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# **Challenges of Cataloguing Library Resources in the Evolving Digital Environment: The African Cataloguer's Experience**

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## **Abstract**

The paper examines the challenges of cataloguing library resources, in the City of Cape Town Metropolitan Public Libraries (CCTML), South Africa. The paper was necessitated by the postulation that, the extent of access and the use of library resources depends greatly upon the quality of the library catalogue. The following research questions were formulated: what cataloguing knowledge do cataloguers of CCTML have? How is cataloguing carried out in CCTML? What challenges do cataloguers of CCTML experience in cataloguing library resources? Qualitative approach and case study design were employed. The population of the study was made of 6 cataloguers. Data was collected through the focus group interview. Findings indicated that cataloguers experienced challenges of assigning subject headings for languages other than English, allocation of the correct classification notation and the advanced use of the cataloguing standards. Cataloguers obtained knowledge of descriptive cataloguing, subject analysis and classification. The study recommends the exchange programmes in cataloguing, use of technological tools and decolonization of subject and name authority standards.

**Keywords: Catalogue, Cataloguing, Cataloguing challenges, Cataloguing knowledge, Library resources**

## **Introduction and Background**

Cataloguing is the process of systematically arranging bibliographic details of all the information sources available in a library. It produces an inventory that serves as

access points to the library resources (Odunola, Tella, Oyewumi, Ogunmodede, Oyetola, 2019). Bello and Mansor (2012) describe cataloguing as the basis of theory of knowledge where information organisation, the structure and the means for handling them are identified and specified. The process requires the use of international cataloguing standards (Bello and Mansor, 2013). Cataloguers are the specialists responsible for bibliographic control, information management and the creation of resource discovery tool that aids user in their search for materials. Essentially, they are responsible for the provision and organisation of efficient and effective retrieval system. Thereby saves time, increases the quality/productivity of library users and ultimately enhances the performance of the institution to achieve set objectives” (Bello and Mansor, 2012: 1). Cataloguers comprise a small but valuable subset of the library professionals that provides critical but hidden services to libraries and the users (Bothmann, 2007). Today’s cataloguers are faced with the challenges of the information age and changes of cataloguing standards from Anglo American Cataloguing Rules (AACR2) to Resource Description and Access (RDA) (Esse, 2013). From Machine Readable Catalogue (MARC) to Bibliographic Framework (BIBFRAME) (Thompson & Mugaburu, 2021).

### **Statement of the problem**

Preliminary examination of the catalogue records of the City of Cape Town Metropolitan Public Libraries (CCTML) during 2015 and 2017 revealed some discrepancies on the catalogue records. There seemed to be low utilization of cataloguing standards. Some records did not contain all the metadata as prescribed by the standards to enhance retrieval. Incomplete vendor and Cataloguing In Publication (CIP) records were also found on the system and were used as a surrogate to information sources available in the libraries.

### **Research questions**

- What cataloguing knowledge do cataloguers of CCTML possess?
- How is cataloguing carried out in CCTML?
- What challenges do cataloguers of CCTML experience in cataloguing library resources?

### **Literature review**

The literature review includes cataloguing knowledge, cataloguing procedures or practices, challenges of cataloguing.

### **Cataloguing knowledge**

The survey of cataloguers' job descriptions by Bello and Mansor (2013) revealed that knowledge of cataloguing and classification such as original, copy cataloguing, authority control, descriptive, subject cataloguing and use of standard tools (AACR, LSCH, LCCS, MARC) is the most frequently required by the job market. Therefore, cataloguers essentially provide a coordinated approach to the contents of all kinds of resources available in the library. In modern times, with the application of Information and Communications Technology (ICT) to library operations and services, cataloguers' skills have been recognised in the creation of thesauri and in database management. However, the skills, roles and duties of cataloguers in the paradigm shift of Information Technology (IT) have been a subject of continuous debate. Sally (2007) opined that the development in library digitization and growth in e-resources collection has not changed the functions and services required of cataloguers or the demand for their skills, but instead tasks the cataloguers with expanding their skills in creating access description to e-resources.

