

# Cataloguing Arabic Script Materials: Challenges in Using International Standards and Integrated Library Management Systems

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## Abstract:

*This research focuses on the Arab libraries' challenges in the era of the information revolution that has left its marks and its implications clear to all sectors of society, including the libraries that cannot lag behind the spirit of the age. How the Arab libraries could contribute to the international cataloguing community; should we contribute in the development phase and only testing phase or we are still behind. The findings of this paper aim at giving better understanding to the challenges being experienced by Arab libraries depending mainly on new brand international standards such as RDA and BIBFRAME. Moreover, this research will be focusing on the usage of Arab libraries subscribing to OCLC and AUC.*

## Keywords:

*Arabic Script, Arabic Cataloguing Challenges, MENA Region Libraries, Arab Libraries, Integrated Library Management Systems.*

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## Introduction

In 2005 the 3<sup>rd</sup> IFLA meeting of experts on an International Cataloguing Code (IME ICC 3) was held in Cairo, Egypt to discuss the new cataloguing principles at that time mainly the new conceptual models FRBR family. Experts from Arabic speaking countries were invited to participate, and five working groups were formed to report suggestions regarding the problems to be solved with the Arabic scripts. The group assigned for the personal names recommended to "Unify the local practices, enhance Arabic bibliographic tools (individual/organizational) and work on creating Arabic Rules Interpretations". Moreover, the group assigned for multi-parts scripts recommended to "Work with IFLA, Regional and National Institutions to motivate Arab publishers to work with libraries in each country to help with Bibliographic

control and work with system vendors to implement these principles in future ILS". (Tillette, B. & Cristán, A. (Eds.), (2005)).

Since 2005 until the time being, the cataloguing community promoted to enhance many developments that targeted the main standards that served for more than 40 years to provide rich bibliographic descriptions; AACR and MARC. It is the proper time to move to the digital age by adopting new standards that could serve in a better way with the rapid speed of technology development. As to continue acting our vital role in the larger metadata community, the cataloguing community upgraded their main traditional tools via technologies like linked data and the Semantic Web. Two new brand products were developed recently. The first one is RDA, the successor of AACR which is built on the FRBR conceptual models. The other one is BIBFRAME that was invented to replace MARC depending on the linked data structure. For achieving this goal, the role of the ICT becomes essential in developing the Integrated Library Management Systems (ILMSs) to accommodate all required changes that map with these new standards.

In light of the literature that discusses the significance of implementing RDA with a great focus on the practical application of this new standard, library in the Arab region still behind all these changes. Only few libraries implemented RDA in comparison with the huge number of Arab libraries in the MENA region. The main descriptive rules used until now is AACR2; as for BIBFRAME it is still too early for libraries in the MENA region to participate in the change. Although, some Arab National libraries adopted RDA like Qatar National Library (QNL) and Lebanese National Library (LNL), there is no presence for any Arab National library in the Joint Steering Committee for Developing RDA (JSC) to represent the Arabic practice in the region which should be embedded in the rules that deal with non-roman scripts.

### **History of Cataloguing Standards in the MENA Region**

The first cataloguing rules in Arabic language were set by the Egyptian National Library and Archives (Dar el-Kotob Al-Masriya) in 1938; they were inspired from the Anglo-American Cataloguing Rules of 1908, yet, these Arabic rules were not fully developed to be used in a broader scale in the Arab region (Shinity & Al Mahdy, 1969).

Taylor mentioned that the Anglo-American Cataloguing Rules of 1908 have begun as a book published in 1908 entitled "Cataloguing Rules: Author and title entries" and then the two books issued in 1949 from the American Library Association and the Library of Congress (Taylor, 2006). Welsh and Sue stated that the first edition of the Anglo-American Cataloguing Rules was released in 1976 entitled "Anglo American Cataloguing Rules" and subsequently issued the second edition in 1978 and published the review in 1988 (Welsh & Batley, 2012). Meanwhile, the Arab libraries depended on summaries or translations of these rules.

The Anglo-American Cataloguing Rules of 1908 continued to be used in most Arab libraries. In 1949, some libraries in the Arab world took to partially or completely implementing the cataloguing rules of the American Library Association (ALA) after its release.

The second important trial to set cataloguing rules in Arabic language was those edited by Mahmoud Al-Sheneity and Mohammed Al-Mahdy, of which an initial edition was released in 1962 (Shinity & Al Mahdy, 1969).

