

Improving Cataloguing Standards through Collaborative Metadata Management for enhanced Quality Assurance in Cataloguing Practices

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ABSTRACT

The emergence of Information and Communication Technologies (ICT) and its implementation in library operations is radically altering traditional library practices. It has transformed the conventional structure of libraries and the way services are provided, resulting in migration of digital resources and services. Library and information science researchers appear to be experiencing a state of perplexity, as seen by the arguments being made in their circles. Several authors argue that information and communication technologies (ICTs), such as search engines, artificial intelligence, and robotics, are rapidly supplanting library catalogues and other specialized tools. As technologies and user expectations continued to advance, libraries became multifaceted hubs that had impact on librarians' roles. It is now essential to instil multitasking skills, acquire new knowledge, and broaden experience through a variety of professional channels aimed at improving cataloguing standards through collaborative metadata management. This with a view is to enhanced quality assurance in cataloguing practices. The objective of this paper is to highlight the following research questions: what are cataloguing standards? What metadata management techniques are provided for in the profession? How have these techniques improved the quality of cataloguing? How can collaborative practices enhance the ability of professionals to key into established metadata management techniques? What challenges are encountered by cataloguers in improving their cataloguing skills? What strategies can be suggested to enhance cataloguing skills through collaborative practices in metadata management techniques?

Keywords: Collaboration, Metadata Management, Quality Assurance, Catalogue Standards

Introduction

At the moment, organizations produce two billion terabytes of data every day, libraries inclusive (Lammert, 2019). This increase in data production highlights the need for a trustworthy, unified perspective of an organization's data assets and generates a significant demand for qualified workers. Many libraries turn to automation to address the issues of talent shortages, unpredictability in the regulatory landscape, and the uncontrollably growing amount of data. The

problem is that the constant influx of AI-driven technologies intensifies people's dread of missing out (Anjaneya, Reddy, & Shamprasad, 2021). As a result, several libraries wind up using solutions that don't fully suit their unique requirements and organizational structures. Improving cataloguing standards through collaborative metadata management for quality assurance is a strategy to solve this dilemma as far as the library professionals are acquainted with the necessary skills required to make a difference in their profession.

An approach for controlling the gathering, storing, and utilization of metadata is known as metadata management. Its objective is to make sure that metadata is easily accessible and well-organized, enabling anyone in need of specific data to find it quickly. In today's data-driven contexts, managing metadata without a data catalogue is feasible, but it presents serious hurdles for data executives. Without a catalogue, the process devolves into a disjointed and manual one, leading to inefficiencies and challenges in efficiently obtaining and utilizing data (Wells, 2021). A library's whole collection of data assets is listed in detail in a library catalogue, which is intended to make it easier for data experts to locate the best data for any analytical or business need. A data catalogue makes an inventory of all the data assets in an organization and makes information easily and rapidly accessible to users through the use of metadata and data management tools.

To put it simply, collaboration is the process of working with someone or a group of people to achieve a common goal. Depending on the situation and objectives, collaboration can take on several forms (Barfield, 2016). Team collaboration refers to the process of working together inside a team, where each member is familiar with the abilities and contributions of their colleagues, in order to achieve a common goal. Contextual collaboration refers to the integration of many digital tools into a unified digital workplace platform. This allows the complete team to access necessary files and data without the need to switch between different applications or tools during collaborative efforts. Cross-functional collaboration refers to the process of teams from different departments or verticals working together to achieve a shared objective for the entire organization.

Community collaboration refers to the process of cultivating a sense of community among team members while working together on shared tasks. The focus is on acquiring and exchanging information within teams, rather than simply working together to complete tasks or projects. Social collaboration refers to the ability of team members to communicate with each other or a specific set of team members in real-time using a platform specifically intended

for this purpose. Cloud collaboration enables teams to seamlessly upload, access, work on, and distribute their work only on a cloud-based digital workplace platform.

Whatever shape it takes, collaboration is setting objectives jointly, assigning duties, and working towards a common aim of doing more than each person could do alone. Conversation, social engagement, and group decision-making are examples of collaborative learning, and these shared activities have a significant positive impact on both individual and group development as well as co-constructed understanding and knowledge. Cataloguers and professionals should possess certain skills required to enable them collaborate individually and collectively towards improving cataloguing standards through collaborative metadata management for enhanced quality assurance.