Cataloguers therefore remain an essential complement requirement to library efficiency and effectiveness. Cridford (2019:71) observed that, "with the rise of the open access movement, enabled by digital technologies, libraries are slowly widening their role to include advocacy for, promotion of, and signposting to other open information sources rather than acting as the primary site of access to such materials. In this new epistemological terrain, the library has had to find other functions outside of its traditional role as a repository of physical information sources and neutral mediator of knowledge" The cataloguing knowledge should also be widened to accommodate the open access movement. Njoku (2018) assert that cataloguers need to increase their knowledge by continuously attending conferences, workshops, courses and mentoring processes. In this information age, cataloguers are expected to be conversant and competent in the use of electronic tools for the performance of their job. This is because electronic books, electronic journals, internet sites and

digitization projects are all relatively new forms of recorded knowledge in need of cataloguing and cataloguers have to deal with issues on how best to bring these resources under bibliographic control. To overcome these challenges in the performance of their day to day jobs in this electronic era, cataloguers need to acquire the necessary skills and competencies needed for today's cataloguing and classification duties (Njoku, 2018).

Mavume (2013) found the following competencies required by cataloguers: the ability to understand the cataloguing change processes and how these impact daily activities; involvement in the facilitation of the integration of new types of data description into traditional technical services workflow; ability to maintain a conducive atmosphere by encouraging group/team work flexibility as cataloguer so as to set priorities and deadlines; commitment to service excellence; continually seeking out new technology challenges and opportunities for the improvement of information analysis in new online cataloguing and classification tools; full participation in projects such as reclamation projects of database clean-up; complete enthusiasm to learn new developments and adopt new and emerging standards such as Metadata Schemes (Dublin Core) Electronic Thesis and Dissertations – Metadata Standards, RDA and other recommended standards so as to be relevant to information needs of the users.

Mavume (2013) therefore asserted that cataloguers, equipped with the above roles, skills and competencies, would be able to identify the importance of changing roles in the profession anytime during their career. Darries (2017) asserts that cataloguing knowledge should include the application of standards to digital objects and knowledge of Metadata Authority Description Standards (MADS) and Metadata Object Description Standards (MODS). Cataloguers now need to have a change in mind set to these new developments and need to acquire new technological skills to empower them to develop in the field and to keep up with the new trends and changing environments. Sibiya and Shongwe (2018) found LIS schools aimed to provide students with the knowledge and skills to organise knowledge in libraries by teaching cataloguing and classification standards and rules, tools such as the AACR, the DDC, the RDA, the LCSH and the MARC21.

### **Cataloguing practises**

Practices or procedures of cataloguing involves descriptive cataloguing, authority control, subject cataloguing and classification. Descriptive cataloguing, according to Lazarinis (2014), deals with description of resources, identifying all its features and the determination of access points (names of persons or corporate bodies) considered responsible for or associated with a resource, or any index term that could help a user to locate an information source when searching the catalogue. The intention of this task is to identify the work and distinguish it from other works by the same author, or with the same title or on the same subject. The features are then represented in the catalogue using standardised tools. The next task is the specification of the access points, which are the possible ways a user might search for a material. Keenan and Johnston (2000) define access points as the heading in an index, catalogue or database, which is used to identify specific records or entries in a file such as creators' names, subject terms, title, keywords, international standard number and classification code. These are also called entry points and they are usually used on the catalogues as headings (main or added headings). According to the Joint Steering Committee for Revision of Anglo American Cataloguing Rules (AACR) and American Library Association (1998), the main entry is the name appearing first in the wording or layout on the item being catalogued in the case of shared responsibility and the names of other creators involved in the work are referred to as added entries. If no specific name is identified as an author, cataloguers should make these decisions based primarily on a set of rules defined in the cataloguing standard applied. In case of single responsibility, the author is regarded as the main entry (Joint Steering Committee for Revision of AACR and American Library Association, 1998).

The other procedure of cataloguing is called authority control. Gorman (2004) asserts that bibliographic control and authority control are two sides of the same coin, with bibliographic control being literally impossible without authority control. Cataloguing cannot exist without standardised access points, and authority control is the mechanism by which we achieve the necessary degree of standardisation. "Cataloguing deals with order, logic, objectivity, precise denotation, and consistency, and must have mechanisms to ensure these attributes. The same name, title or subject should always have the same denotation each time it occurs in a bibliographic record" (Gorman, 2004:12). Taylor (1984) and Marais (2018) defines authority control as the practice of creating and maintaining headings for bibliographic materials in a

