Statement of responsibility:	Raccoons and ripe corn / Jim Arnosky.
Edition area: Edition statement:	1st ed.
Publication, distribution, etc., area: Place of publication: Name of publisher: Date of publication:	New York : Lothrop, Lee & Shepard Books, c1987.
Physical description area: Pagination: Illustrative matter: Size:	25 p. : col. ill. ; 26 cm.
Note area: Summary:	Hungry raccoons feast at night in a field of ripe corn.

Subject added entries, from Library of Congress subject heading list for children: Topical subject:	Raccoons.
Local call number:	599.74 ARN
Local barcode number:	8009
Local price:	$15.00

Table 1: Source: Understanding MARC Bibliographic: Machine-Readable Cataloging

This processed bibliographic information is then transferred into the computer system to generate a set of catalogue records which can be accessed either through the PC or online. Back in the 1960s the Library of Congress devised the LCMARC format, a system of using brief numbers, letters and symbols within the cataloguing record to mark different types of information. This original LCMARC format has now evolved into what we know as MARC 21 today. This MARC format continues to gain wide recognition and acceptance in many large libraries worldwide. In fact, many library experts see MARC 21 format as a model with high standards for all types of libraries. For instance, the British Library acclaimed it as valuable and has decided that it will be the standard for data creation and processing of its bibliographic records. MARC 21 has superseded the 1994 edition of the Canadian MARC communication format.

A comparison of the former textual bibliographic MARC information, table one above, in MARC 21 formats using MARC tags can be illustrated as in the table below:

Same record with MARC tags

"SIGNPOSTS"	DATA
100 1# $a	Arnosky, Jim.
245 10 $a	Raccoons and ripe corn /
$c	Jim Arnosky.
250 ##$a	1st ed.
260 ##$a	New York :
$b	Lothrop, Lee & Shepard Books,
$c	c1987.
300 ##$a	25 p. :
$b	col. ill. ;
$c	26 cm.
520 ##$a	Hungry raccoons feast at night in a field of ripe corn.
650 #1 $a	Raccoons.
900 ##$a	599.74 ARN
901 ##$a	8009
903 ##$a	$15.00

Table 2 Source: **Understanding MARC Bibliographic: Machine-Readable Cataloging**

In comparing the records in the two tables, evidently records with MARC tags illustrate the compactness and superiority of the MARC 21 format. It conserves storage space for the computer. MARC 21 format uses tags for fields' names. A tag is a 3-digit number that identifies that field e. g. field 260, i.e. "260" "#a" "#b" "#c" which specifies the imprint data field with tags instead of using the words: "publication area", "place of publication", "name of publisher", and "date of publication" for each record and thereby making more efficient use of the computer storage space. Computer programmes have been written to recognize what each tag number stands for.

The importance of MARC 21 formats as a standard for bibliographic data cannot be overemphasized. Using MARC 21 formats for organizing library bibliographic information would

encourage shared databases and increase resource sharing in the automated library environment. Choosing to use MARC 21 standards would enable libraries to acquire cataloguing data that is predictable and reliable. Furrie (2003, p.4) opined that if a library were to develop a "home grown" system that did not use MARC records, it would not be taking advantage of an industry-wide standard whose primary purpose is to foster communication of information.

For proper understanding of MARC records, certain MARC terms regularly used must be understood. These terms include: field, tag, indicator, sub-field, sub-field code, delimiter and designator.

Field

This represents each discrete item of bibliographic record containing such things as name, title, publication, date, etc. Each authority record is logically divided into fields for easy entry and identification.

Tag

For the computer to process and interpret the items under 'field' they must be coded. This is why each field is marked with a 3-digit number, e.g. 100 For Personal Names, 245 For Title Entry, 250 For Edition Statement, etc. These 3-digit numbers are called tags in MARC format.

Indicators

Most tags must be followed with two character positions, although not all tags, e.g. tag 001 and 009. One or both of these two character positions are used depending on the tag. As in the example above both positions in 245 (10) are used, while in 100 (1#) only the first position is used. In 250 (##) neither is used.