Cataloguing Standards

Cataloguers have been concerned with maintaining adherence to quality in cataloguing for many decades. Cataloguing standards serve as rules for the compilation of catalogue records and as a benchmark for their evaluation (Ezema, Ekenna, & Ogwuabor, 2023). Ensuring the creation of accurate and flawless catalogue records is of utmost significance. Various criteria have been identified for the purpose of categorization of catalogue standards as follows: Content Standards, Structure Standards, Format Standards, Value Standards, and Linked Data Standards. These standards are meant to harmonize various aspects of cataloguing. The content standards offer directives for generating catalogue records. Some examples of cataloguing standards according to Binici, (2021) include Resource Description and Access (RDA), Describing Archives: A Content Standard (DACS), Cataloguing Cultural Objects (CCO), and others. The format standards are alternatively referred to as metadata systems. The structure standards commonly used include Machine Readable Cataloguing (MARC), Dublin Core Metadata Element Set, Categories for the Descriptions of Works of Art (CDWA), and the Visual Resources Association Core Categories (VRA).

Data value standards are predefined collections of phrases that are employed as data elements in order to guarantee uniformity (Al Hijji, & Al-Busaidi, 2019). The resources encompass thesauri, controlled vocabularies, and authority files. Examples of thesauri include the Art and Architecture Thesaurus (AAT), Library of Congress Thesaurus of Graphic Materials (LCTGM), Library of Congress Subject Headings (LCSH), and LC Authority File. Data format or data exchange standards refer to mark-up languages that establish a uniform method for organizing and articulating metadata systems for automated processing. This section provides details on the Metadata Encoding and Transmission Standard (METS), Metadata Object Description Schema (MODS), and MARCXML. Linked Data refers to a collection of optimal methods for disseminating and interconnecting organized data over the internet. Several recent efforts related to library-linked-data include the BIBFRAME programme led by the Library of Congress, which aims to replace the MARC format using linked data technology, RDA against AACR2 and catalogue discovery as against OPAC.

Other notable projects according to Thielen, and Neeser, (2020) include the OCLC WorldCat Works project and the Stanford Linked Data Project. The quality of cataloguing is determined by the proficiency in accurately analysing the material to identify the essential information required for its effortless retrieval. This process involves adhering to established criteria and exercising sound judgement. The higher the level of competence, the higher the quality of cataloguing. Proficiency in accurately analysing a book for both descriptive and subject cataloguing purposes is typically acquired through years of experience. This process or system aims to provide precise and unambiguous information about items in a collection, tailored to the specific needs of the user(s) at any given time, in terms of specificity, complexity, and comprehensiveness (Gonzales, 2019). A cataloguer's expertise lies in their ability to apply their problem-solving skills, in accordance with established rules and guidelines, to create accessible and acceptable records for specific materials. These records

are designed to be useful to other users and professional cataloguers within the library community.

The Resource Description and Access (RDA) standard is a recently developed cataloguing standard specifically designed for digital environments. It is founded on the principles of the Anglo-American Cataloguing Rules (AACR) and had ultimately supplanted the current Anglo-American Cataloguing Rules, 2nd Edition (AACR2). The Resource Description and Access (RDA) offers a thorough collection of concepts and guidelines for describing and accessing resources across all types of content and media (Ezema, Ekenna, & Ogwuabor, 2023). The system utilizes the Functional Requirements for Bibliographic Records (FRBR) framework to provide a connection between the user's search task and their ability to access an on-line library catalogue and biographic database. In an on-line situation, RDA bibliographic entries are advantageous since they enable cataloguers to categorize comparable items and present several manifestations of the same work. Library visitors may find that the information they are looking for is accessible in several formats.

The Resource Description and Access (RDA) provides a comprehensive framework of guidelines and protocols for the systematic documentation of data, with the purpose of facilitating the process of locating and accessing resources. The metadata provided for a resource using RDA aims to assist users in the following tasks: verifying that the described resource matches the user's specified search criteria, such as a resource authored by a specific individual; locating resources that align with the user's specified search criteria, such as a resource authored by a particular individual (Cridford, 2019). Verify and validate that the described resource corresponds to the resource being sought, or to distinguish between two or more resources that have similar features; Select a resource that is suitable for the user's requirements; obtain or obtain access to the described resource. The metadata generated by RDA for the purpose of describing an entity linked to a resource aims to assist users in accomplishing the following tasks: locating information about that entity

and related resources, verifying that the described entity matches the desired entity, or differentiating between two or more entities that share similar names, and so on. To comprehend the rationale behind selecting a specific name or title for an entity, or to elucidate the connection between multiple entities or the connection between the described entity and a known name for that entity. The RDA offers a comprehensive collection of rules and procedures that encompass all forms of categorizing content and media (RDA Toolkit, 2020).