catalogue. It is the process of maintaining consistency in a bibliographic file or catalogue through reference to an authority file. The purpose of authority control, according to Tillett (1989) is to ensure that the works of a creator are grouped together. The cataloguer needs to determine whether the name has been used before in the catalogue, verify that the name has been established correctly, and adjust if required. The same form must be used throughout the catalogue to ensure consistency. If the name to be used for the heading cannot be traced in the catalogue, the cataloguer is required to establish the form of the name to be used as a heading following cataloguing standards. Subject cataloguing is divided into subject analysis and classification. Subject cataloguing is also referred to as subject analysis, although analysis is the preliminary step of subject cataloguing (Lazarinis, 2014). This stage deals with the identification of the intellectual properties of the item such as what the item is about. The cataloguers should use the standardised subject headings to assign and verify the subjects such as Library of Congress Subject Headings (LCSH), Sears List of Subject Headings and other specialists' subject headings, such as Medical Subject Heading (MeSH), to ensure vocabulary control and consistency in the creation and representation of subject terms in the catalogue (Lazarinis, 2014). Classification, on the other hand, refers to the process of arranging objects into categories. In libraries, classification deals with the determination of the primary subject of a work and the assignment of the specific notation. This is used for retrieval purposes and for ordering the item in a systematic catalogue as well as for shelving the item with other items on similar subjects. This is done by using classification scheme such as Dewey Decimal Classification Scheme (DDC), Library of Congress Classification Scheme (LCC) and others. The process of classification ends with assigning a numerical or alphabetical code to the item (depending on the notation the scheme is using). This is then called a classification notation. The classification notation serves as a basis for defining the call number for the item, which is a unique code assigned by the cataloguer to define the location of the item on the shelf. The allocation of the call number depends on local library policies (Lazarinis, 2014; Alabi, (2018). The types of cataloguing are regarded as original and copy cataloguing. Original cataloguing refers to the preparation of a bibliographic record from scratch without the aid of a pre-existing catalogue record for the same edition of the same manifestation, which is usually time-consuming for the cataloguer since the cataloguer must record all the bibliographic information of the manifestation (Kim, 2003).

The core stages of original cataloguing that the cataloguers should practice as stated by Lazarinis (2014) are as follows: The cataloguer receives the information source and identifies the appropriate chapter in the content standard such as (AACR2) or RDA to catalogue that information source. For example, chapter 2 of AACR2 contains the rules for cataloguing books, chapter 3 contains rules for cataloguing cartographic materials such as maps, while chapter 5 describes cataloguing of music, and chapter 6 presents rules for cataloguing sound recordings. The cataloguer must then identify the chief source of information based on the general rules of the respective chapter of the content standard, determine the level of description suitable for the library as outlined by AACR2, transcribe bibliographic information of the information source guided by the rules of the content standard, transcribe the identification data to the catalogue using the correct punctuations and determine the headings (main and added) and their authorised forms by consulting the rules of the content standard and the authority file of the library. On the other hand, copy cataloguing involves the process of cataloguing items using pre-catalogued machine readable records. It involves finding a machine-readable record (MARC) from other libraries or libraries in a network that matches the item in hand (Chandrakar and Arora, 2010)

### **Challenges of cataloguing**

Nwosu (2014) asserts that, the intrusion of ICT into the library and information business with its burgeoning new technologies, especially Web 2.0, has opened a new vista of challenges for cataloguers. Besides, since cataloguing rules are also changing, it is difficult to accommodate the technological innovation with data created using the old rules. Cerbo (2011) opined that, as technology continues to change and information is gathered from the overabundance of sources that once were unimaginable, librarians continue to adapt so as to meet the needs of those researchers, students, teachers and the general public. In so doing, the librarians knowledge and workload is consistently shifting to keep up with the latest information technology, including databases, electronic resources, repositories, web searches, online catalogues, e-books, and more. Moreover, the debate over the need for cataloguers, cataloguing principles and set rules in this new “Google age” of key word searching and web browsing brings forth the real question of the necessity of cataloguing (Cerbo, 2011). Furthermore, the introduction of new cataloguing terms such as Resource Description Framework (RDF), RDA, FRBR and FRAD also raised



anxiety of cataloguing. Adebayo (2013) found the following challenges, among others: lack of ICT skills, insufficient number of professional cataloguers and lack of knowledge of data encoding standards such as MARC and Dublin core. Odunola, Tella, Oyewumi, Ogunmodede, Oyetola, (2019) found low level of computer skills among cataloguing staff as one of the challenges faced in cataloguing. Oni, Oshiotse and Abubakar (2018) found the challenges associated to lack of library automation and RDA implementation. Ifijeh, Segun-Adeniran and Igbinola (2019) found the following challenges related to RDA implementation in Nigeria: Library automation and Acquisition of e-resources, subscription of RDA toolkit, Training, low computer literacy of cataloguers and lack of management support.