During the period 1970-1998, distinguished Arab Library and Information Science professors took the initiative to translate the Anglo-American Cataloguing Rules into Arabic language. In 1983, the Jordanian Library Association published the Arabic translation of 2<sup>nd</sup> edition of AACR published 1978 by Mahmoud Itayem.

In 2006, a full Arabic translation of the 2<sup>nd</sup> edition of the Anglo-American Cataloguing Rules (2002 revision, 2005 update) (AACR2) was released in Egypt as a prominent work done by Cairo University professors. This 2006 edition with Arabic amendments (as for abbreviations) has officially become the cataloguing manual in Arab libraries; it is mainly used by most of the Arab libraries in the time being (Abd El Hady, F., 2014).

### **Arabic Cataloguing Challenges before RDA**

In 1959, Shenity emphasized on the main problems that faced the Arabic Cataloguers in descriptive cataloguing which is the lack of cataloguing code to be adapted by librarians in the Arab World. He adds that the Arabic collection is catalogued separately from the European collection and there is a great gap between each practice. Shenity stated that the Anglo American Cataloguing Rules is followed for the European Cataloguing, yet for the Arabic collection it depends mainly on the cataloguers' judgment and his understanding for the rules (Shenity, 1959). This was the case in the beginning of the 20<sup>th</sup> century. However, many libraries developed its cataloguing policies and work on improving the qualification of the cataloguers. Ismail in his presentation "Fear Factors in Cataloguing Arabic Books: USM experience" demonstrated the problems that faced the Arab cataloguers before adopting RDA mainly the lengthy names and titles and especially literary titles. He asserted that the AACR2 rules are more focused on Roman script than other scripts such as Arabic. Also, he added that until the time of his research, there is no specific standard for cataloguing Arabic books. Moreover, he stated that although AACR2 introduced some rules related to Arabic names yet cataloguers in the Universiti Sains Malaysia (USM) libraries still face problems while cataloguing Arabic books and the problem is found in many other libraries in the Arab region. (Ismail, et al, 2014) Due to these problems with Arabic Scripts that continued to the time being, the Arab cataloguers were so eager to learn more about RDA hoping to bring solutions to the unsolved issues.

### **Arabic Cataloguing Challenges after RDA**

The most recent update to the cataloguing community is Resource Description and Access (RDA), a new tool for the library community which offers new scope in the cataloguing field in order to move from the physical environment to the networked one. Taniguichi defines RDA as "The new metadata standard that provides guidelines and instructions on formulating metadata to support resource discovery" (Taniguichi, 2014).

Khairy presented the advantages of RDA when it was first released, she focused on the rules that affect the Arabic cataloguing; for example Quran is to be used instead of Koran, titles such as Imam can be added, professions or occupation for names differentiation can be added too (Khairy, 2013). Biella argued that there are issues and problems with Arabic cataloguing when using RDA still unsolved as there were no rules neither in the AACR2 nor in the LCRI (Library of Congress Rule Interpretations) regarding no roman parallel fields and she added that even RDA does not provide any guidelines for this issue (Biella, 2012).

## **MARC**

The MARC standard for exchanging data has been used by libraries for more than 30 years. In the early 60s, the library of Congress developed the first machine-readable cataloguing project and was named as MARC (MACHine Readable Catalog). The standard was created at the beginning to serve as the basis for the presentation and exchange of bibliographic data (Taylor, 2006).

After the emergence of RDA, MARC format becomes compatible with RDA in the time being, yet this ability to host RDA records even after the new updates which were done by the Library of Congress would be more efficient to express relationships using BIBFRAME (Bibliographic Framework). Moreover, Osman stated that the main problems with MARC are that the cataloguing community is closely tied to MARC tags and MARC was always mixed up with cataloguing descriptive rules, therefore it ended up as a carrier and descriptive schema (Osman, R., 2016).

After getting through these international standards in the cataloguing community with a great focus on the Arabic script challenges; we have to mention the unique nature of the Arabic language that requires many enhancements of the Integrated Library Management Systems (ILMS). From this point, the research paper will shed light on Arabic issues related to the brand new international standards (RDA & BIBFRAME) with consideration to the most common online cataloguing services such as OCLC and its correspondent initiative in MENA region (AUC) in light with the common issues related to ILMS.