In the era of digitization and on-line resources, it became clear that (AACR2) did not have adequate guidelines for libraries to accurately describe newly acquired electronic resources (Madireng, 2020). Therefore, it was necessary to extensively update the cataloguing standards of AACR2 (Tillett, 2011). The objective was to guarantee that libraries preserved and stayed up-to-date in terms of organizing metadata for all categories of library information resources, enabling users to conveniently access and retrieve them (Ahonsi, 2014). AACR2 was deficient in having a logical framework and instead emphasized specific regulations for each material category, rather than identifying shared characteristics and fundamental principles for a more uniform methodology; AACR2's categorization by class of materials posed challenges when cataloguing electronic resources with numerous qualities. AACR2 failed to sufficiently consider bibliographic relationships, while the internet revolves around interconnected networks of information; AACR2 failed to adequately address bibliographic relationships, while the internet focuses on networks of linked information; AACR2 had a pronounced Anglo-American bias, despite its global usage (Tillett, 2011). A need arose for a new standard that would adhere to the principles and terminology of Functional Requirements for Bibliographic Records (FRBR), a model created by the International Federation of Library Associations (IFLA) in the 1990s.

Another standard is catalogue discovery system which is replacing Online Public Access Catalogue (OPAC). This catalogue discovery system fulfils a number of

interconnected purposes in its current configuration (Wells 2021). Its primary use is as an index of written or unwritten works of literature, enabling users to find specific works or groups of works related to a particular subject. In addition to providing the actual locations of the objects on the library's shelves, it might also include links to texts or photos that are available on-line. (Whereas OPACs were traditionally limited to materials kept by libraries, bibliographic information for things not held by libraries may now also be included by discovery systems.) Second, it serves as a gateway to non-bibliographic data, such as details unique to each user, allowing them to view their loan history, fines, and the products they currently have on loan, among other details. It might include details about the library, such its hours of operation, as well as connections to resources and other information that library patrons might find useful.

Thirdly, the OPAC/discovery system is a promotional artefact that serves as a source of authority for the information sources to which the library grants access while also advertising and promoting the library and its services. The management of digital document texts and metadata, which turns the OPAC/discovery system into both a repository and an index, is a fourth function that is not yet widely used outside of specialized functions but is expected to gain traction in the future. OPACs and discovery systems are actually implemented, and their usefulness varies according to the size of the resources, and priorities of individual institutions (Adebayo, 2013). From the beginning, organizations in North America and Western Europe played a major role in driving the technology of OPACs and discovery systems via collaborative metadata techniques.

Metadata Management Techniques

Metadata is organized knowledge framework that enables individuals to identify, locate, and retrieve a certain resource. It is usually necessary in order to publish in a research publication or to deposit datasets in disciplinary repositories; essential to the durability and repeatability of study findings; beneficial for data analysis in data files. Data describing a data-set's provenance, quality, accessibility, context, and/or content is known

as metadata (Chitumbo, & Kanyengo, 2017). Data needs to be correctly documented in order for users, colleagues, and other researchers to have access to them. Data frequently outlive the research projects that produce them and may be utilized again by researchers, be analysed or expanded upon by follow-up initiatives, or be worked on by researchers even after funding has ended. Data that is well-organized, well-documented, conserved, and disseminated is essential for advancing scientific research and expanding learning and innovation prospects.

The often-employed metadata techniques encompass observation, perusal of documentation, utilization of advanced inquiries and searches, engaging in conversation, and creating process mapping and work-flow diagrams. Occasionally, employing a single strategy may suffice to address the issue, but in other instances, the analyst may need to utilize all of these techniques, in addition to others. Gonzales, (2019) gave instance where, one was assigned the responsibility of revising cataloguing macros for two purposes: transitioning from Millennium to Sierra, and implementing RDA. This involved addressing work-flow and automation challenges. He opted to employ observation as a means to comprehend how cataloguers were using macros, and to identify the specific areas in Sierra where the macros malfunctioned. Subsequently, he referred to the AutoIt manual, which is a scripting language specifically designed for automating Windows operations and macros, in order to gain a comprehensive understanding of its capabilities. Ultimately, he employed a process mapping technique to delineate the underlying logic utilized by the macros, thereby restoring their functionality.