## **Methodology**

The study used qualitative approach and a case study research design. The population of the study was made of six cataloguers based at the central cataloguing point of CCTML. Data was collected through the use of focus group discussion of six members and was analysed using thematic analysis.

## **Findings and discussions**

This section discusses data collected from the six cataloguers

### **Cataloguing knowledge possessed by CCTML cataloguers**

The findings revealed knowledge of cataloguing tools such as AACR2, RDA, LCSH and DDC as well as computer skills. The findings also indicated that all the participants had obtained Library and Information Science (LIS) qualifications and were taught the modules in cataloguing at different levels in their academic programmes. Al Hijji and Al Busaidi (2019) found knowledge of cataloguing tools such as RDA rules and BIBFRAME possessed by cataloguers in Oman, Arabian Peninsula, however they lacked familiarity with computer protocols such as XML, PMH, OAI, RDF and metadata. Akidi and Omekwu (2019) found knowledge and effective use of LCSH, DDC, LCCS, AACR2, Elizabeth Moy's classification scheme by cataloguers of National Library of Nigeria. In South Africa, Sibiyana and Shongwe (2018) found the following requirements for a cataloguer's position: LIS qualification; work experience; knowledge of the DDC, the AACR2 or the RDA, the USMARC the LCSH, the OCLC, SLIMS; web Dewey; cataloguer's Desktop, WebClass; taxonomy, metadata and

tagging for digital content management, robust digital content experience; familiarity with common social platforms; knowledge of legal deposits; knowledge of Millennium system; knowledge of Z39.50 and Unicorn; knowledge of the OPAC library system, South African catalogue (SAcat) and WorldCat, Connection, Inmagic, Basic and advanced computer skills (MS Office Suite, e-mail and internet).

### **Cataloguing practices at CCTML**

The findings revealed that participants were undertaking both original and copy cataloguing. The practice of performing original and copy cataloguing was also found by Banjade (2016) in a study of Nepal universities' libraries. The study established that the practice was a growing pattern. Similarly, Mason (2009) noted that the libraries in developed countries have been doing copy cataloguing for years by using bibliographic utilities such as OCLC. In developed countries, ready catalogues were provided by the publishers at the time of selling the books. Olayemi and Olayemi (2019) also affirmed that through the application of the Internet as a supportive tool, cataloguers have recognized the potential of copy cataloguing by importing subject access for information in their holdings from online catalogues. The present study further established that descriptive cataloguing, subject analysis and classification were performed by participants, however authority control was not mentioned. Marais (2004) indicated that creation of authority records in South Africa was still in its "infancy". Marais (2018) further stated that by 2016, only six libraries in South Africa created few authority records. Xia and Liu (2018) on their part mentioned that many libraries downloaded authority records from the Library of Congress Name authority file, OCLC and Virtual International Authority File. These worldwide authority files contain a large number of individual and corporate bodies' authorities.

### **Challenges experienced by CCTML cataloguers**

The findings established challenges of assigning subject headings for the works expressed in non-roman languages and the languages that the participants did not understand. In addition, in cases where the information sources had more than one publisher and when the participants could not allocate the correct DDC notation. Ismail and Roni (2011) observed that the different languages come with different letters, words, pronunciations and characters. They could bring problems and challenges in cataloguing process including determining the access points, subject headings and

call numbers. In their study of Issues and challenges in cataloguing Arabic books in Malaysia academic libraries, Ismail and Roni (2011) found the difficulty to determine the subject headings for Arabic books that are not accurately stated in the Library of Congress Subject Heading (LCSH). In addition, the issues of lengthy author's name, vocalization of name and Arabization of English names also create problems for the cataloguers. In a study of Cataloguing Arabic Script Materials: Challenges in Using International Standards and Integrated Library Management Systems, Osman and El-Mary (2016) found lack of RDA Arabic translation as the most significant challenge reported by many of the cataloguers. So while cataloguing Arabic script materials, cataloguers still write many RDA fields in English language such as the information in MARC21 fields 336, 337 and 338. There was no standard Arabic translation yet available for the RDA guidelines. Other non-roman languages are not exempted on these challenges. Olson and Schlegl (2013) also revealed bias in subject access standards to other languages. Their study opposed the notion of "one size fits all" subject access in the LCSH and notations in the classification schemes by the ALA 1998 annual conference. They discovered the omission from the DDC, the LCC and the UDC of African independent churches that embrace Christianity and African tradition, while rejecting foreign elements.