## **Arabic Language Challenges**

Al Anzi states that the Arabic language is used over a wide geographical area, although the spoken varieties of the language vary greatly. Problems connected with the special features of Arabic letters, like the fact that some of these letters are always joined to the following letter, and some other can never be joined (Al Anzi, 1994).

In 1992, Medawar mentioned that handling Arabic materials in an automated library management system is possible and can be done if we put into consideration that Arabic characters are complex and need special handling with the software especially with normalization problems (Medawar, k., 1992 ).

This was the case in the nineties; in the time being some of the problems with Arabic script materials are resolved and others still exist which is varying from ILMS to

another. This leads to the importance for ILMS to fully support Arabic scripts materials needs.

### **Integrated Library Management Systems (ILMS)**

Madhusudhan and Singh stated that ILMS are established as "an essential tool in the support of effective customer services, stock management, and management of services offered by libraries." (Madhusudhan, M. & Singh, V., 2016)

Jilovsky, Sukkar and Varga argued that many languages may use the same script, and they used Arabic script as an example of the script that could be used by other languages like Persian, Kurdish and Urdu. (Jilovsky, C., et al., 2005)

In 2015, Uzomba defines ILMS as "An enterprise resource planning system for a library, used to track items owned, orders made, bills paid, and patrons who have borrowed. Any ILMS usually comprises a relationship database, software to interact with that database and two graphic user interfaces (one for patrons, one for staff)" (Uzomba, E., Oyebola, O. & Izuchukwu, A., 2015).

In 2011, Muller stated that "Integrated library system (ILS) is multifunction, adaptable software applications that allow libraries to manage, catalog and circulate their materials to patrons" (Muller, T., 2011)

### **Methodology**

The methodology for gathering data was mainly questionnaire, interviews and observation maintained by the authors. As for the questionnaire used for this study; its design was based on the research question of the study. It was a closed ended question and respondents were asked to tick only the most appropriate response. Where no options were designed they were asked to provide answers.

The questionnaire contained 32 questions and it was divided into 6 sections. The respondents were either cataloguers or system librarians who work in the MENA Region libraries.

The second method was the research interview; it was used for the staff of the technical services section in some libraries. The authors tend to use this method in addition to the questionnaire so as to obtain the data that could not be obtained through the questionnaire.

The last method used was the authors themselves depending on their professional experience in the field and their remarks and observation. As for the Questionnaire, the authors developed a questionnaire in a way to help them accomplish their goals from this research paper. They considered two main concepts in writing the questions; the first one is to make it short as much as possible without affecting the data collection process. Second concept is that questions were made in a way to allow the authors to collect only the needed information; no other information will be collected.

The outcomes from the questionnaire were not as expected; the authors received 24 responses from the following countries (Egypt, Qatar, UAE, KSA, Iraq and Jordan). But they found that no one mentioned any of the cataloguing challenges that being discussed among librarians during events, conferences and seminars. Furthermore, the authors noticed inconsistency in the provided information among librarians in the same library. Accordingly, the authors decided not to depend on the questionnaire results, and to collect information direct from selected cataloguers from those who responded to the questionnaire.

## Findings

### RDA Challenges

One of the most significant challenges reported by many of the cataloguers during interviews and partially mentioned in the questionnaire is the lack of RDA Arabic translation. So while cataloguing Arabic script materials, cataloguers still write many of RDA fields in English language such as the information in MARC21 fields 336, 337 and 338. There is no standard Arabic translation yet available for the RDA guidelines, except some personal interpretations such as the translation prepared by Muhammad Muawwad. Muawwad provided a brief translation for RDA practices in seven pages and made them available for free through internet for those who are interested in using it. Muawwad's translation is not considered as an official authorized RDA Arabic. Moreover, it does not cover the entire RDA guidelines. As a result, libraries adopting RDA tend to use the Romanized script when cataloguing Arabic script materials, especially in the new MARC fields added for RDA 336, 337 and 338. On the other hand other librarians are adopting the translation provided by Muawwad. Librarians in MENA region are looking forward to having the official RDA Arabic translation to help non English speakers to use RDA guidelines.

Another challenge is the author and added author roles. For instance in English language the editor role will be written as "editor", whilst in Arabic language there is no standard translation for "editor", so some librarians use the term "Muhaiq" in Arabic "محقق" and others use in "Muharir" Arabic "محرر". The authors also realize inconsistency in practices among cataloguers in the same library.