The actions, methods, and policies that focus on gathering, storing, and organizing metadata are collectively referred to as metadata management (Marais, 2018). Its objective is to enable users to comprehend and find data assets. According to library analogy, metadata management would, at its most basic, entail developing a book catalogue and a user guide to help patrons find their way across the stacks. The process of data governance, which is a component of the broader data

management strategy, includes metadata management. To bring order to the disorganized data flows of today, systems for modern data management such as DataOps heavily rely on efficient metadata capture and administration (Alabi, 2018). Also, metadata is one of the primary building pieces of a data fabric architectural design strategy.

From the metadata management components, it can be deduced that creating metadata policies is necessary to control the management procedure, you can standardize your metadata by choosing a schema or metadata standard. Extraction of metadata from all of your data assets is referred to as metadata discovery and capture, the process of adding missing metadata to digital assets is metadata creation, sometimes called tagging or enrichment. Verifying that metadata meets with quality requirements is metadata quality assurance (Adebayo, 2013). Storing metadata requires creating a dedicated repository and a searchable inventory of metadata for quality assurance in cataloguing practices.

Improving the Quality of Cataloguing through Collaborative Practices

Librarians irrespective of the library they are serving, would love to have everything they need to curate exceptional programmes, assemble spectacular collections, entertaining, and accessible environments for their clients. However, given the realities of working in libraries, teamwork is now required and is no longer a luxury or something to be done when time permits. In academic libraries, librarians cannot do everything that needs to be done due to budget limitations, staffing reductions, and growing workloads. According to Cole, (2017) working together requires compromise, patience, and time. If the group is being forced to work in a team, for example, Donham (2013) suggested that in order for collaboration to succeed, the advantages of working together must be made clear.

Teamwork requires trust in one another's contributions to the team's work, a no-risk environment for openly sharing ideas, and a shared commitment to the group's decisions. According to Marais, (2018) setting

up some ground rules at the outset of a project like this may make sure that everything goes more smoothly. Making sure all opinions are heard, explaining terminology to ensure that everyone is having the same understanding, and actively listening are some useful techniques. In the bid to selecting whether and with whom to work with, there are a number of considerations to make according to (Marais, 2018):

- emotional intelligence is important; consider your preferred method of learning as well as the possibility that others have a different preference. Everyone concerned ought to get an opportunity to share their knowledge.
- open mindedness: regardless of who has picked your partners or not, collaboration also calls for an open mind, a readiness to adapt, and the giving up of at least some control.
- Collaborative practices save money and enhance sharing resources

Effective metadata management guarantees data consistency, reliability, integrity, and compliance. More significantly, it makes it easier for information users to interact with data; (i.e) it lets people know what data the organization has, where it is (which is crucial in today's distributed contexts), and how to find it in order to get the most out of digital assets in terms of commercial value (Akidi, & Omekwu, 2019). When working with metadata, we need to ensure that it satisfies several criteria that define its quality. Verifying the accuracy of recorded metadata entails ensuring its precision and factualness, to be complete, all conceivable metadata attributes must be documented. Data stewards must routinely carry out audits in order to guarantee metadata quality, proper compliance with requirements, standards, and appropriate implementation of metadata policies.

Create a plan for metadata, establishing and coordinating metadata management goals with your library's objectives is essential. A thorough plan would also identify your use cases, analyse requirements and resources, and gauge the size and scope of the project. Assemble a team for metadata, hire

knowledgeable, seasoned individuals with experience in data management to direct and oversee your metadata initiatives. To decide on benchmarks, as previously stated, the appropriate schemes/standards must be chosen depending on use cases and the area in which you operate in order to ensure metadata homogeneity and interoperability (Banjade, 2019). The amounts of metadata that exist today cannot be handled manually, therefore assess your requirements and select the solution that best fits your work-flows, making sure it is scalable and integrable. As a result, information that has high-quality metadata can be found, measured, arranged, and analysed.

Improving Professionals skills in Metadata Management Techniques Via Collaborative Practices

The process of developing particular talents to carry out a task more effectively and efficiently is known as skill development (Anjaneya, Reddy, & Shamprasad, 2021). Knowing that skills are essential to human action, it is necessary to continuously improve them in order to advance in any field of study or research. Skills always have an effect on human capital's potential and productivity. Professionals are better equipped to complete their tasks quickly and effectively when they have developed their skills. Programmes for enhancing knowledge, constant training, and the use of technology all help to improve skill sets. It is critical to acquire and modernize the skills necessary to thrive in the ever-changing environment (Cridford, 2019). Professionals in libraries must constantly improve their skill sets in order to handle the many problems they face in order to accomplish their work well. Some of these skills include technological and innovative skill, interpersonal and relationship skill, literacy skill, interdisciplinary skill, problem solving skill and life-long learning abilities.