Sub-field

Most of the time we have other relevant information associated with a particular field. These related items of information are regarded as sub-fields. For example, a personal name might read: Henry IV King of England, 1807-1901. This personal name heading contains a personal name with some numeration, as well as a title and date. All other items apart from the personal name are sub-field data. This information will appear in MARC record as follows:

```
100 3#  $a Henry
        $b IV
        $c King of England
        $d 1807-1901
```

Sub-field code
A sub-field code is the small case letter that is used to mark each subfield such as a, b, c, d, etc. as in the case above. The field 'Henry' takes 'a'; IV takes 'b'; the title 'King of England' takes 'c'; and so on.

Delimiter
A delimiter is the dollar sign ($), in our example above, preceding the subfield code. However, different software programmes have different signs for the delimiter such as 'at sign (@)', 'the double dagger (#)' and other graphic symbols.

Designator
This is a technical term used to refer to the main contents of MARC 21 format. For instance, 'Tags', 'Indicators', 'Sub-field Codes' which are the major contents of the MARC 21 system form the content designators.

Conclusion and Recommendation
For wide distribution of information resources and sharing of bibliographic data across geographical boundaries, conformity to the MARC 21 standards is not negotiable. With the use of computers and the introduction of the internet, major barriers in communication have been broken and the librarian must use the opportunity to their maximum advantage; after all, everything on the internet is about information. The language of cataloguing is still very diverse and needs to be controlled or else communication of library resources would remain a bottleneck. MARC 21 format provides the passport for cataloguers and indexers to navigate the world of information, as it supersedes all the other MARC variants. Any attempt at creating other MARC formats at this stage of library development would amount to unnecessary duplication and 'reinventing the wheel'. It will be sheer waste of resources for 1000 cataloguers in Nigeria, for example, to catalogue afresh a book say, 'Introductory Physics for University Students' at different times

when the book arrives in their library. Nor will it be professionally wise for thousands of cataloguers from the different libraries across the globe to start cataloguing afresh a text written in Yoruba (one of the major languages in Nigeria) titled 'Irinke Rindo Ninu Igbo Elegbeje' every time the book gets to their library. Instead, greater effort should be channelled towards revising and not re-creating MARC 21 formats. It is highly flexible, well organized and can accommodate the language and cultural diversities of the 21st century. The standard can be improved by enhancing the functionalities of the Z39.50 web protocol for improved search, retrieval and query results.

It is therefore recommended that libraries and librarians should make compatibility, flexibility and interoperability, with respect to bibliographic data, their watchword so that the impact of librarianship can be seen in the networked environment. Librarians should develop an encoding system capable of handling library bibliographic data worldwide for our dream of information globalization to be realized. The world library associations should critically address the issue of standard cataloguing formats relating to MARC 21 cataloguing systems with a view to developing strategies for incorporating the information resources of the developing nations. Individual libraries should begin to respond to the challenges of access to library resources with strategic approaches for providing efficient library services. For this, they need to ensure accurate information for their clients, by this is meant 'accurate' as in the following acrostic: A-Accurate, C-Complete, C-Cost-effective, U-Understandable, R-Relevant, A-Accessible, T-Timely, and E-Easy-to-use. All this will make information provision in libraries more enhanced with greater focus on library 2.0 and productivity.

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Abstract

Information architecture seems to be a major challenge to both the information professional and the information user in the new library environment. Information about users' needs is stacked somewhere in the catalogue cabinet or in computer files but the user cannot find it because of distance, language and other socio-cultural barriers. However, much of this problem can be managed through controlled indexing and cataloguing vocabulary such as we have in MARC authority records. Librarians' ability to initiate and maintain a technology based library system depends on how much they control their bibliographic data through the established authority records. As technological innovations continue to advance, librarians must devise newer ways of maintaining library records through computer-based library systems. The library of congress MARC authority file has been based on established principles of consistency, adaptability and flexibility which make it not only comprehensive but also standardized and reliable for any library to follow. It is recommended that all stakeholders must take up the challenge and address the issue of standardization of bibliographic data for information sharing in the new information dispensation.

Introduction

Although the new library environment is very dynamic, cataloguing and classification still remains a major aspect of librarianship as it forms the bedrock of bibliographic control in any library. Libraries cannot be any different from bookstores or mere storehouses unless their contents are professionally arranged and controlled by information professionals. Organization of library materials using certain specific standards is generally referred to as cataloguing. Classification ensures proper coding of items so that each can belong in a group without losing its specific identification in the group. Classification is usually subject-based, thereby making identification easy. All this is technically done using specific parameters