RDA clearly indicates the nature of relationships between works and their creators, etc. As an addition to MARC for RDA guidelines the \$i defined for the relationship terms in Bibliographic 700-75X and 76X-78X and in Authority 4XX and 5XX.

Relationships between works and other works and/or expressions in Arabic script materials are completely different than other languages such as English, not only different but also broader. In 1993, a prominent work by Nabhan introduced relationships in Arabic script materials entitled "al-Ilaqaat Bayn al-Nusus fi al-Talif al-Arabi: Dirasah ala Tafaru al-Nusus al-arabiyah: Manhaj Jadid Li-alm al-bibliugrafiyah al-takwiniyah" in Arabic language script "العلاقات بين النصوص في التأليف العربي : دراسة على تفارع "النصوص العربية : منهج جديد لعلم البليوجرافيا التكوينية". Nabhan defined more than 60 type of relationships mainly in Arabic rare books and manuscripts. He also republished his work in 2007 with different title "Abqariyat al-ta'lif al-'Arabī : 'alāqāt al-nuṣuṣ wa-al-itṭiṣāl al-'ilmī" in Arabic language script "عبقرية التأليف العربي : علاقات النصوص والاتصال العلمي".

The different relationships categories in RDA are mainly found in RDA appendixes I, J, K, L and M. taking into considerations that appendix L is not yet developed, these lists are the main source for the controlled vocabularies terms used in cataloguing with RDA. As for the Arabic materials, uncontrolled vocabularies are being used as a common practice in Arab libraries for Arabic script materials. Currently there is no Arabic controlled vocabulary list.

Relationships are not sufficient for Arabic script materials because Arabic resources have more relations. Arabic language need to have a list of relations specifically for Arabic language. Rare and Islamic manuscripts have relations which are not exists in any other language.

### **OCLC Challenges**

The major issue reported by Arab librarians when cataloguing Arabic script materials using OCLC is the Romanized script. The Romanized script is always in the main MARC fields and other language scripts are always in MARC 880 fields. Libraries when downloading records from OCLC the flipping between the Romanized fields and the Arabic script fields would be supported neither by OCLC nor by any of the ILMS in the market. Arabic cataloguers in some Arab libraries reported this issue to OCLC support team two years ago, yet problem is not resolved. As a result of this problem, cataloguers are forced to export records from OCLC without Romanized script fields in order to get the Arabic script fields in the main MARC21 fields and not in MARC 880 fields. Libraries that catalog Arabic script materials lose the Romanized script. On the other hand, another practice is that cataloguers download records from OCLC and import or load them in the ILMS; the Arabic script will be in MARC880 fields which require 880 fields to be indexed.

Another workflow is followed in some libraries especially in Egypt as they create original Arabic records for Arabic script materials to avoid Romanization.

As for electronic resources, WorldShare Collection Manager is a service provided by OCLC to simplify the electronic and print cataloguing workflows to increase collection visibility. The collection manager can be used by libraries to register and manage electronic journals and e-book collection in the WorldCat knowledgebase, maintain holdings in WorldCat for titles that library recorded in these collections and output MARC records for Knowledge base collections or WorldCat Query Collections based on WorldCat Search Indexes. For instance, when a library subscribe to ProQuest library science, that library can register its holdings for this collection in the knowledge base after identifying the collection, then the Knowledge base will register that the library has access to the titles in the ProQuest library science collection and will also update the library's Knowledge base holdings as titles in the collection frequently changes. That will allow libraries to download MARC records and load them on the ILMS.

OCLC has agreements with more than 6000 database vendors from all over the world, yet, none of the Arabic database vendors signed an agreement with OCLC WorldShare Collection Manager. Therefore, libraries are unable to get the MARC records when they become members in one of the Arabic database vendors such as Dar Almandumah, E-Marefa, and Al-Manhal.

No one can deny how important the OCLC is for many libraries all over the world especially Arab libraries that depended mainly on OCLC for cataloguing and downloading MARC records for Roman and non-Roman scripts. Then some of the Arab libraries started to use the new initiative of the King Abdul-Aziz Public Library.