In order to serve the goals of the parent institution through research and teaching, participation in skill development is required. Such persistent work will provide high-quality outcomes and efficient value-added services that will satisfy library patrons to the fullest. The development of skills among library professionals is required according to Ifijeh,

Segun-Adeniran, and Igbisola, 2019) in order to:

- ensure that international standards are followed in library practices by creating networks between different institutions associated to the library domain.
- provide high-quality value-added services.
- be successful and relevant in the field of libraries, use efficient knowledge-sharing strategies to advance national development.
- possess in-depth expertise in areas related to parent institutions, adopt and integrate new technologies to improve the efficiency of the library's offerings, adapt to the current society by being practical and up to date.

Any ability and capacity gained by purposeful, methodical, and consistent effort to do complicated tasks or job functions involving concepts (cognitive skills), objects (technical skills), and/or people (interpersonal skills) is referred to as a skill (Lammert, 2019). Therefore, the process of detecting gaps and closing them through the development, enhancement, and revitalization of pertinent abilities necessary to succeed and raise the calibre of output in a certain position is known as skill development. This procedure improves the capacity to carry out tasks in any circumstance, regardless of the field. Some skills needed by librarians according to Holmner, (2023) are as follows:

- Develop technological skills: Acquire and enhance technological skills including proficiency in emerging technologies such as artificial intelligence, data analytics, internet of things e.t.c.
- Embrace lifelong learning process: Society is now characterized by rapid technological advancements, so it is crucial to cultivate a mindset of continuous learning. Stay updated with industrial trends, engage in professional development activities and be eager to acquire new skills throughout your career.

- Build a professional network: Network plays a crucial role in finding opportunities. Attending industry events, join professional bodies and navigates on-line platforms to connect with professionals in your field or research interest.
- Foster interdisciplinary collaboration: Professionals who can work across disciplines and collaborate effectively with diverse teams are paramount, so it is pertinent to develop strong communication, teamwork and interpersonal skills to thrive in an interdisciplinary environment.
- Critical thinking and problem-solving skills: Society presents complex challenges that require critical thinking and problem-solving abilities, thus developing your analytical and creative thinking skills to identify innovative solutions and contribute value to organization is very vital.
- Showcase your digital present: Develop a strong digital presence by creating a professional on-line profile, such as personal website, LinkedIn profile e.t.c.
- Gain practical experience: Seek internships, part-time jobs or volunteer opportunities to gain practical experience in fields related to society, this will demonstrate your skills, commitment and adaptability to potential employers.

Challenges

From the literature reviewed, it has been recorded that there are some challenges encountered by librarians/cataloguers in improving their cataloguing skills for enhance standards. These include:

- Lack of skills and ICT application prowess: some cataloguers cannot navigate through the internet very which is a big challenge to the present-day cataloguing practices, thus seasoned experience of the internet and how to navigate them is highly required.
- Inability of some libraries to move with the trends: Most libraries

especially in Nigeria do not have what it takes to move with the trends of librarianship, they are still operating the old style of librarianship and their staff will not cope or familiarize themselves with the current trends.

- Lack of conducive environment for cataloguers: cataloguing is a tedious work and requires an environment that is motivational driven for cataloguers to thrive.
- Lack of sponsorship and incentives from governments: motivations no matter how little will go a long way in encouraging cataloguers to work harder.

Recommendations

Based on the challenges that have been enumerated, the following recommendations are proffered:

- Self-developments by librarians
- Provision of library software packages in libraries and incorporating them in library practices
- Equipping librarians with digital age trends via workshops, seminar and conferences
- Library Associations should lobby for better funding, maintenance and acquiring of ICT facilities in the libraries

Conclusion

The creation and storage of information in a multi-media context leads to network communication and information sharing among libraries. In the workplace, librarians must be techs-savvy and able to adjust to ever evolving media. Cataloguers need to have certain abilities and skills in order to adjust to the ever-changing environment to guarantee the management of information resources in a manner that guarantees information users' accessibility. Cataloguers must adapt to the ever-changing landscape of libraries in order to successfully meet the information demands of our culture. This is mostly where skills development come to play because there has been development from on-line public access catalogue to catalogue

discovery which not only house the holdings in a library but also the ones outside the library environments.