Furthermore, classification of African languages and people in the ways they are grouped, poor allocation of space to African cultures compared to European and North American cultures, and inappropriate mechanisms of division by languages resulted in Olson and Schlegl realising that these syndetic structures may fail to connect appropriate topics and that there are limitations in the construction of subject heading strings. The aforementioned may transfer the challenges of access to users on the OPAC. Mutula and Tsvakai (2002) also found the difficulties of diverse languages presenting great challenges for cataloguers, especially because the international cataloguing tools did not adequately meet the needs for cataloguing of African materials. The diversity of African languages and linguistic syntax makes the cataloguing of African materials difficult. Chitumbo and Kanyengo (2017) found the use of existing rules or standards such as the AACR2 and LCC schedules with its subject headings compromised by the poor grounding of cataloguers. Lammert (2019) observed that cataloguers experience backlog of non-roman scripts or non-English

sources because they did not know how to approach working with them, since many libraries do not have a dedicated employee to catalogue non-English books.

## **Recommendations**

In view of the above findings and the literature cited, the author made the following recommendations:

- **Use of technological tools**

The cataloguers could use the advantage of technology to assist in cataloguing of non-roman scripts or unfamiliar languages. DuBose (2019) identified a blog post called “Cataloguing a World of Languages” by Olson (2014) who looked at a more recent workflow. Olson discusses many technological tools that are used to identify languages and translate them and suggests using “Open Xerox Language Identifier, which covers over 80 different languages.” Olson also suggests using Google Translate to translate the piece. This online tool can give one a general idea of the content and thus allows cataloguers to process the piece. Besides language identifiers and translators, Olson (2014) also refers to using transliteration tables, bibliographic dictionaries, subject glossaries, and diacritic charts. Another technology that can be used in cataloguing according to DuBose (2019) is Stars21. This is a site that has proven to be very useful in the past by the cataloguers. One reason for its success is that it has a virtual keyboard function. This allows the user to input the characters into the translator itself. Since many non-Roman script languages, such as Russian or Japanese need a different keyboard, a virtual keyboard that can be used for different scripts is of great benefit. It offers different language options from Afrikaans to Zulu, with different dialects for some languages. It also offers multiple translations, which show users the different meanings of a word (DuBose, 2019).

- **Introduction of cataloguing robots**

Cataloguing will need to take the advantages of advanced technologies, optical character translation, machine learning, advanced software, incorporate social networking and tagging, robotics, and artificial intelligence to enhance cataloguing output. Working with IT and computer science departments, they could programme robots to assist with the cataloguing workflow and to minimise human errors. Tella

(2020) observed that libraries and other information organisations have always been in the forefront in the adoption and usage of new technologies. For example, Internet of Things (IoT), cloud computing and other innovations have been used in libraries, enabling objects to collect data and transfer the data over the networks without human intervention using internet, sensor and radio frequency identification (RFID).

- **Decolonization of subject and name authority standards**

The cataloguing standards should include African, indigenous, Arab-Islamic, Chinese, Hindu, Indo-American, Asiatic, and other non-roman scripts to enable cataloguers to create subject and name authorities efficiently.

- **Exchange programmes in cataloguing**

CCTML cataloguers should consider exchange programmes with other cataloguers in order to benchmark, exchange knowledge and learn from each other on issues identified in cataloguing. According to Chao, Evans, Phillips, Polger, Posner and Sexton (2013) benchmarking with other similar institutions, could enable comparisons and evaluations of cataloguing issues; enhance professional and personal development for participants; consideration of different, new, or better ways of handling cataloguing; strengthening of commitment to libraries and the development of professional librarians around the world; rethinking of cultural or national stereotypes on both sides.

## **Conclusions**

Challenges faced in cataloguing could hinder the possibility of access and retrieval of information sources, therefore it is the view of the author that challenges need to be identified and suggest possible solutions. Going forward, we need to think of the catalogue as evolving rather than being limited as a static remnant of the past.

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