### **AUC Challenges**

AUC was launched in November 2006, is an initiative of the King Abdul-Aziz Public Library. "The Arabic Union Catalog (AUC) is a collaboratively nonprofit project which mainly aims to establish a collaborative environment for the Arab libraries and to reduce the cost of cataloguing Arabic information resources by sharing cataloguing. This guarantees standardizing cataloguing practices in the Arab libraries and conforming international standards in the bibliographic description. As a result, the level of bibliographic processing in the Arab libraries will be developed, which, consequently, will positively impact on distributing the Arabic book and introducing the Arab-Islamic culture. This project depends on high quality records offered to libraries inside and outside the Arab World, which will enable users to easily access to the specific Arabic information resource." (ARUC, 2016)

AUC members are granted access to the following services: original cataloguing, download catalogued records, add local data, reference services and technical support services.

In 2011, OCLC has added more than 1.2 million brief bibliographic records to WorldCat.org for AUC materials held by Arab libraries. The authors observed that AUC records are represented in OCLC with duplications. Moreover, whenever AUC remove records from its database that is not live synchronized with the brief records that were already added to OCLC. Accordingly, patrons are encountering error messages when they are redirected from OCLC (where AUC brief records exist) to AUC online interface.

After interviewed librarians using AUC, some of them reported that when searching AUC title index; records are not retrieved correctly. Whilst, by searching keyword index; records are successfully retrieved.

Some of the Arab librarians using AUC are experiencing another challenge when downloading records because AUC is not enabling Z39.50 protocol. Accordingly, cataloguers are downloading records from using the online interface, and then records can be loaded in the ILMS. In addition there is no way to import records direct from AUC to any ILMS. AUC is not interested in opening Z39.50 protocol to other libraries' database for security reasons, their main concern is that all AUC records could be downloaded by any member.

Bibliographic record duplications are also one of the challenges facing the Arab librarians. Library members can create their own bibliographic records and AUC is accepting the duplications for the same title. As a result, cataloguers have to check each and every record to find the most complete one to be downloaded.



AUC implemented AACR2 and RDA guidelines. Bibliographic records are mixture of both AACR2 and RDA, yet there is no filter to allow cataloguers to search only records catalogued based on either AACR2 or RDA.

As for the Authority records in AUC, Arab librarians reported that the name authority records in AUC do not follow the NACO practice.

### **BIBFRAME Challenges**

BIBFRAME is the abbreviation of Bibliographic Framework, it started as an initiative taken by the Library of Congress in order to replace MARC as a standard for encoding and exchanging bibliographic data. The main goal of the initiative is to implement a “new bibliographic environment for libraries that make ‘the network’ central and makes interconnectedness commonplace“. The BIBFRAME initiative was officially launched in 2011 and continued on updating since this time until now.

Osman mentioned that Arab libraries are very interested in BIBFRAME due to the number of conferences and seminars that were held in 2015 and 2016 focusing on the new standard and how could Arab libraries participate in such initiatives. Most of the libraries in the Arab region rather wait until more libraries from all over the world implement the new standard.(Osman. R., 2016)

Two initiatives are launched; one by the library of Congress and the second by Zepheira. The LC invited libraries to join the BIBFRAME implementation register which is established to list all the organizations that plan to implement BIBFRAME.

As for Arab libraries who participated in the BIBFRAME initiative, Bibliotheca Alexandrina participated in Library of Congress initiative in April 2015, yet until the date of this research none of BL records are yet exposed to the internet.

In March 2016 QNL Qatar National Library was the first library in MENA region to participate in Zepheira initiative to expose its records through LibHub initiative to the internet. Moreover, QNL collaborated with Zepheira to translate BIBFRAME vocabularies into Arabic language. As a QNL initiative to support libraries in the region the Arabic translation for BIBFRAME vocabularies can be used by any other library.

### **ILMS Challenges**

There are many ILMSs implemented in MENA libraries, some of them are international and others are developed in the region. Those developed in the region are just quite few and they are not used internationally. The international ILMSs that are implemented in MENA libraries are such as Horizon, Symphony, Unicorn, Millennium, Sierra, and VTLS.

All ILMSs mentioned in the last paragraph encounter various technical problems such as Romanization issue when downloading records from OCLC, RDA records that is not functionally accommodated in MARC and lack of ILMSs that support BIBFRAME Implementation.

## Conclusion

Arab libraries are in urgent need to contribute in the development of the international standards to avoid being behind. Arabic language has a huge population and it has its own special requirements that need to be taken into consideration by ILMS vendors and the main joint steering committees that are responsible of developing the international standards such as RDA and BIBFRAME, as well as any other standards to be developed in the future.

The authors recommend that leading libraries to be selected from the MENA region to represent Arab libraries needs in bibliographic standards tools.

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