References

- Adebayo, O. (2013). Challenges associated with cataloguing electronic resources in selected university libraries in Southwest Nigeria. *Chinese Librarianship: An International Electronic Journal*, 35 :1-10
- Ahonsi M. (2014). FG to spend N21bn for stable electricity in 2014. *Vanguard* Retrieved from <http://www.vanguardngr.com/2014/01/fg-spend-n21bn-stable-electricity-2014/>
- Akidi, J.O. & Omekwu, C.O. (2019). Assessment of cataloguing and classification practices of the national library of Nigeria in the digital age: a bibliographic control perspective. *International Journal of Library & Information Science (IJLIS)*, 8(1):20-34
- Al Hijji, K.Z. & Al-Busaidi, M.K. (2019). Roles of cataloguing librarians in the digital era. *Global Knowledge, Memory and Communication*, 68 (6/7): 504-516
- Alabi, A.O. (2018). Information and communication technologies (ICTs) application to cataloguing and classification in Nigerian libraries. *Journal of Applied Information Science and Technology*, 11:1-9
- Anjaneya Reddy, N.M. & Shamprasad, M.P. (2021). Skill development and librarians: A study. *Indian Journal of Information, Library & Society*, 34, 1-2(2021) 120-126
- Banjade, G. (2019). Training and education of cataloguers in the university libraries of Nepal. *Library Herald*, 54(2). [Online]. <http://Doi.10.5958/0976-2469.2016.00015.4> (30 April 2019).
- Binici K. 2021. What are the information technology skills needed in information institutions? The case of “code4lib” job

- listings. *The Journal of Academic Librarianship*, 47(3):102360. doi:10.1016/j.acalib.2021.102360
- Chitumbo, E. M. M. & Kanyengo, C. W. (2017). Knowledge management culture among library cataloguers: The University of Zambia library experience. *Library philosophy and practice*
- Cridford, T. J. (2019). Cataloguing, knowledge and power. *Journal of Radical Librarianship*, 5: 61-83.
- Douban, M.I. (2013). New directions in cataloguing and metadata management. *The Nigerian Cataloguer*. Vol.1 No.1 p. 71 – 88
- Ezema, A.L., Ekenna, O.C., & Ogwuabor, D.C. (2023). Resource description and access (RDA): Cataloguing standard for the digital era. *Nasarawa Journal of Library and Information Science (NAJLIS)* Vol 6 No 1 2022 ISSN Print: 2636-5774 ISSN Online: 2955-1595
- Gonzales, B. M. (2019). Computer programming for librarians: a study of job postings for library technologists. *Journal of Web Librarianship*, 13(1), 20-36.
- Holmner, M. (2023). Unlocking success: Strengthening library and information science education for enhanced graduate employment. *A keynote speech at the second International Conference and Home Coming of the Department of Library and Information Science*, UNN held at PAA, UNN
- Ifijeh, G., Segun-Adeniran, C. & Igbisola, A. (2019). Imperatives and challenges of Resource Description and Access (RDA) implementation in libraries in a developing country. *International Information & Library Review*, 51(2) :120-127.
- Lammert, R.A. (2019). To dream the impossible dream, to read the unreadable script. *Theology Cataloging Bulletin*, 27(2): 19-21.
- Marais, H. (2018). Authority control and NACO participation. presentation at *IGBIS workshop: Resource description: unlocking developing trends and smart technologies*. Centurion Lake Hotel, 16-17 August 2018
- RDA Toolkit, (2020). Implementation of new RDA toolkit at the PCC policy committee meeting: Training catalogers in RDA toolkit. Norway, Norway.
- Thielen, J. & Neeser, A. (2020). Making job postings more equitable: evidence-based recommendations from an analysis of data professionals job postings between 2013- 2018. *Evidence Based Library and Information Practice*, 15(3):103-156. doi:10.18438/ebli29674
- Tillett, E.H. (2011). Cataloguer mentoring: a survey of academic libraries. *AsiaPacific Conference on Library and Information education & practice 2011. (ALIEP2011): issues*
- Wells, D. (2021). Online public access catalogues and library discovery systems. *Knowledge Organization* 48(6): 457-466. DOI:10.5771/0943-7444-2021-6-457